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VANUATU  
SW Pacific

**TROPICAL CYCLONES  
IN  
VANUATU  
1939 to 1989**

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(Revised February 1991)

## TROPICAL CYCLONES IN VANUATU

### Sources of information:

New Caledonia Meteorological Service  
New Zealand Meteorological Service  
Fiji Meteorological Service  
Vanuatu Meteorological Service  
Visher - Tropical Cyclones of the Pacific, pp 37-38

Author's Note: This publication is evolutionary in nature. New information is added as it comes to hand. Some of the data - particularly the historical - is vague and uses archaic terminology. Where possible facts are checked, but if still in some doubt is printed in bold and italic.

### Introduction:

The following is taken from Visher (see above).

From New Hebrides [the former name of Vanuatu] for the 26 years, 1867-1893, 22 hurricanes are reported. There is a period of eight years with no record, and information for other years is lacking. As many as three hurricanes have occurred in one year. On the other hand, three or more consecutive years have passed during which no hurricane was reported. The average storminess may be two hurricanes a year. As to monthly distribution, nearly all the recorded storms have occurred in the first three months of the year, 12 in January, 11 in February, nine in March. However, two storms occurred in April, two in November, one in May, and one in October.

He then goes on to list the following:

- 1847, January 16 - hurricane: entire Tanna
- 1847, March 2-11 - hurricane: southern Vanuatu
- 1848, February 1-15 - severe hurricane: Erromango and Tanna, New Caledonia
- 1848, December 25 - hurricane: near Vanuatu
- 1852, February 18-24 - severe hurricane: Aneityum
- 1854, January 1 - hurricane: east
- 1860, March 14 - hurricane: west of Vanuatu
- 1862, January 17-18 - hurricane: ESE of Tanna
- 1867, February 27 - hurricane: west of Vanuatu
- 1867, March 7 - hurricane: Futuna and Efate
- 1868, January 30 - hurricane:
- 1868, April 21 - hurricane
- 1868, May 17 - hurricane
- 1869, February 23 - hurricane
- 1871, March 17-22 - hurricane: Futuna, Fiji
- 1872, February 17 - hurricane: Futuna and elsewhere
- 1873, January 3-7 - severe hurricane: Vanuatu, Fiji
- 1874, February 15-25 - severe hurricane: Vanuatu, New Caledonia then moved north
- 1874, October 2 - hurricane
- 1878, January 9 - hurricane, *Sandwich Island* (off southern Malekula ?)
- 1879, January 9-10 - hurricane

- 1880, January 21-26 - severe hurricane: Vanuatu, New Caledonia
  - 1889, March 16 - hurricane: west of Vanuatu
  - 1890, January 2 - hurricane: passed between Vanuatu & New Caledonia
  - 1891, February 10-11 - hurricane: crossed southern Vanuatu, moved northeast
  - 1891, March 9-12 - hurricane: Vanuatu and Solomon Islands
  - 1892, February 14-18 - hurricane: did considerable damage
  - 1893, February 17 - severe hurricane: storm moved west over Futuna
  - 1893, March 5 - hurricane: *Api* (Epi ?) and elsewhere
  - 1903, March 3-6 - hurricane: west from Santo
  - 1907, April 11 - hurricane: very severe near Futuna
  - 1910, March 25 - hurricane: crossed Vanuatu from Fiji
  - 1916, January 8-9 - severe hurricane: western Vanuatu then New Caledonia
  - 1918, November 11 - severe hurricane: *Tonga (Tonga ?) region*
  - 1921, November 23 - cyclone: *Sugar Ville* (Luganville ?), *Canal Second* (between Luganville & Aore Island), *moved southeast*
  - 1922, February 25-26 - hurricane: general
  - 1922, December 17 - hurricane: general
  - 1923, February 13-14 - hurricane
  - 1928, February
  - 1932, February & April
  - 1933, April
  - 1936, January
- 

At the time of writing (February 1991) definitions of the terms 'hurricane' and 'severe hurricane' as used by Visher are not known. It is unlikely that they will be akin to modern day (see below) terminology. It is probable that 'hurricane' relates to present-day 'gale force winds' and 'severe hurricane' to 'storm and/or hurricane force winds'.

In the following descriptions of cyclones the terms "minor", "moderate", and "severe" do not refer to the absolute intensity of the storm but, rather, to the magnitude of its impact on the island group concerned. These assessments are very subjective. They are strongly influenced by the amount of publicity given to the storm, by the chance that a meteorological observing station did or did not lie directly in the path of the storm, and by the existence or not of detailed reports from the masters of ships unfortunate enough to encounter the cyclone. Publicity is, of course, influenced by the area affected; heavy damage in a large town or village naturally attracts more attention than the destruction of coconut and banana plantations in sparsely populated areas. Any deductions concerning the frequency of severe storms, certainly in the earlier years must be extremely tentative.

The advent of the use of meteorological satellites - from about the mid-1960s - really enabled meteorologists to detect all cyclonic activity in the region, particularly over the sea areas. The increase

in reported cyclones from this time is due rather to the use of these satellites rather than an actual growth in their formation. It is interesting though to note that Visser remarks:

"..... New Hebrides [Vanuatu], during the 26 years, 1867-93, 22 hurricanes are reported, but there is a gap of eight years with no record. On this basis it appears that somewhat more than one hurricane is to be expected annually. But since two storms a year have been recorded in many years, and as the island groups of similar size to the east and west have averages of two or more a year, it seems reasonable to surmise that an averages of nearly two storms may be expected to affect some part of New Hebrides annually."

If one considers the period 1969-1989 - because of the use of meteorological satellites one can safely assume that all cyclones were recorded - a total of 50 cyclones affected some part of Vanuatu (land and sea areas). This gives an annual figure of two and a half cyclones per year. Visser's estimate of a hundred years before was admirable considering the scanty data with which he had to work.

#### Definitions:

The following definitions are used through this publication <sup>1</sup> .
<b>Gale Force Wind:</b> Average surface wind speed of 34 to 47 knots (63 to 87 km per hour or wind force of 8 or 9 in the Beaufort Scale).
<b>Storm Force Wind:</b> Average surface wind of 48 to 63 knots (88 to 117 km per hour, Beaufort Force 10 or 11).
<b>Hurricane Force Wind:</b> Average surface wind of 64 knots (118 km per hour, Beaufort Force 12) or more.
<b>Tropical cyclone:</b> A non-frontal cyclone of synoptic scale developing over tropical waters and having a definite organized wind circulation with average wind of 34 knots (63 km per hour) or more surrounding the centre.
<b>Tropical depression:</b> A tropical disturbance in which the central position can be identified and the average wind surrounding the centre is below gale force.

1 WMO/TD - No.292, *Tropical Cyclone Operational Plan for the South Pacific and South-East Indian Ocean*, World Meteorological Organization, Geneva, 1989

## History of Tropical Cyclones in Vanuatu from 1940:

No.	Name of Cyclone (where given)	Date of its lifespan -----
	Category	Damage report

1.	Hurricane	4 to 17 February 1940 ----- Southwestward through central Vanuatu <i>Severe.</i>
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2.	Hurricane	14 to 23 February 1940 ----- Southwestward over central Vanuatu <i>Severe.</i>
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Within the space of 12 days two hurricanes swept through the centre of the New Hebrides. Both came from the northeast having developed to the west of the Ellice Islands. The belt of destructive hurricane force winds appears to have been very narrow in both cases. On 8 February several small islands just north of Efate, including Mataso, Nguna and Lelepa, bore the brunt of the storm. As many as 10 Mission churches and many island houses were destroyed. All citrus and breadfruit trees on these islands and a large proportion of the coconut trees were uprooted.

The second hurricane went through the Group about 50 km further north, this time devastating the islands of Tongoa and Emai just south of Epi. A trader on Tongoa described the storm vividly. The experience was so shattering that he thought it must be the worst in Pacific history. It was certainly the worst in that particular area since 1932.

The trader's store was shattered in the first onslaught, and then, after the passage of the eye of the storm in the early hours of the 19th, the wind returned with even greater violence and his home collapsed. His barometer indicated a fall of about 40 mb in nine hours (the actual readings quoted are improbable). Devastation on Tongoa was almost complete.

3.	?	1 to 7 February 1941 ----- Southwestward through the Banks Islands <i>Minor damage</i>
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4.	?	1 to 8 March 1942 ----- Southwestward over southern Vanuatu. <i>Unknown damage</i>
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5. ?

4 to 6 February 1944  
-----

Very rapidly southwestward through  
central Vanuatu.

*Unknown damage*

6. Storm

11 to 14 January 1947  
-----

Southwestward towards Vanuatu but turned south  
just east of the southern islands.

*Minor damage*

This cyclone was first detected northwest of  
Rotuma on 11 January. It headed towards the  
Vanuatu but fortunately began to recurve and  
missed the Northern Islands passing within 50 km  
of Tanna and Aneityum, moving Southsoutheast.

Strong winds and heavy rain were all that the  
Southern New Hebrides had to endure, and no  
significant damage was reported. But, about 150  
km Southsoutheast of Aneityum, the 10,000 ton SS.  
"Waitomo" came very close to the centre of the  
hurricane. Early on the 14th, just after  
midnight, the ship's log recorded 'wind SSE force  
10 to 11; torrential rain; visibility 200 metres;  
pressure 966 mb; vessel shipping heavy spray, and  
rolling and pitching violently. The tarpaulin on  
No. 5 hatch ripped, drums and cases on deck and in  
the holds broke loose, two lifeboats on the  
starboard side were badly damaged, and two crew  
members needing medical attention in Lautoka for  
minor injuries received during the buffeting'.

7. ?

21 to 30 January 1948  
-----

Southwestward through Northern Vanuatu.

*Moderate damage*

Like the hurricanes of February 1940 this cyclone  
began in the neighbourhood of the Ellice Islands  
and moved Southwestward. This one, however, went  
through the New Hebrides somewhat further north.  
The chief target was the island of Obe, East of  
Santo, which was struck on the afternoon of 24  
January. The storm also did considerable damage  
in Santo itself, where many of the old army huts  
left by the U S Army were damaged, and in  
Malekula. A considerable number of mango and  
other trees were blown down.

8. ?

17 to 24 January 1949  
-----

Southwestward towards Vanuatu but recurved to the  
Southeast, East of the Group. Probably not closer  
than 100 km to any island in the group.

*Minor damage*

9. ?

24 to 27 January 1949  
-----

Southwestward through Central Vanuatu - short lived. No reports of winds in excess of gale force.

*Minor damage*

10. Hurricane

19 December 1951 to 1 January 1952  
-----

Southwestward through Central Vanuatu.

*Severe damage*

The first cyclone of this season developed west of the Ellice Island about 19 December and moved rather slowly Southwest. On the 25th it passed through the New Hebrides between Luganville and Vila. Although the distance between them is only about 280 km neither place experienced worse than Gale Force winds. But on Epi and Ambrym the Hurricane destroyed all villages and plantations in its path. Malekula also suffered. More than 100 people were killed, half of them in a landslide on Epi. Six small vessels were sunk and three others disappeared. At least 15,000 coconut trees on Epi and Malekula were destroyed and the loss to the copra trade was put at over \$150,000. Damage to Mission and plantation buildings on Ambrym was flooding resulting from streams being blocked by fallen trees.

11. Gale

13 to 20 February 1954  
-----

West Southwest through Banks Islands. Gales in Santo; Port Patterson reported pressure 983 mb.

*Minor damage*

12. Gale

2 to 13 January 1955  
-----

Eastsoutheast through the Banks Islands.

*Minor damage*

13. Storm

1 to 7 March 1955  
-----

West Southwest through Southern Vanuatu.

*Minor to Moderate*

Towards the end of February a tropical cyclone developed Northwest of Rotuma. Initially it moved to the Southsoutheast but soon turned westward and later to the Westsouthwest. It passed through the southern islands of the New Hebrides on 2 March. Force 11 winds were reported and, at one station, pressure below 975 mb. The storm continued over New Caledonia and across the Coral Sea to the Queensland coast which it reached on 7 March.

There is little information concerning damage in the New Hebrides but, at Vila where the wind did not reach Hurricane Force, there was considerable damage to coconut plantations and some rainwater damage. A garage at the meteorological station was destroyed and an observation tower was rendered unsafe.

14. Gale

24 to 29 February 1956  
-----

West Southwest passing just to the south of Vanuatu.

*Probably Minor damage*

15. AMANDA  
Hurricane

20 to 31 December 1959  
-----

The cyclone which had been moving slowly southsoutheast towards New Caledonia suddenly changed direction to Eastnortheast, accelerated, and in the early hours of 29 December passed just to the south of Vila where the barometer fell to 975 mb and NW to W winds of Hurricane Force blew for two or three hours.

Damage was reported from most of the southern islands of the New Hebrides, from Epi to Aneityum, but no lives were lost. The southern part of Efate was the most severely affected, and, in Port Vila, the cost of repairing and replacing Condominium property, including schools and a hospital, was expected to be about \$A250,000, while the total was thought to be of the order of \$A1,000,000. Copra production in the southern islands of the group was expected to be halved in 1960. (In fact, 24,000 tonnes of copra were exported from the Condominium in 1960, compared with 35,000 tonnes in 1959).

16. BRIGITTE  
Storm

1 to 4 January 1960  
-----

Eastward through Central Vanuatu.  
*Minor*

A second hurricane passed through the New Hebrides on the evening of 1 January 1960. It came from the Coral Sea, moving Eastward to the North of New Caledonia, passed to the north of Efate, and then moved to the southeast well to the south of Fiji. Although the wind at Vila was estimated as force 10 for a time it did not, there or elsewhere in the islands, cause serious additional damage.

17. Gale

16 to 18 January 1963  
-----



Eastward through southern part of Group in developing stage. No significant damage.  
*Minor damage*

18. Gale

1 to 6 March 1963  
-----

Southeastward between Vanuatu and Loyalty Islands. Passed not far to the south of Aneityum. No damage reported.  
*Minor damage*

19. Storm

16 to 25 November 1963  
-----

South Eastward towards Vanuatu but recurved to the southeast of the group.  
*Moderate damage*

Like January 1947 this storm moved towards the northern islands from the northeast but recurved gradually to the southeastward keeping just clear of the Group. Nevertheless, it was close enough between 18 and 19 November to cause a considerable amount of damage on the eastern side of Pentecost, the South Malekula, Epi, Efate and Tanna. The little island of Tongoa was once again one of the Storm's chief victims: one village on the eastern side was completely destroyed and less than half of the houses in the others were left standing.

Forari, the site of a manganese mine of the eastern side of Efate, also suffered heavily with damage to wharves and tug boats, by wave action, estimated at \$150,000.

The usual damage to coconut trees was expected to reduce copra production significantly for several years.

20. EDITH  
Storm

20 to 25 February 1964  
-----

Southwestward through northern Vanuatu.  
*Minor damage*

EDITH moved southwestward through northern New Hebrides on 21 February with gales and torrential rain. The storm then moved southward to the Loyalty Islands where, again, nothing worse than gales and heavy rain were reported. From the Loyalties EDITH moved rapidly eastsoutheast and filled southeast of Tonga. A ship near the centre on 24 February reported force 10 winds and a pressure of 988 mb.

21. HENRIETTA  
Storm

29 to 31 March 1964  
-----

Southwestward through northern Vanuatu.  
*Moderate to Severe damage*

Moving southwestward through the northern islands of the New Hebrides on 31 March HENRIETTA caused extensive damage to houses, schools and other buildings in the Banks Islands and in Santo which was said to have had its worst spell of bad weather for several years. Some small vessels loaded with copra from the outer islands had to jettison their cargoes.

22. Gale

1 to 8 February 1967  
-----

Westward through northern Vanuatu; hovered for 36 hours before moving southeastward to pass close to Aneityum.

*Minor damage*

23. Gale

1 to 7 March 1968  
-----

Southeastward to south of the Group. Passed over Aneityum which, along with Tanna, sustained some damage.

*Minor damage*

24. BECKY  
Hurricane

11 to 15 December 1968  
-----

Rather erratically southeastward through central Vanuatu.

*Moderate damage.*

BECKY developed north of the Solomons and moved over the islands on a rather erratic course on the 11 and 12 December. It then moved southeast passing through the New Hebrides on the 14th, between Malekula and Efate. Considerable damage resulted particularly in Lamap (Malekula) and in the Shepherd Islands, South of Epi.

From the New Hebrides BECKY moved very rapidly southeastward, at more than 35 knots, and passed very close to the ship "Waimate" which reported an estimated wind speed of 90 knots and pressure of 971 mb at 1200 GMT on 14 December.

25. Gale

17 to 21 February 1969  
-----

Westsouthwest through southern Vanuatu.

*Minor damage*

26. DOLLY  
Hurricane

12 to 24 February 1970  
-----

Southeastward first, then eastward more quickly. DOLLY crossed Vanuatu on the 14th near Erromango, becoming a Hurricane.

27. ROSIE

31 December 1970 to 4 January 1971

- Gale -----  
Heavy rain over Vanuatu.  
*Minor damage*
28. URSULA  
Storm -----  
3 to 15 December 1971  
-----  
On 8 December, winds over 50 KT and a pressure of 989 mb were recorded on Malekula. 322 mm of rain fell in Port Vila.  
*Minor damage*
29. CARLOTTA  
Hurricane -----  
6 to 23 January 1972  
-----  
On the 18th, CARLOTTA became a Hurricane Force cyclone between Tanna and Aneityum. The pressure trace went below the limits of the chart (950 mb). The estimated pressure was about 945 mb with winds over 90 kt. Four people died.
30. WENDY  
Hurricane -----  
23 January to 9 February 1972  
-----  
Named as a Hurricane on 1 February, WENDY completely destroyed the Meteorological Station in Sola just after 0500 GMT on 2 February as it passed between Vanua Lava and Gaua in the Banks Islands. The estimated wind (by a Government ship in the area) on 2 February was 120 to 150 kt with an estimated pressure of 910 mb.
31. GAIL  
Hurricane -----  
11 to 19 April 1972  
-----  
Named as a Hurricane on 13 April GAIL crossed Vanuatu near Efate on the 17th. At 1200 on 17th a wind of 64 kt and a pressure of 996 mb was recorded in Vila. The centre of the cyclone passed North Efate and through the Shepherd Islands where very much damage was done. Minimum pressure on Tongoa was 948 mb with 942 mb recorded on Emae.
32. DIANA  
Hurricane -----  
6 to 18 December 1972  
-----  
Named DIANA on the 9th. During the period 8-13 December there was heavy rainfall over the north of Vanuatu, but no notable damage. Estimate pressure was 975 mb with a mean wind of 65 kt.
33. MONICA  
Gale -----  
16 to 20 January 1974  
-----  
With a minimum pressure of only 997.8 mb and maximum wind of 35 kt at Aneityum (0300 GMT on 18 January) MONICA was probably only a just a Tropical Cyclone. No special damage was reported.
34. PAM  
Hurricane -----  
31 January to 8 February 1974  
-----

This Hurricane caused heavy rainfall over the whole of Vanuatu between 1 and 8 February - 237.2 mm Santo, 170.8 mm Efate, 166.1 mm Tanna. Minimum pressure recorded (at Efate 0800 local time on 3 February) was 968.6 mb with a maximum wind of 80 kt recorded at Tanna at the same time.

35. FLORA  
Gale

13 to 22 January 1975  
-----

As FLORA crossed over Tanna (at 0830 GMT on 16 January) a minimum pressure of 979.5 mb and a maximum wind of 45 kt was recorded.

36. ALISON  
Storm

4 to 14 March 1975  
-----

Heavy rainfall recorded over the whole of Vanuatu. Principal damage in Malekula and Emae. Some people stranded in Emae, Paama, Tongariki and Efate. Minimum recorded pressures -  
Lamap: 988.8 mb (5th at 1130 Local Time; Emae: 984.0 mb (5th at 0830 Local Time. Maximum winds - 65 kt at Emae and 50 kt at Lamap.

37. BETTY  
Gale

30 March to 12 April 1975  
-----

Minimum recorded pressure: 995.3 mb on 1 April in both Pekoa and Sola.

38. DAVID  
Hurricane

12 to 22 January 1976  
-----

Hurricane DAVID crossed Vanuatu (1800 GMT on 13 January) over the north of Malekula. Minimum recorded pressures were:  
986.1 mb (14th at 1500 GMT) Pekoa;  
987.4 mb (14th at 1620 GMT) Lamap;  
988.9 mb (15th at 0500 GMT) Port Vila with maximum winds of  
50 kt (16th at 0000 GMT) Lamap and  
49 kt (15th at 0005 GMT) at Tanna.

39. ELSA  
Gale

20 to 26 January 1976  
-----

Probably only just a Tropical Cyclone with a minimum pressure of 991.5 mb being recorded (22nd at 0445 GMT) at Pekoa and maximum winds of 45 kt being experienced at Tanna (23rd at 0050 GMT) and Aneityum (22nd at 1200 GMT).  
*No special damage reported.*

40. HOPE  
Gale

10 to 13 March 1976  
-----

Again probably only just a Tropical Cyclone. Minimum recorded pressure: 998.7 at Pekoa on 10th with estimated gale force winds over the sea.

41. IAN

15 to 22 April 1976

- Gale -----  
Similar to HOPE with maximum wind of 39 kt being measured at TANNA on 17 April with a minimum pressure of 997.3 mb.
42. MARION  
Hurricane 11 to 21 January 1977  
-----  
MARION crossed Vanuatu near the southeast of Luganville on 12 January between 2200 and 2300 GMT and then moved some 70 to the west, reaching south of Aneityum on the 15th where a minimum pressure of 979.0 mb and a maximum wind of 66 kt were recorded.
43. JUNE  
Hurricane 16 to 26 January 1977  
-----  
Hurricane JUNE crossed near the north of Efate on 20 January between 1100 and 1130 GMT. A minimum pressure of 977.6 mb was reported at Bauerfield (1100 GMT on 20th) with a maximum wind of 41 kt (gusts to 62 kt) at 1200 GMT on the same day.
44. NORMAN  
Gale 9 to 23 March 1977  
-----  
The centre of NORMAN crossed Vanuatu to the north of Erromango between 0900 GMT and 1000 GMT on 16 March. The minimum pressure recorded was at Port Vila (987.0 mb on 16th) with maximum winds of 45 kt being experienced at both Tanna and Aneityum.
45. BOB  
Hurricane 31 December 1977 to 10 January 1978  
-----  
Hurricane BOB passed within 50 nautical miles to the southeast of the night of Aneityum during the 5 January where a minimum pressure of 975.2 mb was recorded together with a maximum wind of 65 kt.  
*Damage was reported in the central and southern islands.*
46. GORDON  
Hurricane 3 to 11 January 1979  
-----  
Hurricane GORDON crossed the north of Vanuatu over the Torres Islands. Santo reported the lowest pressure (991.0 mb on 6th) with a wind of 51 kt. The maximum reported winds was at Aneityum (55 kt on the 7th).  
  
*Severe damage in occurred in the Banks Islands, Santo and Malekula.*
47. HENRY  
Storm 28 January to 5 February 1979  
-----  
Had little affect to land areas in Vanuatu. The minimum recorded pressure was at Aneityum (991.7 mb on 2 February) and a reported wind of 45 knots.

48. JUDITH Storm 3 to 6 February 1979  
-----  
Similar to HENRY - little affect. Minimum pressure (at Lamap) 999.4 mb on 4th, also with a reported wind of 45 knots.
49. NINA Gale 31 March to 3 April 1979  
-----  
NINA passed to the west, then to the south of Vanuatu. Aneityum recorded a minimum pressure of only 1001.4 mb a mean wind of 25 knots.  
*No particular damage reported.*
50. RAE Gale 2 to 5 February 1980  
-----  
A minimum pressure of 999.0 mb was measured at Sola. There were no reports of any significant winds.
51. CLIFF Gale 9 to 15 February 1981  
-----  
CLIFF crossed to the southwest of Pentecost and passed close to Port Vila. Lamap reported both the minimum pressure (987.5 mb) and the mean maximum wind (30 knots) on the 11th.
52. GYAN Gale 19 to 28 December 1981  
-----  
GYAN passed to the north of Vanuatu. The maximum force developed after leaving the Vanuatu area.
53. KINA Gale 7 to 22nd November 1982  
-----  
KINA crossed Efate on 16th November.  
*No special damage reported.*
54. BETTY Gale 3 to 6 February 1984  
-----  
BETTY passed between New Caledonia and Vanuatu.  
*Little or no serious damage reported.*
55. ERIC ) 14 to 19 January 1985  
56. NIGEL ) 15 to 20 January 1985  
57. ODETTE ) 16 to 21 January 1985
- Between 14 and 21 January three Hurricane Force cyclones affected the South West Pacific. Fiji and Vanuatu were particularly affected by all three. On 17/18 January a minimum pressure of 987.9 mb and winds gusting to over 85 knots were experienced on Santo. ERIC and NIGEL followed almost identical easterly tracks across the south of Santo within 48 hours of each other. ODETTE passed further to the south over Erromango.

*Considerable damage was inflicted to most of the northern islands and to Erromango.*

58. GAVIN Storm 3 to 8 March 1985  
-----  
GAVIN was named as a tropical cyclone some 150 miles east of Efate but quickly moved away from Vanuatu southeastwards. reaching storm force winds over the sea well south of Fiji.  
*No damage reported.*
59. HINA Gale 12 to 16 March 1985  
-----  
HINA marginally affected Vanuatu while its winds were still of gale force. A maximum wind of 32 knots being reported on the 12th at Santo whilst a minimum pressure of 994.6 mb reported at Sola on the 15th.
60. KELI Storm 8 to 12 February 1986  
-----  
KELI was named at 2200 GMT on 8 February some 60 nm southwest of Efate. It passed between Tanna and Aneityun and then reached marginal storm force intensity (50 knots sustained wind speed) over the sea.  
  
*There was minor damage to crops and some flooding which caused a bridge to be washed away.*
61. ALFRED Storm 6 to 9 March 1986  
-----  
Tropical Cyclone ALFRED originated in the Coral Sea before reaching marginal storm intensity about 300 miles westsouthwest of Port Vila around 2100 GMT on 7 March. It passed south of Aneityum.  
  
*Minor damage was caused to food crops (bananas) on both Tanna and Aneityum.*
62. LUSI Gale 7 to 8 March 1986  
-----  
Affected Tanna and Aneityum.  
  
*No significant damage was reported*
63. OSEA Hurricane 21 to 25 November 1986  
-----  
Tropical Cyclone OSEA formed about 350 miles northnortheast of Port Vila on 21 November. It moved on a southerly track - parallel to Vanuatu - spending most of its time over the sea.  
  
*No significant damage was reported.*
64. PATSY Storm 13 to 17 December 1986  
-----  
Tropical Cyclone PATSY developed about 120 miles northeast of Santo on 14 December. It passed

through the Banks Islands and northwest Santo before hitting New Caledonia.

*Although reaching storm intensity (55 knots) only minor damage to houses and root crops were reported from Santo. Banana plantations seemed to have suffered considerable damage due to the strong winds and heavy rain.*

65. UMA  
Hurricane

4 to 11 February 1987  
-----

Hurricane UMA was the most destructive cyclone ever to have affected the capital of Vanuatu - Port Vila. It originated in the southern part of the Solomons group, attaining hurricane intensity just west of Santo on 6 February. At its peak intensity UMA is estimated to have attained mean wind speeds of 90 knots with gusts up to 120 knots. It passed within about 30 miles of Port Vila, where a pressure of 957 mb was recorded. Efate was battered by storm and hurricane winds for about 7 hours.

UMA left 50 people dead and close to 15,000 people homeless. Considerable damage was inflicted to building, shipping, infrastructure and crops by wind, torrential rain and storm surge. The associated heavy rains also did much damage to the island of Tanna where roads and bridges were washed away. Out of the 50 or so people, a large number died due to the sinking of three inter-island vessels. More than 40 other boats were lost in Vila harbour. Massive damage was done to the copra industry. Tourism was affected due to destruction of hotels, restaurants, shops and coastal structures. Vila was declared a disaster area. The total damage to the country was estimated to be US\$ 150 million.

66. VELI  
Gale

6 to 11 February 1987  
-----

UMA was followed closely by another tropical cyclone - VELI - which crossed Vanuatu north of Santo. Fortunately VELI was a very fast moving system and only developed gale force winds, but with considerable rainfall.

*Damage was minimal- or went unreported - Vanuatu being much more concerned with the effects of UMA at this time.*

67. YALI  
Hurricane

8 to 11 March 1987  
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YALI developed about 300 miles northwest of Vanuatu on 5 March and moved southwards. Although it reached peak intensity of about 65 knots it did not pass close any inhabited islands.



*There were no reports of damage.*

68. ANNE  
Hurricane

7 to 14 January 1988  
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ANNE ranks as one of the most intense cyclones in recent years in the South West Pacific. It originated just east of Tuvalu and moved to the southwest. While still moving steadily and nearing its peak intensity it passed over the Torres and Banks Islands and northwest Santo before changing to a more southerly direction and to New Caledonia.

Its peak intensity was estimated to have maximum winds at its centre of 100 knots.

*ANNE was the fourth major cyclone to have affected Vanuatu within four years (ERIC, NIGEL and UMA). It caused severe damage in the Torres Islands almost the entire population lost their houses as well as their cash crops. Damage to Ureparapara and northwest Santo was equally severe. Flooding, landslides and storm surge augmented the damage to property and crops. In all approximately 1,600 were made homeless and a further 1,600 badly affected. Total relief and reconstruction was estimated as US\$ 1.2 to 1.5 million.*

*Although two deaths were reported from New Caledonia there were no fatalities in Vanuatu.*

69. BOLA  
Hurricane

25 February to 4 March 1988  
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Like UMA, tropical cyclone BOLA is well remembered in Vanuatu - because of its very erratic track (it did two clockwise loops, one north of Efate, one south); and its rather long lifespan (it maintained storm intensity close to Efate for 4 days). It was the second cyclone of the 1987/88 Season and the fifth major cyclone since 1985 to have hit the Republic of Vanuatu.

*Its impact was mostly on the Shepherds Islands, Epi, Paama and the southern parts of Malekula and Ambrym. At least 3,000 households and more than 15,000 people were affected. There was widespread damage to local housing and local government offices. Heavy rain caused landslides and some roads and bridges were washed away. The cost of reconstruction was put at US\$ 0.5 million. Rain affected many local gardens and sea spray and storm surge had an adverse affect on crops, particularly copra plantations. A couple of ships went aground (later refloated) and one barge carrying building materials from Fiji for a new wharf in Malekula sank (estimated loss AU\$ 4 million).*

*There was again no loss of life reported.*

70. DOVI  
Storm

8 to 15 April 1988  
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DOVI was the last of the four cyclones of the 1987/1988 T/C Season and the third to affect Vanuatu.

*Although of moderate strength DOVI did not cause any significant damage since it spent most of its life over the sea to the west of Vanuatu. It could be argued that ANNE and BOLA had already caused such extensive damage to crops and structures in Vanuatu that DOVI's effects went unnoticed.*

71. ESETA  
Storm

16 to 25 December 1988  
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ESETA was a relatively minor cyclone with a very short life-span. It did produce considerable rainfall throughout most of Vanuatu whilst in its formative tropical depression stage.

*There were no reports of damage to property or crops.*

72. DELILAH  
Storm

1 to 4 January 1989  
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Tropical cyclone DELILAH formed in the Coral Sea on 1 January. It lasted about four days, initially moving towards Vanuatu, but happily curving southeast to pass between New Caledonia and the Loyalty Islands. At one stage winds were estimated to have reach 60 knots with gusts to 80 knots.

*Fortunately it only affected western sea areas of Vanuatu.*

73. HARRY  
Hurricane

7 to 19 February 1989  
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HARRY evolved from a depression about 400 miles west of Port Vila. At one time it appeared to be threatening Vanuatu but it fortunately reversed its track, passed over the northern tip of New Caledonia and moved towards Australia.

*Although HARRY was one of the major cyclones of the 1988/1989 Season and maintained hurricane intensity for a long period of time there were no reports of damage to property or crops in Vanuatu but some damage was reported from New Caledonia.*

74. IVY  
Hurricane

23 February to 2 March 1989  
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Tropical cyclone IVY formed near northern Vanuatu on 23 February. It moved away for a while but later recurved to the southeast and passed very close to Aneityum with hurricane intensity. Like DELILAH and HARRY it initially posed a serious threat to the whole of Vanuatu but fortunately only affected the southernmost islands before reaching peak intensity over the open waters to the southeast of the Group.

*IVY caused considerable damage to the island of Aneityum. There was substantial damage to food crops, houses, tourist facilities and forestry plantations. Flooding and landslides augmented the damage done by high winds, but fortunately there were no casualties.*

75. LILI  
Hurricane

6 to 12 April 1989  
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Tropical cyclone LILI started life in the Coral Sea and initially moved southeastwards towards Vanuatu. As it reached hurricane intensity (mean winds of 75 knots) it fortunately curved to the south some 130 miles westnorthwest of Santo. It continued southwards later causing havoc over New Caledonia.

LILI originally posed a threat to Vanuatu but in turning south as it intensified only gales force winds were experienced in western sea areas.

*There were no reports of serious damage.*