

FIJI METEOROLOGICAL SERVICE

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TROPICAL CYCLONE REPORT 91/1

TROPICAL CYCLONE LISA

7 - 13 May 1991

Note: Tropical Cyclone Reports are intended to be quickly available, preliminary, descriptive reports for public use. Their early issue means that details may be subject to subsequent correction.

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INTRODUCTION

Lisa was the first tropical cyclone to develop outside the normal cyclone season in this part of the world since "Namu" in May 1986.

Lisa originated from a depression in the Coral Sea between Papua New Guinea and Solomon Islands and was named by the Brisbane Tropical Cyclone Warning Centre on 8th of May, 1991.

The system moved south-southwest initially, and later curved southeast to cross the 160 degrees East Longitude and enter into Fiji's area of responsibility on the 11th. It reached peak intensity around 1800 UTC* on the 10th, with average winds of 60 knots and momentary gusts up to 90 knots estimated close to its centre.

The cyclone followed a steady rate of movement during large part of its lifespan and only temporarily slowed down when recurving. Apart from coming close to Aneityum in Southern Vanuatu, Lisa spent rest of its life over the open sea thus hardly causing any damage.

HISTORY

A weak depression developed along the Convergence Zone near Bouganville in the Solomons on 7th of May. By 0000 UTC on the 8th the system had acquired characteristics of a tropical cyclone and was subsequently named "LISA" by the Brisbane TCWC.

With gales around it Lisa moved initially towards south-southwest at a little less than 10 knots. By 1800 UTC on the 8th the cyclone had turned south, meanwhile intensifying steadily. Thereafter, steered by upper-level northwesterlies the system curved gradually towards southeast, reaching storm intensity by 0600 UTC on the 9th.

*UTC - Co-ordinated Universal Time (same as Greenwich Mean Time)

Lisa reached peak intensity about 18 hours later with maximum average winds estimated at 60 knots and gales extending to about 200 miles from the centre. It maintained this intensity for about 30 hours before encountering strong vertical shear and starting to weaken as a result. The system crossed 160 degrees East longitude and entered into Nadi's area of primary responsibility for issuing international maritime warnings around 0600 UTC on the 11th, a little earlier before beginning to lose intensity. Due to influence of the upper-level flow Lisa curved east-southeast for a while and started to accelerate. By 0000 UTC on the 12th it had already lost storm force winds and was still moving east-southeast at an increased speed of about 15 knots. 18 hours later, as the system approached Southern Vanuatu, it lost its tropical cyclone characteristics. The resulting depression sped towards southeast, passing between the islands of Tanna and Aneityum in Vanuatu with strong winds close to 1800 UTC on the 12th.

WARNINGS

Early notification of the potential for development of a tropical cyclone near Papua New Guinea was issued by Guam Warning Centre around 0000 UTC on the 7th.

The Brisbane TCWC, after naming Lisa, issued its first gale warning at 0000 UTC on the 8th. Subsequent warnings were issued at 6 hourly intervals as Lisa underwent slow development. Warnings were upgraded to that of storm 30 hours later. Gales were forecast about 150 miles of centre at that time but later extended to cover an area about 200 miles in the southern quadrants as the system moved southeast.

As Lisa moved southeast gales began extending beyond 160 degrees East Longitude, the line of boundary between Nadi and Brisbane areas of warning responsibility. As a result Nadi issued its first warning on the system at 1930 UTC on the 10th. Subsequent warnings were issued at 6 hourly intervals based on essentially the same information as that available from Brisbane. Nadi assumed primary responsibility for Lisa after Brisbane issued its warning based on observations at 0600 UTC on the 11th. Following two more storm warnings, the system was downgraded to gale intensity by Nadi around 0000 UTC on the 12th. Approximately 15 hours later it transformed into a depression. Warnings were adjusted accordingly the final bulletin being issued on the system at 1300 UTC on the 12th.

SPECIAL ADVISORY

The first Special Advisory for Vanuatu was issued at 0130 UTC on the 12th when it became apparent that on its eastsoutheast track Lisa could cause damaging winds over Southern Vanuatu. Subsequent bulletins were issued at 6 hourly intervals providing progressive information and advice on the cyclone as it approached the southern part of Vanuatu and finally transformed into a depression.

In total, five Special Advisories were issued for Vanuatu on Lisa which was never posed to be of any serious threat to the country. Only strong winds were experienced and no significant damage was reported.

Tropical Disturbance Advisories

Nadi issued Tropical Disturbance Advisories on Lisa every twelve hours, from 0800 UTC on the 10th till 2000 UTC on the 12th. These were addressed to all meteorological services in the region and contained useful information on the location, movement, intensity, wind distribution and organizational characteristics of the cyclone. Altogether, six such advisories were issued.

CONCLUSION

Developing outside the normal cyclone season, Lisa was a moderately intense cyclone by comparison. Its intensification was gradual but the system weakened very rapidly and at much lower latitude than is usual.

It was fortunate that the system had moved south, away from the Solomons, by the time it attained damaging winds, and remained in the open sea during its entire lifespan as a tropical cyclone. As a result, both Solomons and Vanuatu escaped its major effects.

