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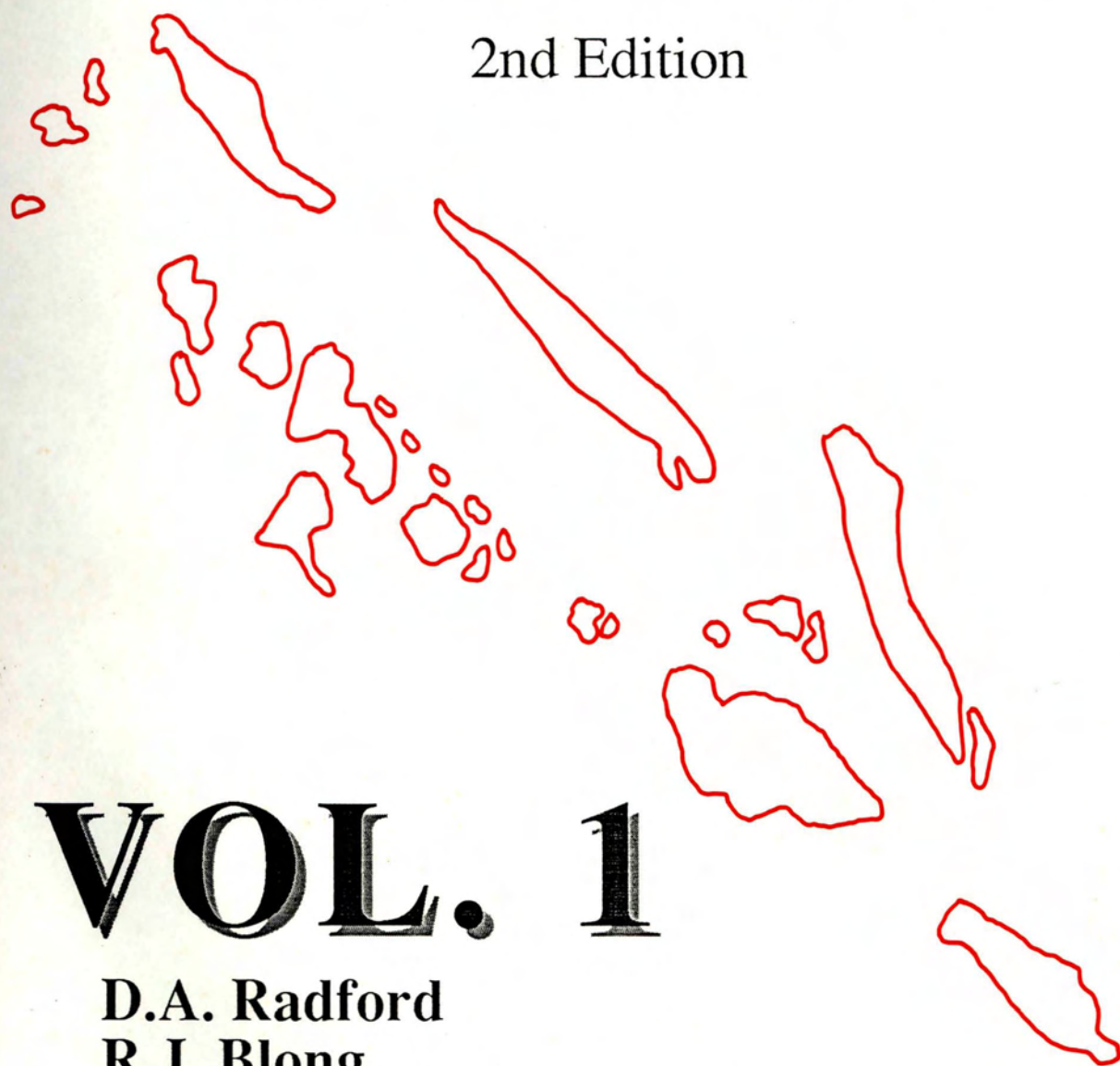
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NATURAL DISASTERS
IN THE
**SOLOMON
ISLANDS**

2nd Edition



VOL. 1

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Introduction

to

Volumes 1 and 2

Natural Disasters in the Solomon Islands

Introduction

Natural disasters in the Solomon Islands consists of four volumes which contain data on many aspects of the effects of natural hazards in the Solomon Islands. These aspects include human morbidity and mortality, the effects on buildings and other infrastructure, the consequences for agriculture, transport and other economic activity and the effects on heritage items and natural environments. These data have been used to analyse the spatial and temporal distribution of human deaths and, with the aid of the Solomon Islands Damage Scale, damage to traditional buildings.

Volumes 1 and 2 contain all the information gathered from the 262 sources listed in the bibliography. These two volumes have been documented using the *Notebook II Pro/Tern* (version 3) database manager.

All events have been entered into a *Notebook II* database according to date of occurrence, from February 1568 to August 1990. Record numbers have been assigned to each event in ascending date order to a total of 245 events.

In those cases where more than one event occurred in one year, the year has been followed with a letter. This is solely to facilitate correct date ordering by *Notebook II*. The records in Volumes 1 and 2 are presented alphabetically according to the type of event, however, they retain their original record numbers.

Volume 1 consists of three sections: a summary of all the known events and their dates of occurrence, cyclone data and earthquake data.

Volume 2 consists of nine sections, the first eight of which contain all other hazard data including cold weather, drought, floods, landslides, storms, sulphur fields, tsunami and volcanoes, i.e. eruptions. The pages of each hazard type in Volumes 1 and 2 are numbered individually commencing with page one. The bibliography is listed at the end of Volume 2.

Volume 3 contains individual and composite maps and spreadsheets of all the known events which have caused damage or deaths. Explanations to the maps and spreadsheets are also presented.

The information required to produce the maps has been extracted from Volumes 1 and 2, coded for hazard type, date, location, mortality and intensity on the Solomon Islands Damage Scale. These data have been entered into spreadsheets using *Quattro Pro* version 2. This information has then been transferred into the GIS program *IDRISI* to produce maps with the Solomons divided into 146 polygons based on census districts. *Deluxe Paint II* has then been used to enhance the appearance of maps, add legends, etc.

Volume 4 contains the executive summary, an outline of the methodologies used in producing Volumes 1 to 3, draws conclusions about the relative importance of the various natural hazards in the Solomons, considers the magnitude and frequency of future risks and indicates some possible methods of reducing those risks.

The first editions of Volumes 1 and 2 were bound in separate books. In this second edition the volumes have been bound together. Volumes 3 and 4 are bound separately in both editions.

We wish to acknowledge the support and enthusiasm of Joe Barr (AIDABand NDO) and Jocelyn Gardener (Macquarie University Library). We are also grateful to John Grover for access to his library on the Solomons, to Neil Flood for his efforts with computers and software and to Rosemary Saul for being here.

In this second edition of *Natural Disasters in the Solomon Islands* we have corrected some errors but are aware that there will be others. Information about errors and additions to the files are welcome and can be sent to Russell Blong or Deirdre Radford at the

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Summary

of Events in the

Solomon Islands

Record No: 1
Sulphur Field

Record No: 2
Cyclone
1568 February 1st week

Record No: 3
Volcano'Savo'
1568

Record No: 4
Storm
1595 ? September

Record No: 5
Volcano 'Tinalrula'
1595

Record No: 6
Volcano'Tinalrula'
1768 August

Record No: 7
Cyclone
1788

Record No: 8
Volcano'Tinalrula'
1797

Record No: 9
Volcano'Savo'
1800

Record No: 10
Cyclone
1820

Record No: 11
Volcano 'Tinakula'
1827

Record No: 12
Volcano'Savo'
1836

Record No: 13
Cyclone
1840 December

Record No: 14
Volcano'Savo'
1847

Record No: 15
Cyclone
1850

Record No: 16
Earthquake
1862

Record No: 17
Volcano'Tinakula'
1869 March

Record No: 18
Drought
1870

Record No: 19
Earthquake
1870

***Record No:** 20*
Volcano'Tinakula'
1871

***Record No:** 21*
Earthquake
1877

***Record No:** 22*
Cyclone
1880 January 20

***Record No:** 23*
Volcano'Savo'
1880

***Record No:** 24*
Earthquake
1880

***Record No:** 25*
Tsunami
1881 middle of the year

***Record No:** 26*
Volcano'Simbo'
1883-1950

***Record No:** 27*
Storm
1888

***Record No:** 28*
Cyclone
1890 March 3

Record No: 29
Cyclone
1891 March 4-12

Record No: 30
Tsunami
1899

Record No: 31
Earthquake
1900 July 29

Record No: 32
Landslide
1900

Record No: 33
Cyclone
1907

Record No: 34
Landslide
1910 Easter

Record No: 35
Cyclone
1916 January

Record No: 36
Earthquake
1919? May

Record No: 37
Earthquake
1923 February 17

Record No: 38
Earthquake
1923 November 3

Record No: 39
Earthquake
1926a January 25

Record No: 40
Earthquake
1926b April 12

Record No: 41
Earthquake
1926c September 17

Record No: 42
Earthquake
1930 August 21-25

Record No: 43
Earthquake
1931a October 4 & 10

Record No: 44
Tsunami
1931b October 23

Record No: 45
Earthquake
1934 July 19

Record No: 46
Earthquake
1935a March

Record No: 47
Cyclone
1935b December 10

Record No: 48
Earthquake
1935c December 15 - Jan.uary 3

Record No: 49
Storm
1936a Jan.uary

Record No: 50
Earthquake
1936c December

Record No: 51
Cyclone
1937 January

Record No: 52
Cyclone
1938

Record No: 53
Tsunami
1938 March 7

Record No: 54
Earthquake
1939a January 30

Record No: 55
Earthquake
1939b April 30

Record No: 56
Cyclone
1948

Record No: 57
Cyclone
1949

Record No: 58
Earthquake
1950a November 8

Record No: 59
Volcano 'Kavachi'
1950b December 1

Record No: 60
Cold Weather
1951

Record No: 61
Cyclone
1951b March 24

Record No: 62
Cyclone
1951a February 24

Record No: 63
Volcano 'Tinakula'
1951c October 23

Record No: 64
Cyclone
1951d December

Record No: 65
Volcano 'Kavachi'
1951e December 22

Record No: 66
Cyclone
1952a January 23-26

Record No: 67
Cyclone
1952b February

Record No: 68
Volcano 'Kavachi'
1952c April 16

Record No: 69
Volcano 'Kavachi'
1952d May Early

Record No: 70
Volcano 'Kavachi'
1952e June 1

Record No: 71
Volcano 'Kavachi'
1952f June 22

Record No: 72
Drought
1952g-53 September-February

Record No: 73
Tsunami
1952h November 5

Record No: 74
Volcano 'Kavachi'
1952i November 11

Record No: 75
Earthquake
1952j December 6

Record No: 76
Volcano 'Kavachi'
1952k December

Record No: 77
Volcano 'Kavachi'
1953a January 19-20

Record No: 78
Volcano 'Kavachi'
1953b January 31

Record No: 79
Cyclone
1953c March

Record No: 80
Cyclone
1953d December

Record No: 81
Earthquake
1954 November 1-10

Record No: 82
Cyclone
1955 February

Record No: 83
Earthquake
1955a September 8

Record No: 84
Volcano 'Tinakula'
1955b August-December

Record No: 85
Earthquake
1955c October 13

Record No: 86
Volcano 'Kavachi'
1957a February 8

Record No: 87
Tsunami
1957b November uncertain

Record No: 88
Volcano 'Tinakula'
1957c December

Record No: 89
Earthquake
1958a January 20-21

Record No: 90
Cyclone
1958b March or April

Record No: 91
Earthquake
1958c July 12

Record No: 92
Cyclone
1958d October

Record No: 93
Earthquake
1958e November 17

Record No: 94
Volcano 'Kavachi'
1958f November-December 21, 2

Record No: 95
Volcano 'Kavachi'
1958g December 2

Record No: 96
Cyclone
1958h December

Record No: 97
Earthquake
1959a August 18

Record No: 98
Cyclone
1959b December 19-30

Record No: 99
Tsunami
1960 May 23/24

Record No: 100
Earthquake
1961a March 5

Record No: 101
Earthquake
1961b March 10

Record No: 102
Tsunami
1961c March 18 & 19

Record No: 103
Volcano 'Kavachi'
1961d April 16

Record No: 104
Flood
1961e July 20-21

Record No: 105
Tsunami
1%lf August 1

Record No: 106
Tsunami
1%1g August 6

Record No: 107
Volcano 'Kavachi'
1961h December 14

Record No: 108
Tsunami
1962 October 13-14

Record No: 109
Tsunami
1%3a September 15

Record No: 110
Volcano 'Kavachi'
1963b December Mid-month

Record No: 111
Volcano 'Cook'
1963c December 14

Record No: 112
Volcano 'Kavachi'
1964a January 2-3

Record No: 113
Volcano 'Kavachi'
1964b January 31

Record No: 114
Floods
1964c March end of month

Record No: 115
Volcano 'Cook'
1964dMay25

RecordNo: 116
Volcano 'Cook'
1964e June 11-13

Record No: 117
Volcano 'Unnamed'
1965a March 21

Record No: 118
Floods
1965b March-April 31-1

Record No: 119
Flood
1965c June & July

Record No: 120
Earthquake
1965d July 17

Record No: 121
Storm
1965e September 27

Record No: 122
Volcano'Tinakula'
1965f November 23

Record No: 123
Volcano 'Unnamed'
1965g December 11-13

Record No: 124
Floods
1966-1967g November-March

Record No: 125
Volcano 'Tinakula'
1966a January 13

Record No: 126
Volcano 'Kavachi'
1966b March 19-30

Record No: 127
Volcano 'Tinakula'
1966c May 7

Record No: 128
Earthquake
1966d June 15

Record No: 129
Cyclone 'Angela'
1966e November 14

Record No: 130
Tsunami
1966f November 28

Record No: 131
Earthquake
1966h December 31

Record No: 132
Earthquake
1967a January 1

Record No: 133
Cyclone 'Glenda'
1967b March 28-29

Record No: 134
Cyclone 'Annie'
1967c November

Record No: 135
Storm
1968a January 27-30

Record No: 136
Cyclone 'Giselle'
1968b April 3-9

Record No: 137
Earthquake
1968c October 28

Record No: 138
Cyclone 'Becky'
1968d December Second Week

Record No: 139
Drought
1969

Record No: 140
Earthquake
1969a January 5

Record No: 141
Earthquake
1969b January 6

Record No: 142
Cyclone 'Colleen'
1969c January 27-4 Feb

Record No: 143
Volcano 'Kavachi'
1969d October 30

Record No: 144
Earthquake
1969e December 11

Record No: 145
Volcano 'Kavachi'
1970a February

Record No: 146
Cyclone 'Isa'
1970b April

Record No: 147
Earthquake
1970c June (?)

Record No: 148
Volcano 'Kavachi'
1970d October 27

Record No: 149
Earthquake
1970e December 29

Record No: 150
Storm
1970f-71 December -January

Record No: 151
Drought
1971-1972

Record No: 152
Landslide
1971a January or February

Record No: 153
Earthquake
1971b Easter Monday

Record No: 154
Tsunami
1971c July 14

Record No: 155
Tsunami
1971d July 26th

Record No: 156
Volcano 'Tinakula'
1971e September 6

Record No: 157
Earthquake
1971f November 21

Record No: 158
Cyclone 'Ursula'
1971g December 6-7

Record No: 159
Cyclone 'Carlotta'
1972a January 11-12

Record No: 160
Earthquake
1972b February 1

Record No: 161
Storm
1972c February 6-7

▪
Record No: 162
Cyclone 'Ida'
1972d May 30 - June 1

Record No: 163
Volcano 'Kavachi'
1972e October-December

Record No: 164
Flood
1973a January

Record No: 165
Flood
1973b September early

Record No: 166
Earthquake
1974a January 31

Record No: 167
Earthquake
1974b February 1

Record No: 168
Earthquake
1974c March 9

Record No: 169
Volcano 'Tinakula'
1975a January

Record No: 170
Volcano 'Kavachi'
1975b June

Record No: 171
Earthquake
1975c July 21

Record No: 172
Volcano 'Kavachi'
1976a August-September

Record No: 173
Earthquake
1976c November 18

Record No: 174
Cyclone 'Norman'
1977

Record No: 175
Flood
1977 August

Record No: 176
Earthquake
1977a January 19

Record No: 177
Earthquake
1977b January 19

Record No: 178
Volcano 'Kavachi'
1977c February 22

Record No: 179
Earthquake
1977d April 21

Record No: 180
Storm
1977e June about 17

▪
Record No: 181

Earthquake
1977f July 7

Record No: 182

Volcano 'Kavachi'
1977g July 19

Record No: 183

Tsunami
1977h November or December.

Record No: 184

Volcano 'Kavachi'
1978a June - July

Record No: 185

Earthquake
1978b November 4

Record No: 186

Tsunami
1978c November 30

Record No: 187

Storm
1979a January

Record No: 188

Cyclone 'Kerry'
1979b February 17-20

Record No: 189

Earthquake
1979c October 23

Record No: 190

Earthquake
1979d November

Record No: 191
Cyclone 'Fae'
1980a February 4

Record No: 192
Earthquake
1980b February 6

Record No: 193
Floods
1980c May 30

Record No: 194
Earthquake
1980d July 8

Record No: 195
Earthquake
1980e July 9

Record No: 196
Earthquake
1980f July 17

Record No: 197
Floods
1980g August 8

Record No: 198
Volcano 'Kavachi'
1980h October 7

Record No: 199
Cyclone
1981 December

▪
Record No: 200
Flood
1982 January 23

Record No: 201
Earthquake
1982a January

Record No: 202
Earthquake
1982b February

Record No: 203
Cyclone 'Bernie'
1982c April 3-4

Record No: 204
Earthquake
1983 October 15

Record No: 205
Earthquake
1984a February 8

Record No: 206
Storm
1984b December 23

Record No: 207
Volcano 'Kavachi'
1985

Record No: 208
Cyclone 'Hina'
1985a March

Record No: 209
Earthquake
1985b September 27

Record No: 210
Cyclone 'Namu'
1986 May 16-19

Record No: 211
Cyclone 'Blanch'
1987a May 22-25

Record No: 212
Tsunami
1987b October 12

Record No: 213
Cyclone 'Anne'
1988a January 7-14

Record No: 214
Tsunami
1988b August 10

Record No: 215
Earthquake
1990 August 17

Cyclones

in the

Solomon Islands

Record No: 2

Hazard Type: Cyclone

1568 February 1st week

District: Malaita

Island: Ontong Java

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects: On the 1st February 1568, two ships 'Los Reyes' (250 tons), and the 'Todos Santos'(107 tons) were sailing under the captaincy of Alvaro de Mendana. The ships narrowly avoided being shipwrecked on a reef, almost certainly the one near Ontong Java. Immediately after this the vessels were swept away by a cyclone and driven south for six days. On the seventh day the weather cleared. [85]

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

,

Physical Charaaeristics:

Illustrations:

So-:[85] Kent, J. 1972 p71-72.

Record No : 7

HQZJUdType: Cyclone

1788

District: Temotu

Island: Vanikolo

Nearest Town:

Latitude:

Longitude:

Associated HQZJUds:

Other Areas Affected:

Comment 1: Two ships, captained by La Perouse, were lost whilst journeying between Sydney and the Solomon Islands. In 1827, Peter Dillon ascertained that the ships had been wrecked in a cyclone, on the barrier reef to the south of the island of Vanikolo. [228]

Cost Estimates:

Health Effects: a) Many of the crew drowned and a number of them had lived for some years on shore, but all had been long dead at the time of Peter Dillon's visit. [228]

Social Effects:

Buill Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

Sources:[228 p13] Handbook of the BSIP, 1911

Record No: 10

Hazard Type: Cyclone

1820

District: Malaita

Island: Ontong Java

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: Genealogical data collected by Hogbin (1934) provides an approximate chronology which suggests that a hurricane occurred about 1820. [113 p380]

Cos: Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physiad Environment: Sarfert recorded in 1910 two oral accounts relating to storms big enough to destroy many trees (Sarfert and Damm, 1929). It is one of these storms that Hogbin dates as occurring in 1820. [113]

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

SOU/Q1S:[U3] Bayliss-Smith, T.P. 1988. p380.

Record No: 13 ,

Hazard Type: Cyclone

1840 December

District: Western

Island:

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects: The sea swept overboard six of the crew, the rest reached the land, but only one escaped the natives." [229]

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects: "A whaling Barque 'Mary' was buffeted about in an unmanageable state in a typhoon. On the 2nd she struck on a reef of rocks at the south east extremity of the Laughlin Islands." [229 p24]

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: A hurricane is listed as having occurred west of the Solomons, near the east coast of New Guinea. [240]

Illustrations:

Sources:[229 p24] Dobson, T., 1853
[240] Visher & Hodge, 1925

Record No: 15

Hazard Type: Cyclone

1850

District: Malaita

Island: Ontong Java

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: Genealogical data collected by Hogbin suggests that a hurricane occurred about 1850. [113]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: Sarfert recorded in 1910 two oral accounts relating to storms big enough to destroy many trees (Sarfert and Damm, 1929). It is one of these storms that Hogbin dates as occurring in 1850. [113]

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

Sources:[113] Bayliss-Smith, T.P. 1988. p381.

Record No: 22

Hazard Type: Cyclone

1880 January 20

District: Central

Island: Savo

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment]:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects: Whilst taking in cargo, the cables of the barque 'Meteor' parted and the vessel drove ashore on to a ledge of rocks where it broke up. The captain swam ashore with a line by which a hawser was taken ashore and Captain Callaghan, with assistance, rescued the whole of the crew. "The natives where very kind and brought the crew yams evening and morning upon which they lived fifteen days". [177]

The 'Meteor' arrived at Savo on January 16th. During the day of the 20th a gale and heavy seas sprang up, causing the loss of the 'Meteor'. [177]

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2: }

*Physical Characteristics:*The 'Gazelle', which brought the crew of the 'Meteor' back to Brisbane, left the Solomon Islands on February 8th, and reported that there was very bad weather prevailing in the islands at that time. [177]

Illustrations:

Sources:[177] Fiji Times, March 20th, 1880

Record No: 28 ,

Hazard Type: Cyclone

1890 March 3

District:

Island:

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: A hurricane is described as occurring at "the south end of the group" [240]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

J

Sources:[240] Vis her & Hodge, 1925.

Record No: 29

Hazard Type: Cyclone

1891 March 4-12

District: Temotu

Island: Santa Cruz

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected: New Hebrides

Comment 1: A Hurricane is described as occurring at the Santa Cruz islands. [240]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Influence:

Comment 2:

Physical Characteristics:

Illustrations:

,

SOU''CeS':[240] Visher & Hodge, 1925.

Record No: 33 ,

Hazard Type: Cyclone

1907 (approx)

District: Temotu

Island: Tikopia

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: In 1862 the population was probably between 400-800. In 1923 it was probably 1,100. [123 p53 footnote]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: A 'big hurricane' not long before 1908 was followed by a 'great scarcity of food'. [123 p48]

Illusutuions:)

Sources:[123] Firth, R., 1959

Record No: 35 ,

Hazard Type: Cyclone

1916 January

District:

Island:

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

*Comment 1:*Not shown in Coleman. [260]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects: Considerable damage was reported to have been done to banana and coconut plantations. [89]

Shipping Effects:

Economic Effects: Planters estimate that it would probably be from four to six months before they would be able to make shipments of bananas to Australia. [89]

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Information of the cyclone was brought to Australia by passengers on the steamer 'Minindi' which arrived in Australia (? Brisbane) in early February. It was described as the worst gale experienced for nearly half a century. [89]

The area affected by the cyclone was not recorded.

Illustrations:

Sources:[89] Sydney Morning Herald, 1916
[260] Coleman, F., 1972

Record No : 47

Hazard Type: Cyclone

1935b December 10 [166]

District: Temotu

Island: Utupia Vanikolo Reef

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

*Comment 1:*Not shown in Coleman. [260]

Cost Estimates:

Health Effects: a) No lives lost in the shipwrecks.

Social Effects:

Built Environment: a) Houses were wrecked on the island of Vanikolo. [241]

The timber settlement was wiped out apart from one house being left intact. [21]

High seas damaged the Reef Islands. [166 p46]

Agricultural Effects:

Shipping Effects: A ship was forced onto the reefs at Santa Cruz. [241]

The medical departments vessel 'Hygeia', was completely wrecked. No lives were lost. [21]

The Hygeia sank at Santa Cruz. [160]

Economic Effects:

Physical Environment:UTUPIA. This island was visited by the author in 1951 when he noted that the vegetation had been entirely stripped by cyclones which occurred in 1935 and 1938. All the growth was secondary. Natives described the 'big wind' and how they survived by gathering in open ground. The hillsides were stripped to such an extent that the soil was visible everywhere; 'ground nothing no more'. [68 p53]

The cyclone practically stripped the island of Utupia of all vegetation. [241]

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:[68] Grover, J.C., 1955, p52. Sketch map of Utupua.

Sources:[21] Pacific Islands Monthly, 6(7), 1936

[68] Grover, J.C., 1955, p53.

[160] Britton, N., 1987

[166] Green, R.C. & M.M.Cresswell, 1976 p46

[241] Lever, 1935

[260] Coleman, F., 1972

Record No : 51

Hazard Type: Cyclone

1937 January [166]

District: Temotu

Island: Utupua Reef Islands Tikopia

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Shortage of food. [123 p53]

Other Areas Affected:

Comment 1: Utupua = 69 square kilometres. [122]

Not shown in Coleman. [260]

Cost Estimates:

Health Effects: a) More than one death. [166]

Total of six deaths. (My guess)

UTUPUA. The Reverend Mr. West died as a result of this storm. [166]

Further deaths occurred in the Reef Islands. [166] (My guesstimate is 5 more deaths).

Social Effects:

Built Environment: Damage occurred in the Reef Islands. [166]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2: In 1929 the population of Tikopia was approximately 1,300. [123 p53]

Physical Characteristics: a) TIKOPIA. Firth had a letter from Dr C.E. Fox who wrote 'I was lately in Tikopia, where they had a hurricane and were short of food; and still increasing' (their population). [123 p53]

b) TIKOPIA. In 1929, Firth recorded that there had been three severe hurricanes during one generation, which averaged one every twenty years. In these cyclones not a roof had been left on houses in Ravenga and Namo and even large trees had been torn up. [123 p53]

Illustrations:

Sources:[122] Harcombe, D., 1988

[123] Firth, R., 1959

[166] Green, R.C. & Cresswell, M.M., 1976, p46

[260] Coleman, F. 1972

Record No: 52

Hazard Type: Cyclone

1938

District: Temotu

Island: Utupua

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

*Comment 1:*Not shown in Coleman. [260]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: This island was visited by the author in 1951 when he noted that the vegetation had been entirely stripped by cyclones which occurred in 1935 and 1938. All the growth was secondary. Natives described the 'big wind' and how they survived by gathering in open ground. The hillsides were stripped to such an extent that the soil was visible everywhere; 'ground nothing no more'. [68 p53]

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:[68] Grover, J.C. 1955 p52. Sketch map of Utupua.

Sources: [68] Grover, J.C. 1955, p53.

[260] Coleman, F. 1972

Record No: 56

Hazard Type: Cyclone

1948

District: Temotu

Island: Utupua

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: A Trans-Oceanic Airways Sunderland flying boat on its way from the Solomon Islands to Sydney was forced to return to Tulagi because of violent cyclones. (I do not know if it was this cyclone which was being referred to). (174)

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects: All vegetation was stripped leaving as the natives say 'growing nothing no more'. (91)

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage: When John Grover visited the Santa Cruz Group in October 1951 he noticed considerable damage from which cyclones had stripped vegetation. The island of Utupua still showed its damage from the 1948 cyclone. (91)

Comment 2:

Physical Characteristics:

Illustrations:

Sources: [91] Grover, J.C., 1952.

[174] Sydney Morning Herald, Jan 27, 1948

Record No: 57

Hazard Type: Cyclone

1949

District: Temotu

Island: Taumako (Disappointment] (In the Duff Island Group)

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: This island was visited by the author in 1951 and he writes that 'dense secondary growth covers the precipitous western slopes, which appear to have been stripped of vegetation by a hurricane in recent years'. [68 p57]

Illustrations: [68] Map of the Duff or Wilson Group including Disappointment Island.

Sources:[68] Grover, J. C. 1955, p57.

Record No: 61

,

Hazard Type: Cyclone

1951 March 24

District: Isabel Western

Island: Isabel New Georgia

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: The SIMS map of tropical cyclones shows the track of the cyclone. [126]

Shown in Coleman. [260]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment Z:

Physical Characteristics:

Illustrations:.

Sources: [126] Solomon Islands Meteorological service. 1988

[260] Coleman, F. 1972

Record No: 62

Hazard Type: Cyclone

1951a February 24

District: Guadalcanal

Island: Guadalcanal

Nearest Town: Honiara

Latitude:

Longitude:

Associated Hazards: Floods Landslides Storm Surge

Other Areas Affected:

Comment 1: The Kukumn Wharf at Honiara was destroyed on the 24th February in a gale. I have assumed that the rain which caused the floods and landslides in March were due to the same weather system.

Track of the cyclone. [260, fig 23]

Cost Estimates:

Health Effects:

Social Effects: Whilst on a geological field trip, the author and 22 others ran short of food due to being held up by the floods. They had to walk thigh and waist deep in flood waters. They were without food from Saturday night to Thursday. [68 p16]

Kukum Wharf had been used for loading most overseas shipping, following its destruction; the wharf at Point Cruz was used. [9]

Built Environment: a) GUADALCANAL. Kukum Wharf was destroyed. It had been obvious that the wharf, which had been built during the war, had been in a dangerous state for some time. [9]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: During March the author traversed from Aola inland to Lake Lee and west to Mount Tatuve and thence to Honiara. Heavy floods and landslides were encountered. [68 pl06]

Trees were snapped off. [68 p16]

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

Sources [9] Pacific Islands Monthly, Vol 21(8) p17

[68] Grover J.C. 1955.

[260] Coleman,F., 1972

Record No: 64

Hazard Type: Cyclone

1951c December

District: Temotu

Island: Tikopia

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Storm surge

Other Areas Affected:

Comment 1: This cyclone is not shown on the SIMS map of tropical cyclones 1951-1986. [126]

Not shown in Coleman. [260]

The island was visited by the author a month prior to the cyclone and mentions that the island was devastated by two violent hurricanes. [68 p59]

Firth describes this cyclone and the one which occurred in January 1952, as the same cyclone which occurred in two phases. [123 p53]

The effect of this cyclone needs to be viewed in relationship with the cyclones of January 1952, March 1953 and the drought of 1952 which affected Tikopia.

Cost Estimates: Ref [123] contains details of the way the Tikopians managed the famine following the cyclones of 1952, 1953 and the drought of 1953.

Health Effects: a) No loss of life.

Social Effects: b) No mention of injuries. [123]

Built Environment: a) TIKOPIA. In this first storm the waves at high tide swept inland, broke down many houses near the beach in Faea and scattered and buried property. [123 p54]

Buildings on the outer beaches were destroyed. (This destruction may have occurred during the December 1951 or January 1952 cyclone, it is not made clear which. [68 p61])

This cyclone and one which occurred a month later destroyed buildings, gardens and canoes. [68 p6]

b) TIKOPIA Practically all the canoes were intact, though rumours in the Solomons had said that they were all destroyed. (In Grover, 1955 p61). [123 p48]

Agricultural Effects: TIKOPIA During this cyclone, low-lying areas of cultivation were flooded by salt water which broke into the swamp area where much taro was grown. [123 p54]

Gardens were stripped. It is not made clear if this happened during the December 1951 or January 1952 cyclone. [[68 p61]

In this first storm, the wind was so violent that the leaves of the giant taro, large, fleshy and spadelike, were as if someone had rubbed them between his hands until only the bare stalk was left. [123]

Recovery of the crops was long delayed, partly owing in the first case to drought succeeding the cyclone and partly because of the effects of salt spray which had a caustic action and retarded the growth of new shoots. [123 p54]

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2: TIKOPIA The population was in dire straits. Government and Messrs. Lever bros. ships brought relief to the island, including crop vegetables for planting. The strain of food resources was also relieved by a number of the young men offering to work as plantation labourers in the Russell Islands. [68 p61]

Physical Characteristics:

Illustrations:

Sources: [68] Grover, J.C.
1955. [123] Firth R., 1959
[126] Solomon Islands Meteorological service. 1988
[260] Coleman, F. 1972

Record No: 66

,

Hazard Type: Cyclone

1952a January 23-26

District: Guadalcanal Malaita Temotu Island:

Guadalcanal Malaita Isabel Tikopia *Nearest Town:*

Honiara Tangarere Avu Avu

Latitude:

Longitude:

Associated Hazards: Storm surge Floods

Other Areas Affected:

Comment 1: This cyclone is not shown on the SIMS map of cyclones 1951-1986. [126]

Shown in Coleman [260 Fig. 22]

The population in Tikopia in 1952 was approximately 1,750. [123 p47 footnote].

This cyclone needs to be viewed in relationship with the cyclones of 1951, March 1953 and the drought of 1952 which affected Tikopia.

The failure to place anything on record concerning this cyclone was because of the belief that similar events would happen frequently, which has not proved to be true. The storm concerned was certainly the most severe in 49 years to strike Guadalcanal. [17]

Grover mentions that the island of Tikopia was devastated by a cyclone on 24th January 1952. [68 p59]

Cost Estimates: Ref [123] contains details of the way the Tikopians managed the famine following the cyclones of 1952, 1953 and the drought of 1953.

Health Effects: d) GUADALCANAL. In Avu Avu, one Sister in her seventies was dying from her experience. [17]

Social Effects: a) TIKOPIA On March 13th, food shortage had already set in. [123 p48] Drinking water was obtained from springs which flow into aquaducts down to the shore where the villages were located. The aquaducts were made of areca palm trunk and were almost completely destroyed. It took several days to get them working again. [123 p55]

Housing was seriously affected. Temporarily some people had to take refuge in the woods and others in shelters under the lee of cliffs, until the houses could be rebuilt. This took some months as there was a shortage of materials. At least a dozen houses damaged by the cyclone or ensuing tsunami were not rebuilt for months. Some 'houses of famine' were built anew on ancient sites to allow their owners to cultivate inland and guard their growing crops with greater ease. [123 p55]

The population of Tikopia was in dire straits. Government and Messrs. Lever bros. ships brought relief to the island, including crop vegetables for planting, and the strain of food resources was relieved by a number of the young men offering to work as plantation labourers in the Russell Islands. [68 p61]

GUADALCANAL. In order to escape from the convent, it was necessary to escape shoulder deep through surf meeting on both sides of the submerged saddle, now joining the land to the island, everyone grabbed something in the way of medicine and food and the long line marshalled by the men with only three torches left the house. A wave pinned the women amid mangled corrugated iron against a barbed wire fence momentarily until the surge withdrew. As they climbed over the fence, they collected, in their hair and habits, thousands of terrified centipedes up to several inches in length which had taken refuge on the fence post tops.

They were in danger of being hit by floating uprooted trees surging back and forth as they crossed the flooded gardens of the coastal plain to the foothills where they found shelter. [17]

Father de Kerk's 20 years work was wiped out in a few hours. The priest and the sisters escaped into the mountains where the natives are caring for them; but they lost everything. [23]

At Avu Avu the fathers and sisters sheltered in a concrete tank on a hill. [17]

At Avu Avu the mission staff, completely destitute are sheltering in the jungle. [23]

A ship was sent by the government to rescue the Avu Avu and Tangerere Mission people. [23] c)

In June, 1952, a geological survey party found their movements through the forest country of Guadalcanal, Betilonga Basin area, were made difficult due to obstruction in places by areas of large trees felled by the cyclone. [68 p83]

Built Environment: a) GUADALCANAL. Leaf living quarters along the beach were partly bored with coral boulders. [17]

Many roofs have been damaged.[23]

Invading seas undermined part of the Residency. The Trade Scheme jetty, battered by waves and debris, collapsed. So did some of the TS buildings. Many waterfront buildings were damaged by coral boulders and debris thrown ashore by the huge waves. [23]

Levers' labour lines near the Honiara air-strip have been demolished by the sea.[23]

At Tangarere (on the west coast), the priests house was washed off its piles. The powerstation was flooded and inoperative. The convent which housed the Sisters and sick women and children, was destroyed. The convent was about 15 feet above sea level and further raised by piles. [17]

A number of large villages in the central district had to be abandoned. [179 p5]

The mission stations at Tangarare and Avu Avu were completely destroyed. Nothing was left of the Avu Avu church which had been slowly built over 50 years. [80]

At Avu Avu on the south coast the mission was destroyed, this comprised the hospital, houses, food and medicine.[17]

TULAGI. Buildings and a pontoon jetty at the Melanesian Mission's headquarters were demolished. All stations of this Mission which have communicated have reported heavy damage to buildings. (23)

MALAITA Villages in coastal areas and on artificial islands facing the storm were obliterated by the surge and superposed breakers. [17]

Grover mentions that the artificial islands destroyed were built fifteen generations ago. [68 p6]

Many coastal villages were overwhelmed by the sea. The villages, built on islands constructed of boulders by the natives in the past 50 of 60 years, have mostly been destroyed. (23)

TIKOPIA Buildings on the outer beaches were destroyed. (This destruction may have occurred during the December 1951 or January 1952 cyclone, it is not made clear which). [68p61]

A stoem surge inundated Faea. [164 p8]

Some houses had been broken down and the solid walls of coral stones of a church had been torn apart. [123 p48]

b) GUADALCANAL.Telephone and power lines came down.[17]

The Lungga River flooded and carried away the well-known bridge built by the American Army. (23)

All jungle paths were broken by fallen trees.(23)

The Bailey bridge which connected the remnants of the old Kukum wharf to the shore collapsed into the sea. [23]

At Kukum the wartime docks were destroyed, not being in good condition. [17] Honiara.

The last of the three jetties was battered to pieces and disappeared. This port now has no jetty. [23]

TIKOPIA Practically all the canoes were intact, though rumours in the Solomons had said that they were all destroyed. (In Grover, 1955 p61). [123 p48]

Agricultural Effects: GUADALCANAL. In Tangarere gardens were flooded.[17]

TIKOPIA Gardens were stripped. It is not made clear if this happened during the December 1951 or January 1952 cyclone. [[68 p61]

In 1952 when Firth was in Tikopia there were only two pigs. There were said to have been many others but they had been killed in the cyclone. [123 p37 footnote]

No coconuts or bananas were seen; many breadfruit trees were in ruins. [123 p48]

Recovery of the crops was long delayed, partly owing in the first case to drought succeeding the cyclone and partly because of the effects of salt spray which had a caustic action and retarded the growth of new shoots. [123 p54]

RUSSELL Extensive damage was suffered by the coconut plantations. [179]

Shipping Effects: Shipping tied up to trees on the lee side of Point Cruz.[17]

The mission boat from Avu Avu and Tetepare the 'Santa Anna' was thrown by the storm onto the northeast coast of Guadalcanal. [80]

MALAITA The Catholic Mission vessel 'Santa Anna' was wrecked on an island off Malaita.[23]

There is acute anxiety for the safety of the little vessel 'Matoma', with Mr. Ernie Palmer. Up to February 3rd there was no word of her. [23]

Economic Effects: A ship which was to pick up tons of scrap, stacked on the shore, would now have great trouble loading. [23]

Physical Environment: b) MALAIT A Shortly after the cyclone, it was observed that all soil had been stripped off seaward-tilled (sic), emerged coral shelves for distances of up to 60 metres where these shelves formed promontories. [17]

Very large blocks of coral, to several tons in weight, had been broken off the seaward edge and rolled across the shelf for the full distance.

70 feet high coconuts had been uprooted and rolled inland with the coral boulders as had numerous trees, some of them large.[17]

Ramparts of boulders and trees had been built up to at least 10 feet high, effectively absorbing the energy of the sea and preventing further destruction of shore plantations situated about 12 feet above sea level. [17]

Vegetation was brown from sea inundation and salt spray, but this was only temporary.[17]

GUADALCANAL. At Avu Avu the height of the land along the shoreline was added to by the storm surge. Ramparts of boulders, coral blocks and sand to several feet high occurred on shelf promontories on the bank. Beach ramparts of boulders, gravel and sand to a height of about 5 feet on the alluvial coastlines of Guadalcanal. In time these ramparts suffer compaction and erosion by torrential rains. [17]

TIKOPIA The beaches of Faea were strewn with wreckage. [123 p48]

Many of the low lying areas were flooded. [123 p48]

Biosystems/Heritage: TIKOPIA The deep green of the land was interspersed by odd large patches of brown and red, indicating bare soil showing through. Leafless trees along the strand indicated the destruction wrought by the wind. The crests of the island looked ragged. Many trees had disappeared altogether and coconut palms, formally abundant on the hill slopes, stood, sparsely, with a few gaunt fronds at curious angles. In the village of Faea, sand lay thick covering the bases of the trees. [123 p47-48]

Comment 2: The effects observed on the south and western coasts of Guadalcanal and Malaita were noteworthy. While one can appreciate the way in which storm surges can build

up on shores with shallow seas, it has been a matter of surprise to the writer that a relatively small island with a faulted, reasonably straight coastline falling steeply to a depth of 1,000 fathoms could be subjected to such storm surge effects involving a considerable rise in sea level.[17]

In Honiara, older citizens have reported the sea across the 400 yard wide coral detritus plain during past historical malevolent cyclones.[17]

There is a strong and growing feeling among officials and non-officials that a great mistake was made by high authority when it abandoned war-torn Tulagi and placed the headquarters town at Honiara. Honiara has an air -strip and some land space around it; but it is not a port and BSI's economy always will be ruled by its sea transport. Tulagi is a safe port. If that "young hurricane" had come from any direction except the west, we should all have been washed into the sea. The last of the wharves has gone. What happens now? Do we transfer the commercial shipping to Tulagi? [23]

TIKOPIA. There was not enough food to maintain subsistence level until February 1953. [164 pH]

Physical Characteristics: c) The "young hurricane" struck the central islands on the night of January 23rd and lasted until well on into the morning of the 24th. [23] The cyclone struck Honiara from the west. [17]

d) There was some warning of the cyclone's approach but in some cases the warning was not issued until shortly before and sometimes even after the cyclone had struck at centres of population. [90]

There was no warning of this storm. The day after the storm Fiji warned that a dangerous storm was developing. [23]

There was a bright rift in the sunset sky and utter blackness afterwards.[17]

STORM SURGE. at Tangarere in Guadalcanal, at 2am, the Sisters and others discovered that the water had washed away the cases which were stored under the house. They left the house half a minute before it collapsed. [17]

e) Honiara's anemometer broke up at 85 m.p.h. before the height of the cyclone. [17] The storm surge at low tide was no greater than 3.5 feet, the wind paralleling the northern coastline. [17]

Illustrations:[68] Grover, J.C. 1955 p5. Photograph of the destruction of the Kukum warf. [68]

Grover, J.C. 1955 p5. Photograph of the destruction of the Trade Scheme Jetty, Point Cruz.

[68] Grover, J.C. 1955 p40. Photograph taken near the Kwaifela River, western Malaita. Shows that all the soil was removed in the cyclone. Blocks of coral weighing some tons were washed into the plantation.

Track of the cyclone. [260 fig. 22]

Sources:[17] Grover, J.C. 1966.
[23] Pacific Islands Monthly 43(7)122
[68] Grover, J.C. 1955
[80] Pacific Islands Monthly 42(8)132
[90] Grover, J.C. 1953
[123] Firth, R. 1959
[126] Solomon Islands Meteorological service. 1988
[164] Spillius, J., 1957
[179] Report on the BSI for the years 1951 & 1952
[260] Coleman, F, 1972

Record No: 67

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Hazard Type: Cyclone

1952b February

District: Makira Central

Island:

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: The SIMS map of tropical cyclones shows the track of the cyclone. [126]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

Sources: [126] Solomon Islands Meteorological service. 1988

Record No: 79

Hazard Type: Cyclone

1953c March

District: Temotu

Island: Tikopia

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

*Comment 1:*Not shown in Coleman. [260]

Cost Estimates: This cyclone is not shown on the SIMS map of cyclones 1951-1986. [126]
Ref [123] contains details of the way the Tikopians managed the famine following the cyclones of 1952, 1953 and the drought of 1953.

This cyclone needs to be viewed in relationship with the cyclones of 1951, 1952 and the drought of 1952-53 which affected Tikopia.

Health Effects:

Social Effects: This cyclone came 14 months after the cyclone of 1952 which was followed by drought and famine. Thus the people had suffered a great deal. There was talk of putting off to sea on suicide voyages and about asking the Government to remove all the population to another island. [123 p55]

Emergency measures were more delayed after this cyclone than they had been after the 1951-1952 cyclones. Probably due to the privations caused by the previous cyclones and ensuing famine. [123 p55]

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: Following the cyclone they opened the channel leading from the lake to the sea, to lower the level of the lake and thus provide fish. [123 p55]

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

Sources: [123] Firth, R. 1959

[126] Solomon Islands Meteorological service. 1988

[260] Coleman, F. 1972

Record No: 80

Hazard Type: Cyclone

1953d December

District: Guadalcanal Central

Island: Florida Guadalcanal

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: The SIMS map of tropical cyclones shows the track of the cyclone. [126]

Not shown in Coleman. [260]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations :

Sources: [126] Solomon Islands Meteorological service. 1988
[260] Coleman, F. 1972

Record No: 82

Hazard Type: Cyclone

1955 February

District: Central Makira Temotu

Island:

Nearest Town:

Latitude:

Longitude:

Associated HQZJI's:

Other Areas Affected:

Comment 1: The SIMS map of tropical cyclones shows the track of the cyclone. [126]

Shown in Coleman [260 fig. 24]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

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Sources: [126] Solomon Islands Meteorological service. 1988
[260] Coleman, F. 1972

Record No: 90

Hazard Type: Cyclone

1958b March [126] April [260] 2 [260]

District: Western

Island: Guadalcanal Temotu

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: The SIMS map of tropical cyclones shows the track of the cyclone. [126]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

,

Sources: [126] Solomon Islands Meteorological service. 1988

Record No: 92

Hazard Type: Cyclone

195&1 October

District: Central Temotu

Island: Rennell Vanikolo

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: The SIMS map of tropical cyclones shows the track of the cyclone. [126]

Not shown in Coleman. [260]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

Sources: [126] Solomon Islands Meteorological service. 1988
[260] Coleman, F. 1972

Record No: 96

Hazard Type: Cyclone

1958h December

District: Temotu

Island: Santa Cruz

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: The SIMS map of tropical cyclones shows the track of the cyclone. [126] Not shown in Coleman. [260]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations :)

Sources: [126] Solomon Islands Meteorological service. 1988
[260] Coleman, F. 1972

Record No: 98

Hazard Type: Cyclone

1959b December 19-30

District: Western

Island: Choiseul Shortlands [260]

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected: Vila

Comment 1: Shown in Coleman. [260 Fig. 26]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Thunderstorms occurred on 19th December. [161]

Heavy rain fell in the Solomons on the 23rd December. [161 p9]

CHOISEUL BAY.

UKI. At Pawa, rough seas were reported on the 24th December at 0500Z. [161 p9]

Illustrations:[1611] p8, Track of the cyclone.

Sources: [161] Whittingham, H.E., 1960

[260] Coleman, F. 1972

Record No: 129

Hazard Type: Cyclone' Angela'

1966e November 14

District: Malaita Guadalcanal

Island: Malaita Guadalcanal

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Floods Rockslides Landslides High Seas *Other*

Areas Affected:

Comment 1: Cyclone' Angela' was a small but vicious type of cyclone. [70]

Unless stated, the denomination of the money is not known.

Reference [70] contains additional technical information about the cyclone such as
sferics.

Not shown in Coleman. [260]

Shown in SIMS. [126]

Cost Estimates: There was an immediate response from all sections of the community to an
appeal by the Solomon Islands Branch of the British Red Cross Society and the British
Government sent \$90,000 as a token of sympathy. [72 p5]

The British Solomon Islands Chinese Association contributed \$600 and supplies of food and old
and new clothing and blankets within two days. [99]

The Seventh Day Adventists estimated it could cost at least \$50,000 (I think 1967
Australian dollars). [139]

Health Effects: a) Three dead. [99]

MALAITA Two deaths reported from Malu'u, north Malaita. [99]
GUADALCANAL. One death by drowning. [99]

b) MALAIT A At Malu'u, 4 people admitted to hospital. [99] [70]

The complete account of the storm casualties had not been received when this news went to press. [99]

Social Effects: NORTH MALAITA Thousands were left homeless. [72 p4].[99]

Hundreds of homeless people crowded into Auki for shelter.[99]

GUADALCANAL Food stocks were ruined. [72 p5]

Built Environment: a) NORTH MALAITA Hundreds of villages were damaged or destroyed.[72 p4]

The worst hit parts of the island were the coastal villages stretching from Kwalibesi in the north to the Langa Langa Lagoon in the west.[99]

Roughly one quarter of the houses in the Baegu area of Malaita were seriously damaged or destroyed. [159]

In the village of Lilisiana on Auki Harbour's north side, three hundred people lost their homes, and in some areas 50-100% of all houses were destroyed. [99]

Damage was extensive on the artificial islands. The wind and rain blew the houses down and the high tide swept possessions into the sea. [139]

The Seventh Day Adventist Leper Colony at Kwalibesi was destroyed. This included the church which had been built one year previously, four staff houses, the leper ward, two dormitories and the school. [139]

The Diocese of Melanesia church at Soulufou was devastated. [99]

Extensive damage to leaf houses. [99]

At Atoifi, in the Uru district about 100 miles south of Kwalibesi, the church had been blown down and other damage sustained. The buildings made from concrete blocks survived. [139]

b) GUADALCANAL. Bridges were washed away as rivers burst their banks. Leafbuildings were ruined. [72 p5]

Floods washed away the 140 foot Bailey bridge over the Metepano River. [72 p57] [99]

The Metepano River Bridge was swept 100 yards downstream. [99]

At Chuva, the subsiding floods left four feet of mud and debris in the school. [99] At

Mataniku, (? near HONiara) the village was badly hit. [99]

At White River eight houses were wrecked and many damaged. [99] MALAITA

Six weeks of work was required to repair (road) damage.[72 p57] In the Baegu area, trails were blocked for days by fallen trees or branches. [159]

At Auki power lines were broken by a falling tree and the district capital was without electricity for two days. [99]

Numbers of bridges have been damaged or swept away. [99]

At Kwalibesi, a stone wharf 120 yards long was swept away, including a storage shed at the end of the wharf which completely vanished with all the stores it contained. [139]

Agricultural Effects: MALAITA Extensive damage to coconut palms and cocoa trees and many village market gardens were destroyed. [99]

In the Baegu area because the gardens were scattered, they were not all destroyed. [159] In the Sasafa River Valley the gardens were completely washed away. [159]

It was almost one year before eating or drinking coconuts were plentiful. [159]

CANARIUM ALMOND NUTS. (used as a supplementary food and an important trade item). The 1967 crop were half the normal size. [159]

COCONUT DAMAGE. Coconut palms and cocoa trees were extensively damaged. [72 p4]

COCOA DAMAGE. MALAITA At the Cocoa Research Station at Dala, considerable damage was done to a number of trials. [72 p28]

It is likely that the cyclone will adversely affect the cocoa yields in 1967. [72 p28]

COPRA DAMAGE. In 1968, the Copra production was 3,000 tons less than in 1967, a shortfall which was largely due to the cyclones of 1966 and 1967. [73 p3]

It was not until 1969 that copra production recovered due to cyclones in 1966, 1967 and 1968. []

Many village market gardens were destroyed. [72 p8]

Shipping Effects: The canoes of villagers crossing from Auki Island to the mainland during the cyclone were swamped half way across. Crew members of local shipping plunged into the water with life jackets and helped them to the beach. Many other similar incidents were reported. [99]

The 'Raratalau', belonging to the Seventh Day Adventists, was nearly lost. Giant waves whipped up by the cyclone caught the ship as she was entering the harbour at Uru and for a while it was feared that she would sink. [139]

Economic Effects:

Physical Environment: b) GUADALCANAL. Many areas of the coastal plain were flooded. Dodo Creek Bridge was waist-high under water at one time. At one stage St. Joseph's College and the Catechist School on the east bank of the Tenaru River were surrounded by water 12 inches deep. [99]

MALAITA The Sasafa River, in the Baegu area, filled its valley from wall to wall. Flood stage reached ten or fifteen feet over its normal bank level, at some places as much as a hundred yards across the valley floor. [159]

ROCK SLIDES. In the hills in the Baegu area, rock slides swept down the steeper slopes, carrying away whole groves of trees leaving the surface barren. [159]

LANDSLIDES. In the Baegu area, many hillside gardens slumped down the hill following the heavy rain. [159]

c) GUADALCANAL. Thousands of logs and tree trunks were swept out to sea. [72 p5]
Coastal waters were coloured brown with silt and debris. [99]

Biosystems/Heritage: GUADALCANAL. Many of the coastal plains area were flooded. Rivers burst their banks. [72 p5]

Comment 2:

Physical Characteristics: a) The cyclone passed over the north and west of Malaita and then passed on to the south and east coasts of Guadalcanal.[72 p4]

The cyclone struck Malaita in the early morning and Guadalcanal 36 hours later.[72 p8] The centre passed over eastern Guadalcanal.[70]

At 6am, 14th November, gales were lashing the east coast of Malaita but by noon the cyclone had moved southwest across the island and was heading for Guadalcanal.[70]

At the new Malaita hospital (? Malu'u) of the Seventh Day Adventists, fifty miles away from Kwalibesi, there was rain but not the wind. [139]

c) The cyclone struck Malaita in the early morning and struck Guadalcanal 36 hours later.[72 p8]

At Kwalibesi the cyclone began to subside after five hours. Winds had blown from 80-100 miles per hour. [139]

e) MALAITA Winds were between 60 and 80 knots, producing seas 30 feet high. [72 p5]

Outside the lagoon the seas were nearly forty feet high. [139]

Auki reported a 30 knot southerly at 132100 GMT (no date given).[70] [99]

GUADALCANAL. 12 inches of rain were recorded in 53 hours.[72 p5] Waves 9m high. [167]

Described as a Class 2 cyclone. [70]

Illustrations: [70] p56. Track of the path of the cyclone.

[126] Track of the path of the cyclone.

[99] Aerial Photo of the Metapona River, Guadalcanal, taken after the flood waters had subsided somewhat. Shows the remains of the original US Army bridge, the post war Bailey bridge and a very big log identified as having come downstream from Chuva Mission Station.

[159] Map of Malaita, p14. Sketch map of the Baegu area, p39.

- Sources:[70] Bureau of Meteorology, 1969, p12-16.
- [72] BSI Report for the Year 1966.
- [73] BSI Report for the Year 1968
- [99] BSIP News Sheet 7-21 Nov. 1966.
- [126] Solomon Islands Meteorological service. 1988
- [139] Australian Record, Vol.71 (6) 1967
- [159] Ross, H.M., 1973
- [167] Solomon Islands Cyclones.
- [260] Coleman, F. 1972

Record No: 133

Hazard Type: Cyclone 'Glenda'

1967b March 28-29

District: Guadalcanal Makira Central

Island: Guadalcanal Makira Santa Anna Russell Isabel Florida Malaita New Georgia Ugi

Nearest Town: Honiara

Latitude:

Longitude:

Associated Hazards: Storm Surge

Other Areas Affected: Queensland coast Northern NSW coast

Comment L: The effect of the cyclone was exacerbated by the heavy rains which had been falling since November, 1966. [142]

The track of the cyclone as depicted in reference [126] does not indicate that Guadalcanal or Makira were close to the path of the cyclone.

Track shown in Coleman. [260]

MALAIT A, which was badly damaged in a cyclone last year, seemed to miss the worst of this one. [3]

Cost Estimates: Betikama Adventist School estimated a loss of over \$3,500 worth of food. [142]

Health Effects: No reports of deaths or injuries in the Solomons but six men were killed in two boating incidents in the Coral Sea.[70 p54]

No deaths or serious casualties were reported.[71 p7]

Social Effects:

Built Environment: a) This cyclone caused damage throughout the Solomons except in the far north-west, the worst hit areas being in a broad belt covering part of Isabel, north Malaita, parts of south-east New Georgia, west Guadalcanal and west Makira. [59]

GUADALCANAL. At Honiara, buildings of the Marine Training School were washed away. [3]

The whole village of Kukum was destroyed, therefore the whole population would be displaced. [3]

HONIARA A house occupied by a European (Mr Dick Johnson of the Colonial Development Corporation) was a 'write-off. Many personal belongings were lost. [3]
At Honiara there was widespread damage. [167]

Houses were flooded. [71 p5]

The T.S.'Ranadi' buildings had to be temporarily evacuated.[71 p5]

The hospital at Honiara was damaged. [105]

Sand-filled petrol drums on the sea wall gradually drifted out to sea as the intensity of the cyclone increased. [3]

The old Government House withstood the cyclone. [3]

At Betikama Adventist School, a dormitory was damaged when a tree fell on it. Native kitchens were also damaged. [142]

KUKUM, a fishing village next to Honiara, was flattened. [3]. This was a leaf village. [71 p5]

SANTA ANNA More than 100 native houses and a dispensary were destroyed. [105]

b) GUADALCANAL. During 1977 much of the available heavy equipment was employed repairing damage caused by this cyclone. [71 p64]

Wharf decking was lifted. [167]

The coast road at ROVE and KUKUM had waves washing over it depositing logs and coral. The coast road at ROVE and KUKUM was eroded. [3]

HENDERSON AIRPORT. Honiara's international airport was flooded to the engine nacelles of an aircraft. This caused an eroded patch across the middle of the runway, exposing coral pinnacles. [3]

HONIARA Power and telephone lines were down in the area. [3]

Electricity and water distribution systems were considerably damaged. [71 p5]

Waves damaged, including Honiara's main one at Point Cruz. [3]

The new wharf at Honiara was damaged when the force of the waves raised up the concrete slabs of the wharf. [105]

Sea surge smashed up the boathouse in Kukum, which contained small craft. [105]

The eastern abutment of Poha bridge collapsed and the abutment of Lungga bridge was eroded. [105]

The deep water berth at Point Cruz was damaged but repaired by September. [71 p5]

Agricultural Effects: GUADALCANAL At Honiara, seafront gardens were destroyed. [3] In

Honiara most seafront gardens were severely damaged. [71 p5]

All gardens along the flooded Lungga River were destroyed. [142]

RUSSELL ISLAND. 600 acres of coconut plantation were completely destroyed, including 300 acres of new plantings on the island. [70 p54]

COPRA PRODUCTION. This cyclone, along with the November 1966 and November 1967 cyclones were blamed for the shortfall of copra production in 1968. The amount produced in 1968 was 20,541 tons, the lowest since 1958 and 2,976 tons less than in 1967. [71 p32]

It was the plantation sector of the industry which suffered the greater loss in production due to the cyclone. [71 p30]

RICE PRODUCTION. During 1967 three hundred and thirty-five acres of commercially grown rice were harvested on the Guadalcanal Plains, producing 203 tons of padi, compared with 400 tons in 1966. The fall in production was blamed on this cyclone and cyclone 'Annie' which occurred in November, 1967. [71 p4]

COCONUT PRODUCTION. The cyclone struck productive areas of coconuts in the Central Solomons. The yields of economic crops suffered markedly in the affected areas. [71 p30]

On Lever's plantation this cyclone seriously damaged one of the major coconut research trials which had been established for six years. [71 p31]

COCOA PRODUCTION. Poor yields were aggravated by this and the November 1967 cyclone, particularly on Malaita. The tonnage on Malaita was 28 tons as compared with 55.3 tons in 1966. The tonnage for the Solomons was 60 tons as compared with 96 tons in 1966. [71 p32]

SANTA ANNA Food gardens were completely destroyed. Coconut trees were uprooted. [105]

Shipping Effects: The launch 'Dalrymple' was thrown ashore at west Point Cruz in a damaged condition. [105]

Economic Effects:

Physical Environment: b) GUADALCANAL. At Honiara, soil and vegetation were ripped from foreshores. [3]

Trees were uprooted and those still standing had their leaves removed. [3]

The Lungga River was in full flood, The water covered acres of land. [142]

Two days after the storm, Mr G.F.C.Dennis, of Honiara, said that the town "represents a scene of desolation in the bright sunshine, with the coastline changed by sea erosion and storm debris everywhere. [3]

Three days after the storm people were cutting up the fallen trees into moveable pieces. Cleaning of houses was unpleasant because of the smell of dead crabs. [3]

b) THE SOUTHERN ISLANDS. During the 28th and 29th March, the more exposed parts of the coastline were pounded by high seas and a heavy swell. [70 p53]

Biosystems/Heritage: GUADALCANAL In Honiara, the grounds of Government House, on the waterfront, were a lake during the cyclone and were left in a shambles. [3]

Comment 2: Reference [70] contains additional technical information about the cyclone.

Physical Characteristics: a) The cyclone struck the Central Solomons with wind speeds of 80 miles/hour and continued into the early hours of the following morning, then tore through the Eastern District with winds of an estimated speed of 100 mph, notably affecting Makira. The Florida and Russell Islands and the Western Solomons were also affected in lesser degree, as was Malaita. In Guadalcanal the brunt was born by the west coast, particularly the south west comer. [71 p5&7]

During the 28th and 29th March, the southern islands of the Solomons were subjected to northwesterly gales. [70 p53]

e) GUADALCANAL 80 milexhour winds. [3] At Betikama Adventist School, near Honiara. [142]

Waves estimated to be 6m high. [167]

Winds gusting to 116 km/hr. [167]

Honiara 207mm rain. [167]

UKI ISKAND. At 1700 GMT on 29th March, Pawa reported the strongest wind recorded at a land based station (360/63 knot). [70 p53]

RUSSELL. Wind gusts estimated to be reaching 90 miles/hour. [70 p54]

SANTA ANA Gale force winds rupped through the island on the 30th March. [105] e) A

Class 1 cyclone. [70 p45]

Illustrations: [126] Track of the cyclone.

[3 p117]. Photograph of the seas lashing the? warf at Kukum fishing village, near Honiara. Photograph taken at Point Cruz on the morning following the cyclone. It shows fishing boats at the collapsed wharf and the sunken cutter 'Marata'.

[70 p58]. Map of the path of the cyclone.

[71 p81] Photograph of wild seas smashing the fishing village at Kukum, Guadalcanal.

[142] Photograph of the flooded gardens at Betikama School, Guadalcanal.

Sources:[3] Pacific Islands Monthly, 1967.38(5):116-117. [59] Whitmore, T.C., 1969.

[70] Bureau of Meteorology, 1969, p45-55.

[71] BSI Report for the Year 1967.

[105] Munich Re, 1988

[126] Solomon Islands Meteorological service. 1988

[142] Australasian Record, Vol. 71(24) p4-5

[167] Solomon Islands Cyclones.

[260] Coleman, F. 1972

Record No : 134

Hazard Type: Cyclone 'Annie'

1967c November

District: Western

Island: Choiseul Wagina Giro Simbo Rannonga Vella Lavella Malaita
Kolombanangara Isabel Ontong Java Guadalcanal Santa Ana

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Storm Surge

Other Areas Affected: Papua

Comment 1: The cyclone originated from an incipient low which persisted for several days to the east of the Solomon Islands at latitude 6 degrees south. Of particular interest was the simultaneous occurrence of cyclone 'Gilda' in the northern hemisphere. The cyclones were operating at about the same longitude until recurvature occurred. [69]

On Ontong Java the cyclone was regarded by the islanders as so unprecedented that a new word (sakaloni) was adopted to describe it. Until the publication of this reference in 1988 there had been no further cyclones in Ontong Java. [113]

Reference 113 gives information about the height of the islands.

Not shown in Coleman. [260]

Cost Estimates: GIZO. The cost of the damage to the Co-op. was more than SI\$400. (1967 currency 1 think). [195]

Health Effects: b) No mention of injuries [69].

Social Effects:

Built Environment: a) WAGINA FLOODS & WIND destroyed almost an entire village. [69]

WAGINA Every house was flattened. [71 p5]

GIZO. At Titiana village, winds gusting to more than 90 mph, destroyed houses. [195]

In Gizo town a falling tree cut straight through the Co-operative's prefabricated building. [195]

At the Government district headquarters' station, water, electricity and telephone services failed. [69]

Trees toppled onto some buildings. [71 p5]

CHOISEUL The Ruravai Mission Station was badly hit and several of its permanent buildings were destroyed. [69]

Half the houses in some areas of Choiseul were destroyed. [71 p5]

VELLA LA VELLA Half the houses in some areas of Vella Lavella were destroyed. [71 p5]

RANONGGA Half the houses in some areas of Ranongga were destroyed. [71 p5] DEBOYNE

ISLAND AREA About 77 houses were destroyed. [69]

RANNONGA Near Vori Point, 73 houses were destroyed. [69]

ONTONG JAVA One village was destroyed. [71 p5]

b) GIZO. A government work boat was sunk. [69]

Power lines were dragged down as electricity poles were snapped. [71 p5]

Work which had started on road and swamp reclamation was delayed by damage caused by this cyclone. [71 p64]

In many areas, launches and canoes were pulled from their moorings and were damaged on reefs and beaches. [69]

VELLA LA VELLA At Barakoma airfield six foot rocks and debris were blown onto the field. [195]

GUADALCANAL. In Honiara the wharf was damaged. [105]

Agricultural Effects: MAKIRA On Santa Anna all the gardens were destroyed. [105]

VELLA LA VELLA STORM DAMAGE on two commercially owned plantations and a 'Methodist Overseas Mission' station. [69]

VELLA LA VELLA; CHOISEUL; RANONGGA Many food gardens were washed away or badly damaged [71 p5]

WAGINA All the gardens were flooded by the sea. [71 P5]

ONTONG JAVA 50% of the coconut palms on the 42 islands of the southern part of the atoll and most of the gardens were destroyed. [71 p5]

Maximum palm destruction occurred in southern parts of the atoll most exposed to overwash, and reports of continuous heavy surf passed right across the islands at the peak of the storm. [113]

GIZO. One village lost 700 coconut palms, the community's only cash industry. [69]

CONFLICT GROUP. Heavy damage was reported to the coconut palms. [69]

COPRA PRODUCTION. In 1968, the Copra production was 3,000 tons less than in 1967, a shortfall which was largely due to the cyclones of 1966 and 1967. [73 p3]

RICE PRODUCTION. During 1967 three hundred and thirty-five acres of commercially grown rice were harvested on the Guadalcanal Plains, producing 203 tons of padi, compared with 400 tons in 1966. This fall in production was blamed on this cyclone and cyclone 'Glenda' which occurred in March, 1967. [71 p4]

COCONUT PRODUCTION. Local effects on the production of coconut crops will be felt for the whole of 1968. [71 P30]

COCOA PRODUCTION. Poor yields were aggravated by this and the March 1967 cyclone, particularly on Malaita. The tonnage on Malaita was 28 tons as compared with 55.3 tons in 1966. The tonnage for the Solomons was 60 tons as compared with 96 tons in 1966. [71 p32]

ONTONG JAVA COCONUT PALMS. 10%-50% of the crops were destroyed, it varied with the island. [113]

Shipping Effects: I think the following shipping effects occurred around PNG. The

'Eileen', a 35 foot cutter, arrived safely at Panapompom Island and the occupants of the canoes returned unaided to Misima although one canoe was badly damaged in the storm and abandoned. [69]

The 'Matalili', a work boat, capsized and sank. [69]

The 130 ton, 62 foot coastal vessel, 'Bev ' capsized and sank. This was after anchoring in the Conflict Group of Islands to escape strong winds. The gale was so strong that it peeled paint off the windward side of the vessel and broke the anchor cable. It is not clear where the vessel sank. [69]

The 'Papuan Chief, which passed close to the cyclone centre, had its radar mast broken. [69]

Economic Effects:

Physical Environment: b) VELLA LA VELLA HIGH SEAS caused coastal damage. [69]

Biosystems/Heritage: GIZO. Trees toppled. [71 p5]

ONTONG JAVA Three years after Cyclone Annie seaward reefs along the southern rim of the atoll were virtually devoid of coral growth. Between Ngikolo and Lopaha, a distance of 35 kilometres, the storm produced an almost continuous rampart of rubble about 20 metres wide and 1-3 metres above mean sea level. [113]

Comment 2: Reference [69] contains additional technical information about the cyclone. Reference [113] contains detailed information about the geomorphic Changes on Ontong Java. WAGINA The Red Cross Field Officer flew to the west and travelled in the 'Kangava' with supplies for the stricken Gilbertese settlement. [71 p5]

Physical Characteristics: a) The cyclone swept through the Western Solomons with the eye of the cyclone 'Passing through Gizo. [71 p5]

GIZO. A change in the direction of the wind, after a lull in the storm brought chaos to the harbour, exposed to the full blast of the storm. [71 p5]

The north coasts of Malaita and Isabel experienced gale force winds. [71 p5]

ONTONG JAVA The distribution of coconut destruction suggests that severe wind damage (over 50% destroyed) was restricted to islands in a 27 kilometre zone along the southern rim of the atoll, The rate of damage declined to 30-50% in a 10 kilometre zone further north, and rapidly diminished to only slight damage (10-20%) in the 10 kilometre zone beyond. About half of the atoll escaped significant wind damage. If peak wind velocity is correlated with the modal direction of wind throw, then in the zone of greatest wind damage WSW was the strongest wind direction. [113]

b) ONTONG JAVA The mean recurrence interval since the early nineteenth century for cyclones in Ontong Java was suggested to be 60 years. Note that the atoll has a maximum length of 70 kilometres and a width ranging from 11 to 26 kilometres, so that half or more of the islands will escape damage from any given storm. [113]

d) On the 9th November a trough extended from the low to the Central Tasman Sea and a large anticyclone (1032 mb) centred in the Australian Bight covered the continent and waters south of 20 degrees S, eastward to 160 degrees E. In the formative stages the high weakened to 1023 mb and moved ENE, being located east of Brisbane on the 10th November. This high continued to move slowly eastwards along latitude 30 degrees south while 'Annie' was deepening. Deepening was slow until the cyclone was located between the Solomons and Misima Island (Eastern New Guinea) when pressures appeared to have dropped at the rate of about 3 mb every three hours. By 2000 GMT on 12th November the storm had a central pressure of 980 mb and this was maintained until the storm had moved east of longitude 160 E. As the storm moved further to the SE, it was captured by an eastward-moving trough. 'Annie' rapidly filled on 16th November when dry air associated with an intense depression in the northern Tasman Sea moved over the storm. [69]

e) CHOISEUL. 35 knot southwesterlies were reported from Sasamunga AT 1100 GMT on 11th November. [69]

NEW GEORGIA ISLANDS. At the same time that 35 knot winds were reported in Choiseul, 30 knot winds were reported from Munda. [69]

GUADALCANAL. At Honiara the maximum squall was 87 kmJhr and 96mm rain. [167]

Illustrations: [69] P 14. Map of the track of cyclone 'Annie'.

[126] Track of cyclone 'Annie'.

Sources:[69] Bureau of Meteorology, 19?, p12-17.

[71] BSI Report for the Year 1967

[73] BSI Report for the Year 1968

[105] Munich Re. List of Cyclones.

[113] Bayliss-Smith, T.P. 1988. p380

[126] Solomon Islands Meteorological service. 1988

[167] Solomon Islands Cyclones.

[195] News Drum, Nov. 26, 1976

[260] Coleman, F. 1972

Record No : 136

Hazard Type: Cyclone 'Giselle'

1968b April 3-9

District: Western Guadalcanal

Island: Choiseul Guadalcanal Florida

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected: New Zealand

Comment 1: Track shown in Coleman. [260 Fig 30]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment: No wind damage recorded. [167]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: The cyclone travelled north crossing the westernmost islands, looped around and came south through the east end of Guadalcanal. [167]

134 mm rain. [167]

Moderate swell. [167]

Illustrations:[126] Track of the cyclone.

Sources: [167] Solomon Island Cyclones

[126] Solomon Islands Meteorological service. 1988

[260] Coleman, F. 1972

Record No : 138

Hazard Type: Cyclone 'Becky'

196&1 December Second Week

District: Malaita Guadalcanal Central Makira Island:

Malaita Ugi Guadalcanal Makira Florida *Nearest Town:*

Maka Sinalanggu Kirakira

Latitude:

Longitude:

Associated Hazards: Floods

Other Areas Affected: New Hebrides

Comment 1: The cyclone left on December 13th towards the New Hebrides. Honiara itself was not affected. [1]

In 1968 a new Volunteer Weather Reporting Service was introduced to aid in cyclone warning. [73 p78]

Track shown in Coleman. [260 Fig 26]

Cost Estimates: The British Government made a token contribution of 4,000 pounds sterling (1968 pounds) for immediate relief. The Solomon Islands Branch of the British Red Cross Society contributed a supply of food and heavy plastic sheeting. [73 p6]

Health Effects: a) 1 woman dead. [1] [73 P 12]

One woman died. [1]

b) 1 woman critically injured. [1] [73 p12]

Social Effects:

Built Environment: a) GUADALCANAL. Honiara was not affected. [1]

MALAITA Around Maka, (on the southern tip of the island), 200 people became homeless due to floods. [1]

At Sinalanggo an estimated 180 families homeless. (Possibly more). [1]

At Sinalanggu a mass of houses were utterly destroyed. [73 p5]

At Sinalanggu about 180 leaf houses were destroyed. [1]

MAKIRA At Klrakira the government store's roof was blown off and the market house destroyed. [1]

Makira suffered extensive damage. [73]

MALAIT A Damage was 'bad' in Atoifi in the north and Manawai in the south. [1]

Flood waters 12 feet high in the Maka area. [1]

FLORIDA At Siota, the Seventh Day Adventist college, some buildings were destroyed which would cause a problem housing the following years students. [143]

UGI ISLAND. Many houses were destroyed. [143]

7 school buildings destroyed at Alanguala School. Much general damage reported from Pawa School. Half the church roof was blown off at Wainoni Mission. [1]

At Pawa, two staff houses and a leaf dormitory were destroyed. The chapel and two dormitories were badly damaged, as were the kitchen and the bakery. [143]

b) Communication with Honiara was cut off. (I interpret this as being radio telephone communication). [1]

MAKIRA The new Pue Pue bridge, opened a few months ago to provide the first vehicle bridge on the island, was badly damaged. [1]

MALAIT A At Auki much damage was caused to cables and overhead lines, This damage was effectively restored by local staff stationed at Auki. [73 p78]

Agricultural Effects: MALAITA At Sinalanggu 50% of the gardens were utterly destroyed. [73 p5]

MALAITA There was serious cyclone damage to most of the cocoa plantings. [73 p34]

UGI ISLAND. Many of the gardens were destroyed. [143]

Shipping Effects: Preliminary warnings to small ships allowed time for them to take shelter and no ships were damaged. [1]

Economic Effects: Air services to Honiara interrupted. (Due to the cyclone being in the area). [1]

Physical Environment:

Biosystems/Heritage:

Comment 2: In the New Hebrides the 60 foot Chinese trader 'Hong Kong' sank, The Burns Philp trader 'Manutai' was damaged and lost her deck cargo and shipped 400 tons of water. [1]

Physical Characteristics: a) The cyclone started as a tropical depression between Malaita and Sikaiana, deepening into a cyclone as it gathered force, moving across Malaita towards Guadalcanal and south eastwards to Makira. [1]

On the 2nd December a tropical depression between Malaita and Sikaiana gathered force and deepened into cyclone 'Becky', moving across Malaita towards Guadalcanal and south eastwards to Makira. A violent wind like a tornado cut a swathe across Malaita about twenty miles wide and most parts of the island were affected, Sinalangu on the central north east coast being the worst hit locality. [73 p5]

The western end of Guadalcanal experienced high winds. [73 p5]

e) MALAITA Winds of up to 80 miles/hour were reported in Auld. [1]

Illustrations: [126] Track of the path of the cyclone

Sources:[1] Pacific Islands Monthly Vol 40(1):33

[73] BSI Report for the Year 1968.

[126] Solomon Islands Meteorological service. 1988

[143] ABM Review, Vol.59(1)

[260] Coleman, F. 1972

Record No: 142 ,

Hazard Type: Cyclone 'Colleen'

1969c January 27-'12> [176] 27-4 Feb [259]

District: Isabel Malaita

Island: Isabel Vella Lavella Malaita

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Floods

Other Areas Affected: New Caledonia

Comment L: Track shown in Coleman. [260 Fig 27]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects: MALAITA Much of the Asai farm was washed away. This meant that only two courses for farming training, with a total of 27 people, were held. [74 p36]

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2: [126] Shows the track of cyclone 'Colleen' which is shown as affecting Isabel, Choiseul and the New Georgia Group.

Physical Characteristics: e) .As it crossed Isabel and Vella Lavella, this cyclone was a small tropical low. It became a tropical cyclone in the southern Solomon Sea during the night of the 29th January. [176]

HONIARA 36 knot winds when 'Colleen' was 320km to the southwest. [259]

UKI At Pawa there were near gale force winds. [261]

Illustrations:[126] The track of cyclone 'Colleen'.

[176] p32. Track of the cyclone.

Sources:[74] BSI Report for the Year 1970.

[126] Solomon Islands Meteorological service. 1988

[176] Strochnetter, F.G., 1970

[260] Coleman, F. 1972

[259] BOM Tropical cyclone season, 1968-1969

Record No : 146

Hazard Type: Cyclone 'Isa'

1970b April

District: Malaita Western Makira Central

Island: Malaita New Georgia Makira Russell Savo Choiseul Guadalcanal Florida Nearest

Town:

Latitude:

Longitude:

Associated Hazards: Floods

Other Areas Affected:

Comment 1:

Cost Estimates: MALAITA Approximately \$12,000 damage was caused to roads and bridges, (1970 dollars). (74 p78]

Flood waters from the Fiu River caused about \$2,000 worth of damage to fences and other materials at Asai farm. [144]

Health Effects: a) MALAITA Two dead. [144] Two

youths drowned in a river on Malaita. [144]

Social Effects:

Built Environment: a) FLORIDA The villages of Dende (Ndende), Vuranimala and Toa were flooded. [144]

MAKIRA A number of houses near the sea were destroyed or damaged. [144] At

Rawake, near Kirakira, a Diocese of Melanesia School was blown down. [144]

SAVO. Only very little damage. No food shortage. [144]

RUSSELL. A house was blown down on the island of Leru. [144]

NEW GEORGIA GROUP. At Munda the PWD workshop was damaged. [144]

A rural health clinic at Ugele on Rendova Island was damaged. [144]

GUADALCANAL. Little damage done in Honiara. [144]

SHORTLANDS. These islands were untouched. [144]

CHOISEUL. Only the southern half was affected by the cyclone. [144]

b) MALAITA The Fiu bridge was washed away and replaced later in the year. [74 p8] (The Fiu river is just north of Auki).

The Auki abutment and span of the Fiu bridge were washed away and had to be replaced.[74 p78]

The bridge over the Kwara'ae River was damaged. [144]

The most recent bridge at the road-head, over the Takwa river was washed away, together with some of the road. [144]

GUADALCANAL The north Guadalcanal road was flooded in parts and the ford at the Sasa River was impassable. The temporary bridge over the Tambalia, which had been completed only a few weeks before, after the original bridge was destroyed, was washed away. [144]

Agricultural Effects: MALAITA At Asai farm, four acres of grazing land had been completely destroyed, together with four acres of crops. [144]

RUSSELL ISLANDS. COCONUTS. At Yandina, about 500 coconut palms blown down. This was expected to reduce Lever's copra production by about 15 tons. [144]

On the island of Leru, many trees were blown down. [144]

FLORIDA (I think around the villages of Dende, Vuranimala and Toa), a number of gardens were buried under landslides. [144]

MAKIRA Some gardens were washed away by flood waters in Arosi, Bauro and Wainoni, (? Wainone Bay). [144]

Shipping Effects: The 'San Juanita' experienced very bad weather, and was badly tossed about on a journey from Ulawa to Maka, Malaita, on the first night of the cyclone. The day after, the 'Kwai' reported that she could not see Sikaiana, although she was close to the island. [144]

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: a) Little damage done in Honiara. [144]

MALAITA Caught most of the rain. In the Sinelanggu area more than 22 inches of rain fell in 44 hours. [144]

CHOISEUL. Only the southern part of the island was affected. [144]

SHORTLANDS. This group was untouched. [144]

FLORIDA The cyclone was centred here for some hours. [144]

d) Warning was first given on 15th April and a control centre was set up in Honiara.

Trucks and workmen from the Town Council, Electricity Authority and the PWD were standing by ready to deal with any damage. This state of emergency was kept up for two days. [144]

e) At Morovo Lagoon, winds upto 70 knots were reported. [144]

ULA W A Gale force winds. [258]

At Honiara there were squalls of 35/50 km/hr. [167]

Illustrations: [126] Track of the cyclone.

[151] Map of the position of the cyclone at 0800 hours on 16th April, and the positions of the ships at sea.

[152] Three photographs of flood damage. The Fiu river in flood; a ferry carrying people across the river; Asai farm in flood.

SOURCES: [74] BSI Report for the Year 1970

[126] Solomon Islands Meteorological service. 1988

[144] BSIP News Sheet, No.8, 16-30 April, 1970

[151] BSIP News Sheet, No.10, 15-31 May, 1970

[152] BSIP News Sheet, No.9, 1-15 May, 1970

[167] Solomon Islands Cyclones, Munich Re., 1986

[258] BOM, Met summary, 1973

Record No : 158

Hazard Type: Cyclone 'Ursula'

1971g December 6-7

District: Makira

Island: Makira Santa Anna Santa Catalina

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected: New Hebrides Gilbert-Ellice area, Pawa to Fiji area and Norfolk Island.

Comment 1: Technical data for this cyclone is in reference [88 p89-91]

Cost Bstimaies: The Bishop of Melanesia gave \$500 (? 1972 SI dollars), for the rebuilding of churches, to each village he visited. [147]

The British Red Cross gave assistance during the cyclone. [75 p75]. The Kirakira branch contributed \$100 and sent blankets, clothing and hurricane lamps. [14]

St. George's Chapel and the Anglican Association contributed \$200. [14]

From Honiara the Government sent 600 bags of rice, 150 tins of ships biscuits, tents and plastic sheeting. [14]

The Makira Council voted that \$3,700 be allocated for relief supplies to the cyclone-stricken areas on the eastern end of Makira. [16]

Health Effects: a) One dead. This was an elderly man who was killed by a falling coconut palm. (I think on Santa Catalina). [14]

Social Effects: An estimated 2,500 people were homeless. [p75 p5]. [88 p89]. These people were having to live in leaf shelters and caves. [14]

Makira sub-districts took turns to supply housing leaf to the cyclone stricken areas. This is reported to have happened up to June 1972. [234]

Built Environment: a) THE WESTERLY TIP OF MAKIRA, SANTA ANNA & SANTA CATALINA were no major towns in the area affected by 'Ursula' during its passage over the Solomons but all villages in its path were razed. [88 p91]

SANTA ANNA Brick buildings in the village were demolished. [88 p91]

Most of the houses in the area were completely destroyed. [14]

Manivovo Mission Station and the Rural Health Clinic at Namuga were ruined. The latter was built of concrete blocks and had an iron roof. [14]

At one plantation a dead cow and chickens were lying under fallen debris and the plantation owner and his family were sheltering in the copra drier. [14]

b) SANTA ANNA A marine light on a steel tower based on a concrete platform was lifted up and thrown on its side. [88 p91]

Agricultural Effects: MAKIRA In the most severely affected area which is east of Manivovo and Tawaroga, there were very few trees left standing. Banana plants had been pulled out of the ground; coconuts had been blown over; most of the mature palms had toppled over or been snapped off. Gardens were ruined by flooding. [14]

Many food gardens and coconut groves were destroyed.[75 p5]

SANTA ANNA, SANTA CATALINA & STAR HARBOUR. Gardens were replanted, but the loss of wild birds resulted in a disturbance to the balance of nature so that the gardens were plagued by caterpillars which in former days would have been eaten by the birds. [147]

Shipping Effects: On Monday the 6th December, the 'Coral Princess' on her way from Kirakira to Graciosa Bay had a hold full of water whilst being in a moderate gale. She managed to make the journey to Baienga on the west coast of Santa Cruz at reduced speed. [14]

Economic Effects: MAKIRA Much damage done to the peasant economy. [93]

Physical Environment:

Biosystems/Heritage: There was severe damage to vegetation and trees in the area affected, they were stripped and shattered. [88 p91]

There were dead fish on the land 100 yards from the sea which could have been dropped only from the sky. [14]

Comment 2: Special relief measures were quickly organized. [75 p5]

The repair of 1971 and 1972 cyclone damage to navigational aids was virtually completed by 1974. [125]

Physical Characteristics: Maximum winds were probably in excess of 100km/h. An unofficial pressure reading of 928hPa was taken in the eye and the storm generated unusually high amplitude microseisms at Honiara. [88]

After developing well to the northeast of the Solomon Islands the cyclone moved slowly southwest and passed over the island of Santa Catalina. It then reversed through the New Hebrides. [88]

Illustrations: [126] Track of the cyclone.

[14] 8 photographs of the devastation caused by the cyclone to the built and physical environment.

[75 p] One photograph of a devastated coconut plantation near Mami, Makira.

One photograph of shelter and water catchment being built among the ruins of the cyclone.

[235] Picture of a plaque depicting the story of cyclone Ursula.

Sources: [14] BSIP News Sheet, 1-15 December 1971

[16] BSIP News Sheet, 16-31 December 1971

[75] BSI Report for the Year 1971.

[88] Bureau of Meteorology, 1975. p89-91.

[93] BSI Report for the Year 1972.

[125] BSI Report for the Year, 1974, p61 ,

[126] Solomon Islands Meteorological service, 1988

[147] ABM Review, Vol.62(2) 1972

[234] BSIP News Sheet, No.8, 1972

[235] BSIP News Sheet, No.6, 1972

Record No: 159

Hazard Type: Cyclone 'Carlotta'

1972a January 11-12

District: Guadalcanal Makira Isabel

Island: Guadalcanal Makira Isabel New Georgia Islands *Nearest*

Town:

Latitude:

Longitude:

Associated Hazards: Storm surge Floods Winds

Other Areas Affected: Technical data for this cyclone is in reference 88 p44-48.

Comment 1:

Cost Estimates: Tischler Enterprises reported between \$30,000 & \$40,000 (I think 1972 SIS) damage to insecticides, fertilizers and machinery. [149]

GPL estimated losses of \$50,000 (I think 1972 SIS) mainly due to damage to insecticides, fertilizers and machinery. [149]

The Anglican Diocese gave SI\$25, 000 (1972) in relief to Solomon's village people, grants to rebuild churches, and personal grants to help clergy who lost their possessions. This money covered both cyclone 'Ida' and 'Carlotta'. [93]

The damage estimated by the public works department from Berandi one way, to the 10 mile post the other way, was about \$100,00. (I think SIS, 1972). [149]

The SI Tobacco Company estimated \$10,000 (I think SI \$ 1972) worth of damage to its factory and other properties. [149]

Health Effects: a) GUADALCANAL One dead. [149]

One crew member of the ship 'Hing Lee' drowned when the ship was abandoned in high seas off Kukum. [149]

b) No mention of casualties. [88]

Social Effects: The British Red Cross in Honiara sheltered, fed and clothed many families whose homes had been destroyed or flooded. [149]

Built Environment: a) Widespread flooding and heavy seas apparently caused most of the damage on the Guadalcanal coast, with winds contributing to a lesser degree. Some damage along the sea trout at Honiara, including damage to wharf installations. [167]

GUADALCANAL The sea washed under all the houses at Kukum but only one house was washed away. [149]

At TS Randi the waves pounded the dormitories and piled tons of sand against outside walls and inside the building. Many of the glass louvres were broken before the windows were boarded up. No students were in residence at the time. [149]

GUADALCANAL & MAKIRA On the 11th and 12th January damage occurred on the southern of Guadalcanal and Makira but little is known of the damage done. [149]

The Anglican church areas were particularly severely ravaged by both of the 1972 cyclones. [93]

The schools at Maravovo lost several dormitories and classrooms. [147]

At Kohimarama, the Bishop Patteson Theological Centre lost all the houses for married students. [147]

MAKIRA At Tarawoga, the Anglican church was destroyed, the whole area was devastated, [147]

b) GUADALCANAL. A report from the Superintendent of Marine, Honiara, reported that the swell at Honiara on the afternoon of 11th January was of sufficient height to damage wharf installations, although there was little wind. Honiara was to the east of the cyclone at this time. [88 p48]

Long stretches of the Kukum highway were awash from the sea. [149]

The West Guadalcanal Road was impassable for ordinary traffic for 29 days. [150]

At Henderson Airport there was some damage to the runway but it was still usable. The airport buildings were flooded with six inches of water. [149]

The establishment and maintenance of navigational aids received a severe setback due to the extensive damage caused by this cyclone and cyclone 'Ida'. [93]

Many installations were lost altogether and very few escaped damage of some kind. In this report of 1972 it was considered that the situation would not return to normal until 1974. [93]

Considerable damage occurred to the telephone system and while most services were restored almost immediately, permanent repairs were still being completed in December 1972. [93]

ISABEL. Fera airfield, at Buala, was damaged by this cyclone and cyclone 'Ida'. [93]

MAKIRA Kirakira airfield was damaged by this cyclone and cyclone 'Ida'. [93]

Agricultural Effects: GUADALCANAL. The rice paddies were flooded and breaches made in the bunds at countless places, but the rice could be saved and the bunds repaired. [149]

Bags of copra were lost in the floods. [150]

The oil palm project was not badly damaged. [149]

Thousands of acres of land were inundated on the plains which included the village gardens. [149]

COCOA During 1972 exports of dried fermented cocoa beans declined sharply primarily due to the havoc caused by this cyclone and cyclone 'Ida'. Production was 63 tons which was 54 tons lower than 1971. [93]

Shipping Effects: GUADALCANAL At Point Cruz, a chinese trading vessel, the 'Hing Lee', was torn from its moorings in the night and was swept into big seas off Kukum, the crew abandoned her and one of the crew drowned. The ship was found three days later at Parasi, South Malaita. [149]

A 23 foot fiberglass fishing boat "Cleopatra", was sunk on January 17th and refloated, extensively damaged, on January 20th. [231]

Economic Effects:

Physical Environment: GUADALCANAL: Tons of sand and other debris was dumped on the Kukum Highway, including many commercial and industrial sites. [149]

All around Honiara trees had been felled by the winds and were blocking roads and paths. [149]

Widespread flooding occurred in and around Honiara. [88]

Mature trees were destroyed and those which survived were stripped of their flowers and pods. [93]

Biosystems/Heritage:

Comment 2: The repair of 1971 and 1972 cyclone damage to navigational aids was virtually completed by 1974. [125]

Physical Characteristics: a) The Guadalcanal plains were flooded and looked like a lake. [149] (that is about 836 square miles).

On the 11th and 12th January 'Carlotta' passed within 20-30 miles of the southern shores of Guadalcanal and Makira. [88 p48]

It is known that gales occurred at Kirakira (Malaita) and at Munda (New Georgia Group). [88]

b) This was considered the worst cyclone in the Coral Sea for at least 20 years. [149]

c) The initial effects of the storm were felt at Honiara, on the afternoon of 11th January, at this time some damage occurred due to storm surge. During the evening, however, the wind increased; a gust of 63 knots (117 km/hr) was recorded at local midnight (1300 GMT) and during the following 4 hours winds ranged between 40 and 50 knots (111 km/hr), The maximum gust of 69 knots (128 km/hr) was recorded in a squall at about 4am. (I think local time). Thereafter winds slowly declined, but the rain continued and widespread flooding occurred in and around Honiara. [88]

The greater part of the damage on the Guadalcanal coast was apparently caused by flooding and heavy seas, with winds contributing to a lesser degree. Approximately 610 mm of rain fell over a four day period. [88 p48]

The cyclone affected the Solomons for a full two weeks. [149]

In Honiara there were gusts to 128 km/h and 610 mm. rain over 4 days. [167]

Illustrations: [88] Track of the cyclone, p46.

[126] Track of the cyclone.

[147] Two photographs of damage. One of the remains of the Anglican church at Tarawoga, Makira. One of people salvaging building materials from the sea at Kukum, Guadalcanal. [149] Eight photographs of the damage to buildings, powerlines and roads.

Sources:[88] Bureau of Meteorology, 1975, p44-48.

[93] BSI Report for the Year, 1972.

[125] BSI Report for the Year, 1974.

[126] Solomon Islands Meteorological Service, 1988.

[147] ABM Review, Vol.62 (2), 1972.

[149] BSI News Sheet, No.1, 1-15 Jan., 1972.

[150] BSI News Sheet No.4, 1972

[167] Solomon Islands Cyclones, Munich Re., 1986

[231] Pacific Islands Monthly, 43(3), 1972

Record No: 162

Hazard Type: Cyclone 'Ida'

1972d May-June 30-1

District: Western Isabel Malaita Guadalcanal Eastern Makira

Island: Choiseul Isabel Florida Guadalcanal Malaita Russell Santa Cruz Makira
Ghizo

Nearest Town: Tulagai Rere, Aola & Marau on Guadalcanal, Buala on Isabel

Latitude:

Longitude:

Associated Hazards: Storm surge Floods Wind

Other Areas Affected:

Comment 1:

Cost Estimates: Hundreds of thousands of dollars estimated as the possible cost. [2]

Losses of export income due to damage to forestry plantations estimated to be \$70 million.
(1972 SI dollars). [88 p87]

Iksa. Levers Pacific Plantation Pty Ltd. reported that winds had caused \$20,000 (1972 SI
dollars) damage to coconut trees in the Russell Islands. [145]

The Solomon Islands Christian Association distributed \$450 dollars following the cyclone. [93
PI04]

The Anglican Diocese gave SI\$25,000 (1972) in relief to Solomons village people, grants to
rebuild churches, and personal grants to help clergy who lost their possessions. This money
covered both cyclone 'Ida' and 'Carlotta'. [93]

Cost of roads and bridges \$15,000. [145]

Health Effects: a) Five dead. [2]

GUADALCANAL. Three of these were drowned when a small boat, the 'Fair Wind' sank off

Rere. [2] [145]

MAKIRA A one year old boy was killed after it was lost in the evacuation of Poro village. It had fallen from its mother's back whilst she was trying to escape the pounding seas. The boy was found dead in a patch of swamp taro 12 hours later. [88 P87] [145]

FLORIDA A ten year old boy was killed when struck by a falling tree near the village of Leitongo. [88 p87] [145]

b) The father of the dead ten year old boy received ten stitches after a coconut tree fell on him. [145]

Two men from the 'Fair Wind' drifted for four days with the aid of their life jackets and clinging to bits of timber. They landed on the west coast of Makira. They were then treated at a local clinic. Their skin was peeling off them. [2]

Social Effects: The British Red Cross rendered valuable assistance during this cyclone. [93]

Villagers will have to rely on handouts for the next few months. [2]

ISABEL. At Hurago, 45 villagers sheltered in a cave. [145]

a) Thousands were made homeless. Food situation drastic. [2]

b) A matron (In her 60's), of the Diocesan Hospital at Taroaniara, (? Nggela Pile Island in the Florida Group), had to move 50 patients, mostly women and children, 500 yards from the hospital (over a hill) to a building sheltered from the wind. As the wind veered from the south-east to west they had to move back over the hill to the shelter of the hospital. [2]

Built Environment: a) Loss of housing and buildings probably numbers thousands. [145]

Damage was mainly on Choiseul, Isabel, the Florida Group and the eastern end of Guadalcanal (particularly Rere Point - Marau area). Many permanent buildings in these parts were unroofed and leaf huts destroyed. [88 p87]

MALAITA Most leaf houses along the path of the storm were flattened. (That is, the coast of south-central Malaita). [2]

At Fiu, 40 houses were destroyed by a storm surge which swept 100 yards inland. [195]

Houses were destroyed on one of the artificial islands. [140]

At Afitara (Afutala) Central School, the school chapel was blown down. It was replaced some weeks later by a building in native materials. (I don't know if the original Building was in native materials). [141]

FLORIDA On Nggela Island, roofs from houses and workshops were removed. [2]

4,000 people were made homeless on Nggela. [195]

Taroaniara Diocese of Melanesia Mission Station was devastated. [2]

At Tulagi 60-80 knot winds took roofs off permanent houses and workshops. []

GUADALCANAL. Marau area was almost completely flattened. [88 p87]

GIZO. In the villages of Malakerava and New Mundra, people lost some of their possessions when heavy seas broke into their villages. [145]

ISABEL. (St Jorge Island), the Kolorosi camp, which was probably built from native materials (pers. com. J.Grover), was almost completely destroyed. [173]

SANTA CRUZ Winds at 50 mph destroyed many homes. [195]

b) The establishment and maintenance of navigational aids received a severe setback due to the extensive damage caused by this cyclone and cyclone 'Carlotta'. Many installations were lost altogether and very few escaped damage of some kind. In this report of 1972 it was considered that the situation would not return to normal until 1974. [93]

ISABEL. Fera airfield, at Buala, was damaged by this cyclone and cyclone 'Carlotta'. [93] MAKIRA Kirakira airfield, was damaged by this cyclone and cyclone 'Carlotta'. [93] GUADALCANAL. In Honiara some parts of the main road at Kukum were made unpassable by vehicles because waves swept over the road. [195]

Agricultural Effects: Loss of crops and gardens unknown, possibly upto 100,000 acres. [145]

MALAITA Damage to coconuts and other crops almost total. [2]

ISABEL. Timber stands destroyed. Countless food gardens flattened or washed away. [2]

Cyclone Ida left the logging industry at an indefinite standstill, only scattered areas of commercially useful trees survived the cyclone. [122, pl64]

Isabel previously contained nearly 40% of the protectorate's main timber resources. These were devastated throughout the island and it was considered doubtful if any of the tracts would again be commercially exploitable for many years. One of the country's leading timber companies (Allardyce Lumber Company) was being forced to close down its operations on the island during 1973. [93]

Nearly half the timber in the Allardyce area were uprooted. [195]

The cyclone stopped the Allardyce Lumber Co's plans to expand on the island of Isabel. The company did not actually reduce production but it would have increased production had it not been for the cyclone. [239]

Damage to crops and gardens by wind and local flooding was extensive. [88 p87]

From Rere to the Marau area, hundreds of people lost their food gardens through flooding. [145]

COCOA During 1972, exports of dried fermented cocoa beans declined sharply primarily due to the havoc caused by this cyclone and 'Ida'. Production was 63 tons which was 54 tons lower than in 1971. [93]

RUSSELL. Damage to coconut trees. [145]

Shipping Effects: FLORIDA The 'Marata' ended up on a reef near Tulaghi Island, no injuries. Repairs were possible. The 'Nellie', an old marine vessel, moored at Tulagi, was sunk by heavy seas. [2] [145]

The 'Hilda', the Taroniara hospital ship sank in Tokyo Bay, Mbola. [145]

GUADALCANAL. The 'Fairwind' sank off Rere. [2]

Three ships were reefed and four sank including one near Rere Point. [88 p87] ISABEL.

The 'Buala' sank and the 'Wainoni' and the Tanabuli' where beached by their bosuns to escape certain destruction. [145]

CHOISEUL. The Catholic mission launch the 'Ave Maria' anchored at Sirovanga, drifted out to sea with its bosun on board. It was found nearly two weeks later at Nissan Island between Bougainville and New Britain, the bosun was alive and well. [145]

Economic Effects: FORESTRY. The island of Isabel had previously contained nearly 40% of the Protectorate's main timber resources. These had been devastated. [93]

Physical Environment: b) MALAIT A Trees shredded. [2]

Biosystems/Heritage: Mature trees were destroyed and those which survived were stripped of their flowers and seed pods. [93]

Comment 2: In Honiara, preparation for this cyclone was compared with that of 'Carlotta'. An approaching cyclone was considered unlikely as June is usually the start of the dry season. [2]

Physical Characteristics: At 3.30 pm on May 31st, reports of 40 knot winds around Choiseulland. At 5.30pm Melbourne confirmed that a storm centre was moving south east down the Solomons. By midday on the 1st June, Tulagai marine base on Gela was receiving gusts up to 60 and 70 knots. At 1pm they intensified and changed direction. By the 2nd June the storm had passed. [2]

At 0500 GMT the cyclone was located at 6 degrees S, 157 degrees E, with a central pressure of 980 mb. By the 31st May it was fully developed. [88 p84]

At 2300 GMT on 30th May the position was given as 7.3 degrees S, 157.3 degrees E, with winds to force 11 (103/117 km/hr) near the centre. This placed it at the eastern end of Choiseul and it passed near Pangoe. It ran across the Manning Strait and down the north side of Isabel, then turned south to cross Guadalcanal about 0500 GMT on 1st June moving off the island over Marou. Wind gusts to 82 knots (150 km/hr) were reported from Mboma and 50 to 60 knots (92-110 km/hr) at Kakau. After leaving Marou, 'Ida' moved south-southeast rapidly continuing with an estimated central pressure of 980 mb through the eastern Coral Sea. [88 p84]

c) The cyclone affected the Solomon Islands for one and a half days. [2]

d) At 0500 GMT on 30 May the first tropical cyclone warning was issued. [88 p84] Warning signals were up in the Central District at 6pm. The cyclone occurred overnight. [2]

The first report of the cyclone was on May 30th when a weather satellite reported one forming 30 miles to the east of Choiseul. Ships in the Western district, Isabel and Ontong Java were warned to seek shelter and it was not known whether or not the cyclone was moving. That night it struck the north-western part of Choiseul. [145]

e) GUADALCANAL. Wave heights at Mbuma and Rere in the vicinity of 3m. [88 p87] At

Honiara in the vicinity of 1m. [88 p87]

Tides in the area about 1ft 4in (*D.4m*) higher than normal. [88 p87]

When the cyclone struck the most populated areas, the tide was near low water so little damage was caused through flooding. [88 p87]

Illustrations: [2] p21. Photograph of a destroyed storehouse near Tulagi, Gela Island. [126] Track of the cyclone.

[140] Photograph of damaged houses. Also shows a coconut tree snapped off at about four metres from the ground.

[145] Diagram of the track of the cyclone and the wind directions. 21 photographs of the damage. /

SOURCES: [2] Pacific Islands Monthly, 43(7):21

[88] Bureau of Meteorology, 1975, p84-87.

[93] BSI Report for the Year, 1972.

[122] Harcombe, D. 1988

[126] Solomon Islands Meteorological Service, 1988.

[140] Australian Record, Vol.76(37), 1972

[141] Australian Record, Vol.76(40), 1972

[145] BSIP News Sheet, No.11, 1-15 June, 1972

[173] Letter to J.C. Grover, 1972.

[195] News Drum, Nov. 26, 1976

[239] Pacific Islands Monthly, 44(3), 1973

Record No: 174

Hazard Type: Cyclone 'Norman'

1977

District: Eastern

Island: Utupia

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Heavy rains Rough seas

Other Areas Affected:

Comment 1: When the people of Tikopia heard that Utupia had been hit by the cyclone they sent 100 bunches of bananas and baskets of yams, taro and coconuts. [191]

Cost Estimates:

Health Effects: No report of casualties. [194]

Social Effects:

Built Environment: a) UTUPIA Most houses and a church in the villages of Aveta and Matembo were blown down. Only two houses remained standing. [194]

b) UTUPIA The canoes were lifted by the wind and smashed against trees. [194]

Agricultural Effects: UTUPIA Most fruit bearing trees were blown down. [194]

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: The cyclone warning was received in Santa Cruz about 12 hours after the cyclone had passed through the area. [194]

Illustrations:

Sources: [191] News Drum, June 3, 1977
[194] News Drum, March 25, 1977

Record No: 188

Hazard Type: Cyclone 'Kerry'

1979b February 17-20

District: Makira Central Temotu

Island: Makira Ulawa Bellona Rennell Reef Islands Savo Guadalcanal Uki Malaita
Three Sisters

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Storm surge Floods Winds Rain Hot Springs Sulphur Fumes Fissures

Other Areas Affected:

Comment 1: One of the mysteries of the cyclone aftermath is the abnormal death toll among dogs, cats and chicken. [187]

Some of the references refer to a tsunami and describe it as being one wave. I have described it as a storm surge.

Cost Estimates: A total of \$107,000 donations given. [186]

All money = 1979 Solomon currency.

The Brewer Solomons Agriculture, the rice growing firm, suffered \$200,000 loss of crops, equipment and irrigation. [188]

\$52,000 was allocated for the rebuilding of schools in the worst hit areas. [190]

\$20,000 was authorized to be spent but it was realized that more money would be needed. [185]

\$8,800 donated by the United Nations Development Program. [185]

\$10,800 donated by the South Pacific Bureau for Economic Co-operation. [185]

\$10,000 from U.K [185]

\$10,000 from Australia. [185]

\$10,000 from Japan. [186]

\$10,000 from South Korea. [186]

Health Effects: a) Four dead. [184]

BELLONA One 11 year old girl was killed by a falling coconut tree. [184] A

four month old child died from the cold. [184]

MAKIRA West Bauro district. A four year old boy was drowned when his family set up a temporary home on the banks of the Hao River. [184]

At Arosi, one man was missing presumed drowned after trying to cross the flooded Waihaoru River. [184]

ULA WA No reports of casualties. [184]

d) BELLONA There were several serious casualties mainly caused by collapsing houses or trees. [184]

WESTERN MAKIRA At Anuta Island two men were injured by falling trees. [184] MAKIRA-ULA W A About five months after the cyclone there was an outbreak of malaria. The reason was thought to be the creation of new breeding places, which had not been sprayed following the cyclone. [189]

Social Effects: 7,000 villagers were made homeless in the eastern islands. [105]

MAKIRA 12,000 estimated as homeless. [187]

A couple of weeks after the cyclone the victims number about 15,000. [184]

MAKIRA-ULA WA PROVINCE. Over 1,400 families, with an average of five persons per family reported to be affected. (That is about 7,000 people). [184]

Following the cyclone the water supply was a problem as it was contaminated. [186] BELLONA Food and medicines were needed. All the drug stock had been destroyed. [184] Ulawa, U gi, Three Sisters, Arosi One and West Bauro had to have food relief as the gardens were washed out by rain and floods. They also received tents, clothes, blankets and medicines. [184]

Built Environment: a) Houses were flattened. [105]

GUADALCANAL. At Marau, classrooms and staff houses at Kopiu primary school were damaged. [184]

Roroni village, east of Honiara was flooded and the occupants, who were waist deep in water, were evacuated. [184]

A preliminary survey showed that Ulawa, Ugi, Three Sisters, Arosi One and West Bauro were seriously affected by the cyclone. [184]

ULA WA Only two buildings remained standing at Piru Piru School. [184]

SANTA ANNA Most houses were damaged at Natagera village. [184]

BELLONA The clinic and houses were destroyed. [184]

UGI. A tidal wave (was it a storm surge?), washed across the island in the wake of the cyclone. [184]

Pawa and Hill schools were devastated. [184]

Seven houses were destroyed at Alangaula. Hakanupua and other villages were also badly hit. [184]

THREE SISTERS ISLANDS. One of the islands was cut in half by heavy seas. [184]

All houses in Tauaraha, Taramatoga and Marou Bay were destroyed. The inhabitants sought shelter in caves. [184]

Serious damage was caused to parts of the eastern Solomon Islands, as well as Rennell and Bellona. [160]

WESTERN MAKIRA Many houses flattened. A school at Anuta Island was badly damaged. [11j]

MAKIRA At Rumahui village all houses were blown down. [184]

At Herenigau village only the church and one house was left standing. [184]

At Kirakira, trees fell onto four houses including a nurses home. The roof of the provincial office building was blown off, smashing into other offices. [184]

MALAITA All the houses at Mataioa Island village were demolished by a storm surge. The wave missed the twin islands of Kwai and Ngongosila. Flowing on, the wave hit Mataioa, a small island just off Fokanakafa, east Malaita. This village was ruined, the occupants finding refuge on the mainland. [184]

MAKIRA At Mwaniqagosi village in the Star Harbour, more than 10 houses were destroyed by the storm surge which swept 100 yards inland. Many people lost all their belongings. The village Co-op store lost 150 bags of copra. Two other copra driers also lost their contents. [183]

At Tawaroga village 33 houses were destroyed by the storm surge. [183]

RENNELL. In west Rennell the entire village of Temaqua was destroyed. At Natai the church and 10 houses were blown down. At Natahetua the church and houses were destroyed. At Ngongona village 12 houses were destroyed and the roofs of six big houses were blown off by strong winds. At Hatangua village, six houses were damaged and the roofs of two others blown off. Classrooms and staff-houses at New Place school were also damaged. The roof of Tingoa clinic was blown off and four other houses damaged. [184]

SIKAIANA No damage. [185]

SOUTH MALAITA Waves completely destroyed two villages, Lede and Aulupaina. In both villages just the church buildings remained standing and the Co-op store in Aulupaina. [186]

Two man made islands in South Malaita, Walande and Fanalei, had their stone walls around the islands washed away. The people had to go to Tavaro on the mainland to seek shelter. [183]

In aloha, a church building and two houses were destroyed. [183]

All of the houses in the villages of Sa'a, A'ulupaina, Roabu and Lete'e were destroyed and the people found shelter in nearby hills. The number of people involved was about 800. [183]

REEF ISLANDS. Extensive damage occurred on these islands, leaving about 480 people homeless. Heavy seas and strong winds destroyed 21 houses at Lipe village, including the village church building and the co-op store and the copra storage shed. [183]

At Nibanga Island, 30 houses were flattened. [183]

b) MAKIRA Kirakira airstrip was out of action after being swamped by raging seas. Logs and debris washed onto the airstrip. [184]

Trees blocked roads throughout Makira. [184]

At Star Harbour the Tawaroga village and the Bethel Bible school suffered extensive damage. At the school six houses were blown down including dormitories and classrooms. [184]

REEF ISLANDS. 3 canoes were washed away from Lipe village. [183]

GUADALCANAL. The flooded Guadalcanal Plains were isolated from the capital when the road bridge was washed away at Alligator Creek. [184]

SA va. Heavy rain washed deep holes into the main road running around the island. [184]

RENNELL. At Levena village six canoes were washed away. [184]

Agricultural Effects: GUADALCANAL. At Roroni village all domestic animals were killed. [184]

RENNELL. At Levena village 1,000 coconuts and four bags of shells were washed away. [184]

Serious damage to vegetation in Makira, Rennell and Bellona. [160]

ULA WA Plantations were extensively damaged and cattle had broken away from their pastures at Su'ulopo. Su'utoliato and Suholo. All the gardens were destroyed. [184]

ULA W A, SOUTH MALAITA, UGI. Most of the gardens and trees were destroyed. [186]

WESTERN MAKIRA Many trees flattened. Gardens were also flooded. [184]

Shipping Effects: ULA WA The 'Wango' was thrown ashore by the winds and heavy seas at Su'ulopa on Ulawa where it was trying to shelter. An uprooted tree then crashed onto its superstructure. [184]

MAKIRA The 'Wairokai' was grounded at Onebia. [184]

UGI. The 'Mala Twomey' was beached by the "tidal wave". [184]

The government ships, the 'Wango' and the 'Wairokai' and the Catholic mission ship the 'Mala Twomey' were forced ashore by the strong winds. [184]

Economic Effects:

Physical Environment: b) Trees were flattened. [105]

MAKIRA. The hills and mountains in the Arosi One district were brown with branches without foliage. There was no green vegetation, except for strips of dark green along the shoreline where some coconut palms still stood. A few gardens had survived on the hillside. [186]

The hills over Aringana clinic and Toroi school were marred by many landslides. [186]

Kirakira waterfront was covered with dead coral. Coral and gravel was piled up as far as 30 or more yards inshore. Fallen trees blocked the streets. [186]

EAST MAKIRA, SOUTH MALAITA and parts of GUADALCANAL suffered from swollen river and rapidly rising floods. [184]

ULA WA A storm surge and floods occurred in Ulawa and neighbouring islands. [184]

Biosystems/Heritage:

Comment 2:

Physical Characteristics: e) As the cyclone crossed the Solomon Islands maximum observed winds were 72 km/hr at about 70 km south of the cyclone, however widespread destruction and loss of life were experienced near the centre, indicating the existence of much stronger winds. Estimated winds from satellite data were 125 to 145 km/hr. [171]

The cyclone approached the Solomon Islands from the east and lashed Ulawa and the neighbouring islands. The cyclone then inched its way at 10 mph in a south-westerly direction, missing Makira and Guadalcanal and changing course again before skirting Bellona. [184]

Illustrations: [171] Track of the cyclone. p135.

[183] Photo of a collapsed dormitory at Pawa Secondary School on Ugi. p2

[184] P1, two photos of the collapsed bridge over Alligator Creek; P2, Track of the cyclone and photo of debris washed down by the Matanikao river, Guadalcanal; P6, photo of the 482 ton 'Solomons Chief.

[185] P1, photo of the damage to the SDA church on Bellona; P4, photos of the damage to the old and new Seventh Day Adventist churches on Bellona; Photo of damaged buildings on the lakeside of Tengano, Rennell; photo of the temporary shelter in which the 1 year old was killed. Photo of the damage to the Bellona clinic.

[186] P2, photo of debris in Sa'a village following the tidal wave; P4, photo of damaged coconut trees; P5, Photo of the debris on Kirakira airstrip; five more pictures of damage on Ugi, Ulawa and Makira.

Sources: [105] Munich Re, 1988
[160] Britton, N.R., 1987.
[171] Broadbridge, L. W., 1979
[183] News Drum, March 9, 1979
[184] News Drum, Feb 24, 1979
[185] News Drum, March 2, 1979
[186] News Drum, March 16, 1979
[187] News Drum, March 23, 1979
[188] News Drum, March 30, 1979
[189] News Drum, July 27, 1979
[190] News Drum, May 18, 1979

Record No: 191

Hazard Type: Cyclone 'Fae'

1980a February 4

District: Guadalcanal

Island: Guadalcanal

Nearest Town: Honiara

Latitude:

Longitude:

Associated Hazards: Winds Rain Large waves

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects: GUADALCANAL. Most banana trees which were grown on the hillisidies of Honiara were blown down. [205]

Shipping Effects: GUADALCANAL. Strong winds and big waves forced aground a sailing and boat yacht near the Yacht Club in Honiara. The sailing boat was badly damaged when huge waves swept her on to the beach. Another yacht was also damaged. [205]

Five men from Savo had their canoe swamped by heavy swell about 10 miles out from Honiara. [205]

EASTERN PROVINCE. All ships were told to seek shelter until the wind subdued. [205]

Economic Effects:

Physical Environment:

Biosystems/Heritage

Comment 2:

Physical Characteristics: A tropical cyclone centered between Santa Cruz in the Eastern Outer Islands and the New Hebrides moved away from the Solomon's in a south easterly direction at 20 knots on February 4th. Winds between 36 and 49 knots were felt in Honiara about 12.30 pm on February 1st. About 100 inches of rainfall had been recorded between January 31st and February 4th. This was the heaviest since the previous September. [205]

Illustrations: [205] Photo of the yacht ashore near the Yacht Club in Honiara.

Sources: [205] News Drum, Feb.18, 1980

Record No: 199

Hazard Type: Cyclone

1981 December

District: Temotu

Island: Tikopia Santa Cruz

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Strong winds Landslides

Other Areas Affected:

Comment 1: The storm hit the island the week before Christmas but the news was not received at Provincial Headquarters at Santa Cruz until January. [197]

Food supplies of rice and local taro bought from other fanners in Temotu Province was sent to the island. [199]

No information of damage on any other islands. [197]

Cost Estimates: Repair to the causeway was estimated to be \$85,000. (Presumably 1982 Solomon currency.) [197]

Health Effects:

Social Effects: A total of 1,087 people were affected. [198]

Built Environment: a) 15 houses damaged [198]

b) SANTA CRUZ. The causeway leading to the newly built wharf at Gaciosa Bay was damaged [197]

During the storm, all radio stations at Tikopia, Duff and Anuta islands broke down. [199]

Agricultural Effects: A total of 66 food gardens were damaged. [198]

Almost all the food gardens on the island were damaged either by strong winds of landslides, and the islanders would go without food for the next three to four months. [198]

Food supplies such as bananas, taro, breadfruit and other root crops were severely damaged. [198]

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: The cyclone only hit Tikopia.[199]. However, in the News Drum [199] it is mentioned that the radio stations at Duff and Anuta Islands broke down. This would indicate that the cyclone affected those islands.

Illustrations:

Sources: [197] News Drum, Jan.15, 1982

[198] News Drum, Feb.26, 1982

[199] News Drum, Jan.22, 1982

Record No : 203

Hazard Type: Cyclone 'Bernie'

1982c April 3-4

District:

Island: Guadalcanal Isabel Savo New Georgia Simbo Vella Lavella Choiseul Russell Ontong

Java Shortlands Malaita

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Wind Floods Landslides Storm. Surge

Other Areas Affected: Strong winds in central and southern coastal areas of Queensland
[230]

Comment 1:

Cost Estimates: In 1982 the Seventh Day Adventist Church gave A\$4166 (1982 currency), to the North Solomons for food Shortages. It is not known if this was connected with the cyclone.
[170]

Health Effects: a) One dead. [168]

A man who suffered head injuries when his house collapsed, died. [167]

d) GUADALCANAL. At Honiara, 3 people were hit by falling coconut trees but were not seriously injured. [242]

Social Effects: Food supplies destroyed. [105]

GUADALCANAL. On the east coast, more than 1,000 people from eleven villages were evacuated. [160]

People living in the area west of Selwyn College had to be accommodated at the College because their village was flooded. [242]

Built Environment: a) Widespread property damage. [105]

GUADALCANAL. Damage was not extensive in Honiara. [160]

Although damage was not extensive in Honiara, other parts of the island appeared to have

Suffered considerable flooding. [242]

Trees fell across two of Honiara's six water tanks, causing a scarcity of fresh water in the town. [242].

In Honiara, power was off for eight hours on April 2nd. [242]

North Guadalcanal Plains and parts of the coast of the island east of Honiara, experienced more damage from floods than strong winds. [182]

People living in the settlements below China Town had to leave their villages during the wake of the strong winds. [182]

One of the main offices of the Guadalcanal Province headquarters was dented on the roof by a falling tree and one of the houses at Panatina Highway had its top wrecked by the winds. [182]

In White River (a suburb of Honiara), some of the houses had their roofs blown off by the winds. [182]

Villages along the coast up to Ruavatu Catholic Mission were not affected by the winds although they had been flooded no real damage occurred. One village towards the east side of Balasuna was still covered with about one or two feet of water. [182]

On the western side of Guadalcanal coastal villages were damaged, primarily by the very heavy surf and falling trees. [242]

ONTONG JAVA. Houses and trees were flattened. [242]

DAI ISLAND. Coastal villages were severely damaged. [242]

SAVO. Coastal villages were severely damaged. [242]

GUADALCANAL. The villagers of the No.6 area west of Selwyn College were evacuated to college as their village was flooded. The houses were not damaged. [182]

ISABEL. This was the worst hit island. It was described as "half flattened". [242]

About 10 houses in Sigana village were blown down and the roofs of the remaining houses were blown off. [182]

Four to six houses were destroyed in each village. [242]

At Kamaosi Provincial Secondary School the Church building and some student dormitories were blown down. [182]

WESTERN PROVINCE. The worst of the damage was reported at SIMBO, where several damaged or flattened. [182]

Damage was not heavy in the Western Province. [242]

GIZO. Most Of Titiana village was under up to two feet of water for two days Owing to a broken pipe. [242]

The flow of water out of the Giza reservoir was very slow because logs and a service raft were blocking the spillway. [242]

SHORTLANDS & TREASURY. Four houses at Kopaokopa near Njila were damaged along with the shelter for the transmitter at Mono. [182]

KOLOMBANOARA. Floods caused some damage to married quarters in Ringi Cove and the Vanga Point Catholic Vocational School. [182]

RANONGGA. Part of a village was "taken away" by the cyclone. [182]

At Mondo, a sleeping house and canoe shed were washed away when a river overflowed its banks and changed course. [182]

SIMBO. Part of a village was "taken away" by the cyclone. [182]

Two church houses and one sleeping house were blown down by wind. It is not made clear if this was in two places or one. [182]

VELLA LA VELLA. At Sibilado, a sleeping house, canoe shed and a kitchen were covered by a landslide. [182]

CHOISEUL. Floods also hit places in Choiseul, Pangoe, Wagina, Vurango and Moli. [182]

b) The east end of Ngalimbiu Bridge near Selwyn College was damaged by the floods. The end was tilted to one side making it difficult for traffic to cross. [182]

Communications were disrupted. [105]

Many parts of the main road along the Mendana Highway and the Kukum Highway had holes on them due to heavy rain. [182]

Along the sea coast of the Kukum Highway, stones were thrown up near the main road. [182]

WESTERN PROVINCE. Information was slow to come in to Honiara as the radios were out of service. [182]

GIZO. Most of the town was without water for parts of Saturday and Sunday. [182]

Agricultural effect: Parts of western Guadalcanal and the islands of Isabel, New Georgia and Russell Islands suffered considerable flooding which resulted in severe damage to natural vegetation and food gardens. [160]

GUADALCANAL. In White River, many of the gardens were flooded by the river. [182] In the north Guadalcanal Plains it was noted from a fly-over by the Australian Army in a helicopter that the gardens were mostly affected and banana trees could be seen lying all over gardens where wind had blown them down. The gardens were covered in mud. [182]

One rice field at BSAL had been flattened by either strong winds or flood water. [182]

Gardens on the banks of the Ngalimbiu River were damaged. [182]

On the western side of Guadalcanal in the coastal villages there was extensive damage to gardens: 25% of the banana crop was lost and 90% of the cassava crop was destroyed [242]

ISABEL. Around Sigana village tree tops were razed by the cyclone, a lot up-rooted and coconuts and sago palm trees stripped of their leaves. [182]

MALAITA. The gardens of the No.6 village near Selwyn College were damaged. [182]

KOLOMBANGARA. Gardens were spoiled by the flooding at Ringi. [182]

VELLA LA VELLA. In some parts of the island, coconut trees were felled by the wind. [182]

SOUTH CHOISEUL. Many of the gardens, especially those near river banks were spoiled by floods. [182]

WESTERN RANONGGA. Many of the gardens, especially those near river banks were floods. [182]

Floods caused damage to gardens at Ringi and also in Choiseul, Pangoe, Wagina, Vurago and Moli. [242]

Shipping Effects: GUADALCANAL. At Honiara, during the wake of the winds, two yachts one cutter boat were washed ashore, near the Yacht Club. One yacht was cut in half and the other one was washed against the newly built sea wall near the Yacht Club, [182]

At Fishing Village, the canoes were washed further ashore close to the main road. [182]

Economic Effects:

Physical Environment: GUADALCANAL. The Ngalibiu, BaIsuna and Barande Rivers Flow. [182]

Biosystem/Heritage:

Comment 2: The Royal Australian Air force assisted in the cyclone relief work for about nine days. [224]

Physical Characteristics: The cyclone developed from a tropical low which on 1st April was embedded in the ITCZ north of Isabel Moving in a south-southwesterly direction, the low reached cyclonic intensity on the night of the 2nd with a central pressure of 990 mb. [230]

During the next three days the cyclone maintained its south-southwesterly direction of movement and gradually intensified. At 0000 GMT 5th April, 'Bernie' commenced to recurve to the southeast and 24 hours later attained its greatest intensity of 945 mb. 'Bernie' moved out of the Eastern Region at about 1200 GMT 6th April and gradually weakened as it continued its southeasterly movement. [230]

The strongest wind associated with the cyclone was a report of 126 km/hr from a Ship situated 160 km to the northeast of the centre at 2100 GMT 3rd April. [230]

The cyclone's 80 knot winds caused eight meter waves. [105]

Illustrations: [126] Track of the cyclone.

[230] Track of the cyclone.

[182] PI, Track of the cyclone; demolished house at Sigana village, Isabel; beach scene near the Yacht Club with one yacht cut in half. P2, Satellite photo of the cyclone; damaged part of Ngalimbiu bridge; meeting of the National Disaster Council. P6, damaged part of Sigana Chapel; yacht swept against the seawall in Honiara; a wrecked co-operative store in Sigana; a tree on top of the Guadalcanal Province office in Honiara. P7, Fallen native house at Sigana; damaged Chapel at Kamaosi School, Isabel; Damaged gardens on the banks of the Ngalimbiu River.

P11, Two photos of the Australian Army with Helicopter and planes.

[224] P6, Photo of a helicopter being loaded. Photo of members of the National Disaster Council saying goodbye to RAAF men.

Sources: [105] Munich Re, 1988

[126] Solomon Islands Meteorological Service, 1988

[160] Britton, N.R., 1987

[168] Pacific Islands Monthly, Vol53 (6) p5.

[170] Accounts from the Seventh Day Adventist Church.

[182] News Drum, April 9, 1982

[224] News Drum, April 23, 1982

[230] Lynch, K., 1982

[242] Solomon Islands Disaster Experience Profile.

Record No: 208

Hazard Type: Cyclone 'Hina' 1985a March

District: Temotu

Island: Vanikolo Utupia Tikopia Santa Cruz Group

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Storm surge

Other Areas Affected:

Comment 1: The islands of Vanikoro, Utupia and Tikopia were declared disaster areas and the National Disaster Committee continued sending food and other relief supplies to the areas until October 1985. [160]

Vanikolo had a population of about 627. [256]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment: a) TIKOPIA STORM SURGE damage destroyed the hospital and buildings. [160]

On Tikopia all of the houses are made of local materials except the clinic (hospital). [256]

It was the western side of the island that received most of the damage. [256]

The storm surge destroyed the clinic. The four walls were washed away leaving the house leaning. [256]

In the clinic, all the valuable items as medicine, plasters etc had been washed away by flood from the storm surge which ranged from 100-200 meters from the sea to the inland. [256]

Safoa School lost two of its leaf classrooms, which had been washed down by the storm surge. One permanent classroom and an uncompleted WBP classroom were not damaged. [256]

Terano school lost the roofs of six classrooms. [256]

Numbers of houses lost in Tikopian villages.

Roropukia = 3. Tekauoa = 2. Asanga = 7. Terano (school) = 8. Fangarere = 1. Nukurofoi = 2. Safoa = 4. Fara = 1. Namu = 21. Matautu = 3. [256]

VANIKOLO. Most areas are cyclone affected, the worst being the east, south and west coast, namely Buma and Lavaka. This was due to the change of wind direction during the ten hours the cyclone struck the island. [256]

A storm surge occurred on the west coast affecting Lale and Vano. [256]

All areas along the east and south coast (Emua, Ro'o and Murivai) were destroyed. [256]

The school at Emua was completely destroyed including class materials. The clinic was not damaged. [256]

Number of houses lost in Vanikolo villages.

Lale = 10. Vano = 4. Lavaka = 5. Emua = 11. Muivai = 12. Kulavvanu = 3. [256]

UTUPIA. Nembai school was destroyed. The clinic was not affected. [256]

More than 30 houses were totally blown down as were several kitchens, copra driers and garden houses. [256]

Agricultural Effects: TIKOPIA. Damage to gardens.

ROROPUKUA = 400 coconut trees, 75% bananas, all fruit trees, 75% taro/yam. [256]

TEKAUROA = 200 coconut trees, all banana gardens destroyed, 75% fruit trees, 75% taro/yam. [256]

ASANGA = 300 coconut trees, 75% banana trees, 75% fruit trees, 75% taro/yam. [256]

TERANO = 100 coconut trees, all banana trees, 75% fruit trees, all taro/yam. [256]

In the villages of Fangarere, Nukurtotoi, Safoa, Fara, Namu, and Matauta, all the gardens were completely destroyed. [256]

VANIKOLO. The gardens were destroyed by fallen trees.

The paths to the gardens were blocked by fallen trees. [256]

The jungle was also destroyed, so most of the essential trees used for building houses, canoes etc. were affected. It was envisaged that it would take 6-8 months for the gardens to recover and 10-15 years for the forest to recover. [256]

UTUPIA. Most of the gardens were destroyed as were the trees. [256]

Shipping Effects: The 'Wagina' was wrecked on a reef south of Vanikolo. [122]

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristic:

Illustrations: [126] Track of the cyclone.

Sources: [122] Harcombe, D. 1988, p224

[126] Solomon Islands Meteorological Service,
1988 [160] Britton, N.R., 1987 p121

[256] Disaster Report, 1985

Record No : 210

Hazard Type: Cyclone 'Namu'

1986 May 16-19

District: Guadalcanal Malaita Makira Central

Island: Guadalcanal Malaita Sikaiana Bellona Rennell Ulawa Ugi Temotu Makira

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Landslides Floods Storm Surge Wind

Other Areas Affected: Makira Rennell Bellona

Comment 1: Cyclone 'Namu' came about three weeks after the end of the normal "cyclone season".

Until cyclone 'Namu' struck, the Solomon Islands managed an annual trade surplus. According to the latest report from the National Bank of Solomon Islands, depressed world commodity prices, coupled with damage sustained by copra and palm oil plantations in the cyclone have placed the economy under severe pressure. [172]

SIKAIANA. Population about 350 in 1986. [248]

Cost Estimates: Damage estimates are AUD 25 million. (1986 dollars) [160]

Insured damage for the airport extensions US\$500,000. (1986 dollars). [156]

Damage to property put at A\$100 Million. (1986 dollars.) [157]

Health Effects: a) 102 dead and 38 missing. [178 p7]
150 dead. [160]

Most of the dead found by the 23 May (total 71) were aged or women and children unable to escape landslides and floods. [252]

GUADALCANAL = 49 deaths [33 p27] 95 dead. [251]
About three-quarters of the deaths occurred on this island. [33 p8]

95 Dead and 25 missing in Guadalcanal, (in highlands). Landslides and floods responsible for many of the deaths. [248]

1 person dead in Bola. [251]

1 person dead in Burabura. [251]

3 year old girl was found dead at the mouth of the Berande River, Tasimboko. [250]

21 people found dead in the Guadalcanal Plains villages of Kolonene, Newnada and Kolmule near Honiara. Their bodies were recovered from floodwaters and mudslides. [249]

The village of Valebaibai (near Gold Ridge) was the site of 38 deaths. (Out of a total of 43 inhabitants) [33 p8]

MALAITA = 11 deaths [33]

5 dead, 8 missing. [248]

At Dala, (northwest Malaita) 1 crippled person died by being taken out to sea by a flooded river. [160 p128]

1 woman was killed in a collapsed house.

[249] 3 children killed in a mudslide. [249]

1 man found dead at the mouth of the River Are Are, South Malaita. [250]

No hospital deaths occurred on Malaita from May 30th to June 11th. One child was dead arrival from the Olumburi district. Its death, due to late referral, was directly attributable to the cyclone.[58]

In the Kwaibaita River region many children were dying of malaria and diarrhoea as all previously supplied medication had been washed away by floods and access to Atoifi hospital was blocked (by landslides or floods). [58]

TEMOTU = 2 deaths, believed drowned. [33]

MAKIRA = 1 death. [33] (North Makira. [290]

About 103 dead. [33]

103 confirmed dead and more than 33 missing. [58]

Other casualties included injuries of various kinds; also severe exposure to flood conditions, likely to result in longer-term medical problems; and possibly long-term psychological effects. [178 p7]

Most people were killed as a result of landslides in the highlands. [162]

Namu's slow passage over the Solomon Islands brought prolonged heavy rain and mud

These mud slides caused major damage and were the major contributing factor in the death of over 100 people, the injuries of more than 1,000 people and the 90,000 homeless people. Only minor damage was caused by wind. [83]

b) MALAITA TOIFI HOSPITAL. 45 cases of surgery in three categories (not individually enumerated)

Cyclone related trauma.

1) Acute general and obstetric surgery due to late presentation because of communication disruption due to the cyclone.

3) Elective surgery backlog due to there having been no doctor in the area for 3 years [58]

d) Over 1,000 people were injured. [83]

ATOIFI HOSPITAL. 50 outpatients treated but not necessarily related to the cyclone. [58]

GUADALCANAL. Approximately 150 patients from Totongo and surrounding villages were seen at Totongo Clinic. [58]

80 patients were seen at Aola Clinic. [58]

50 patients seen on expeditions out of Totongo and Aola. [58]

The traditional sanitary systems broke down and led to the spread of disease. [157]

Social Effects: a) 90,000 people homeless. [33]

One third of the population was made homeless. [156]

GUADALCANAL. The National Disaster Council (NDC) estimated 30,000 people, that are 90% of the population in Central Province, were adversely affected. [160 p126]

MALAITA NDC estimated 6,000 people in this province were adversely affected. [160 p126] At Su'u, 350 people were short of fresh water and food. The water pump was washed away and the flooded river prevented them from reaching the gardens. [35]

At Masupa village there was no fresh water supply for 1 kilometre where infantile diarrhoea was common. [58]

Kwai district inland of Uru Harbour was without food for at least 10 days. [58]

In the east coast villages little palm was available for rebuilding but about 20 tarpaulines had been dropped in Hunanawa. [58]

GUADALCANAL. Aola, a village of about 400 people. Water being piped from a spring to one town distribution point. Back up tanks available. [58]

At Chokare, a mountain village of about 60 people had its water supply seriously disrupted by the cyclone. The closest source of clean water was some kilometres away. No attempt had been made to repair a punctured water tank. The people were aware of the need to boil water but few complied. [58]

Built Environment: a) GUADALCANAL. 1,098 houses completely destroyed, 986 partly damaged, = 22% destroyed or damaged. [33 table 65]

Buildings other than houses destroyed in Guadalcanal and Malaita.

Copra dryers = 64% (824)

Cocoa driers = 39% (115)

Classrooms = 82% (372) [33 p24]

The worst of the devastation wrought by 'Namu' occurred in the eastern Guadalcanal Plains. Damage to buildings was widespread from Honiara east to Maru and along the Weather coast, the coastline exposed to the south-easterlies. Damage in Honiara was relatively light.

Minor wind damage and coastal flooding affected the city, and water supplies, electricity and communications were disrupted. Houses on higher ground were wind damaged and of the more exposed dwellings, especially those of poor quality were destroyed. The town was isolated from the remainder of Guadalcanal by road blockages and bridge washouts. [p127]

At Ruavatu a river flooded the foundations of many buildings. The village alongside Tuavat was a river bed and the homes washed out to sea. [160 p 128]

Assessment of damage on low lying coastal villages was hampered by IO-metre high stacks of timber blown onto beaches by the tidal surge. [252]

Houses in Honiara along the ridges overlooking the town were wind damaged with several destroyed and a number sustaining roof damage. [253]

The Mendana Hotel on the beach at the town's centre had seawater through twelve ground floor rooms. [253]

At the Solomon Islands Plantation, a Commonwealth Development Corporation oil palm plantation, logs were responsible for demolishing numerous commercial and domestic buildings and vehicles as well as plant and equipment, [253]

The village of Babanakira was washed away leaving many people homeless.

[248] Tangarere, there was widespread property damage. [160 p 128]

Avu Avu, the roof of the church was badly damaged and the parish centre was down. GUADALCANAL. LANDSLIDES, loaded with silt, caused devastation to villages, proper gardens on the Guadalcanal plains. [33] This was the area where the greatest amount of damage occurred, caused by floods. [33]

Entire villages were smothered with mud and had to be abandoned. [160 p 127]

The Mbambanakira area in the south-west of the island was also badly flooded. [34]

In upper land areas, huge landslides and mudslides covered kilometers of terrain. The village of Valebaibai, in this area, was covered by a massive landslide. [33]

Flooding and landslides in the mountains in Central Guadalcanal washed away whole villages, particularly those in valleys. [248]

On the south side of the island, the Weather Coast, many villages were badly damaged by the wind, rain and by landslides. Some houses were totally destroyed, whilst others lost their roofs. [248]

The coastal villages suffered severe destruction from wave action as well as from flooding and winds. [33]

MAKIRA There seemed to be little danger to housing. [248]

Damage occurred on the northern part of the island of Makira. [257]

MALAITA and SMALL MALAITA 5,031 houses completely destroyed, 4,870 partly damages of houses destroyed or damaged. [33 table 6]

Damage to property on the coastal areas of Malaita and Small Malaita was caused mainly by high winds and rough seas. The southern three-quarters of Malaita was severely damaged by strong winds, most of the damage occurred on the north-east coasts of central and southern Malaita, around Small Malaita, and up to the south-west coasts of Are'Are and Kwaio. All coastal villages were badly damaged, Widespread damage was reported to dwellings, classrooms, clinics, police stations (and the radio network), wharves and the hospital on Malaita. [160 p 127]

Bluma (on the west coast of Malaita) suffered very serious losses of property on the station and most of the population in the area was left homeless. [160 p 128]

Rokera Provincial Secondary School suffered severe damage. Most of the buildings, both permanent and leaf, were destroyed. [248]

Rokera, Tohinari and Tarapaina, all in south Malaita as many as 80% of the population were homeless. At Rokera the Provincial Secondary School was destroyed. [160 p 128]

Uru station on the east coast of Malaita has part of the church roof blown off and the losses of many homes and food gardens. 160 p 128]

Taka and Dala in north Malaita did not have station property damage but there was lots of suffering for the village populations. [160 p 128]

Villages, crops and water supplies in the path of the cyclone were totally destroyed.

[58] ULAWA Widespread damage. Houses were flattened. [248]

MALAITA The coastal villages suffered severe destruction from wave action as well as from flooding and winds. [33]

At Su'u Secondary School, (east coast, Malaita), the staff houses, the dormitories and classrooms were unroofed. 350 people were affected. The electrical wiring for the community was demolished. [35]

At One Pusu Bible College, the classrooms, dormitories and church buildings were unroofed. [35]

Villages on the east coast, as far north as Manuai, were visited by a medical team and all the villages were damaged; the most severe damage being at Hunanawa and Riverside. [58]

Kwai district, inland of Uru Harbour, suffered major damage. [58]

SIKAIANA. This was one of the earliest affected areas. All but ten dwellings on the atoll were reported destroyed. One of the most serious effects here was saltwater and debris contamination of the water supply. Freshwater on Sikaiana has always been a problem and the cyclone compounded this difficulty. [160 p 128]

The sea washed over parts of the island, polluting the fresh water wells, which meant the islanders had no food, water or shelter. [248]

RENNELL. In the west of the island 20 dwellings were destroyed and the school and the airstrip were damaged. Sea encroachment, high winds and heavy rain caused the damage. [160 p 128]

BELLONA 160 traditional houses were flattened. Damage caused by sea encroachment, high winds and heavy rain. [160 p 128]

b) GUADALCANAL. The landslips together with the river flooding resulted in large num of logs being carried downstream. In places such as the Ngalimbiu Bridge. log dams formed causing deep flooding and deposition of mud over a wide area. [34]

The runway at Henderson airport was 2.25 meters deep in flood water at the peak flood. Scouring action of the flow caused severe damage to the insured works for the airport extension [156]. The airfield was closed until 21st May when floodwaters receded and the mud and debris was removed and was opened only for emergency operations. Regular recommenced on the 26th May. [160 p 128]

Downstream of the airport, the level of the river reached the underside of the Honiara Road Bridge. The road had to be closed. [156]

Honiara became isolated when the bridge over the Lungga River had to be closed temporary because of fears that it might collapse, while west of Honiara, the Poha Bridge was partially destroyed. [248]

Around Honiara high winds knocked down trees around the town which meant power lines telephone lines were brought down. Water supplies were cut when the Mataniko River and the bridge near Vara Creek which carried the water pipe from the main water supply Tuvaruhu to Honiara was swept away. Many houses lost their roofs gardens were destroyed and there was some minor flooding. [248]

The aggregate and asphalt plant one kilometer down stream of the bridge was flooded. Drums of asphalt and bitumen stored there were washed away. [156]

Agricultural Effects: The areas most affected were the Plains in Guadalcanal and east/West Kwaio and the southern parts of Malaita. [33 p 23]

GUADALCANAL. Coconut trees = 27% destroyed. Cocoa Trees = 24% destroyed [33]
Gardens = 70% damaged. [33 table 3]
Pigs = 16% lost. [33 table 5]
Cattle = 12% lost. [33 table 5]
Chicken = 37% lost. [33 table 5]

Flooding and the ensuing mud seriously damaged oil palm, coconut and cocoa plantations owned by Solomon's Island Plantations Ltd (SIPL) and Levers Solomon's Ltd.[34]

On the Weather Coast the food gardens were destroyed. [248]

On the Guadalcanal Plains rice fields disappeared under the floodwaters and meters of silt. [248]

Tangarere. In the plantation there were over 300 coconut trees down. [160 pl28]

MALAITA Coconut trees = 49% destroyed. [33 table 4]
Cocoa trees = 38% destroyed. [33 table 4]
Gardens = 64% damaged. [33 table 3]
Pigs = 15% lost. [33 table 5]
Cattle = 8% lost. [33 table 5]
Chicken = 19% lost. [33 table 5]

A medical team which went as far north as Manui, noted that villages on the east coast were damaged. The most severe crop damage was at Hunanawa and Reverside.[58]

Throughout South Malaita, most of the gardens were washed away by the torrential rain. [248]

ROUGH SEAS and FLOODED RIVERS washed topsoil native gardens from coastal village. Further inland, heavy RAINFALL caused more damage and heavy landslips. [160 p127]

SIKAIANA. Virtually every tree was knocked flat [248]

BELLONA and RENNELL. Food gardens were affected by sea encroachment, high winds and heavy rain. [160 p128]

MAKIRA. On the northern part of the island, moderate wind damage occurred to plantations and crops particularly on the coastal areas. [255]

Shipping Effects: GUADALCANAL. The 'Regina M' a cargo vessel was washed ashore several hundred meters east of Central Hospital [248]

Economic Effects: Economic development has been set back at least ten years. [162]

Physical Environment: b) In East Malaita Province and the Guadalcanal Plains area, floodwaters and mudslides caused extensive damage. Widespread landslips occurred in the highlands of both Malaita and Guadalcanal. Flooding was reported to have caused meandering rivers to cut a straight path which brought tonnes of mud, silt, trees and waste debris into lowland areas. STORM SURGE action was also apparent in some areas, but on the whole it was indistinguishable from the effects of river flooding and surface \ runoff. [160 p127]

Landslide erosion was concentrated on Guadalcanal and the Kwariakawa, Wairaha and Kwaleungga catchments of Malaita. [162]

MALAITA. Defoliation and uprooting of trees were widespread and intensive. The central highlands were scarred by hundreds of landslides, caused as trees were uprooted from the rain-soaked mountain sides. [33]

SIKAIANA. Defoliation and uprooting of trees were widespread and intensive.[33]

BELLONA. Defoliation and uprooting of trees were widespread and intensive.[33]

GUADALCANAL. Three days of torrential rains created massive downstream flooding. Rivers broke their banks in numerous places, depositing mud and debris over the country's prime agricultural basin. In the northern plains area river heights were up to nine meters above normal. Floodwaters brought down huge trees from the highlands, creating secondary hazards, especially landslides, causing severe structural damage to buildings, roads and bridges. There is some suggestion that indiscriminate logging in the Guadalcanal highlands may have aggravated conditions, resulting in heavy slippage and high surface runoff. An estimated 20,000 tonnes of trees were brought down by the floods and landslips in Guadalcanal, littering the coast. [160 p 127]

RAIN. caused floods and massive landslides. Flood waters carried huge trees and discarded logs.[33] Rainfall before and during the cyclone caused river flooding and extensive landslips in the headwaters of many of the main rivers.[34]

Landslides had blocked streams and built up large volumes of water. [162]

Floods washed away the bund and about 35 metres off the river bank. Lungga or Aligator River. [156]

The stock of medicines in Honiara Hospital was depleted when a large number of bottles that were broken. [210]

The shore end of the main wharf at Point Cruz had sunk a few inches and the bridge connecting the concrete dolphins on the far sea end of the overseas wharf had been broken but the damage did not interrupt wharf operations. [210]

Kolotabu Bridge, near Avu Avu, was washed away by the first tsunami. Only two cement foundations on each side of the river remained. [211]

On the Weather coast and over the mountains of central Guadalcanal, parts of roads have disappeared. [211]

The landslides buried wells and some streams, rivers were very dirty thus depriving people of a source of water. [213]

Agricultural Effects: GUADALCANAL. Considerable damage had occurred to crops in a stretch of the Weather coast between Ghorabau and Avu Avu as well as in the bush areas. [211]

Near Ghorabau, a coconut plantation had been buried by soil and rocks. [211]

In Bubukolo, 20 gardens were washed away by landslides. [211]

Vatupao, 22 gardens were damaged. [211]

Katekate, 13 gardens were hit by landslides. [211]

Chichora, 24 gardens were swept away. [211]

Charanachi, 6 gardens were ruined. [211]

Bolavu, the gardens were damaged. [211]

Pichahila, the gardens were destroyed. [211]

Nabuasavia, gardens were lost. [211]

Shipping Effects:

Economic Effects:

Physical Environment: b) A great wave ran across the bitumen road which seemed about four high. (That is, an earth wave). Skyline Ridge, overlooking the Matanikau River "moved like the mast of a ship". [61]

GUADALCANAL. Inland of the Lauve lagoon and on the reef to the south of the Weather the land had been raised about three feet. [211]

HOT SPRING. About two miles from Avu Avu, at Hai Marao, a new hot spring and sulphur fountain appeared. [211]

In the Chimiu area there were deep cracks everywhere. 5 weeks after the earthquake landslides were still occurring in the area. [214]

On the Weather coast a number of hillside gardens were permanently damaged as they had lost all their top soil. [214]

Landslides occurred on the Chimiu, Horomana and Suta bush area. [211]

From the Tina river in the west to the Laloato river in the east there were hundreds of landslides pock-marking the coast. [211]

d) 'Namu' developed outside the "normal" cyclone period. [160]

The commencement of the specific warning period occurred at about the time the Nadi TCWC, (Tropical Cyclone Warning Centre) issued an International Marine Warning (IMW) to shipping in the region north of Malaita the night of 15th May, the Japanese GMS-3 satellite had picked up the first indication of cyclonic organization in the cloud pattern from a depression centred about 90 km north of Malaita. Because of the possibility of gale force winds affecting Malaita and nearby islands should the system intensify, Nadi TCWC issued a SWB at 23.00 hours UTC, 15th May, and another one three hours later. However, the depression did not deepen as anticipated and because there was doubt about the presence of gales, no further SWB's for Malaita were issued by Nadi. During 17th May the depression showed signs of reintensifying and it became a well organized system located about 320 km northeast of Malaita. The depression was estimated to have gale force winds and an IMW was issued in the early hours of 17th May. By 21.00 hours UTC on 17th May the depression had acquired the characteristics of a tropical cyclone and was code-named 'Namu'. [160, p125]

On the afternoon of 18th May, the Solomon Islands Meteorological Service officially announced the formation of Cyclone Namu. The Solomon Islands Broadcasting Corporation instituted a 24 hour broadcasting schedule so as to convey cyclone warnings and other advisory information. Information was issued in English (official language) and pidgin. [160 p126]

The first tropical cyclone warning was issued at 1100 LST on Sunday, 18th May. [33 p2]

An early warning by the Marine Division placed the Friday's depression at 7 degrees S and 161 degrees E. It appeared to have weakened over Saturday, but subsequently developed into a tropical cyclone on Sunday, 18th May 1986, moving generally in a south-westerly direction on a very slow and erratic path that took three days to traverse the Solomons' waters. [33]

e) On the Safir-Simpson intensity scale, 'Namu' probably recorded 2-2.5, a "moderate" magnitude system. [160 p127]

The intensity of the cyclone appeared to increase as it tracked over the Solomons. Maximum winds at the centre, when the "eye" was reported passing over Manawai on Malaita at 1400 hours (UTC) 18th May, were estimated to be 50-60 knots (92-110km/hr). Later, as it crossed Guadalcanal it is likely the cyclone had marginal hurricane force winds (i.e. over 63 knots - 116 km/hr) close to its centre. [160 p126]

WINDS of up to approximately 50-60 knots were associated with the cyclone.[33]

GUADALCANAL. RAIN which hung over the island for hours on 19th May was estimated to be more than 635mm. Even before the cyclone, there had been exceptionally heavy rains for a number of days. [33]

Illustrations:

[83] Track of the cyclone. [126] Track of the cyclone.

[162] Fig. 1, map of Ngalimbiu Watershed, Guadalcanal.

Fig. 2, aerial photographs of the Ngalimbiu Watershed showing landslide erosion.

Fig.3, aerial photograph of sediment deposition and changes to the River Ngalimbiu.

Fig.4, photograph of logs piled up against the destroyed Ngalimbiu road bridge.

Fig. 5, Photograph of logs and silt surrounding a house near Selwyn College. The maximum height of flood waters can be seen above the window frame.

Sources: [33] National Disaster Council, Solomon Islands Government 1986
 [34] National Disaster Council, 1986
 [35] The Australian Baptist 74(11)
 [58] Save the Children Fund, Australia.
 1986. [83] Kingston, G. 1986, pH5.
 [126] Solomon Islands Meteorological service.
 1988 [156] Australian Risk Management, 1989
 [157] PIM Vo1.57(9), 1986
 [160] Britton, N.R., 1987.
 [162] National Water & Soil Con. Authority,
 1987. [172] Pacific Islands Monthly, March,
 1988.
 [178] Cater, W.N., 1986
 [248] Solomons Nhus, June
 111986. [249] Canberra Times,
 May 5 1986. [250] Solomon Star,
 May 23 1986. [251] Solomon Star
 May 30 1986
 [252] The Age, May 23 1986.
 [253] Carroll, D.E June 4 1986.
 [255] SIMS Preliminary Report
 [257] Islands Business, June
 1986

Record No: 211

Hazard Type: Cyclone 'Blanch' 1987a May 22-25

District: Makira Central

Island: Makira Rennell

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects: No injuries reported. [169]

Social effects:

Built Environment: a) Some minor damage in the Solomons Group. [169]

Wide scale damage was caused to water supplies by the cyclones in early 1987 and 1988.

[180 p40]

Agricultural Effects:

Shipping effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: a) The system, (before becoming a cyclone), crossed the southern tip of Makira. The cyclone then took on a southwesterly track, and crossed Rennell Island. [169]

c) The system crossed the southern tip of Makira at 220000 UTe. The next six hours saw rapid deepening until the system reached cyclonic intensity when near 11 degrees S, 161 degrees E., with a central pressure of 998 hPa. Tropical cyclone 'Blanche' then turned south and crossed Rennell Island around 221000 UTC and then slowed down. [169]

d) The circulation which developed into tropical cyclone 'Blanche' was first identified on 21 May 1987 some 800 kilometers east of Honiara. [169]

e) The lowest reported pressure was 1002.6 bPa at 220600 UTC at Kirakira on Makira Island [169]

The highest reported wind speed was 111 km/h, at 221200 UTC also at Kirakira.

[169] **Illustrations:** [169] p 98. Track of the cyclone.

Sources: [169] Australian Meteorological Magazine, 35(3) pl02.
[180] Fiji, SI, etc. Country Profile. 1989-1990

Record No: 213

Hazard Type: Cyclone 'Anne'

1988a January 7-14

District: Temotu

Island: Reef Anuta Duff Utupua Santa Cruz

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected: Vanuatu New Caledonia Tuvalu

Comment 1: The cyclone followed a very smooth track and developed and decayed in a very steady manner. This allowed the warning centres to issue relatively accurate and effective warnings and advisories. [94]

Cost Estimates:

Health Effects: There were no reports of any casualties. [94]

Social Effects:

Built Environment: a) ANUTA Extensive damage to houses. [94]

DUFF. Extensive damage to houses. [94]

UTUPUA. Extensive damage to houses. [94]

REEF. Extensive damage to houses. [94]

LATA. Minor damage reported.[94]

Reports of damage from other islands are not available. [94]

Agricultural Effects: ANUTA Extensive damage to crops. [94]

DUFF. Extensive damage to crops. [94]

UTUPUA. Extensive damage to crops.

[94] REEF. Extensive damage to crops.

[94] LATA. Minor-damage reponed.

[94] Reports of damage from other islands

not available.

[94] *Shipping Effects:*

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2: Lack of transport hampered an early assessment of the damage and supplies relief material to the affected islands. No official quantitative assessment of the damage was available. [94]

Physical Characteristics: a) The cyclone's centre did not pass over any of the Santa Cruz Islands and the nearby small islands escaped the hurricane force winds. [94]

e) Anne moved across the Santa Cruz Islands with average winds estimated at 80 knots the centre and while it was still intensifying. When the cyclone was passing over the small islands it was moving at about 15 knots therefore the gale and storm force winds which affected the islands were not prolonged. [94]

Illustrations:

Sources: [94] Fiji Meteorological Service. Tropical Cyclone Report 88/1, 1988.

Earthquakes

in the

Solomon Islands

Record No: 16

Hazard Type: Earthquake

1862 (approx)

District: Western

Island: Simbo

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Rock slides

Other. Areas Affected:

Comment 1: In 1882 Guppy was told that an earthquake occurred when the younger men of the island were little boys. Hence the approximate date of 1862.

Cost Estimates:

Health Effects:

Social Effects:.

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: b) Large blocks of andesite, which lie at the foot of Middle Hill close to the shore of the anchorage, were rolled down the hill slope during an earthquake that happened when the younger men of the island were little boys. [120 p54]

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

Sources: [120] Guppy, H.B., 1887

Record No: 19

Hazard Type: Earthquake

1870 (approx)

District:

Island: Savo

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Subsidence Hot springs Fumes Other

Areas Affected:

Comment 1: Guppy writes that the island of Savo experiences many earthquakes, and are at times of such a violent character that on more than one occasion the natives have been on the eve of abandoning their island home. [120 p57]

The occurrences described in this file may in fact not have all been from the one earthquake. Due to the apparently frequent occurrences of earthquakes at this time, and the lack of information, I have treated the incidences described as being from one earthquake.

Hot springs are found in the island, some of them occurring on the beach, where their presence is shown in damp weather by the white vapour that gathers over them. [120 p57]

Not during this earthquake but during the residency of a Mr. Stephens, the population was compelled by their fears to shift their homes from the lee to the weather side of the island. [120 p57]

The inhabitants do not visit the higher parts of the mountain, alleging that men who have been there have always fallen sick shortly afterwards and some have died. A few days after Mr. Nixon's visit to the summit, he was attacked by a low fever which confined him to his couch for three months. [120 p57]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment: a) A Mr Nixon told Guppy that during his stay on the island one of the earthquake shocks caused his boxes and goods to be thrown off the shelves on to the floor. He thought the end of the world had come. [120 p57]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: A subsidence of a part of the coast accompanied a severe earthquake and ships now anchor where a village once stood. A large rock, projecting above the water, at present indicates the site of the sunken area. [120 p57]

Biosystems/Heritage:

Comment 2: The island is said to be the most populous of its size in the whole group. [120 p57]

Physical Characteristics: The shocks radiate from the centre of the island and are not experienced in adjacent islands. They would appear to issue at a small angle with the surface. [120 p57]

Illustrations:

Sources: [120] Guppy, H.B., 1887

Record No: 21

Hazard Type: Earthquake

1877 (approx)

District: Makira

Island: Makira

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: From 1882, for a period of about eighteen months, earthquakes were being monitored by Mr. Howard of Ugi and Mr. Sproul of Santa Anna on behalf of Guppy. During this time 25 earthquakes were recorded and their information is on p2. [120]

The date of the earthquake damage described in this file is not mentioned; however Guppy states that during a portion of 1877, earthquake shocks were noticed at Ugi almost daily. Therefore that is the date I have chosen.

Cost Estimates:

Health Effects:

Social Effects:

Built Environment: a) A rickety boat shed was brought to the ground and some bottles fell over. [120 p3]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

Sources: [120] Guppy, H.B., 1887

Record No: 24

Hazard Type: Earthquake

1880 (approx)

District: Western

Island: Simbo

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: Guppy was given this information during his visit to Simbo in 1882. The earthquake was said to have occurred about two years prior to the visit. [120 p55]

Signs of 'activity' were confined to the southern region of the island during the 1882 visit. [120 p44]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects: COCONUT PALMS. On the low shores of the anchorage, many of the palms had their roots exposed and were eroded by the waves: several lay prostrate on the beach and others were on the point of falling. On a beach about 80 yards in length, on the north shore of the harbour, there were 15 stumps and fallen trunks of full-grown coconut palms, some of which were lying in the water and were barely exposed at low tide. [120 p55]

Shipping Effects:

Economic Effects:

Physical Environment: b) SUBSIDENCE. The level of the shores of the harbour were affected. On the east side of the anchorage an old landing place or pier, rudely constructed of stones, was submerged. Before the earthquake, there had been a house built on it. At the time of the visit (1882) the old landing place was removed about 30 yards from the shore, and it was but partially exposed at low tide. [120 p55]

Similar evidence of subsidence was afforded by the condition of the coconut palms on the low shores of the anchorage. It appeared that a subsidence of 4 or 5 feet had taken place in this locality. [120 p55]

Guppy considered that this earthquake may have affected the off-lying barrier-reef, on the outer margin of which an old stump of a coconut palm was still standing erect and was being washed by the waves. [120 p55]

On the west coast of the island there is a salt-water lagoon which had also subsided. In 1874 it was a fresh-water lagoon (having been salt-water in 1872) and was raised above the sea. Depression of the low north and north-west sides of the lagoon was also shown in the number of coconut palms which were lying prostrate on the beach and in the manner in which many of them were still erect but the bases of their trunks were eroded, and their roots exposed by the action of the waves. There were also the stumps of two coconut palms which stood erect in the middle of the passage by which the sea entered the lagoon: their roots were bared and washed over by the waters surrounding them. [120 p49]

Eddystone rock, which is a third of a mile off the south-west coast and in the vicinity of the lagoon, was described as crowned with shrubs by Labillardiere a few years after 1788. In 1882 it was bare of vegetation and was at times washed over by the sea. [120 p49]

Biosystems/Heritage:

Comment 2: Simbo Island covers 12 square km. [122]

Physical Characteristics: There had been a severe shock, or "ground shakum" as the story teller termed it. [120 p55]

Illustrations:

Sources:[120] Guppy, 1887, p54-55
[122] Harcombe, D. 1988, pl44

Record No: 31

Hazard Type: Earthquake

1900 July 29

District: Temotu

Island: Santa Cruz

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment]:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Magnitude 8.1. [103]
Occurred near Santa Cruz. [103]

Illustrations:

Sources: [103] Munich Re. Earthquake, Solomon Islands.

Record No: 36

Hazard Type: Earthquake

1919 ? May

District: Western

Island: Rendova Tetepari

Nearest Town: Moe

Latitude:

Longitude:

Associated Hazards: Tsunami Fissures

Other Areas Affected:

Comment 1: The information in this document is from old natives near Moe. It has not been possible to check this report against the sparse seismic data available: the date may be indefinite. [66]

Cost Estimates:

Health Effects:

Social Effects: When the ground movement eased, the natives fled to higher ground before the wave arrived. [66]

Built Environment: b) RENDO VA & TET AP ARI. The south coast beaches of these islands and those around the coral cliffs of Moe Point, had been removed (possibly submerged to some extent), and it has not been possible to use them as beach track communications as before. [66]

Agricultural Effects; TSUNAMI DAMAGE. TET AP ARI. The large plantation which was situated on the south coast of the island near the western point, was washed away by the sea. [66]

This is substantiated by comparison of the present coastline with that shown on the old Admiralty Charts, it would appear that this particular earth movement was submergent in nature. [66]

Shipping Effects:

Economic Effects:

Physical Environment: The seas receded for some considerable distance and the natives were surprised to observe that the sea bottom, instead of being composed of sand as the beach, was covered with large rounded boulders. [66]

During the earthquake, large cracks in the ground opened into which timber fell and from which clouds of "smoke" arose. [66]

Biosystems/Heritage:

Comment 2:

Physical Characteristics: e) TSUNAMI. Whilst lying on the ground, it was not possible to see Tetepari Island on the other side of the strait because of the seismic seawave which rose in between. [66]

During the earthquake the population fell to the ground. [66]

Illustrations:

Sources: [66] Grover, J.C. 1955a

Record No: 37

Hazard Type: Earthquake

1923 February 17

District: Western

Island: Ghizo (New Georgia Islands)

Nearest Town: Giza

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: No mention is made of this earthquake in Everingham's paper. [60] *Cost*

Estimaies:

Health Effects:

Social Effects:

Built Environment: Collapse of Government wharf. Glassware in stores and houses was broken. [8]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: c) Movement continued for ten seconds. Subsequently about fifteen shocks occurred during the night of the 17th and the morning of the 18th. [8]

Illustrations:

Sources: [8] Grover, J.C., 19? p3
[60] Everingham, I.B., 1974

Record No: 38

Hazard Type: Earthquake

1923 November 3

District: Western

Is/and: Faisi (Shortland Islands)

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Fissures

Other Areas Affected:

Comment I:

Cost Estimates:

Health Effects: a) No fatalities. [8]

b) No mention of injuries. [8]

Social Effects:

Built Environment: a) FAISI. Much damage. Hospital moved three inches. Wharf reclamation at Government Station. Lofung collapsed, as wharves of R.C.M. at Nila and Bumbuggiai. Furniture thrown about, glassware and crockery broken everywhere. All shelves emptied. [8]

BUKA Mission thrown off piles onto the ground.[8]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: b) Lofung beach cracked open for twenty feet. [8]

Biosystems/Heritage:

Comment 2: No casualties surprising in view of the number of coconuts thrown off thrashing palms. [8]

Physical Characteristics: Brit. Assoc. Seismological Commission advised that time of

Origin of shock 2(21-08-40 GMT 4.5S 151.5E and asked if any damage also done by shock on 4/0-4-29 in neighbourhood. [8]

Letter May 1924 Met. office at Eskdalemuir Dumfriesshire reported P. shock at 2129 GMT., but seismogram too confused to allow determination of epicentre. Ottawa and Strasbourg information suggested TOO 21-12-4,21-14-5 respectively. Strasbourg said 12,000 km
... ' distance and cited Mariana Iskands, saying "felt at Guam." They suggested that the Shortland effects were due to a tidal wave as the sea bottom subsidence was some distance away. [8]

a) Suggested damage area 7 degrees 45 minutes to 5 degree latitude: 156 degrees to 154 degrees longitude.[8]

e) Richter magnitude for both earthquakes recorded on the 2nd and 4th November = 7.2 [60]

Earthquake epicentre =

4.5 S (Nov 2nd 210806 GM1) [60]

151.5 E (Nov 2nd 21 0806 GMT) [60]

5.0 S (Nov 4th 00 04 30 GM1) [60]

152.0 E (Nov 4th 00 04 06 GMT) [60]

Illustrations:

Sources: [8] Grover, J.C., 19?

[60] Everingham, LB. 1974

Record No: 39

Hazard Type: Earthquake

1926a January 25

District: Guadalcanal Central

Island: Guadalcanal Savo

Nearest Town: Visale

Latitude:

Longitude:

Associated Hazards: Tsunami

Other Areas Affected:

Comment]:

Cost Estimates: Levers gave 25 pounds and Hicom gave 50 pounds for the new church. (1926 U.K pounds) [8]

Health Effects: Loss of life. [62]

Severe casualties. [81]

Social Effects:

Built Environment: a) (? Place.) N.Kidson for Rescom to Hicom 28th January. No buildings suffered but all swayed in "alarming fashion" and extensive breakages of crockery, glassware reported.[8]

GUADALCANAL. Visale, (About 38 km from Honiara) a stone church destroyed.[8]

Catholic church at Visale ruined. Also severe damage to property. [81]

Agricultural Effects:

Shipping Effects: Frank Punching, Health Inspector, reported to Secretary at Tulagi, that a/v "Miro" was two miles north of Bonalli on Savo going E by N, Calm sea, slight breeze from NW. Sudden shock gave impression of striking reef or floating Object; engines stopped; a lesser shock felt. Upon arrival at Gavutu Mr. Britton reported observing a distant tidal wave at Gavutu between 1220 and 1300 washing over the staves of the

Retaining wall of No.4 bungalow.[8]

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: a) The Seismological Committee, Oxford reported that their records showed an earthquake of a severe kind thereabouts "but Europe is so far away that it is still difficult to fix the precise locality. The best shot I can give you Time January 25/0-36-25 GMT (L.T. near noon) and position 10 degrees S 158 degrees E" [8J]

c) The first violent quake was followed by eighteen quakes in two days. About a quarter of an hour after the first severe quake a very pronounced tidal wave or rather a series of tidal waves occurred, with a rise and fall of about ten feet, lasting half an hour.[8J]

e) Richter magnitude = 7.4 [60J]

The earthquake was shallow.[62]

Earthquake epicentre = 9.0 S, 158.0 E (00 3618 GMT) [60]

Tsunami height = 10 feet. [62]

Illustrations:

Sources:[8] Grover, J.e., 19? pi

[60] Everingham, LB. 1974

[62J Grover, J.C. 1966

[81] Nature. 143(3619) 1939

Record No: 40

Hazard Type: Earthquake

1926b April 12

District: Makira

Island: Makira Ulawa Three Sisters

Nearest Town: Kirakira

Latitude:

Longitude:

Associated Hazards: Ground Shaking

Other. Areas Affected:

Comment 1: Because the damage was not considered widespread, the idea of remission of Native tax was not accepted.[IO]

No mention is made of this earthquake in Everingham's paper. [60]

Cost Estimates: DAMAGE ESTIMATE at F.M.J.'s Plantation, three miles from Kirakira was 100 pounds. [8]

Health Effects: d) One boy with" thigh smashed through portion of a house falling on him." This was the only serious casualty. [8]

Social Effects:

Built Environment: a) MAKIRA At Kirakira station the following buildings knocked down flat: boat house, store, police barracks and the various outkitchens. The residence was badly damaged: The roof was knocked off its side supports and hanging "closed up like a book" was prevented from collapsing only by the centre posts and cross-beams; every piece of furniture and fittings fell flat, even tables. [8]

The kerosene lamps were knocked down to the floor and set the house on fire in two places. Had to wait until the earthquake had subsided before attempting to put out the fire. [8]

Almost everything breakable was broken. The hospital was considerably damaged and nearly the whole stock of drugs was lost. [8]

Recently erected buildings stood up well: older buildings were destroyed. [8]

At F.M.J. Campbell's Plantation three miles from Kirakira similar damage occurred. Several houses were knocked down and all water tanks fell and burst.[8]

At Wainoni, the new concrete church was "badly cracked about and all interior statues and ornaments were smashed." [8]

THREE SISTERS ISLAND. (12 miles to the north of Makira) The shock was "extra bad and lot of damage done". [8]

ULAWA ISLAND. (45 miles to the north of Makira). The shock was not severe. [8]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: c) A shock for five minutes with aftershocks for eight days. [8]

d) A rumbling sound preceded or accompanied the shocks. [8]

e)Earthquake magnitude = 7.15pm scale.

[62] Depth = shallow. [62]

During the quake it was not possible to walk, the acting District Officer was violently flung to the floor as he tried to walk off the verandah. He escaped from the house on his hands and knees. Upon reaching outside he could not stand and had to crawl. After the heavy shock, several shocks followed in quick succession and all through the night the quaking continued. [8]

Epicentre = 10.0 S, 161 E. [62]

April 12th. Very heavy earthquake shock at 7.15 pm. Succession of shocks through the night. [8]

April 13th. Shocks continuing. Heavy shock at 10am.[8]

April 14th. Shocks at frequent intervals.[8]

April 15th. Shocks still continuing.[8]

April 16th. Shocks continue. Very frequent during the night. A severe shock at 8.15pm. [8]

April 17th. Continual swaying of the earth for half an hour at 3 am. [8]

April 18th. Shocks now and then. Heavy shock at 1.45am. [8]

April 19th. Shocks still continuing but not so frequent, Heavy shocks at 8.15pm. [8]

April 20th. Slight shocks felt now and then. [8]

Illustrations:

Sources: [8] Grover, J.C., 19? p2-3

[10] BSI News Sheet, 1-22 January, 1973

[60] Everingham, LB. 1974

[62] Grover, J.C. 1966

Record No: 41

Hazard Type: Earthquake

1926c September 17

District: Guadalcanal Central Isabel

Island: Guadalcanal Makambo San Jorge Tulaghi Vidun

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Tsunami

Other Areas Affected:

Comment 1: Information is from a telegram to Hicom. [8]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment: a) GUADALCANAL. At Ovi, homes collapsed, dishes and other objects were broken. Reservoirs with water collapsed to the ground. [100 p306]

At Tudol, 110km to the east, great damage was done to buildings and stores of goods at warehouses. [100 p306]

TULAGH!. No damage. [100 p306]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: The phenomena, which preceded the earthquake, included in particular unusually low ebbs, which may however have been connected with the equinox and phases of the moon. The sea water was inky black, and all the denizens of the sea floated belly up in various stages of paralysis and even death, so that the stink at ebb tide was

disgusting. [100 p306]

At the end of the earthquake, the lagoon at Ovi, 200-400 metres (910-20 chains) wide and 1-3.5 metres (from 3 feet to 2 fathoms) deep, and closed in by a broad flat coral reef which was exposed during ebb tides, but which rose 1-2 metres (4-6 feet) above flood tides in two places right at the lagoon, dried up completely. Then a flood tide began as a series of waves (about seven) with 'white horses' which chased each other and flooded the beach, sweeping away everything in their path.

The waves entered through the northern entrance to the lagoon, colliding and surging onto one another at the centre of the lagoon. Whirlpools and surges arose. Then the water left the lagoon and returned again. This phenomenon occurred three times and then continued with each new advance being smaller than the last one until, finally, all quieted down.

[100 p306]

Biosystems/Heritage:

Comment 2:

Physical Characteristics: a) GUADALCANAL. The zone of the greatest effect of the TSUNAMI, occupied 55km (30 miles) of the western coast of Guadalcanal Island between Cape West and Cape Esperence. The tsunami flooded all the lowlands, as well as Kokumariki Island. As far as could be remembered it was lowest low tide, and the moon was in the fourth quarter before the tsunami. [100 p306]

c) GUADALCANAL. At Ovi, after a roar which seemed like peals of distant thunder, which came from the west and intensified as it approached, oscillations and spinning of the earth's surface began and continued for several seconds. Then they abated, but did not stop, and then the main tremor began, which was predominantly vertical and lasted a minute. [100 p306]

The tremors lasted all day and then continued for a week, with lesser intensity and at increasing intervals, although the force of shocks suddenly increased from time to time. Separate shocks continued for a year. [100 p306]

TULAGHI. A severe earthquake shock was felt at 4.43am. It lasted for 15 seconds but frequent small tremors were felt intermittently until about 7am. [8]

e) Earthquake Magnitude = 7.1 Richter [60]
Magnitude = 7.1 [124]

Earthquake epicentre = 11.5 S, 160.0 E. [124]

Earthquake epicentre = 160.0 E (Sept 16th 175912 GMT) [60]

Depth of earthquake = 50 kilometres. [124]

Tsunami magnitude = 1-2 metres. [124]

Tsunami magnitude = 2 metres. [165]

Illustrations:

Sources: [8] Grover, J.C. 19? p3

[60] Everingham, I.B. 1974

[62] Grover, 1966

[100] Soloviev, S. L., 1974

[124] Everingham, I.B., 1977

[165] Cox et al. 1984

Record No: 42

Hazard Type: Earthquake

1930 August 21-25

District: Western

Island: Simbo Ranongga Ghizo Biloa

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Geothermal activity. [62]

Other Areas Affected:

Comment I: No mention is made of this earthquake in Everingham's paper. [60} *Cost*

Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: c) On 23rd August the sea water between Simbo Island and Nusa Simbo was almost boiling. 'Steaming and felt through canoe bottom'. In the afternoon all the springs in Ovi (ave) were boiling. The bubbling could be heard three hundred yards away. One spring, usually mud, was full of clear water, a sample of which was sent to Sydney.
[8J

WATER ANALYSIS (Grains/gallon)

Sodium chloride = 2180.0

Calcium sulphate = 0262.7

Magnesium sulphate = 0045.4

Magnesium chloride = 00515

Sulphate of iron = 00995

Total solid matter = 2639.1

" quite unsuitable for use as a mineral water for medicinal purposes. It is, in fact, unsuitable for any purpose". [8]

Biosystems/Heritage:

Comment 2: Local older men reported a similar occurrence many years ago when there were also a large number of landslides. [8]

Physical Characteristics: e) SIMBO. At 7.30pm on the 24th a severe earthquake occurred followed by another at 9pm. On the following morning another quake occurred at 6.15am followed by fourteen minor shocks. Each shock was accompanied by a loud roaring, very distinct and apparently local. [8]

RANONGGA On the 25th August people reported a number of distinct shocks at the southern end of the island and only slight ones at the north end. [8]

GHIZO. The severe shock of the 24th August had been felt, but no sounds accompanied the shock. [8]

BILOA Only one shock was felt (which one ?) and no sound accompanied it. [8]

Illustrations:

Sources: [8] Grover, J.C., 19? p3

[60] Everingham, LB. 1974

[62] Grover, J.C. 1966

Record No: 43

Hazard Type: Earthquake

1931a October 4 & 10

District: Makira Malaita Central

Island: Makira Malaita Isabel Florida

Nearest Town: Kirakira Su'u One Pusu

Latitude:

Longitude:

Associated Hazards: Tsunami Landslides Floods Rock Fall Fissures

Other Areas Affected: The tsunami was recorded on tide gauges at Honolulu and Santa Barbara (California). [68 p22]

Comment 1: The only shock of comparable intensity during recent years occurred during April, 1926, but this did not last as long as those of 1931, and was not accompanied by any noticeable tidal wave. With the exception of a few aged men and women, whose stories of earthquakes of terrible intensity, lasting for weeks, are open to considerable doubt, none of the native inhabitants can recall any of equal severity. [6]

The only communication with the various islands was by occasional visits of schooners and therefore the first news of any serious damage was received on Tuesday 13th October. [67]

The resident commissioner was unable to sail down the Weather coast of Makira due to high seas, which washed the dingy and rear awning overboard. They managed to reach Cape Surville by going down the lee side of the island against strong south-east winds. [67]

Cost Estimates: Damage to European buildings estimated at five thousand pounds. (1931 pounds) [8]

ISABEL. The damage to house and property of a Mrs. Kathleen Bignell was worked out at about 70-100 pounds. (1931 pounds).

Health Effects: a) Forty-eight deaths.

Sixteen natives killed outright, and a further thirty-two died as a result of injuries or exposure. [6]

On 16th October, Mr AD.C.Stephens, (acting District Officer on Makira), arrived in Tulagi with the report that a tidal wave had caused loss of life. [67]

It is possible that a few more deaths have occurred. [8]

MAKIRA 'Bodies were taken down from tree-tops where they had been caught with broken limbs and perished from exposure and starvation, at heights up to at least 20 feet from the ground. 50 bodies were found, of which 18 had evidently died outright and 32 had died of injuries and exposure: True casualties will never be known, as the surviving population fled to the mountains. [261]

The death rate may have been more severe in the villages between Cape Sydney and Cape Surville, but for the fact that many natives were in the hills at the time collecting the annual crop of nuts. [67]

No-one was drowned; the people and animals who were killed were smashed against the trees. [67]

Many deaths from the tidal wave in Wainoni sub-district. [27]

MALAITA No lives lost at One Pusu. [24]

A number of villagers were killed in native villages particularly in Takataka. [26]

LITTLE MALAITA 5 deaths caused by landslides. [67]

A number of people were swept away by the water and the others were injured. [8]

GUADALCANAL. There were no casualties on this island. [67]

d) MALAITA In the mountains the survivors split up into groups of four or five and suffered further casualties by an epidemic of influenza and pneumonia. [261]

Two missionaries were caught by the sea and suffered from shock, cuts and bruises. [6]

Two people were lying on the ground, vomiting. [25]

MAKIRA Mr.Bee, a missionary of the South Seas Evangelical Mission suffered cuts and bruises. He was taken by the ship 'Mendana' from Star Harbour to Risuna. This took two days. At Risuna, Mr Bee was put aboard another ship, the 'Evangel'. [8]

SANTA ANNA A canoe arrived from Santa Anna to Star Harbour with information that the wife of a Mr. Kuper needed to go to hospital. [8]

Following the events, an epidemic of influenza occurred. [8]

Social Effects: a) Many acts of great courage were performed by individual natives in saving skulls of famous ancestors, but many were lost. [6]

The influenza epidemic caused the people in some places to separate up into groups of four or five having no communication with each other on account of fear of infection and numerous landslides. [8]

MAKIRA At Star Harbour, all the natives had gone upto the hills. As there was no sign of anyone around the south coast they had probably also gone into the hills. [8]

Built Environment: a) MAKIRA As the ship 'Mendana' passed up the coast it was noticed that all the villages were gone and there was no sign of anyone. [8]

On the Tuesday the ship reached Star Harbour where nothing was to be seen except a few posts standing where the houses were before. [8]

EARTHQUAKE DAMAGE. MAKIRA Several European buildings were more or less severely damaged. Damage to their structure being chiefly caused by the shifting of the piles, while water and sewerage connections also suffered. [6]

At Three Sisters, on the estate of Messrs. Lever's Pacific Plantations Prop. Ltd., a long wharf collapsed. [6]

Two villages razed by the first earthquake. [81]

Disaster damage severe in the Eastern Solomons, eighteen villages swept completely away. [8]

MALAITA At Fiu, the house of Reverend Mason was partly destroyed. [26]

Near Auki, the salt water islands constructed by the natives of the Langa Langa lagoon were shaken down, and the natives thrown into the water. [26]

The artificial islands in the vicinity of Auki Harbour split ass under during the progress of the shake and the supporting walls of stone crumbled away in all directions into the sea. [67]

Similar damage must have happened to the islands of Tai Lagoon. [67]

MALAITA No damage occurred on this island on the Sunday but the one on Saturday the 10th October did considerable minor damage to the government buildings at Auki, demolished the Malayta Company's wharf at Su'u and most of the European buildings. The Reverend Mason's house at Fiu was practically reduced to ruins. [67]

The government buildings at Maka Station have been moved sideways about 3 feet. [67]

TSUNAMI DAMAGE. MAKIRA. Between Cape Surville and Sydney, twenty villages were by the tidal wave. Practically every canoe in this area was smashed beyond repair. Most of the natives personal belongings were lost. [6]

The most serious damage is the loss of the canoes. [67]

Twenty villages were completely destroyed, of which two villages were unoccupied at the time. [67]

A tidal wave wiped out 18 native villages. [24]

18 villages on the southern coast were later swept away by a sea wave 30-40 feet high. [81]

14 villages were submerged and 700 people were left homeless. [26]

West of Cape Sydney there was no tidal wave for many miles along the coast, but a small one in the neighbourhood of Makira Harbour caused a little damage in several villages. This would appear to have been caused by a separate disturbance.[6]

MALAITA. At Su'u, all the European houses and most other buildings had been badly damaged and the company's wharf was destroyed. [24]

The Malaita company's concrete wharf was completely destroyed and most of its buildings (the majority being staff bungalows) were shaken off their foundations. Practically all

European houses were damaged. [26]

Landslides occurred everywhere throughout Malaita. Some of the native villages, particularly Takatana were damaged. [26]

UGI ISLAND. At Pawa, one house, belonging to a Dr.Fox was partly destroyed. [26]

MAKIRA At Wainoni Bay the Roman Catholic School was damaged. [26]

MALAITA At One Pusu extensive damage had occurred at the South Sea Evangelical Mission's Headquarters. [24]

At Kirakira water and sewerage services at the Government residence were destroyed. [26]

CENTRAL. TULAG I, escaped most of the 'visitation', but considerable damage was done to buildings there. Messrs. W.R. Carpenter and Co's wharf was damaged and left in shallow water, preventing the berthing of ships. Contents of the hotel kept by Mr.Masher, and the contents of the store were damaged. [26]

MAKAMBO. The floor of Burns Philp wharf store subsided. [26]

GUADALCANAL. 5 houses in Vovoro near to Aola were washed away by the tidal wave [67]

Agricultural Effects: In the interior, an unknown number of gardens belonging to three villages were destroyed by landslides. [6]

MAKIRA (south coast). Most of the gardens were buried by landslides. [6]

Shipping Effects: On the sea on the south coast of Makira, a Mr. Palmer reported "The sea, which had previously been quite calm, became confused, and although he had all sail set in a fair breeze the ship was turned round a number of times and waves broke on board from every direction. Although the chart showed that he was in 40 fathoms of water large quantities of sand and small stones came to the surface and the sea appeared to be boiling, though he did not notice any rise in temperature. n [8]

MALAITA Off the coast of Maraunga, on the south-east coast (is this Marunga), at daylight on October 4th, Mr.Palmer, on board his auxiliary schooner, 'Mendana', saw great landslides ashore and the water rushing back off the beach. Great rocks appeared above the water of the bay and a tremendous submarine disturbance occurred around the vessel. The water rushed back ashore in the form of a great tidal wave, boiled and rushed around the schooner, while patches of rock and sand appeared. [8]

Economic Effects: Owing to the almost complete obliteration of all landmarks by the tidal wave, an unknown, but certainly considerable, amount of money, both native and European, was lost, as such valuables are usually buried in the ground.[6]

Physical Environment: a) In the air around the ship 'Mendana' there was a distinct smell of sulphur. [67]

b) MAKIRA EARTHQUAKE DAMAGE. At Kirakira, close to the government station, there were a number of cracks about six inches in width and extending to considerable depths. The general trend of the cracks was SW-NE, with a few at right angles to that.[6]

Considerable alteration in level occurred in various places in the district. [6]

In Star Harbour neighbourhood, the reefs seem to have risen about one foot, though a narrow strip of land just west of this place, running in a S- W direction through to the other coast has sunk considerably, nearly turning the Cape Surville peninsular into an island. [6]

St Catalina Island has sunk at least three feet.[6]

St Catalina had apparently sunk about 2 feet during the earthquake. [23]

On the southern coast considerable alteration has taken place in the reefs, some patches having risen, while others have completely disappeared. [6]

Mountain sides slid into the sea. [103]

ISABEL. At Fulakora (Floakora), at the beginning of the earthquake, great trees crashed down, from no apparent cause.[25]

MALAITA (I think,) trees fell, huge landslides occurred, enormous boulders came crashing down through the bush and the bed of the ocean moved so that rocks rose and fell. [26]

At Maka Station an enormous section of rock broke away from the face of the cliff overlooking the various buildings on the flat. [67]

TULAGAI. It is estimated that the harbour bottom rose by 10 feet. Similar coastal disturbances are being reported from all parts of the group. [26]

MALAITA LANDSLIDE DAMAGE. Innumerable landslides were caused by the earthquake [10] majority of rivers in the eastern half of the island were dammed for a short period, and eventually bursting through, caused heavy floods in various places, which added to the general confusion. Immense quantities of stones remained in the rivers, many of which have had their courses greatly altered. [6]

On the south coast landslides were seen on all the hills. [8]

The cliff at Cape Surville, which was several hundred feet high, cracked and fell. [67]

TSUNAMI DAMAGE. MAKIRA. The highest level reached was clearly marked on those trees that were left standing, and was about twenty feet above high water mark in most places, though in the centre of the affected area, either due to the disturbance being more severe in this neighbourhood, to some special configuration of the land, the height reached was at least thirty feet above high water mark.[6]

About ten minutes after the earthquake, Mr Palmer, at sea on the south coast of Makira noticed an enormous wave break over the reef at the shore. It rushed up to the beach sweeping everything before it. The water receded and another wave formed and broke on the shore and this was repeated several times, with gradually decreasing severity causing large numbers of trees to be swept into the sea. [8]

The nearby creek, usually a few feet wide, was in a minute the width of the bay. The onset was met by a new tsunami sweeping shoreward and the noise and commotion was terrific. [261]

At Star Harbour large numbers of fish were lying rotting on the ground. [8]

SANTA ANNA ISLAND. At Port Mary, the water receded a very long way and after a very short interval, rapidly rose again until high tide mark was reached. This cycle took about a minute to complete and was repeated three times, with diminishing amplitude. The lowest level reached was about twelve feet below low water mark, giving a total rise and fall of

about eighteen feet.[6]

Three successive tsunami were followed by lesser ones.[68 p45]

The Weather coast of Guadalcanal suffered no tidal wave or landslides. [67]

c) Three miles west of Kirakira, the sea bottom has risen some twenty feet over an unknown area.[6]

Around the ship "Mendana", about 15 minutes after the crew felt the earthquake there was a wall of water, which had passed the ship and could be seen advancing on the land carrying everything before it, until it was lost in the forest. The sea all around was strewn with dead fish. [67]

Biosystems/Heritage: MAKIRA Shortly after this earthquake the mangroves were dying on the north-east coast of the island between Fanarite Point and Star Harbour, due to the ground having emerged so much that there was insufficient salt water to maintain the mangroves. [68 p43]

At Tawowo Passage submergence had caused the mangrove oysters to die. [68 p43]

TSUNAMI. Kirakira. Ten minutes after the first earthquake a tsunami occurred. The rise was about six feet, but as it was low water at the time, the water only rose to high water mark. [6]

The wave occurred all along the Northern coast of Makira, being slightly larger to the eastward, and dying away towards the western end of the Island. [6]

Comment 2: St Catalina appears to be crossed by a number of faults, running in a roughly SW-NE direction.[6]

Physical Characteristics: c) MAKIRA EARTHQUAKE. At Kirakira the first and most severe shock lasted about 2 minutes although tremors continued, almost without ceasing, for about 45 minutes. Thereafter the shocks occurred at intervals of about 10 minutes for the next week. Seven days after the initial shock a second severe earthquake, although possibly not as severe as the first one, occurred. This one lasted longer, for one and a half hours almost without a break. From then onwards tremors at varying intensity continued though both the intensity and frequency diminished gradually, until by the end of the year as much as a day's interval sometimes elapsed between the shocks, which were slight as a rule. [6]

The first and heaviest disturbance apparently occurred early on Sunday morning, October 4th and it seemed to centre off the south-west coast of Makira, The whole of the southern islands felt frequent tremors during the ensuing week and on Saturday October 11th there came another great shock, which centred near Su'u on Malaita. [26]

Three miles east of Kirakira, at a plantation, a considerable shock had occurred but was less severe than at Kirakira. [6]

At the nearest village west of Kirakira the shock had also been less severe. [6]

On the south coast of Makira thirty seven shocks were felt on the ship 'Mendana' between 6.00am and 7am. [8]

The A V.'Evangel' reported no damage had occurred at Yanuta at the east end of the island. [8]

ISABEL. From Saturday till Tuesday there were 69 earthquakes, 2 were severe at the start and one very severe one on Tuesday. [25]

TULAGI. Experienced a violent shake at 11.20am on October 10th. The quakes continued for 18 hours and were the worst since the Roman Catholic church at Visali was destroyed in 1926. [26]

d) Two seconds of a very noticeable rumbling sound preceded even the slightest tremors. It was noted that it was impossible to predict the intensity of the coming shock as the noise varied very little. [6]

It was an excessively hot day, with a white mist hanging low. All of a sudden the house gave a lurch, then shook violently.[25]

e) The Oct. 3rd earthquake at 1913 13 GMT = 8.1 [60]

The Oct. 3rd earthquake at 21 55 10 GMT = 7.0 [60] The

Oct. 3rd earthquake at 22 47 40 GMT = 7.3 [60] The Oct.

10th earthquake at 00 1953 GMT = 7.7 [60]

MAKIRA EARTHQUAKE. The intensity of the first shock caused houses to sway violently to and fro, while heavy articles of furniture fell over, or danced about the floor. [6]

Owing to their greater elasticity, native buildings suffered little permanent damage, only those in a very dilapidated condition being destroyed. [6]

People could barely stand upright, "staggering about on the lawn like drunken people." The house was being heaved about and the noise of the falling articles and furniture was appalling.

MALAITA (I think) The earthquakes at times were terrifying in the extreme. The whole country rocked, and it was impossible to stand upright [26]

This earthquake was recorded on the seismographs at Riverview Observatory, Sydney. The shocks were described as large, and the fact that the damage was not terrific led to the belief that the centre of the disturbance must have been on the bed of the ocean. [24]

EPICENTRES. 10.5 S, 161.8 E (Oct 3rd 1913 13 GMT). Produced a tsunami.[60]

11.0 S, 163.0 E (Oct 3rd 21 55 10 GMT) [60]

11.0 S, 161.5 E (Oct 3rd 22 47 40 GMT) [60]

10 0 S, 161.0 E (Oct 10th 00 1953 GMT) [60]

Earthquake depth = shallow [124]

Earthquake magnitude = 8.1 [124]

TSUNAMI.

There is evidence of trees being battered by passing Objects to height of 25 feet. [124]

MAKIRA at Kirakira and Waimanura the sea withdrew to about two feet below low water mark, remained half a minute, then rapidly rose in less than one minute to high water mark. A total rise and fall of about five feet and repeated several times. The sea remained calm. [8]

This tsunami was observed along the entire northern coast of Makira being somewhat larger in the eastern part of the shore and gradually diminishing to nothing in the direction to the western tip of the island. [100 p37]

The sea slowly receded to far beyond lowest tide, exposing rocks and coral reefs never seen before. The waters formed into a wall which took a comparatively long time before it advanced and then it came in as a wall. It did not break until it was broken against the houses and trees. It seems that the sea withdrew and advanced 4 times before becoming normal once more. [67]

On the south coast of Makira, the first wave was estimated as at least twenty feet high. [8]
At Haununu village on the south coast a large tsunami passed the village out to sea in a westerly direction; the water rose only a few feet at the village. [66]

West of Cape Sydney there was no noticable tsunami on a stretch of many kilometres along the coast, but a weak wave in the vicinity of Makira Bay caused minor damage at several villages. One can assume, that this does not relate to the wave of October 4th but to some other subsequent wave. [100]

SANTA ANNA At Port Mary the water retreated a very large distance, and then after a brief pause, rose quickly and reached the highest high tide mark. This cycle took about one minute and repeated three times. The lowest level reached was 12 feet below the lowest low tide mark so that the total rise and fall of water was about 18 feet. [100]

Illustrations:

Sources: [6] A report from AD.C.Stephens, Acting District Officer, Eastern Solomons.

Dated 12th December 1932.

[8] Grover, J.C., 19? p4

[23] Pacific Islands Monthly 43(7)122

[24] Pacific Islands Monthly 2(3)8 [25]

Pacific Islands Monthly 2(4)7 [26]

Pacific Islands Monthly 2(4)9 [60]

Everingham, I.B. 1974

[66] pVI/8, Grover, J.C.

[67] Resident Commissioner, 1931

[68] Grover J.e., 1955

[81] Nature. 143(3619) p405. 1939

[100] Soloviev S.L. & Go, **en.** 1984 p310

[103] Munich Re. Earthquake, Solomon Islands.

[124] Everingham, 1977

[179] Report on the BSI, 1951 & 1952

[261] Grover, J.e. 1958

Record No: 45

Hazard Type: Earthquake

1934 July 19

District: Temotu

Island: Vanikolo

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected: New Zealand Panama [102]

Comment 1: Described as the worst earthquake in the history of the island.[19]

Cost Estimates: Southern Cross at Santa Cruz asked to help.[15] Damage to Timber Company's property is four hundred pounds. [8]

Health Effects: Although some of the inhabitants were thrown heavily to the ground, there were no casualties.[19]

No casualties were reported. [102]

Social Effects: The natives left the foreshore and fled into the bush at the first sign of an upheaval. [19]

Built Environment: a) Considerable damage to property. District Officer's house damaged beyond repair. [8]

All buildings on the island were badly damaged. [19]

The Vanikoro Kauri Timber Company suffered severe losses and much property and equipment were destroyed. [19]

Heavy damage was caused to buildings in the Solomon Islands. [102]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: The damage was caused by the earthquake which shook New Zealand and Panama and was recorded in London on July 19th. [102]

c) Tremors commenced at midnight on Monday, July 16th and continued until Saturday, July 20th. [19]

The earthquake occurred at 7am, July 19th. [102]

e) Magnitude 8.2 1 scale. [62]

Epicentre = 11.75 S, 166.5 E [62]

Illustrations:

Sources:[8] Grover, J.C., 191 p5

[15] Pacific Islands Monthly, 37(1) p15-16

[19] Pacific Islands Monthly 5(1) pS6

[62] Grover, J.C. 1966

[102] Munich Re. Akturle Liste grosser Elimintarereignisse.

Record No: 46

Hazard Type: Earthquake

1935a March

District: Western

Island: Vella Lavella (and adjoining islands)

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: There is no mention of an earthquake during March in Everingham's paper. [60]

Cost Estimates:

Health Effects:

Social Effects: The continued shocks were so trying that planters made for Gizo township to get away from the constantly recurring tremors and to procure lifting jacks and other material for re-erecting buildings. [20]

Built Environment: a) VELLA LA VELLA and adjacent islands, bungalows were shaken from their piles and wharves and other properties destroyed. [20]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

Sources: [20] Pacific Island Monthly. 5(9)12
[60] Everingham, LB. 1974

Record No: 48

Hazard Type: Earthquake

1935c December/January 15-3

District: Guadalcanal Malaita

Island: Guadalcanal Florida Savo Malaita *Nearest*

Town:

Latitude:

Longitude:

Associated Hazards: Landslides Tsunami Fissures

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects: a) No loss of life. [8]

At the time of the report (February 21st, 1936), little or no loss of life.[21]

b) No mention of injuries. [8] [21]

MALAITA The tsunami is believed to have caused casualties on the Malaita coast but no definite information is available. [66]

Social Effects: The inhabitants of Chaunaroga village, which was totally destroyed, escaped to the hill behind. [8]

Built Environment: a) Native houses collapsed. [8]

GUADALCANAL Mongga watershed to south coast damage severe. Many villages suffered badly; a few houses carried away with landslides. [8]

Malageti to Bolonda, east of Cape Hunter considerably damaged. [8]

Chaunaroga Village carried bodily into the sea by landslide. [8]

Longgu - Areatta not badly affected. [8]

Oseatta to Tari region much damaged. - heavy rains making landslides an hourly occurrence. [8]

Suta Village - part of it carried away and many houses are broken down elsewhere. [8]

Tidal waves and the usual damage was done.[21]

At Aola, natives described. the way in which the wave rose steadily through their villages and to some distance inland. [66]

Agricultural Effects: An estimate of 25% of crops lost. [8]

Shipping Effects:

Economic Effects:

Physical Environment: b) SAVO. Landslides. [8]

GUADALCANAL. Landslides at Cape Hunter. (South coast of island). [8]

Loose boulders falling frequently - country still shaky. (This correspondence dated. 6th February). [8]

Longgu - Areatta, escarpments scarred.. [8]

Turi Village has a crack through the middle of the village which appears precarious. [8]

Oseatta to Tari, heavy rains causing landslides. [8]

Biosystems/Heritage:

Comment 2: Approval given to change village sites due to the damage. Many old were dangerous. (Is this referring to the houses or the site?). [8]

Physical Characteristics: c) Earthquake commenced. at 6.7pm LT and continued. for first 24 hours at frequent intervals, two days later diminishing in force and periods. [8]

Another severe shock occurred. on 21st December. (1930 is date used. here but am assuming this is a mistake) Tremors continued for a fortnight at fairly frequent intervals. [8]

A week of earthquakes. [21]

e) Epicentre = 9.8 S, 161.0 E (070 748 GMT) [60] [102]

Magnitude = 7.6 Richter [60]. [102]
Gutenberg = 7.6. [66]

Depth = shallow. [62]

Earth tremor somewhat severe in nature. [8]

Lantern on Bungana fixed light was lifted four inches and turned 180 degrees. [8]

Illustrations:

Sources: [8] Grover, J.C., 19? p5-6

[21] Pacific Island Monthly. 6(7)1

[60] Everingham, I.B. 1974

[62] Grover, J.e. 1966

[66 P VI/8] Grover, J.C. ? date.

[102] Munich Re. Aktuelle Liste grosser Elimintarereignisse.

Record No: 50

Hazard Type: Earthquake

1936c December

District: Guadalcanal

Island: Guadalcanal

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Tsunami Other

Areas Affected: Other Islands

Comment 1:

Cost Estimates:

Health Effects: Little or no loss of life to date (February).

Social Effects:

Built Environment: Great damage was done. Tidal waves and the usual damage was done. [21]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/HeriJage:

Comment 2:

Physical Characteristics:

Illustrations:

Sources: [21] Pacific Islands Monthly 6(7)

Record No: 54

Hazard Type: Earthquake

1939a January 30

District: Western

Island: Shortland New Georgia

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Landslides Tsunami

Other Areas Affected: Bouganville [62]

Comment 1:

Cost Estimates: The D.O.'s house should be moved and will cost 50 pounds. (probably 1939 pounds). [8]

A new Government office will cost 300 pounds. (probably 1939 pounds). [8]

Repair to the Methodist Mission Station is approximately 500 pounds. [225]

Health Effects: a) No lives lost. [8]

Social Effects:

Built Environment: a) SHORTLAND. Government office wrecked beyond repair. [27]

Mos. proof roof in D.O.'s house dangerous due to landslide. [8]

CHOISEUL. No damage. [8]

F AISI. No damage in soundings. [8]

In Faisi, two houses were badly wrecked and four thrown out of alignment. The copra store, bulk store and wharf as well as the Government Post Office will need rebuilding. [225]

NEW GEORGIA KOKEQELO. (In the Roviana Lagoon.) Damage to the Methodist Mission Station. [225]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: **SHORTLAND. Tsunami occurred but of no magnitude. [8]**

Biosystems/Heritage:

Comment 2: 2 seismographs at Riverview put out of commission. S-P=5m 38secs. S 12-28p.m. L=12.34p.m. Sydney Observatory also reported very severe. 1850m from Sydney. [8]

Some technical data in this article.[8]J

Physical Characteristics: c) The earthquake occurred at 2h.18m.31s. G.C.T. [81] e)

Magnitude = 7.9 Richter (60J.

Earthquake magnitude = 8.0 ? scale. [62J

Epicentre = 6.5 S, 155.5 E (02 1827 GMT) [60J

A provisional epicentre was 9 degrees S. 159.5 degrees E.[81]

Illustrations:

Sources:[8] Grover, J.C., 19? p6

[27] BSIP News Sheet No. 16/65 1965

[60] Everingham, I.B. 1974

[62] Grover, J.C. 1966

[81] Nature. 143(3619) 1939

[225] Pacific Islands Monthly, April 17, 1939

Record No: 55

Hazard Type: Earthquake

1939b April 30

District: Guadalcanal Central

Island: Guadalcanal Tulaghi Isabel North Georgia Islands Russell Savo

Nearest Town: Visale (Guadalcanal) Cape Marsh (Russell)

Latitude:

Longitude:

Associated Hazards: Tsunami Fissures

Other Areas Affected:

Co11U1U1nt 1:

Cost Estimates: RUSSELL GROUP. Mr. Wradly of L.P.P.L. Estimated 1,500 pounds (1939 pounds) damage done mainly to buildings at West Bay which were comparatively old. Mr. Bergin of Fairymead Sugar Co. Ltd. estimated at 2,000 pounds (1939 pounds), apart from the damage done to the concrete wharf - which needs expert examination for assessment. [8]

RUSSELL ISLAND AND GUADALCANAL. The damage already reported was estimated at some thousands of pounds. (1939) pounds. [29]

GUADALCANAL. At Hautabu, damage to the printing room of the Melanesian Mission Station was conservatively estimated to be 275 pounds. (1939 pounds). [237]

Health Effects: a) Total of 14 dead.

GUADALCANAL. Twelve dead.

Near to, or at, Visale 12 deaths by drowning due to the tsunami. 9 of these were children the remainder were old and unfit. [8]

Nine children and three adolescents drowned. [100 p310]

At least 10 lives were lost on the coast, mostly women and children. [237]

At Visale there had been loss of life among the natives. [29]

At Naro, on the north coast, six natives were killed outright, and three died later. [237]

S. W. COAST ISABEL. 2 persons killed.(Probably by tsunami). [8]

Altogether 9 children and 3 adults of the indigenous population were drowned. [82]

There was no loss of life on Savo.[82]

d) GUADALCANAL. At Lavoro Plantation a European woman and child had a narrow escape drowning. [8]

ISABEL. At Mara na Tabu a native woman, rushing to high land with her infant was overtaken by the tidal wave; the child was washed from her arms and she was taken to the sea. Brought back by a subsequent wave, she located the baby by its crying, in the top of a tree. [237]

Social Effects: GUADALCANAL. At Lavoro Plantation, at about 1300 hours, three Europeans, observing the approach of the wave, fled inland through the plantation ahead of it and embraced coconut palms, holding on until the waters which initially submerged them had receded. Then they made their way further inland before the next wave. These people lost everything except the clothes they wore.[18]

At Lavoro Estate the water passed over the heads of the manager, his wife and child and one other man. This happened several times and they clung to coconut trees. The water reached a height of 20 feet up the hill at the back of the plantation. [237]

At Tangarere, on the west coast, 100 small children were marshalled to safety at the Catholic Mission School. [8]

Built Environment: a) FLORIDA ISLANDS. At Tulagi, goods damaged in several stores. No damage was done to Government Buildings. [8]

At Tulagi the earthquake was slightly felt but little damage was done. [237]

At Gavutu, headquarters of the Levers' P.P.P.,Ltd a launch was carried on to the wharf and footpaths and roads were damaged.[237]

GUADALCANAL. Visale damaged, (N- W coast) many native villages swamped by tidal waves. [8]

Many villages were completely destroyed. [237]

Nearly every native house from Visale to Hautabu (on the north coast) and those from Hautabu to Wanderer Bay, was washed away. [237]

Severe shock and tidal wave. Almost all coastal villages between Visale and Cape Hunter were inundated and swept away. At Visale considerable damage was done to older concrete buildings and the corner base to the cathedral was cracked and subsided badly. [8]

At Maravovo, the Melanesian Mission School on the hill received little damage except to tanks which fell down. [8]

Lavoro Plantation was completely inundated by the tidal wave which was estimated at 20 feet. No buildings were left standing and the launch was thrown 60 yards into the plantation and a motor truck was wrapped around a coconut tree. [8]

The Lavoro Plantation Launch was swept inland with the second wave and wrecked against a tree. The house and truck were swept out to sea.[18]

Lavoro Estate all buildings completely wrecked. [8]

The Lavoro Plantation was reopened to have been completely wrecked and at Visale the headquarters of the Roman Catholic church had heavy damage. [29]

Lavoro Estate was the greatest sufferer, being practically wiped out. All the buildings have gone; the launch was carried 200 yards into the bush; the motor truck twisted round a tree. [237]

Maravovo and Visale suffered severely. The Roman Catholic Mission at Visale the damage to buildings was extensive. The bishops launch was hurled from the slip. [237]

At Hautabu, the cow yard and bail were smashed, copra drier turned over, boat shed badly battered and copra store lifted from its floor and dumped some yards back - still containing 20 bags of copra. A newly erected heavy-duty bridge over the river was badly shaken, but still standing. In the house half of the china was broken and the furniture and all household impedimenta littered the floor. The seven water tanks fell down and four of them were squashed like concertinas.

At Ovi Harbour, Svenson's house and buildings were destroyed. [8]

A number of buildings were wrecked, and a wave which followed the shock swamped a number of native villages. [82]

RUSSELL ISLANDS. Considerable damage at Cape Marsh, particularly West Bay. [8]

Buildings and Moorings were damaged in the region of Cape Marsh. [100]

Tsunami on Russell Islands. [103]

In the Cape Marsh district wharves and houses were wrecked. [82]

Sifola outstation, (I think on the Russell Islands), lost nearly all its buildings. [8]

Fairymead Sugar Co. Ltd. had all offices and stores damaged. [8]

At West Bay, nothing was left of either the ration store, hospital, or their contents.

The wharves at Somata, (? Samata), Banika, (? Mbanika), and Ufa (? Ufaon) were wrecked. At Somata, the boat shed and hospital were also wrecked. At Faiami, the hospital and the Chinese quarters were wrecked and considerable damage was done to the copra dryer, bungalow and all other buildings. At Banika, the copra store, hospital and the shore buildings suffered the greatest damage. At Ufa, the hospital and Chinese quarters were wrecked; whilst at Pepisala (? Pipisala) and Lingatu (? Lingatu) damage to all buildings was considerable.[29]

ISABEL. Two Villages wiped out near San Jorge Island and 5 others badly damaged. Distress measures taken. [8]

S. W. COAST ISABEL received severe shock followed by tsunami which washed out several villages. [8]

On the Isabel coast many native villages were submerged and the Melanesian Mission at Mara na Tabu suffered considerable damage.

Houses were damaged. [82]

NEW GEORGIA ISLANDS. The waters rose 6 feet above high water mark. The wharf at Segi, (?

Seghe), was demolished and the water tanks at the house were damaged and a quantity of crockery and glassware was broken. Creaking timbers in the house added to the almost-deafening noise. [237]

The Seventh Day Adventist Mission in the same area reported little damage at the Batuna Station. At Gatakai, near the entrance to the Lagoon a native village was swept to sea and the water reached the flooring of Burns, Philp & Co's living quarters. [30]

Agricultural Effects: S. W.COAST ISABEL The tsunami caused damage to native crops. [8]

RUSSELL GROUP. 11 cattle washed out to sea and drowned. [8]

All the plantations on Cape Marsh suffered considerable damage, with the exception of the Nono and Yandina Plantations. [29]

GUADALCANAL. (Most or all) of the gardens on the (west) coast were demolished. [237]

Shipping Effects:

Economic Effects:

Physical Environment: b) SA VO. Surface faults were visible.[82]

Bad earth cracks on Savo. [8]

The ISLAND OF TALENA was almost inundated. [8]

c) RUSSELL ISLANDS. At Lingatu, the bay emptied itself several times. In this area, West Bay and Yandina plantations were the worst sufferers. [237]

The District Officer in Eastern Solomons reported sea agitation on the reefs for some hours. [8]

Biosystems/Heritage:

Comment2: S.W.COAST ISABEL D.O. visited and distributed rice, knives and axes as necessary. [8]

The government vessel left Tulaghi, on receipt of the news, for a tour of the stricken area. [29]

Physical Characteristics: a) Centre of earthquake is submarine at sea off Marovo Lagoon. "Smoke is said to have issued from the sea". The Marovo around Gatukai received severe shock. (I think this is Marovo Lagoon off the north coast of Vangunu, New Georgia Islands).

c) Starting time of the earthquake was 2h. SSm. 3Ss.G.C.T. According to reports from the islands, the shock and after-shock lasted for several days.[82]

e) Richter magnitude = 8.1 [60].

Magnitude = 8.0? scale. [62]

Magnitude = 8.1 [102]

Epicentre = 10.5 S (025530 GM1) [60] 158.5 E (0255 30 GMT) [60] 7.5 S [82] 159.6 E [82]

Depth of focus of the earthquake was probably 100km.[82]

Depth = shallow. [148]

TSUNAMI NGGEIA ISLANDS. The wave was 4 feet high at Tulagi Harbour where it entered shortly after it had entered the Lavoro Plantation. Twelve waves were counted before dusk, each of them being preceded by a withdrawal of the sea from the coastline.[18]

RUSSELL ISLAND. The spectacle was described as terrifying due to the concentration of the effects of the wave in the Channel. [18]

GUADALCANAL. At Hautabu Melanesian Mission, following the earthquake, a tidal wave, variously estimated to have been 20 to 30 feet high occurred. A roar was heard and the wave was seen to come in over the reef and creep up the foot of the hill, then spread over the plantation inland for a long way. [237]

At Beaufort Bay the tsunami reached a height of 35 feet.[67]

Tsunami runup at Beaufort Bay = 10 metres. [148] Tsunami

runup at Gasmata = 5 metres. [148]

EARTHQUAKE GUADALCANAL. At Hautabu, Melanesian Mission station, "the earthquake was tremendous, the violent heaving and shaking must have lasted fully five minutes and many lesser shocks followed." [237]

Illustrations: [237]. Four photographs, two of which show before and after pictures of the bridge which was damaged by the tsunami. One shows a galvanised-iron copra store which was torn from its concrete foundations. The fourth photograph shows water tanks which collapsed with the earthquake.

Sources:[8] Grover, J.C., 19? p6-7

[18] Grover, J.C. 1951.

[29] Pacific Island Monthly 9(10)63

[30] BSI Geological Record, Vol.111, 1968

[60] Everingham, I.B. 1974

[62] Grover, J.C. 1966

[67] Grover, J.C. 1955 p22

[82] Nature. 143(3630) p891

[100] Soloviev S.L. & Go, C.N. 1984 p310

[102] Munich Re. Aktuelle Liste grosser Elementarereignisse.

[103] Munich Re. Earthquake, Solomon Islands.

[148] NOAA Database for Tsunami

[237] Pacific Island Monthly 9(12)28-30

Record No: 58

Hazard Type: Earthquake

1950a November 8

~ *District:* Guadalcanal

Island: Guadalcanal

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Landslides Tsunami

Other Areas Affected:

Comment 1: Incessant rain for several weeks exacerbated the situation by inundating villages and washing away native gardens. [76]

Cost Estimates:

Health Effects: No loss of life at the village of Chaunaroga as at the first sign of the tremors, the villagers fled to higher ground. [76]

Social Effects: There was a food shortage over a wide area due to burial of the gardens. (I think this is in Central Guadalcanal).[18]

Built Environment: a) Turi village, situated in central Guadalcanal, at the edge of a cliff nearly a thousand feet high, was found deserted by the natives. [18]

On the south coast, the village of Chaunaroga was swept into the sea by a landslide.[76]

b) All communication along most of the south coast have been wiped out. The native tracks became perilous by the uncertain formation of the ground. [76]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: b) In Central Guadalcanal, where landslides had occurred, passage was not possible along some of the old trails which had fallen away with whole hillsides into the valleys below. [18]

A landslide between Pite and Duindui swept the whole of one side of a 2,000 foot mountain ridge, into the sea.[76]

c) A large freshwater lake, inland from the south coast, broke out to the sea. [76]

Biosystems/Heritage:

Comment 2:

Physical Characteristics: c) Activity was evident from June onwards and culminated in the major one of 8th November at 13.20 hours. Aftershocks occurred a few minutes later, and with constant but decreasing intensity for about 20 hours afterwards. The ground moved on the following day.[18]

Seven shocks were recorded at Brisbane from the epicentre to the west of Guadalcanal. The main tremor was experienced in Honiara at 1315 BSI time, the period of the after lunch siesta. After shocks of less intensity followed the first, and short period pendulums (as ignition keys in a vehicle) were in almost constant vibration for about twenty hours afterwards, although the ground motion was quite imperceptible to observers. [66]

e) Epicentre = 10.0 S, 159.5 E (021812 GMT) [60]

The motion of the earthquake was more severe on the alluvial plains: people at Tenaru Mission were unable to stand.[66]

Illustrations:

Sources:

[18] Grover, J.C., 1951

[60] Everingham, L.B., 1974

[66 pVI/8] Grover, J.C.

[76] Pacific Islands Monthly 22(3)8.

Record No: 75

Hazard Type: Earthquake

1952j December 6

District: Western

Island: Gizo Vella Lavella Simbo Ranongga

Nearest Town: Paramatta (Vella Lavella) Penuna (Ranongga)

Latitude:

Longitude:

Associated Hazards: Landslides Tsunami Fissures *Other*

Areas Affected:

Comment 1:

Cost Bstimates:

*Health Effects:*a) No mention of deaths. [63J

d) Only one serious casualty. [63J

Social Effects: RANONGGA Several hundred refugees crossed the island into the east coast villages. [63]

Built Environment: a) Little moveable property lost. [63]

RANONGGA On the west coast, several houses were destroyed due to landslides in the hills. [63]

On the east coast 26 houses were reported demolished. [63] VELLA

LA VELLA At Paramatta four houses demolished. [63]

SIMBO. "Tidal waves" reached houses in the villages but no serious losses. [63]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: b) RANONGGA On the west coast, landslides and fissures were so severe that four villages had to be evacuated. [63]

Biosystems/Heritage:

Comment 2: The District Officer reported no assistance was necessary as rebuilding the villages involves natural materials and the people felt capable of making the damage good by themselves. [63]

The earthquake was comparable to that of 1959 west of Vella. [63]

Physical Characteristics: c) Time of earthquake was 10 4118 GMT.[60] e)

Earthquake magnitude = 7.1 [60]

Epicentre = 8.0 S, 156.5 E [60]

Illustrations:

Sources: [60] Everingham,I.B. 1974

[63] Grover, J.C. ?date

Record No: 81

Hazard Type: Earthquake

1954 November 1-10

District: Temotu

Island: Santa Cruz

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Fissures Landslides Tsunami

Other Areas Affected:

Comment 1: On the 26th November, the District Commissioner advised that Tinakula Volcano had been unusually quiet at that time. (245)

Cost Estimates:

Health Effects:

Social Effects:

Built Environment: Houses and uncemented stone walls were demolished, dispensary bottles were broken. [245]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: Numerous landslides Occurred. [245]

Cracks opened in the ground. [245]

A tsunami was reported on the 3rd November. (245]

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

Sources: [245] Grover, J.C., Memoir No.2, 1958.

Record No: 83

Hazard Type: Earthquake

1955a September 8

, -

District: Western

Island: Fauro Choiseul

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Tsunami

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: A shock lasting more than a minute occurred at 03-27-14 GMT. This was felt strongly at Fauro Island and on the central east coast of Choiseul some 100 miles to the east. A tsunami was reported at Fauro, the gentle rise and fall of the sea level continuing for several hours. [124]

Illustrations:

Sources: [124] Everingham, LB., 1977

Record No: 85

Hazard Type: Earthquake

1955c October 13

District: Malaita Makira

Island: Malaita Makira Guadalcanal

Nearest Town: Manawai Harbour Kirakira

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected: Guadalcanal Makira

Comment 1: No mention is made of this earthquake in Everingham's paper. [60]

Cost Estimates:

Health Effects: d) MAKIRA At Kirakira, 1 islander was observed shaking badly with fright. [5]

On the South-West coast, west of Manewowo (?Mwaniwowo), a geologist sitting on the beach clasping his raised knees was thrown backwards by the initial acceleration so that his head almost hit the sand, and then forward again. [5]

Social Effects: a) MALAITA Manawai Harbour, all people staggered into the open. [5]

GUADALCANAL. At Berande plantation on the north coast, the plantation house groaned. [5] Gold Ridge, People left the house in a hurry. The rattling of the house and the crash of falling objects brought local natives running as they thought the house had collapsed on top of the inmates. [5]

Built Environment: a) MALAITA At Manawai Harbour, Houses 20 yards from Afoi school shook violently. Objects fell from shelves.(5)

GUADALCANAL. At Berande Plantation, the plantation house groaned and suspended Objects swung strongly. [5]

At Gold Ridge in the centre of the island, 2,100ft high, the mining engineers house rattled and provisions and crockery on the shelves fell to the floor.[5]

In Honiara, odd articles not squarely on shelves were dislodged, coffee was spilt from standing cups when a quarter-of-an-inch below the lip. [S]

MAKIRA At Manewowo mission all movable objects were thrown to the ground.[S] At Kirakira, the shock disarranged hanging pictures, rattled crockery and made house timbers groan.[S]

Agricultural Effects:

Shipping Effects: MALAITA Manawai Harbour. A ship at anchor 300 yards offshore in 7 fathoms on a sandy bottom undulated for about 25 seconds.[S]

Economic Effects:

Physical Environment: b) Trees were broken off or uprooted in the hillside behind Manawai Harbour. [5]

Biosystems/Heritage: The uprooted tree implies that there would be some erosion. [5]

Comment 2: Another earthquake had occurred at the same epicentre on 22nd February 1954.[5]

Physical Characteristics: a) The epicentre of the first earthquake which was not felt on Makira, was in the sea between East Guadalcanal and Malaita, [5].

The second earthquake was felt on Makira and seemed to have an epicentre situated to the north of Makira and not adjoining the epicentre of the first earthquake which occurred 20 minutes earlier. [5]

It is considered that there was little likelihood of confusing the two earthquakes, due to there being 4 independent reports of the time of the earthquake. The fact that it was stronger on the south coast than at Kira on the north also indicates that it was a different earthquake. [5]

U.S.C.G.S. seismological summaries show no record of a shock at that time: certainly nothing was recorded at Sydney or Brisbane. [5]

c) MALAITA Manawai Harbour, There was a sudden impact and a circular up and down ground movement, shocks noticeable for about 60 seconds.[S]

The shock lasted about 60 seconds. 20 seconds prior to the shock the frogs, crickets and jungle insects stopped making a noise. [5]

Takawa Mission, 100 miles north of Manawai Harbour, for about 3 seconds.[5]

GUADALCANAL. Honiara, there was a small initial impulse just noticeable to most people: after a pause of a second or so there came another impulse, followed by slow rolling from east to west with what appeared to be an appreciable amplitude, like a Shipboard motion. [5]

At Kau Kau plantation, there were short sharp shocks accompanied by a low rumbling.

Cattle made much noise on the plantation, but there was no damage and no objects were dislodged. [5]

Berande Plantation, further west, a horizontal east-west motion made a slight beginning and increased gradually. [5]

Gold Ridge, in the centre of the island, in volcanic country, the shock was sudden and sharp, accompanied by a north-south rolling motion.[5]

MAKIRA About 20 minutes after the first shock, another was experienced on Makira and lasted about 2 minutes. [5]

At Kirakira at 8.45 pm local time (0945 GMT) there was a succession of three shocks with a slight beginning, followed gradually by a stronger motion. [5]

At Manewowo Mission the movement was stronger than at Kirakira. It was in a north-south direction and there was a loud rumbling noise. [5]

e) The magnitude calculated to be 7 on the Gutenberg Instrumental Scale. [5]

Epicentre = 9.5 S, 161 E [5]

MALAITA At Takawa Mission, (north Malaita), the intensity was estimated at 3 (? scale, probably Gutenberg.) [5]

GUADALCANAL. At Berande Plantation the intensity was estimated at 4-5.[5] At

Gold Ridge, no estimation of intensity. [5]

Illustrations: [5 p22] Map showing the major earthquake epicentres 1952-1956. [5 p24] Sketch map illustrating the earthquake of 13th October 1955.

Sources: [5] Grover, J.C, 1958.

[60] Everingham, I.B. 1974

Record No: 89

Hazard Type: Earthquake

1958a January 20-21

District: Central

Island: Savo

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: No mention of this earthquake in Everingham's paper. [60]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: There was a slight tectonic tremor on the night of the 20th January and on the following day the island rumbled (with very slight vibration noticeable only when on the crater rim) about three times an hour. This had not been noted during visits in 1956 or 1957. [³¹1]

Illustrations:

SOURCES:[311 Grover, J.C., 1960, p98
[601 Everingham, I.B., 1974

Record No : 91

Hazard Type: Earthquake

1958c July 12

District: Malaita

Island: Malaita :

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Explosion

Other Areas Affected:

Comment 1: No mention of this earthquake in Everingham's paper. [60]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: At about 1600 hours (S1 time) People on Malaita, Guadalcanal and Makira heard explosions "like big guns". One large explosion was followed by one second of quiet; one smaller explosion was followed by "five minutes" of quiet; another smaller explosion occurred later. The noise was heard in Honiara. [31 p97]
No overseas seismographs recorded these sounds but shocks were recorded on the following day and later.[31]

On July 13th at 1208 21 50; (? local time) at 10 S 161.5 E an earthquake was recorded off the south of Malaita at a depth about 100km. [31 p100]

Illustrations:

Sources: [31] Grover, J.C 1960.
[60] Everingham, I.B., 1974

Record No: 93

Hazard Type: Earthquake

1958e November 17

District: Makira

Island: Makira

Nearest Town: Kirakira

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: No mention of this earthquake in Everingham's paper. [60]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment: MAKIRA At Kirakira, crockery was broken. [31]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: The earthquake was felt at Kirakira Station where crockery broke.
[31]

e) Epicentre = 10.5 S, 162.5 E. [31]

Time = 09 46 30. [31]

Mercalli scale = 5. [31 p10DJ]

Illustrations:

" *Sources:* [31] Grover, J.e. 1960.
[6O] Everingham, LB., 1974

Record No: 97

Hazard Type: Earthquake

1959a August 18

District: Western

Island: Vella Lavella Ranongga Ghizo Binskin

Nearest Town: Paramata Paraso Bay Supato Biloa Mission (Vella Lavella) Vori Emu Harbour (Ranongga)

Latitude:

Longitude:

Associated Hazards: Tsunami Landslides Fissures Mudflow Gas eruption from long-dormant hot springs

Other Areas Affected:

Comment 1:

Cost Estimates: GHIZO. The district Commissioner lost well over 100 pounds worth of household effects. [4]

Health Effects: a) No deaths.

There was nearly loss of life at Paramata due to faulty construction used in the large and tall church building.[4]

d) No mention of injuries.

Social Effects: a) RANONGGA At least 64 families had to rebuild their houses, many more had to restore theirs as most were leaning at crazy angles.[4]

VELLA LA VELLA Along the three miles of eroded coastline, the families had to rebuild their houses on higher land. [4]

At P ARASO the islanders evacuated the area because they feared an outbreak of volcanic activity. This was due to the cracks opening in the ground, small cliffs sliding away, and the continuing shaking and rumbling from the mountains. Occasional columns of smoke and steam were reported to be rising from the central mountains. [4]

One woman and a young boy fell into one fissure. [No report of injury]. [4]

Built Environment: a) RANONGGA The greatest amount of damage occurred on this island. 31 native houses destroyed. 33 houses severely damaged. Many others damaged.[4]

Most of the damage was in the unpopulated central area of Vella Lavella.[4]

VELLA LA VELLA 'Many' kitchen houses destroyed along the three miles of subsided coastline. [Less than 31, as more damage occurred on Ranongga]. 1 'large' house collapsed. 1 copra dryer destroyed. Stone pier foundations to the 1,200 foot long bridge destroyed. The concrete floor of one church cracked and minor structural damage occurred. At a second church minor damage also occurred. Some large corrugated iron tanks were destroyed. 9, century-old stonewalled platforms of ancient defended villages on the inland mountain peaks partially collapsed. Two European timber framed houses moved bodily when their timber piles leaned. [4]

BINSKIN ISLAND. The tsunami slowly filled up Mrs Binskin's house and then swept away into the sea nearly everything she possessed. [244]

GHIZO. The heaviest damage appeared to have been at Ghizo. [236]

Several houses had their toilet pans and wash basins smashed by differential movements of rigid pipe connection, tanks were thrown from stands, some posts supporting houses were cracked, others moved from their positions due to settlement of filled ground. [4]

9, century-old stonewalled platforms of ancient defended villages on the inland mountain peaks partially collapsed. [4]

b) BINSKIN ISLET. (Or Inia). Situated to the east of Baga Island. The two jetties in the harbour subsided slowly into the water. All coral boulder retaining walls disintegrated. [4]

Agricultural Effects: Coconut trees were dying on the three miles of eroded coast. [4]

Shipping Effects:

Economic Effects:

Physical Environment: a) VELLA LA VELLA On the seashore east of Paraso, (northeast coast of the island), sudden gas eruptions of long-dormant hot springs occurred. [4]

Smoke was reported coming from the central mountains about the 28th August, a witness "saw the hill emit three or four columns of smoke all bigger than we had seen previously." [4]

Smoke was reported "many times" on the day of the earthquake. It was also seen on the 2nd and 5th of September. The smoke was described as "black with white, rising quickly in gusts" and "not very black rising slowly." [4]

Three miles of coastline had subsided and was being eroded at the rate of 60 feet in a month. Countless fissures occurred mostly about one metre deep and 30 centimetres wide. [From photographs]. Countless trees destroyed.[4]

RANONGGA Faulting occurred, on the church path there had been horizontal movement of 8 inches. [4]

Landslides on the sea cliff faces and across the hills behind the cliffs. [4]

In the inland mountain region immense quantities of rocks and soil, together with the jungle they supported, filled the deeply incised river valleys. The day after the earthquake it rained producing a swiftly-moving silent red mudflow which filled the affected rivers and smothered the fish and other estuarine creatures. [4]

BINSKIN ISLET. A minute or so after the earthquake the sea retreated and came in unbroken. The water rose to about 3.5 feet above the present low water mark: about 8.5 feet above the old pre-earthquake low water mark. It swept into a house to the depth of 9 inches and swept away quickly. [4]

Where the jetties had submerged there was a subsidence of 4 feet 11 inches, the present low water mark being higher than the old high water mark. [4]

The island is now much less than the original 5 acres and still being eroded 1 month after the earthquake. There are now fresh water lakes on the island. [4]

b) **VELLA LA VELLA EROSION.** Three miles of coastline eroded causing death of coconut and other trees. [4]

LANDSLIDES. Collapse of three square miles of mountainside in the central mountains area of the western part of the island (Mulolokumbo, Tuumbuo and Vasusikumbo peaks). Large uprooted trees of great age were along the ridgecrest. Closer to the summit many large trees had been snapped off partway up their trunks; others had had their branches broken off; these littered the jungle. Three-quarters of a mile from the summit, 3 inch cracks were apparent in the root tangle which covered the mountain: further on these became progressively larger: to 3 feet wide and longer and deeper and more frequent, until the ground was scarred with a close network of open but partly-filled tension cracks ripped through the tangle of roots: Equally steep mountain sides on east, north and west Vella, including the almost vertical walls on both sides of the ridge, had suffered only minor shakedown of small escarpments without interference with the overhead canopy of forest. [4]

RANONGGA A continuous opening 3 feet wide and at least half a mile long, occurred in the bush, inland from Vori village. [4]

c) **RANONGGA** The day after the earthquake, following rains, the sea's offshore waters were bright red with the suspended sediment from the landslides. [4]

TSUNAMI At Vori (Ranongga), great seawaves were observed travelling northwards at speed at right angles to the shoreline in deep sea beyond the reefs. The sea receded 15 yards and advanced to its original position but the waves passed by without otherwise affecting the bay. Rounding the north end of Ranongga the tsunami continued down the east coast, entering Emu Harbour, sweeping the eastern shores and not the west which only caught the backwash. [124]

At the inner narrow end of the harbour the wave was slightly higher, about 4 feet, and many fish were left high and dry among the first and second lines of coconuts back from the shore. [4]

VELLA LA VELLA Across Beagle Channel on the south coast of Vella it rounded Serulando Point to Supato village, whose people observed waves travelling swiftly out to sea, square to the coastline, the wave ends dragging back by the friction effect along the shallow shores, where they appeared to be about 50 feet apart. [124]

The west side of Supato Bay and all that coastline further NW for 3 miles had just subsided by about 12 inches, and was immediately swept by the wave which damaged the houses along the shore. [4]

On the east coast, Mr Garner reported confused and dangerous tide rips off the east coast the morning after the earthquake. [4]

SIMBO ISLAND. Heavy and confusing seas reported the morning after the earthquake.[4] The sea retreated 13m and then surged 1m. No mention of which part of the island. [103]

VELLA LA VELLA. In October 1957, in bright sunlight at about 1500 hours, a definite explosion and black "like diesel fumes" mushroom cloud was reported from Tambisala mountain. [4]

Biosystems/Heritage:

Comment 2: BINSKIN ISLET. Mrs Binskin, resident of the area since 1910 reported that the quake was much worse than anything in that time. [4]

Beagle Channel is now deeper and safer as a result of the tsunami.[4]

Physical Characteristics: EARTHQUAKE. Felt over an area of 600 miles in diameter. [4] The first shock wave was recorded at 8.05 am local time and was felt for more than an hour. Twenty minutes of calm followed, and then a second "very severe" shock hit the islands at 9.20 am. [236]

For the two weeks of the earthquakes the sea was always disturbed outside the harbour and during all this time the sea level was up 6 inches higher than at present. When the quake ceased early in September the sea level fell 6 inches and has remained constant since. [4]

c) A "subterranean roar" heralded the earthquake, partly due to the collapse of the mountainside. [4]

The earthquake affected a known fault line running northerly from Ranongga to Vella Lavella. Aftershocks continued for about two weeks, spreading alarm and despondency among islanders and Europeans in some areas. [4]

e) Epicentre = 7.5 S, 156.0 E. [60]

Depth = shallow. [60]

Magnitude = 7.25 Richter. [60]

Time = 21 2440 GMT. [60]

Illustrations: [4] p175 Map of Vella Lavella showing area affected.

p176. Photograph showing breaks in pyramidal piles which had supported a house: photograph of a collapsed copra dryer.

p177. Two photographs of the eroded coastline west of Supato village, Vella Lavella, including a damaged house: two photographs of fissures.

p180. Photograph of a boiling mud cauldron in the Ulo Solfatara area. Encrustations of Sulphur and silica in the background,

Sources: [4] Grover, J.C. 1%5.
[60] Everingham, L.B., 1977.
[103] Munich Re. Earthquake, Solomon Islands.
[124] Everingham, I.B., 1977.
[236] Sydney Daily Telegraph, 19 Aug. 1959
[244] Grover, J.C., The great Sea Waves

Record No: 100

Hazard Type: Earthquake

1961a March 5

District: Makira

Island: Makira

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: This earthquake, that of the 10th March on Guadalcanal and at Honiara on the 19th March appeared to be as though the effects were migrating westward.
[124]

b) Several shocks were reported from the Makira area. [124]

Illustrations:

Sources: [124] Everingham, LB., 1977

Record No: 101

Hazard Type: Earthquake

1961b March 10

District: Guadalcanal

Island: Guadalcanal

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: This earthquake that of the 10th March on Guadalcanal and at HOniara on the 19th March appeared to be as though the effects were migrating westward. [124]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: On the 10th March a very small shock was felt on Guadalcanal.
[124]

Illustrations:

Sources: [124] Everingham, LB., 1977.

Record No: 120

Hazard Type: Earthquake

1965d July 17

District: Guadalcanal

Island: Guadalcanal

Nearest Town: Honiara

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment/:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment: Houses were given a severe shaking and glass and crockery fell down from shelves. [108]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: The earthquake occurred at 6.25pm SI time. Magnitude = estimated at Force 4. It stopped the clocks in the SIBS studios and sent the seismograph needles at the Geological Survey off the paper, but did no serious damage. [108]

Illustrations:

Sources: [108] BSIP News Sheet, No 14/65 p5

Record No: 128

Hazard Type: Earthquake

1966d June 15

District: Guadalcanal Malaita Makira :

Guadalcanal Malaita Makira Ugi

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Tsunami

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment: a) GUADALCANAL. Buildings in the capital (Honiara) shook but no damage was reported. [128]

Water in tanks and swimming pools overflowed. [128]

UGI. During the first earthquake the classrooms swayed back and forth and the iron roofs creaked alarmingly. During the second earthquake the buildings were moving as if they had no bones to keep them from falling down. Inside, crockery fell from shelves and books from their cases. [175]

b) UGI. Outside the school (I think in Pawa), a large post carrying electric wires snapped at its base. [175]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: When the earthquake happened the sea went right out from the shore and the river at Toroi completely dried up. When all was still again there was a very high tide and the river rose higher than anyone can remember - too high for a person to cross safely. [175]

Biosystems/Heritage:

Comment 2:

Physical Characteristics: A) An EARTHQUAKE was felt on the islands of Guadalcanal, Malaita and Makira. [100]

A weak TSUNAMI was observed at different places on the islands of Guadalcanal and Makira. [100]

UGI. Two earthquakes felt on this island. [175]

c) GUADALCANAL. Movement of the ground in Honiara continued for about two hours. [128]

Earthquake occurred at 12 07pm as people were leaving their offices. [128]

UGI. Two earthquakes occurred. The first earthquake lasted for about three minutes. The second one lasted for over an hour. [175]

For some weeks there were smaller shakes. [175]

e) Magnitude = 7.5 [103]

Mercalli Scale VI at Honiara, VII at other palaces. [103]

Magnitude = 7.6 [100]

Earthquake occurred at Oh 59m 46s. [100]

Epicentre = 10.3 S, 160.8 E. [100]

Epicentre = 11.00 S, 162.5 E. [148]

TSUNAMI was observed at 1h 35m with a maximum height of 20 cms at Point Cruz. [100]

Highest tsunami run up height = 1.4 metres. [165]

Point Cruz = 0.1 m. [148]

Makira ;, observed, no height given. [148]

Illustrations:

Sources:[100] Catalogue of tsunamis ... 1984 p312,314.

[103] Munich Re. Earthquake, Solomon Islands.

[128] BSIP News Sheet, No. 12, 27 June, 1966

[148] NOAA

[165] Cox et al., 1984

[175] Grover, J.C, some notes. 1966

Record No: 131

Hazard Type: Earthquake

1966h December 31

District: Temotu

Island: Santa Cruz

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Landslides Tsunami

Other Areas Affected:

Comment]:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: SANTA CRUZ Landslides and a 1m Tsunami. [103)

On this date an earthquake of magnitude = 7.3; Mercalli scale = VIII;

Tsunami = 0.7m is mentioned in Santa Cruz. [103)

At Vanikolo Mercalli Scale = VIII; Magnitude = 7.7. [103)

Illustrations:

Sources: [103] Munich Re. Earthquake, Solomon Islands.

Physical Characteristics

: At 5.23(am or pm) there was an 8-9 degree earthquake on Vanikolo Island. There were avalanches and a tsunami within the lagoon. [100]

The height of waves was 2 metres. [100]

At 9.05 (am or pm) there was an aftershock of the preceding earthquake. It was felt on Vanikolo Island. [100]

There was a tsunami in a lagoon with amplitude of 0.8 metres. No traces of it have been found on the records of remote tide gauges. [100]

Sources: [100] Soloviev S.L. & Go, C.N. 1984 p314

Record No : 137

Hazard Type: Earthquake

1968c October 28

District: Temotu

Island: Santa Cruz

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: No evidence of tsunami. [226]

The Tinakula earthquake made a tsunami affecting Santa Cruz. [233]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Epicenter = 12.5 S, 166.5 E. [226]
Magnitude = 6.5. Richter. [226]
Depth= 60 km, [226]

Sources : [226] nternational Tsunami Information Center Newsletter, Jan 12, 1969. News

[233] Drum No 106

Record No: 140

Hazard Type: Earthquake

1969a January 5

District: Isabel

Island:

Nearest Town:

Latitude:

Longitude:

Associated Hazards: No evidence of tsunami. [225]

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Characteristics: Epicentre = 8.0 S, 158.9 E [225]

Epicentre = 7.9 S, 158.9 E [102]

Longitude = 7.1. Richter. [225]

Latitude = 7.5. [102]

Depth = 47 km. [225]

Illustrations:

Sources: [102] Munich Re. Aktuelle Liste grosser Elementarereignisse.

[225] International Tsunami Information Center Newsletter, April 5, 1969.

Record No: 141

Hazard Type: Earthquake

1969b January 6

District: Temotu

Island: Santa Cruz

Nearest Town:

Latitude:

Longitude:

Associated Hazards: No evidence of tsunami. [225]

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heriitage:

Comment 2:

Physical Characteristics: Epicenter = 10.5 S, 164.5 E. [225]

Magnitude = 6.8. Richter. [225]

Depth = 32 km [225]

Illustrations:

Sources: [225] International Tsunami Information Center Newsletter, April S, 1969.

Record No: 144

Hazard Type: Earthquake

1969e December 11

District: Guadalcanal Malaita

Island: Guadalcanal Malaita

Nearest Town: Honiara Auki

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: A slight earth tremor was felt in parts of the Solomons, including Honiara and Auki. Instrument readings at the Geological Surveys Department in, classified the tremor as Force 4, only a slight one. The tremor registered on the instruments for 10 minutes and its centre of origin was put at 55 miles south east of Honiara. [127]

Illustrations:

Sources: [127] BSIP News Sheet No. 24 31 Dec. 1969

Record No: 147

Hazard Type: Earthquake

1970c June (?)

District: Western

Island: Marovo

Nearest Town: Putakae

Latitude:

Longitude:

Associated Hazards: Crack in the ground

Other Areas Affected:

Comment 1: The tremor was described as happening ‘recently’. [146]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: An earth tremor, which frightened the children and United Church, made a split in the ground showing a number of tapioca roots for the children’s meals. [146]

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

Sources: [146] BSIP News Sheet, No.13 1-15 July 1970

Record No : 149

Hazard Type: Earthquake

1970e December 29

District: Guadalcanal Makira

Island: Guadalcanal Makira

Nearest Town: Honiara Kirakira

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected: The first earthquake may have been associated with one which caused damage in Papua New Guinea shortly before. [119]

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment: a) GUADALCANAL. At Honiara a row of tinned meat fell from a Chinatown store. The customers ran into the street. [119]

MAKIRA at Kirakira, a typewriter and a new clock were rocked off a shelf at Office. [1191]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems / Heritage:

Comment 2: This was the most severe earthquake recorded in Honiara in 13 years, that is since 1966. [119]

Physical Characteristics: There were two earthquakes, one early in the morning and the other early afternoon. [119]

Epicenter of the second earthquake was placed as midway between Guadalcanal and Makira.

d) The second earthquake rocked Honiara for more than a minute. [119]

e) The second earthquake was Force 5 on the Richter scale in both Honiara and Kirakira [119]

Illustrations:

Sources: [119] BSIP News Sheet, 16-31 December, 1970, p4

Record No : 153

Hazard Type: Earthquake

1971b Easter Monday

District: Temotu

Island: Santa Cruz

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Tsunami Whirlwind

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects: There were no casualties. [114]

TSUNAMI. On the west coast of Santa Cruz a number of children who were bathing out to sea. They were all saved by villagers. [114]

Social Effects:

Built Environment: a) A copra drier was partially damaged. [114]

Agricultural Effects: Young coconut trees were submerged in salt water. [114]

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: EARTHQUAKE. At 2am (local time), people on the north east coast of the island were awakened by a strong but short earth tremor. People on the other side of the island did not feel anything. [114]

TSUNAMI. By 2pm (local time), the seas became very rough and a tsunami hit the north east coast of Santa Cruz going as far as 200 yards inland in some cases. The tide went back after short time but the rough seas continued for about a week after. [114]

WHIRLWIND. Nobody was hurt when the whirlwind hit two villages in the Reefs. [114]

Illustrations:

Sources: [114] BSI News Sheet, 16-30 April, 1971 p2

Record No: 157

Hazard Type: Earthquake

1971f November 21

District: Temotu

Island: Santa Cruz

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects: No injuries, but was strong enough to cause some concern to the peg
[116]

Social Effects:

Built Environment: No damage was done. [116]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems / Heritage:

Comment 2:

Physical Characteristics: Magnitude = 6-7 Mercalli Scale. [116]

Illustrations:

Sources: [116] BSIP News Sheet, 15-30 Nov., 1971 p5

Record No: 160

Hazard Type: Earthquake

1972b February 1

District: Guadalcanal

Island: Guadalcanal

Nearest Town: Honiara

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems / Heritage:

Comment 2:

Physical Characteristics:

Magnitude = 4 Mercalli Scale. [118]

Epicenter = 13.8 miles from Honiara. [118]

Illustrations:

Sources: [118] BSI News Sheet No 3, 1972, p4

Record No: 166

Hazard Type: Earthquake 1974a January. 31

District: Western

Island: Choiseul Shortlands **Nearest Town:**

Latitude:

Longitude:

Associated Hazards: Tsunami Landslides

Other Areas Affected: Bougainville

Comment 1: A second tsunami occurred on February 1st and it is not made clear how damage occurred on the separate occasions.[32]

A serious earthquake in the Shortlands occurred in February. [125]

Cost Estimates:

Health Effects: d) No injuries were caused. [125]

Social Effects:

Built Environment: CHOISEUL, SHORTLANDS. b) Minor damage to roads, wharves and bridges [32]

SHORTLANDS. Minor damage was caused to insecure waves. [125]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: CHOISEUL & SHORTLANDS. TSUNAMI. Wave heights reported to be 3.45 metres. [32]

Landslides. [103]

Biosystems / Heritage:

Comment 2:

Physical Characteristic: SHORTLANDS. A minor tsunami occurred. [125]

EARTHQUAKE. Preliminary epicentral data of the earthquake

Epicenter, 7.5S, 155.9E [32]

Focal depth = 34 km. [32]

Magnitude = 7.0. [32]

Origin time = 23-30-05.3 U.T. [32]

Magnitude = 7.0 Mercalli Scale = VII. [103]

TSUNAMI WEST CHOISEUL = 3-4.6m. [103]

Illustrations:

Sources : [32] International Tsunami Information Centre, 1974

[103] Munich Re. Earthquake, Solomon Islands.

[125] BSI Report for the Year, 1974, p61

Record No : 167

Hazard Type: Earthquake

1974b February 1

District: Western

Island: Choiseul Shortlands

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Tsunami

Other Areas Affected: Bougainville

Comment 1: A tsunami also occurred on January 31st and it is not made clear how m damage occurred on the separate occasions. [32]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment: CHOISEUL, SHORTLANDS. Minor damage to roads, wharves and bridges. [32]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Preliminary epicentral data of the earthquake which caused the tsunami was:-

Origin time = 03-12033.1 U.T.

Epicentre = 7.4S, 155.6E.

Focal depth = 40km.

Magnitude = 7.1 [32]

Magnitude = 7.1 [103]

Mercalli Magnitude = VI. [103]

TSUNAMI

Highest tsunami run up = 4 metres. [165]

CHOISEUL = 1.6m [148]

SHORTLANDS = 4m [148]

SHORTLANDS at Korova = 1.6m. [148]

CHOISEUL, SHORTLANDS. Wave heights reported to be 3-4.5 metres. [32]

Illustrations:

Sources: [32] International Tsunami Information Centre, 1974

[103] Munich Re. Earthquake, Solomon Islands.

[148] NOAA, Database on Tsunami

[165] Cox et al, 1984

Record No : 168

Hazard Type: Earthquake
1974c March 9

District: Western

Island: Shortlands

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Tsunami Landslides

Other Areas Affected:

Comment 1: No mention of which islands involved. [103]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: Landslides. [103]

Biosystems/Heritage:

Comment 2:

Physical Characteristics : Shallow earthquake south of Bougainville.

Magnitude = 6.6 Richter. [103]

Mercalli Magnitude = VII-VIII. [103]

Tsunami height = 3-5m. [103]

Illustrations:

Sources: [103] Munich Re. Earthquake, Solomon Islands.

Record No : 171

Hazard Type: Earthquake

1975c July 21 [78] 20 [103]

District: Western

Island: Shortland and Choiseul groups

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Tsunami

Other Areas Affected: Bouganville

Comment 1: Estimates of damage costs in the northern British Solomon Islands are unavailable. [86]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment: Minor damage was caused. [78 p64]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: b) Everingham and others conclude that return periods for an earthquake intensity of MM VIII is about 50 years for eastern Bougainville. These estimates are for average sites; mountain and ridge tops and steeply sloping areas have smaller return periods and higher risk. [86 p310]

e) In the Solomon Islands the shock was felt with decreasing intensity to the east. [86]

Magnitude = 7.8 [104]

Mercalli Magnitude = VIII on Bougainville. [104]

The earthquake was felt strongly on islands south of it. [104]

Earthquake epicenter to the south of Bougainville. [78]

The earthquake occurred about 60 miles south of Bougainville. [104]

A minor tsunami was observed on the Shortland and Fauro Islands. The tsunami occurred during the period of high tide (1.2 metres) so that its effects were amplified. [86]

Tsunami = 2m. [103]

Highest tsunami run up = 0.2 metres. [165]

Illustrations: [86] Map of Mercalli Intensities. P 308

Sources: [78] BSI Report for the Year 1975.

[86] Everingham et al, 1977 p310

[103] Munich Re. Earthquake, Solomon Islands.

[104] Munich Re. Collection of newspaper articles..

[165] Cox et al., 1984

Record No : 173

Hazard Type: Earthquake

1976c November 18

District: Western

Islands: New Georgia

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: Landslides. [103]

Local tsunami. [103]

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Magnitude = 6.5 [103]

Mercalli Magnitude = VII. [103]

Epicentre = south of New Georgia. [103]

Illustrations:

Sources: [103] Munich Re. Earthquake, Solomon Islands.

Record No: 176

Hazard Type: Earthquake

1977a January 19

District: Guadalcanal

Island: Guadalcanal

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: Two earthquakes in the one day. [103]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Magnitude = 5.3 [103]

Mercalli Magnitude = Vat Honiara. [103]

Epicentre situated 100 km north of Honiara in the sea. [103]

Illustrations:

Sources: [103] Munich Re. Earthquake, Solomon Islands.

Record No: 177

Hazard Type: Earthquake

1977b January 19

District : Guadalcanal

Island: Guadalcanal

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1: Two earthquakes occurred on this day. [103]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Magnitude = 5.4 [103]

Mercalli Magnitude = Vat Honiara. [103]

Epicentre = 40 km south of Honiara on Guadalcanal. [103]

Illustrations:

Sources: [103] Munich Re. Earthquake, Solomon Islands.

Record No: 179

Hazard Type: Earthquake 1977d April 21

District: Guadalcanal

Island: Guadalcanal Makira Isabel

Nearest Town: Honiara

Latitude:

Longitude:

Associated Hazards: Landslides Tsunami Floods Hot Spring Fissure

Other Areas Affected: Rabaul Suva Apia Australia

Comment 1: This earthquake was described as one of the worst in nearly 40 years. The low death toll on the Weather coast of Guadalcanal was due to the people being their houses and not in their gardens. [211]

Bad weather on the Weather coast hampered food drops and evacuation of people for days after the earthquake. [212]

Cost Estimates: Earthquake damage to homes and offices, specifically in the capital, is not covered by insurance - except in a few minor instances. [212]

Estimates of \$40,000 to feed over half the population for four months. (Half the population in the areas in Guadalcanal hit by the landslides.) [212]

The biggest single item of cost to the government is the repair of 50 miles of the main Weather coast road and subsidiary roads, which is put at \$250,000. [212]

Damage bill throughout the Solomon Islands will exceed \$800,000; it may reach \$1 million. [1977].

Solomon's currency). [212]

Damage estimated at \$150,000 in Honiara: [210]

Damage in the affected areas administered by Guadalcanal Council, excluding Honiara, expected to come to \$400,000. [212]

Repairs to the rice processing complex of Brewer Solomon's Associates estimated at \$2500, 000. [212]

The building which houses the Hong Kong and Shanghai Banks has estimated repairs of \$30,000. [212]

Over \$A60, 000worth of supplies were damaged at the M.P.Kwan Trading Company. [61]

Food for the 10,000 people in the weather coast cost \$165,000. [222]

Health Effects: a) 32 dead. [61]

About a week after the earthquake the figures were 12 dead and 12 missing. [211]

DEATHS IN THE GUADALCANAL LANDSLIDES. All these deaths were due to the landslides. [211]
GHORABAU. Male, (30); female (31); female (40); female (16); female (7);

KOLOKIKI. Female (75) (Killed by a stone)

MAKARUKA Male (60); Male (25); Male (30); Male (30) Male (3); Male (2)

GUADALCANAL. 5 people including a child were reported missing after a landslip at Gorobau village on the Weather coast. [210]

At least 32 people were either killed or reported missing. [61]

At least 12 people were killed by landslides in the Guadalcanal highlands. [61]

d) GUADALCANAL. One man was hurt when he was hit by a brick when part of a wall collapsed at Kukum Boys Hostel. [210]

2 people were hospitalized after being hit by falling boulders at Kuma. [212]

At Raeavu, one woman was buried in a landslide but was pulled out by her daughter. [211]

An operation at Honiara hospital was successfully completed during the earthquake despite a large crack appearing in the theatre floor. [61]

Several people injured in the Guadalcanallandslides. [103]

Social Effects: GUADALCANAL. About 5000 people were evacuated. [103]

During the eight-month period from April 1977 to the end of the year, food was provided for 10,000 people. [222]

In the wards of Nduindui, Vatubulau, Talise, Avu Avu, Mali, Tetekanji, part of Kolokavalo and Vulolo, nearly 9,000 people needed regular supplies of food for four months. Thirteen food distribution points were set up. [212]

At Ghorabau about 30 families were evacuated. [211]

300 people evacuated from Nata, New Nata, Kakalabou and Valipae. [212]

On the Weather coast of Guadalcanal, for some time after the earthquake, people were frightened to go into their gardens as they feared further landslides. [211]

Patients were evacuated from the Central Hospital, Honiara. [210]

The major shock sent people fleeing in panic from their offices, homes and shops. [61]

The most stricken area on the Weather coast of Guadalcanal needed food for months. [211]

On April 25th, an Australian helicopter began distributing food to stricken areas. [211]

Relief work involved the use of an RAAF helicopter which frightened some of the islanders as they thought it was being used for war. The people seemed surprised that the helicopter was leaving food supplies. [61]

A food relief Ship could not deliver its supplies to the Weather coast due to heavy rain and rough seas. [213]

5 weeks after the earthquake three of four tremors occurred each day and they touched off fresh falls of earth and stones from the surrounding mountainside. [214]

In June, attempts were made to evacuate people from the Mbumbunuhu area as still considered unsafe or the gardens had been ruined. The people decided not to from the area and said they would move 3 miles away to a safer place. [216]

By the last week in June 1,000 people had been evacuated from the upland valleys to Weather coast. [218]

In July, bad weather held up food relief deliveries. There were three attempts in two weeks. [219]

30 inches of rain fell on the Weather coast in the first two days of July. This caused more rivers to flood and landslides occurred making it difficult for people to get to food distribution centres. [219]

In October, 5 children and an old man died in the Tuararana village where people evacuated. The deaths occurred amongst the original villagers and were connected poor sanitation. Many of the new settlers were not happy and were gradually moving their old homes. [220]

In January 1978, some people were still suffering from the effects of the earthquake. There were still some food shortages. [221]

By the end of January, 1978, only small quantities of food were being sent to the forecast. [222]

Built Environment: a) HONIARA. Damage was relatively minor. Two buildings were hit hard; the five story Hong Kong and Shanghai office was badly damaged. Three of the six plate glass windows at the front of the bank were shattered. Large pieces of concrete flaked away from the facade and a great jagged fissure appeared in the load-bearing wall of the external stairwell. The strong room and rear entrance of the bank. Were heavily damaged and tiles were torn from the stairs as the building was contorted by the earth's movement. [61]

About 10 clinics and 50 schools hit in various degrees by the earthquake. [212]

The three stories Mendana Hotel showed cracks in a 20-foot high wall. [210]

The science laboratory at King George the Sixth School was damaged. [210]

Damage to weak construction in Honiara was considerable but was minimal to sound ones. [103]

About 18 miles from Honiara, the rice silos of Brewer Solomons Associates were damaged. [61]
Two of these were destroyed in the first tremor and the third two days later during another tremor. [211]

The concrete block warehouse of the M.P .Kwan Trading Company in Chinatown collapsed in a jumble of wreckage. [61]

A crack occurred in the theatre floor of the Honiara hospital. [61]

Deep cracks appeared in buildings. [210]

In stores, goods fell off the shelves. [210]

The villages along the coast in the Tolo area escaped damage by landslides because they are far distant from the hills, but disaster hit them when the tsunami struck. [214]

At Avu Avu two newly built houses for the clinic staff fell down when the main earthquake struck. Other houses are leaning to some degree. [211]

In Chochora, about a mile from Ave Avu airfield, two houses were slanting on their sides. [211]

In Bubukolo village three houses fell. [211]

In Vatupao village one house was damaged. [211]

In Katekate two houses were hit by a landslide. [211]

In Chichora village ten houses fell. [211]

In Bolavu (Mbolavu) village all the houses fell down. [211]

On the Weather coast of Guadalcanal many homes were lost in the landslides. Half the houses were destroyed in the Ghorabau landslide. [211]

The village of Lumanabola which was built on a steep but narrow ridge and all of the 15 houses were destroyed. [211]

On May 1st the landslide dam, blocking the Avoa river above Kakalabou village, burst and flooded the village. [212]

MAKIRA. Minor damage was reported in Kirakira. [210]

TSUNAMI. A small tsunami occurred at Manivovo Station on Makira's weather coast, leaving fish stranded on dry land. [210]

In Auki large cracks occurred on the walls and floor of the Ministry of Foreign Trade and Labour office. [210]

MALAITA. Some damage occurred. [212]

SAVO. Some damage occurred. [212]

SMALL NGGELA. At Belaga village, the only damage was to a half built church house which had serious cracks on the walls. [212]

b) HONIARA Water mains were fractured, electricity was cut off in various places and deep cracks appeared in roads. [210]

Honiara was without power for one and half hours. [210]

The stock of medicines in Honiara Hospital was depleted when a large number were broken. [210]

The shore end of the main wharf at Point Cruz had sunk a few inches and the bridge connecting the concrete dolphins on the far sea end of the overseas wharf had been but the damage did not interrupt wharf operations. [210]

Kolotabu Bridge, near Avu Avu, was washed away by the first tsunami. Only two cement foundations on each side of the river remained. [211]

On the Weather coast and over the mountains of central Guadalcanal, parts of roads disappeared. [211]

The landslides buried wells and some streams, rivers were very dirty thus depriving of a source of water. [213]

Agricultural Effects: GUADALCANAL. Considerable damage had occurred to crops stretch of the Weather coast between Ghorabau and Avu Avu as well as in the bush [211]

Near Ghorabau, a coconut plantation had been buried by soil and rocks. [211]

In Bubukolo, 20 gardens were washed away by landslides. [211]

Vatupao, 22 gardens were damaged. [211]

Katekate, 13 gardens were hit by landslides. [211]

Chichora, 24 gardens were swept away. [211]

Charanachi, 6 gardens were ruined. [211]

Bolavu, the gardens were damaged. [211]

Pichahila, the gardens were destroyed. [211]

Nabuasavia, gardens were lost. [211]

Shipping Effects:

Economic Effects:

Physical Environment: b) A great wave ran across the bitumen road which seemed about foothigh. (i.e, an earth wave). Skyline Ridge, overlooking the Matanikau River “moved like the mast of a ship”. [61]

GUADALCANAL. Inland of the Lauve lagoon and on the reef to the south of the Weater the land had been raised about three feet. [211]

HOT SPRING. About two miles from Avu Avu, at Hai Marao, a new hot spring and sulphur fumes appeared. [211]

In the Chimiu area there were deep cracks everywhere. 5 weeks after the earthquake landslides where still occurring in the area. [214]

On the Weather coast a number of hillside gardens where permanently damaged as they have lost all their top soil. [214]

Landslides occurred on the Chimiu, Horomana and Suta bush area. [211]

From the Tina River in the west to the Laloato River in the east there were hundreds of landslides pock-marking the coast. [211]

The Kolombolavu River was blocked by landslides and on April 29th a flood warning was issued to people living downstream of the river. [211]

5 rivers reported as being blocked by landslides. [212]

In the Teti Kanji area the ground 'trembled like mad' and touched off landslides on either side. A mass of earth poured over the mountainside carrying bushes, trees and boulders with it. [211]

The Ghorabau landslide was estimated to be about half a mile long. [211]

Possibly near Avu Avu, tsunami penetrated inland for up to a mile. [211]

The rivers on west Guadalcanal were dirty, those on the east cleaner. [211]

On May 1st the dam blocking the Avoa River burst and flooded downstream. Landslides continued and rivers flooded. [212]

Heavy rain lashed the Weather coast for more than a week following the earthquake. Tremors were also still being felt. [213]

All along the Aliveghato River up to Makali, the river was blocked by a number of landslides, causing deep pools in places. [214]

5 weeks after the earthquake, a recent landslide was noted to almost reach the village of Charanachi lying on the bank of the river. It missed the village by a little more than a few feet. [214]

At Poole Reef the land had risen 3-5 feet. Newly exposed, dead coral stretched over several acres. [217]

c) Oil patches appeared in the sea, one east and the other south of Tulaghi, believed to be from wartime wrecks. [211]

Biosystems/Heritage:

Comment 2: One of the worst hit areas is between Haimarau and Biti. The area is mountainous with narrow ridges divided by narrow and steep ravines. On average, the ridges rise to between 400 feet to 600 feet above sea level and in places fall rapidly towards the sea. Homes are built on the pockets of relatively flat land along the coast and the gardens are on the mountain sides. Water is obtained from rivers, wells, streams and rain. [213]

Physical Characteristics: c) HONIARA At 10.43 am local time, the town was rocked by a short, sharp earthquake. There had been two minor tremors earlier in the morning, which many people had failed to notice. After one hour almost everything was back to normal. There were several more minor tremors during the afternoon [61]

The earthquake was felt in Auki, Kirakira (Makira) and Isabel. [210]

There were three big shakes and a series of tremors that went on throughout the day. The first one, moderately strong and prolonged, came at 10.13am. The second, bigger one which caused the damage hit the capital at 10.43am. [210]

d) 5 weeks after the main earthquake, tremors still occurred measuring 2-3 on the scale. By this time people could tell when there would be a tremor as they had a themselves to listen for a distant rumble, or dull roar, before they felt the

e) EARTHIQUAKE

Magnitude = 7.5 Richter. [61] [103]

The area of highest intensity was on the Weather coast where the intensity high as IX-X Mercalli magnitude. It could also have been as high as this on the Guadalcanal Plains. [103]

There were a series of earthquakes in the sea south of Guadalcanal. [103]

Mercalli Magnitude = V-VII at Honiara. [103]

Epicentre = About 30 miles south east of Honiara, near Kolohasi [211]

Depth = 33km. [103]

A report from Sydney indicated a Richter magnitude of 7.2. [210]

TSUNAMI

Tsunami = 1.3m. [103]

Highest tsunami run up = 0.1 metres. [165]

A tsunami swept 1 mile inshore in parts of Guadalcanal. (Probably near Avu Avu)

illustrations: [61] p9 photograph of the damage in the Kwan Trading Company.

[210] A number of photographs of damage including: cracks in the road, water fountain from a break in the water mains and a damaged house which had a tree fall on it.

[211] P1, Photo of a helicopter at Taeavu helping with relief work. P2, MAP of the areas affected by landslides on Guadalcanal. This includes areas where people died. P5, photo of an Australian Air Force C 130 transport plane at Henderson airport. P6, photo of Kolokiki village from the air. P10, photo of the third rice dryer which was destroyed.

[212] P1, photo of pigs being evacuated by helicopter. P3, MAP of Guadalcanal showing flood distribution centres. P4, photo of people being evacuated by helicopter. P5, photo of the inside of a tent used by evacuees.

[213] P2, photo of 300 cartons of tinned fish, intended for landslide victims, being destroyed as they were unfit for human consumption. P4, diagramatic cross section of Guadalcanal showing the earthquake epicenter.

[214] P1, photo of giant boulders blocking the Mbolavu river. P5, sketch map of Chimiu area. P6, 5 photos of damage to river, hill slope and housing.

[216] P1, photo of villagers running from their houses to get food supplies from a helicopter. P5, sketch map of the inland food distribution centres.

[217] P4, Photo of two men standing on the newly exposed coral on Poole Reef. Photo of a lake created by a landslide in the Namonambosa area. P5, two photos showing the original position of Kolotabu bridge, and where it had ended up several hundred yards downstream.

P8, Two photos of boulders on a stream bed.

Sources: [61] Pacific Islands Monthly 48(6) 9-10
[103] Munich Re. Earthquake, Solomon Islands.
[165] Cox et al., 1984
[210] News Drum, April 22, 1977
[211] News Drum, April 29, 1977
[212] News Drum, May 6, 1977
[213] News Drum, May 13, 1977
[214] News Drum, May 27, 1977
[216] News Drum, June 3, 1977
[217] News Drum, June 10, 1977
[218] News Drum, June 24, 1977
[219] News Drum, July 15, 1977
[220] News Drum, Oct. 21, 1977
[221] News Drum, Jan. 20, 1978 [222] News Drum, Jan. 27, 1978

Record No: 181

Hazard Type: Earthquake

1977f July 7

District: Western

Island:

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Epicentre = 160 km southwest of Bougainville. [242]

Magnitude = 7.3 Richter. [242]

Illustrations:

Sources: [242] Solomon Islands Disaster Experience Profile.

Record No: 185

Hazard Type: Earthquake 1978b November 4 [242]

District: Makira

Island: Makira Santa Anna Santa Catalina

Nearest Town: Kirakira Honiara

Latitude:

Longitude:

Associated Hazards: Fissures Landslides Tsunami

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects: No reports of severe casualties. [204]

Social Effects: SANTA ANNA. At Gupuna village some people were forced to leave houses close to the crack as they feared the houses may collapse. [204]

SANTA ANNA & SANTA CATALINA. People on both islands moved to higher grounds. [204]

MAKIRA At Mami, parents saved their children who were Swimming when the tsunami. [204]

Built Environment: a) SANTA ANNA. The cement walls of the island's health clinic was damaged. I think some of the houses were also damaged. [204]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: SANTA ANNA. At Gupuna village a 90 foot long crack in the ground started from the sea shore and went right through the village. [204]

SANTA CATALINA. A ground crack 200 feet long and 9 feet wide occurred near a school. [204]

MAKIRA. In Rawa district, between Mage and Manivovo, on the weather coast, landslides occurred. [204]

A minor tsunami occurred at Mami village at the south eastern end of Makira, [204]

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Magnitude = 7.5 Richter as recorded in Sydney. [204]

Honiara = 4 Mercalli. [204]

Epicentre = on the Makira Trench, 50 miles south east of Santa Anna Island. [204]

Epicentre = 320 kID south of Guadalcanal. [242]

Illustrations:

Sources: [204] News Drum, Nov. 10, 1978

[242] Solomon Islands Disaster Experience Profile.

Record No: 189

Hazard Type: Earthquake
1979c October 23

District: Makira Guadalcanal

Island: Makira Guadalcanala

Nearest Town: Kirakira Honiara

Latitude: 161.30 E

Longitude: 10.64 S

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost estimates: In 1979 the Seventh Day Adventist Church sent A\$3,000 (1979 currency), to Guadalcanal and A\$1,500 to the Eastern Solomons. It is not known if this was connected with the earthquake. [170]

Health effects: No injuries reported. [203]

Social effects:

Built Environment: b) MAKIRA. A water pumping station at Kirakira was slightly damaged. Residents had to collect water from streams and tanks. No other damage reported. [203]

Slight damage in Kirakira. [102]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Magnitude 7.2 MS [102]

Depth 18 Km. [102J]

Felt at Honiara. [102]

The earthquake was centred about 117 miles south east of Honiara. [203]

The tremor occurred at about 9pm on Tuesday. [203]

Illustrations:

Sources:

[102] Munich Re. Akturle Liste grosser Elimintarereignisse.

[170] Accounts from the Seventh Day Adventist Church.

[203] News Drum, Oct. 26, 1979

Record No: 190

Hazard Type: Earthquake

1979d November

District: Guadalcanal

Island: Guadalcanal

Nearest Town: Honiara

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: Some Honiara residents rushed out from their houses night when an earthquake occurred. [206]

Biosystems/Heritage:

Comment 2:

Physical Characteristics: GUADALCANAL In some parts of Guadalcanal, the earthquake = 5 Mercalli Magnitude. People from Tangarare probably felt the earthquake more than those in Honiara. [206]

The earthquake was centred two miles outside Tangarare, south west Guadalcanal. It was a deep quake. [206]

Illustrations:

Sources: [206] News Drum, Nov 9, 1979

Record No: 192

Hazard Type: Earthquake

1980b February 6

District: Western

Island: Ghizo

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Earthquakes were felt at 5pm and 8pm on the 6th February and in the early hours of the following morning. [207]

Epicentre = near the Shortlands, [207]

Magnitude = 6.1 Richter scale. [207]

This earthquake was fairly large compared to previous ones in the area. [207]

Illustrations:

Sources: [207] News Drum, Feb. 15th, 1980

Record No: 194

Hazard Type: Earthquake

1980 July 8

District: Temotu

Island: Santa Cruz

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Magnitude = 7.3 Richter. [242]

Illustrations:

Sources: [242] Solomon Islands Disaster Experience Profile.

Record No: 195

Hazard Type: Earthquake 1980e July 9 [201]

District: Temotu

Island: Utupia

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected: No reports of damage or injury from other islands of the Province.
[201]

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment: b) UTUPIA. A new wharf, basically built from stone, was cracked on the surface. Two pieces of wooden timber at ships berthing end of the wharf were also damaged.
[201]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Magnitude = 6.8 Richter. [242]

Illustrations:

Sources: [201 p2] News Drum, July 18, 1980

[242] Solomon Islands Disaster Experience Profile.

Record No: 196

Hazard Type: Earthquake

1980f July 17 [102] 18 [202]

District: Temotu

Island: Santa Cruz

Nearest Town:

Latitude:

Longitude:

Associated Hazards: Tsunami

Other Areas Affected:

Comment 1: There are two dates mentioned but I think that it is the same earthquake is being referred to.

Cost Estimates:

Health Effects:

Social Effects:

Built Environment: There were no reports of damage from Santa Cruz, but police waiting for other reports of damage from the outlying islands. [202]

Agricultural Effects:

Shipping Effects:

Economic Effects:

137

Physical Environment: The small tsunami which occurred following the earthquake thrown

fish onto the western end of the Graciosa Bay airfield. [202]

Biosystems/Heritage:

Comment 2:

Physical characteristics: Magnitude = 7.9 [102] [202]

Depth = 33 km. [102]

Epicenter = 166.92 E, 12.52 S. [102]

= 166.3 E 13 S [102]

Illustrations:

Sources: [102] Munich Re. Akturtle List grosser

Eliminate reigns.

[202 p2] News Drum, July 25, 1980

Record no: 201

Hazard type: earthquake
1982a January

District: Temotu

Island: Utupai Vanikoro

Nearest Town:

Latitude:

Longitude:

Associated hazards:

Other Areas Affected:

Comment 1: The earthquake occurred “on Thursday last week” this reference is dated January 15th. [209]

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Magnitude = 6 Richter. [209]

Epicentre = About 483 miles south east of Honiara. [209]

Illustrations:

Sources: [209] News Drum, January 15th, 1982.

Record No: 202

Hazard Type: Earthquake

1982b February

District: Temotu

Island: Santa Cruz Lord Howe Utupia

Nearest Town: Nagu (Nanggu)

Latitude:

Longitude:

Associated Hazards: Tsunami

Other Areas Affected:

Comment 1:

Cost Estimates: Repair of the wharf \$600.00. [208]

Health Effects:

Social Effects:

Built Environment: a) Two partitions at Luesaleba Provincial School fell. [208]

No damage from the tsunami. [208]

b) NENDO. At Nagu, part of the wharf sank down 7-8 feet under water. Most of along the causeway also fell apart and sank into the water. [208]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment: UTUPIA. Experienced a tsunami. No damage reported. [208]

Biosystems/Heritage:

Comment 2:

Physical Characteristics: The quake was felt more at Lord Howe Island and Nendo, [208]

Illustrations:

Sources: [208] News Drum, March 12th, 1982

Record No: 204

Hazard Type: Earthquake

1983 October 15

District: Western

Island: Simbo

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected: Rabaul

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Magnitude 5.9 GSmb. [102]

Depth = 7 km, [102]

Felt on Simbo Island. Also felt (VI) at Rabaul, New Britain. [102]

Epicentre = 156.31 E, 8.10 S [102]

Illustrations:

Sources: [102] Munich Re. Aktuelle Liste grosser Elimintarereignisse.

Record No: 205

Hazard Type: Earthquake

1984a February 8 [92] 7 [102]

District: Guadalcanal Isabel Malaita Central

Island: Guadalcanal Isabel Malaita Florida

Nearest Town: Honiara

Latitude:

Longitude:

Associated Hazards: Landslides

Other Areas Affected:

Comment 1: Earthquake centred 95 Km SE of Honiara. [92]

Cost Estimates: Damage of \$50,000. (I don't know which currency but probably Solomon). [92]

Health Effects: No loss of life or injury reported.[92]

Social Effects:

Built Environment: a) GUADALCANAL. Minor damage in Honiara. Widespread traditional housing in villages on the south coast and inland. There were reports of collapsed buildings including a rice silo. [92]

At least 20 houses were destroyed. [102]

The 5 story Australian High Commission building was the worst hit. Windows shattered plaster fell off the ceiling and walls cracked. [103]

b) GUADALCANAL. The airstrip at Marau was severely cracked. [102]

Agricultural Effects: GUADALCANAL. Widespread damage to traditional food gardens south coast and inland. [92]

Shipping Effects:

Economic Effects:

Physical Environment: GUADALCANAL. Some landslides occurred on the southeastern part of the island. [102]

Biosystems/Heritage:

Comment 2:

Physical Characteristics: An earthquake measuring 7.5 on the Richter scale was followed by a second shock and other aftershocks of low magnitude. Tremors were felt throughout Guadalcanal, Isabel, Malaita and Florida. [92]

Magnitude = 7.5. [181 p359]

Epicentre = 9.54 S, 160.23 E (approx) [92]
9.9 S, 160.4 E [102]

Illustrations:

Sources: [92] List of Geological Events. AODRO Library.

[102] Munich Re.

[103] Munich Re. Earthquake, Solomon Islands.

[181] Crozier, M.J., 1989

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Record No: 209

Hazard Type: Earthquake

1985b September 27

District: Guadalcanal

Island: Guadalcanal

Nearest Town: Honiara Viso

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects:

Social Effects:

Built Environment:

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics: Magnitude = 6.2 (GSmb). [102]

Epicentre = 159.85 E, 9.83 S [102]

Depth = 32 km. [102]

Felt (VII) at Viso and (VI) at Honiara. [102]

Illustrations:

Sources: [102] Munich Re. Aktuelle Liste grosser Elementarereignisse.

Record No: 215

Hazard Type: Earthquake 1990 August 17

District:

Island:

Nearest Town:

Latitude:

Longitude:

Associated Hazards:

Other Areas Affected:

Comment 1:

Cost Estimates:

Health Effects: No injuries reported. [243]

Social Effects:

Built Environment: No damage reported. [243]

Agricultural Effects:

Shipping Effects:

Economic Effects:

Physical Environment:

Biosystems/Heritage:

Comment 2:

Physical Characteristics:

Illustrations:

Sources: [243] Global Volcanism Network, 15(8) 1990