Hurricane Debbie, September 7-11, 1961...e
U. S. DEPARTMENT OF COMMERCE
U. ${ }^{\prime}$, weatritr bureau

## HURRICANE DEBBIE

SEPTEMBER 7-15,1961 $\leqslant$ Jan4-1962

PRELIMINARY REPORT WITH THE ADVISORIES AND BULLETINS ISSUEU.


# National Oceanic and Atmospheric Administration Weather Bureau Hurricane Series 

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## HURRICANE DEBBIE - SEPTEMBER 7-15, 1961

Preliminary Report

The first indications of the tropical cyclone which became Hurricane "Debbie" were found during the period September 5-7 in reports received from Cape Verde Island stations and from the SS "Charlotte Maersk." The first advisory identifying Tropical Storm "Debbie" was issued at 2200 GMT September 7 when its center was estimated to be near $16.2 \mathrm{~N}, 30.1 \mathrm{~W}$ or about 550 mlles WSW of Sul Island in the Cape Verde group. This location was out of range of reconnaissance aircraft. It moved westward into an area where virtually no reports were available and where determination of its track and intensity was virtually impossible for several days.

Observations from Royal Dutch Airlines (KLM) 771 on a flight from Lisbon to Paramaribo on September 10, showed that the cyclone's forward speed had slowed and that it was moving on a track between NW and NNW. On the lith vessel reports and pictures from the weather satellite TIROS III showed that the cyclone was located near $25^{\circ} \mathrm{N}, 45^{\circ} \mathrm{W}$, intensified into a hurricane, and was turning toward a northerly course. The same day it was penetrated by a Navy reconnaissance aircraft from Puerto Rico which found winds over 100 mph and a central pressure of 976 mb ( 28.82 inches). It was subsequently tracked and penetrated by at least 4 Air Force hurricane reconnaissance flights based at Bermuda.

The hurricane turned sharply ENE from a northerly course on September 13 near $35^{\circ} \mathrm{N} 45^{\circ} \mathrm{W}$ as it came under the steering influence of the upper westerly winds. It passed northeastward over the Azores on the l5th. Shortly thereafter it took on the characteristics of a middle latitude cyclone but still remained strong. It skirted the west coast of Ireland on the l6th. At least 11 deaths and many injuries in Ireland were attributed to the storm. It also did extensive damage in Scotland and Wales.

The remnants of "Debbie" continued along the Norwegian coast and crossed northern Scandinavia into Artic European Russia, where it dissipated on the 19th.

San Juan Weather Bureau Tropical Storm Advisory Number 1 Debbie 6 PM AST September 7, 1961
Tropical storm Debbie has formed far out in the Atlantic. On the basis of one vessel report and land observations from the Cape Verde Islands stations today it was estimated to be centered at 6 PM AST...2200Z... near letitude 16.2 north longitude 30.1 west or approximately 550 statue miles west southwest of Sal Island in the Cape Verde Island group.

Its present direction and speed based on sparse data appears to be between west and west northwest at about 16 miles per hour.
Highest winds are estimated to be 65 miles per hour over a small area near the center and glae winds extend outward 110 statute miles in the nortern semicircle and 60 miles in the southern semicircle.

Tropical storm Debbie is expected to continue moving between west and west northwest at about the same speed for the next 12 to 24 hours with increasing size and incensity and will probably reach hurricane force Firday.

Vessels in the path of this tropical storm should exercise caution.
The next regular advisory on tropical storm Debbie will be issued by the san Juan Weather Bureau at midnight AST... 04002

## Higgs

San Juan Weather Bureau Tropical Storm Advisory Number 2 Debbie 12 Midnight...0400Z...September 8, 1961
No additional ship reports are available on tropical storm Debbie but on the basis of previous information the center, at 12 midnight AST... 0400 Z ....was estimated to be near latitude 16.4 N longitude 31.3 W or about 600 statute miles east of Sal Island in the Cape Verde Islands.
It appears to be moving in a direction between west and west northwest at 14 miles per hour.
Highest winds are estimated at 70 miles per hour in a small area near the center and gale winds extend 100 statute miles in the northern semicircle and 50 miles in the southern semicircle.

Tropical storm Debbie is expected to continue moving in a westerly direction at the same speed for the next 12 hours. It will continue to increase in size and intensity probably reaching hurricane force tomorrow Friday. Vessels in the path of this tropical storm should exercise caution. The next regular advisory on tropical storm Debbie will be issued by the San Juan Weather Bureau at 6 AM AST. . 10002 .

> Hurley

San Juan Weather Bureau Tropical Storm Advisory Number 3 Debbie 6 AM AST September 8, 1961
Tropical storm Debbie was estimated to be centered at 6 AM AST,.. $1000 \mathrm{Z} . .$. near latitude 16.6 north longitude 32.7 west or approximately 650 statute miles west of Sal Island in the Cape Verde Ibland group.

No ship reports have been received from the vicinity of tropical storm Debble aince the last advisory nor has there been any aircraft reconnaissance since the storm is out of range of avaiable aircraft. Debble is estimated, however, to be moving toward the west at about 14 miles per hour.

Highest estimatedwinds are 70 miles per hour in a amall area near the center and gale force winds extend outward 100 miles in the northern semicircle and 50 miles in the southem semicircle.

Tropical atorm Debbie is expected to continue its westward movement with little change in speed during the next 12 krurs. An increase in size and intensity is anticipated with Debbie probably reaching hurricane force later today.

Vessels in the path of this tropical storm should exercise caution. The next regular advisory on tropical storm Debbie will be issued by the San Juan Weather Bureau at 12 Noon AST.

## Davis

San Juan Weather Bureau Tropical Storm Advisory Number 4 Debbie 12 Noon AST.,. $16002 . .$. Eeptember 8, 1961
No information has been received from the vicinity of tropical storm Debbie this morning, but at 12 noon AST... 1600 Z ... itt was eatimated to be centered near latitude 16.7 north 33.9 west or approximately 800 statute miles west of Sal Island in the Cape Verde group and moving towards the west at about 14 miles per hour.

Highest winds are estimated to be 70 miles per hour over a small area near the center and gale force winds extend outward 1.10 miles in the northern semicircle and 55 miles in the southern semicircle.

Debbie is expected to continue its westward direction with littie change in speed during the next 12 hours. A gradual increase in size and intensity is expected with the atorm probably reaching hurricane force later today.

Vessels in the path of Debbie should exercise caution.
The next regular advisory will be issued by San Juan Weather Bureau at 22002.

## Miller

Ean Juan Weather Bureau Tropical Storm Advisory Number 5 Debbie 6 PM AST September 8, 1961
No reports have been received from the vicinity of tropical storm Debbie during the afternoon but at 6 PM ASI... 22002. It was estimated to be centered near latitude 16.8 north and longitude 35.2 west or about 2050 statute miles east of San Juan, puerto Fito. This is an estimated position.

Apparently it is continuing its westward drection of motion at 24 miles per hour.
Highest winds are estimated to be 70 miles per hour over a small area near the center and gale winds extend outward from the center 110 statute mikes to the north and 60 statute miles to the south.

Tropical storm Debbie is expected to continue moving toward the weat for the next le hours and there are indications that it will move toward the west northwest for the following 12 hours with slowly increasing intensity. In the absence of data its forecasted increase to hurricane force cannot be determined at this time. As it moves into range of reconnaissance aircraft its intensity will be obtained.

Vessels in the path of this storm should exercise caution.
The next regular advisory will be issued by the San Juan Weather Bureau at 12 midnight AST... 0400 Z .

## Higgs

San Juan Weather Bureau Tropical Storm Advisory Number 6 Debble 12 midnight AsT September 9,1961
No reports have been received from the vicinity of tropical storm Debbie this evening but at $12 \mathrm{midnight..O400Z..the} \mathrm{center} \mathrm{of}$ the storm was estimated to be near latitude 16.9 N longitude 36.4 west or about 1950 statute miles east of San Juan, Puerto RIco.

It is assumed to be moving in a westerly direction at 24 miles per hour.
Highest winds are estimated at 70 miles per hour over a small area near the center and gale winds extend 115 statute miles north of the center and 60 miles to the south.

Tropical storm Debbie is expected to continue moving to the west or slightiy north of west at the same speed for the next l2 hours. It is expected to increase in size and intensify slowly. More exact figures on the location and dimensions of this storm will become available when it comes within the range of reconnaissance aircraft.

Vessels in the vicinity should exercise caution.
The next regular advisory will be iasued by the San Juan Weather Bureau at 6 AM AST... $10000 Z$
Hurley
San Juan Weather Bureau Tropical Storm Advisory Number 7 Debble GAM AST September 9, 2961
Tropical storm Debbie was estimated to be centereed at 6 AM AST... $10002 . .$, near latitude 17.0 north longitude 37.7 west or about 1860 statute miles east of San Juan, Puerto Rico. It is moving in a westerly direction at about 14 miles per hour and is expected to continue its westward movement at the same speed for the next 12 to 24 hours.

Highest winds are estimated to be 70 milea per hour over a small area near the center and gale force winds extend outward 220 $m i l e s$ in the northern semicircle and 60 miles in the southern semicircle. Tropical storm Debbie is expected to undergo a gradual increase in size and intensity.

The atorn has been passing through an area where ship reports have been extremely sparce. No ship has reported from the immediate vicinity of Debbie in the past 24 hours. The position values and more exact information will be available when the atorm comes within range of reconnaissance aircraft.

Vessels in the path of the storm should exercise caution.
The next regular advisory on tropical storm Debbie will be isaued by the San Juan Wather Bure au at 12 noon AsT
Davis
San Juan Weather Bureau Tropical Storm Advisory Number 8 Debbie 12 Noon AST September 9, 1962
Little information has been received today from the vicinity of tropical atorm Debble. At 12 noon AST....l600Z... the storm wes estimated to be centered near latitde 17.0 north and longitude 38.8 west or about 1800 statute miles east of San Jun, Puerto Rico. Apparentily the storm continues to move in a westerly direction at about 14 miles per hour.

Higheat winds are estimated to be 70 miles per hour over small area near the center and gale winds extend outward 120 miles to the north of the center and 60 miles to the south.

Troplal storm Debbie 18 forecast to move towards the west at about 14 miles per hour for the next 12 hours. This storm continues in an area from which few ship reports are received. Mare exact information will be available when the atorm comes within range of reconnaissance aircraft or when ship reporta are received from the immediate vicinity.

Vessels in the path of this storm should exercise caution. The next regular advisory will be issued from the San Juan Weather Bureau at 6 PM AST. . .2200Z.

## Miller

San Juan Weather Bureau Tropical Storm Advisory Number 9 Debbie 6 PM AST September 9, 1961
Ifttie information, has been received today from the vicinity of tropical storm Debbie. At 6PM AST... $2200 \mathrm{~A}, . . \operatorname{the}$ center was estimated near latitude 17.2 north and longitude 39.9 west or about 1720 statute miles east of San Juan, Puerto Rico moving in a westerly direction about 13 miles per hour.

Highest winds are estimated to be 70 miles per hour over a small area near the center and gale force winds extend outward about 140 miles to the north of the center and 60 miles to the south.

Troplcai storm Debbie 1 s forecast to move towards the west at 12 milea per hour for the next 12 hours and at a slightly slower speed thereafter. This storm is still located in an area from which 1 ew ship reports are received. More exact information will be available when the storm moves within rapge of reconnalsasance aircraft or when ship reports are received from its inmediate vicinity.

Vessels in the path of Debbie should exercise caution.
The next advisory will be lasued from the San Juan Weather Bureau at 12 midnlght. . . O400Z

San Juan Weather Bureau Tropical Storm Advisory Number 10 Debbie 12 Midmight AsT September 10, 1961
The Center of tropical storm Debbie at 12 midnight ABT... $0400 \mathrm{Z} .$. .was estimated to be near latitude 17.5 N longitude 40.0 W which is about 1700 statute miles east of San Juan, Puerto Rico. It has remained almost stationary for the past 6 hours but is expected to resume a slow westward movement during the next 12 hours. There has been so little information on Debbie since it was discovered three days ago that there is a considerable degree of uncertainty concerning both the position and intensity of this storm.

Highest winds are estimated to be 70 miles per hour near the center with gale winds probably extending outward 115 miles to the north and 50 miles to the south.

Ships in the vicinity of tropical storm Debbie should exercise caution.
The next advisory will be issued from the gan Juan Weather Bureau at 6 AM AST... 10002
Hurley
San Juan Weather Bureau gan Juan Weather Bureau Tropical Storm Advisory Number 11 Debbie 6 AM AsY September 10 , 1961
Tropical storm Debbie was estimated to be cantered at 6 AM A8T... $10002 . .$. near latitude 17.8 north longitude 40.2 weat or about 1680 statute miles east of San Juan, Puerto Rico.

Indications based on very limited data are that Debbie ia moving very slowiy and probably is drifting on a more northwesteriy course with little apparent change in size and intensity. It is expected to continue its alow northwesterly movement the next 12 to 24 hours. Highest winds are estimated to be 70 miles per hour over a small area near the center and gale force winds extend outward 120 miles in the northern semicircie and 60 miles in the southern semicircle, The storm continues in an area where shipping is sparce and no ship has reported from the immediate vicinity of Debbie in 48 hours. The storm is still beyond the range of reconnaisasance aircraft. Position and wind field data are estimates and some corrrection will probably be necessary when reports are eventualiy recieved from the area.

Vessels in the vicinity of the storm ghould exercise caution.
The next advisory on tropical storm Debbie will be issued by the San Juan Weather Bureau at 12 noon AST
Davis
San Juan Weather Bureau Iropical Btorn Advisory Number 12 Debbie 12 noon ABT September 10, 1961
Due to the paucity of data from the area of tropical storm Debbie it is difficult to locate its position or determine its intensity accurately. Based on a single comercial aircraft report Debbie is estimated to be centered at 12 noon AsT... $1600 \mathrm{Z} . .$. near latitude 28.3 north and longitude 41.8 west or about 1600 statute miles east of San Juan, Puarto Rico moving west northwest.

Highest winds are eatimated to be 70 milea per hour over a small area near the center and gale force winds extend outward leo miles to the north of the center and 60 miles to the south.

Tropical storm Debbie is forecast to move toward the west northwest at 7 miles per hour with littie change in size or intensity. This is only an estimate and later reports might indicate change in both location and intensity.

Vassels in the vicinity of the storm ahould exercise caution
The next advisory will be issued by the San Juan Weather Bureau at 6 PM..2200Z.

Miller
San Juan Weather Bureau Tropical Storm Advisocy Nuaber 13 Debbie 6 PM ABT September 10, 1961
No additional information has been received from the vicinity of tropical storm Debbie since the last advisory and its position and intensity are uncertain. Debbie is estimated to be centered at 6PM ASM.. 2200Z.. near latitude 18.5 north and longitude 42.2 wast or about 1565 statute miles east of san Juan, Puerto Rico moving west northwest at 8 miles per hour.

Highast winds are estimated to be 70 ml as per hour over a small area near the center and gale force winds extend outward 110 miles to the north of the center and 55 milea to the south.

Tropical storm Debbie is forecast to move toward the west northwest at 8 miles per hour with no change in size and intensity. This is oniy an estimate and later reports may require aome change in location and intensity.

Vegsels in the vicinity of the storm should exercise caution.
The next advisory will be 1ssued by the Ban Juan Weather Bureau at 12 midnight A8T. . 0400 Z .

San Juan Weather Bureau Advisppy Mumber 14 Hurxicane Debbie 12 Midnight AST Beptember 12,1961
Veasel reports and piptures from the wather satelifte IIROS III gave definite information this evening on the location of tropical storm Debbie and indicated it hes probably attained hurricane force.

At 12 midnight AST. . 04002. . hurricane Debbie was centered near latitude 25.0 north and longitude 45.0 west or about 1400 miles east northeast of Ban Juan, fuerto Rico. It is moving northwest at 14 miles per hour and is expected to continue on a northwesterly courge at about the same speed for the next 12 hours.

The highost winds are astimated at 85 miles per hour in a amall area near the center and gale winds extend 150 statute miles outward in the northern semicircle and 50 miles in the southern aemicircie. Little change in size or intensity is anticipaed in the next 12 hours.

Vessels in the path of this hurricane should exercise caution.
The next advisory will be 1ssued by the Niam Weather Bureau at 5AM EST. . 1000 Z

## Hurley

Miami Weather Bureau Advisory Number 15 Hurxicane Debbie 5 AM EST 11 September 1961
Reports from a ship late yesterday avening indicate she passed very naar the center of Debbie. From this report and pictures from IIROS III hurricane Debbie at 5 AM EST...2000Z. was centered near latitude 26.3 north longituade 46.8 west or about 1340 statute miles eastnortheast of gan Juan, Puerto Rico. Movement is probably towards the northwest at 20 miles per hour and is expected to continue on this course for the next 12 hours.

Vessels in the path of hurricane Debbie should exercise caution.
The next advisory will be issued by the Mismd Weather Bureau at 11 AM FST
Clark
Miami Weather Bureau Advisory Number 26 Hurricane Debbie 11 AM EST 11 September 1961.
Ship reports this morning indicate that at 11 AM EST...1600Z...hurricane Debbie was centered near latitude $2 B .5$ north longitude 47.0 west or nearly 1100 statute miles eastsoutheast of Bermuda. It now appears that Debbie is moving on a northerly course at least 15 miles per hour possibly a littile faster. A reconnaismance plane is enroute to try to eatablish a more accurate location.

Debbie is expected to move on a northerly course around 18 milea per hour during the next 12 hours changing to a northeasterly courge and accelerating to 20 to 25 miles per hour tonight. This forecast track indicates that the hurricane offers no threat to the U. S. mainland.

Higheat winds are estimated at 85 miles per hour over a small area near the center. Gale winds extend outward 200 miles in the northeast semicircle and 50 miles to the southwest. Little change in size and intensity is expected during the next le to al hours.

Veasels in the path of hurricane Debbie should exercise caution,
The next advisory will be lasued by the Mami Weather Bureau at 5 PM RAM.
Sugg
Miami WeatharBureau Advisory Nuber 17 Hurricane Debbie 5PN EST 21 September 2961
Reconnaissance aircraft and ahip reports indiadte that at 5PM EBT. . $2200 Z .$. .hurricane Debbie was centered near latitude 30.2 north longitude 46.1 west or about 1200 statute miles westsouthwest of Lajes in the Azores moving on a northerly course near 17 miles per hour.

Debbie ia expected ot move on a northnortheasterly courge around 17 miles per hour for the first 12 hours changing to northeasterly and accelerating to near 20 miles per hour Tuesday. The huricane offers no timeat to the United States mainland.

Reports indicate that there has been some intensification and highest winds are now eatimated to be 210 to 120 miles per hour over a small area near the center. Eurricane winds may exteng out as far as 75 mies from the center. Gales extend outward 250 miles to the northeast and 150 miles in the southwest semicircie. Initile change in size and intensity is expected during the next 22 hours. The cintral pressure has been reported to be 976 millibars or 28.82 inches.

Vesmels in the path of hurricane Debbie should exercise extreme caution.
The next advisory will be 1ssived by the Miami Weather Bureau at 11 PM EST.
Sugs
Miami WeatherBureau Hurricane Advisory Number 18 Debbie 11 FM BSI september 11,2961
Eurrime Debbie was centered near latiunde 31.2 north longitude 46.0 west or about 1100 atstute miles east of Berwida at 17 FN EST . . .o400Z. . .moving northward 14 miles per hour.

Highest winds are eatimated 120 miles per hour near the center and gales extond out 250 miles to north and east and 150 miles to nouthwest.

Littile change is expected in size or intensity tonight and Tuasday as it continuss northwari mout 22 miles per hour.
The next advieory will be issuad by the Mhami Weather Bureau at 5 AM EsT.

> Kraft

5

No reports have been received from the imediate vicinity of hurricane Debbie during the night. At 5 AM EMS. . 1000 . . .Debbie was ostimated to be centered near Latitude 32.3 north longitude 45.9 west or about 1075 atatute miles east of Bermuda moving northward about 12 miles per hour.

Highest winds are about 220 miles per hour near the center and hurricane force winds within 75 miles of the center. Gales extend out 250 miles to the north and east and 150 miles to the southwest.

Little change is expected in size or intensity during the next 12 to 24 bours as it continues northward about 12 milea per hour. Vessels in the path of hurricane Debbie should exercise extreme caution.

The next advisory will be issued by the Miami Weather Bureau at 11 AM EST.

## Clark

Miami Weather Bureau Hurxicane Advisory Number 20 Debbie 21 AM EST 12 September 2961
Hurricane Debbie was centered near latitude 33.0 north longitude 45.0 west or about 1100 atatute miles east of Bermuda at 11 AM EST... $1600 Z$...moving on a northerly course about 12 miles per hour.

Highest winds are about 110 miles per hour near the center and galea extend outward 250 miles to the north and east and 150 miles to the southwest.

Little change is expected in size or intensity as Debbie continues north to northnortheast near 12 miles per hour during the next 12 hours. The lowest pressure this morning was 978 mb or 28.88 inches.

Vessels in the path should exercise caution.
The next advisory will be issued by the M1ami Weather Bureau at 5 FM EST.

Sugg
Miami Weather Bureau Hurricane Advisory Number 21 Debbie 5PM EST 12 September 1961
Hurricane Debbie was centered near latitude 34.0 north longitude 44.4 west at 5PM EST...22OOZ. ..moving an a northnortheasteriy course near 12 miles per hour.

Highest winds are about 110 miles per hour near the center and gales extend outward 250 miles to the north and east and 150 miles to the southwest.

Little change is expected in size or Intensity as Debbie continues northnortheast to northeast 12 to 15 miles per hour during the nest 12 to 24 hours.

Vessels in the path should exercise caution.
The next advisory will be issued by the Weahington Weather Eureau at IIPM EGT.

## Sugg

Washington Weather Bureau Hurricane Advisory Number 22 Debbie 11 PM EST September 12, 1961
$D_{a}$ ta received from ships in the vicinity of hurricane Debbie indicote that the hurricane was centered near latitude 35.0 north longitude 43.5 west at 11 PM EST...0400Z....and moving toward the north northeast at 14 miles per hour.

Higheat winds are still estimated to be 110 miles per hour near the center and hurricane winds extend outward 85 miles. Gales extend outward 250 miles to the north and east and 150 miles to the southwest.

Hurricane Debbie is expected to move toward the northeagt for the next 24 hours with a forward speed of 16 miles per hour increasing to 20 miles per hour after 12 hours.

Little change is expacted in size or intensity of this dangerour hurricane during the next 24 hours.
All ships in the path of hurricane Debbie should exercise extreme caution.
The next advibory on hurricane Debbie will be issued by the Washington Weather Bureau at 5 AM EST Wednesday.

## Mook

Washington Weather Bureau Hurricane Advisory Number 23 Debbie 5 AM EST September 13, 1961
Little data received from the vicinity of Debbie during the night, Fosition estimated near latitude 36.0 north longitude 42.8 weat at 5 AM EST.... 10007... moving toward the northeast at about 14 miles per hour.

Highest winds estimated 110 md les per hour near the center and hurricane winds extend outward 85 miles. Gales extend outward 250 miles to the east and north and 250 mll les to the southwest.

Hurricane Debbie is expected to move toward the northeast for the next 24 hours with a forward speed of 16 miles per hour increasing to 20 miles per hour after 12 hours. Little change is expected in aize or intensity.

Al1 ships in the path should exercise asution.
The next advisory in hurricane Debbie will be issued by the Waghington Weather Bureau at il AM EST Wednagisy
Norquest

Washington Weather Bureau Hurricane Advisory Number 24 Debbie 11AM EST September 13, 1961
Reports from reconnaissance aircraft and ships this morning place hurricane Debbie near latitude 35.6 north and longitude 43.7 west at L1AM EST ....1600Z...moving between northeast and north northeast 11 miles per hour.

Highest winds about 110 miles per hour near the center and hurricane winds extend outward 85 miles from the center. Gales extend outward 250 miles in the acutheast semi-circle and 150 mlles in northwest semimcircla.

Hurricans Debbie is expected to turn to an east northeast heading and slowly increase its forward speed during the next 12 to 24 hours. Iittle change is expected In size or intensity.

All ships in the path of hurricane Debbie mould exercise caution.
The next advisory on hurricane Debble will be issued by the Washington Weather Bureau at 5PM EST today.
Hoover
Washington Weather Bureau Hurricane Advisory Nubmer 25 Debbie 500PM FsT September 13, 1961
Data from ships in the vicinity of hurricane Debbie indicate that the hurricane was centered near latitude 36.5 north longitude 42.5 west or about 6800 etatute miles west southwest of the western most islands of the Azores at 5PM FST...22OOZ. . moving northeast 14 miles per hour.

Highest winds are estimated about 110 miles per hour near the center and huricane winds extend outward 85 miles from the ceater. Gale winds extend outward 250 miles in the southeast semicircle and 250 miles in the northwest semicircle.

Hurricane Debbie 1 is expected to turn toward the east northeast and increase its forward speed during the next 24 hours. Little change is expected in size or intensity.

Winds are expected to increase to about 50 knots on the wastern most islands of the Azores during the day Thursday.
All ships in the path of hurricane Debble should exercise caution.
The next advisory on hurricane Debbie will be issued by the Washington Weather Bureau at 11 PM.

## Hoover

Washington Weather Bureau Hurricane Advisory Number 26, Debbie 11 PM EST September 23,1961
Information from the weather satellite TTROS III and from ships in the area around hurricane Debbie plase the center of the hurricane at 11 PM EST... O4002. . at latitude 37.0 north longitude 41.2 west or about 550 statute miles west southwest of the westernmeost islands of the Azores moving toward the northeast at about 13 miles per hour.

Highest winds are estimated to be about 110 miles per hour near the center and hurricane winds extend outward 85 miles from the center. The Danish vessel Herdistorm reported that it had thrown its deck cargo overboard on Wednesday in an effort to withstand the hurricane. Gales extend outward 250 miles to the east and south and 150 miles to the north and west. Hurricane Debbie is expected to turn more toward the east northeast and increase its forward speed during the next 24 hours. Littie change is expected in sizs or intensity.

Winds are expected to increase to about 50 knots on the westemmont isldands of the Azores on Thursday.
All ships in the path of Hurricane Debbie should exercise caution.
The next advisory on hurricane Debble will be issued by the Washington Weather Bureau at 5 AM EST Thursaay

## Mook

Washington Weather Bureau Hurricane Advisory Number 27 Debbie 5 AM EST September 14, 2961
No information was received from areas near Debbie during the night. The pobition at 5 AM EST...loooz...estimated near latitude 38.0 north longtitude 40.0 west or about 500 statute miles west of the Azores moving toward the northeast at about 17 miles per hour.

Higheat winds are estimated at 115 miles per hour over a mall area near the center and hurricane force winds extend outward 85 miles. Gales extend nearly 300 miles to the south and east and 175 miles toward the northwest.

Hurricane Debbie is expected to tum more toward the eastnortheast during the next 24 hours and increase in forward speed with IIttle change in size of intensity.

All ships in the path should exercise caution.
The next advisory on hurricane Debbie will be issued by the Washington Weather Bureau at 11 AM EST Thursday.

Washington Weather Bureau Hurricane Advisory Mumber 28 Debbie 11 AM EST September 14, 1961
Weather reports from ships on the periphery of hurricane Debble indicate the center was near latitude 37.5 north and longitude 35.5 west at 11 AM $3 S T$... 16002 ...moving east northeast about 18 miles per hour. This places hurricane debbie about 350 statute minles west southwest of the westmost island of the Azores.

Highest winds in hurricane Debbie are estimated at 175 miles per hour over a small area near the center and hurricane force winds extend outward 85 miles . Geles extend outward 300 miles in all quasrants except 275 miles to north.

Hurricene Debbie is expected to turn northeast very slowiy and increase its forward speed to about 30 miles per hour during the next 24 hours. This course will move the hurricane across the westernmost islands of the Azores with hurricane winds on the western islants and gale winds on the eastern islands of the Azores this afternoon and tonighit. Little change is expected in size or intensity for the first 12 hours followed by some decrease in the highest winds near the center in about 24 hours.

All ships in the path of hurricane Debbie showld continue to exercise caution.
The next advisory on hurricane Debbie will be issued by the Washingtion Weather Bureau at 5 PM today.
Hoover
Washington Weather Bureau Hurricane Advisory Number 29 Debbie 500PM EST September 14 , 196
Reconnaissance aircraft and ahip reports indicate hurricane Debbie was centered near latitude 37.0 north longituaie 33.2 west at 5FM EST. ., 2200Z. . .moving east northeast 20 miles per hour.

The highest winds in hurricane Debbie are estimated at 115 miles per hour over a amall area near the center and hurricane force winds extend outward 85 miles. Gales extend outward 300 miles in all quadrants except 175 miles to the north.

Hurricane Debbie is forecast to turn slowly toward the northeast and increase its forward speed. This movement will take Debbie across the Azores tonight with hurricane force winds. The highest winds near the center will decrease Feiday.

All shipe in the path of hurricane Debbie shouldoontinue to exercise caution.
This will be the last public advisory on Debbie. Furtber advices on this hurr cane will continue to be carried every six hours in the marine bulletins issued from Washington for broadcast over NSS.

Hoover

