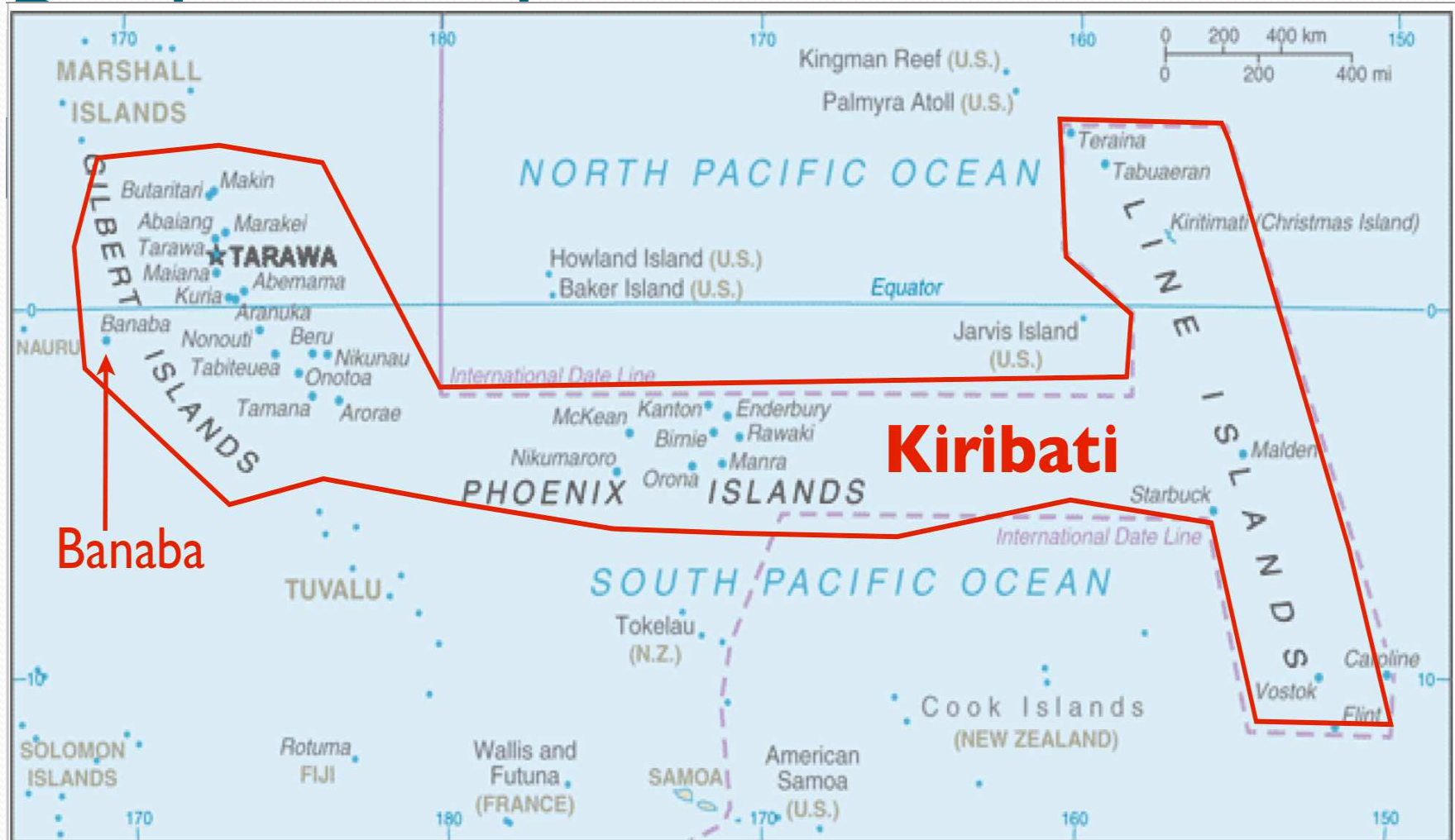




Kiribati Meteorological Service

Tropical Cyclone Regional V

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Capital Tarawa

- More than 100,000 people.
- Low lying and flat atolls
- Most vulnerable in weather, ocean and climate.
- And Climate Change is the major concerned.



Tropical Cyclone Betsy/Axel

HISTORY

Betsy developed in a monsoon trough to the west of Tuvalu and to the south of the islands of Nauru and Banaba in the Kiribati Group. A surge of strong to gale force westerly winds on the northern side of this trough between the 3rd and 5th of January probably provided the starting mechanism for the formation of Betsy and its twin cyclone "Axel" in the northern hemisphere.

By 1800 UTC on the 5th, a marked increase in organization was evident in the satellite pictures. The cloud system was becoming more symmetrical, and strong upper-level outflow and weak vertical wind shear above the depression favoured further development. Winds close to centre at this stage were estimated to be about 30 knots. The depression was slowly moving westwards.

Betsy directly affected three countries, and indirectly affected two others. Northern and central regions of Vanuatu appear to have been the worst affected, although, fortunately no loss of life was reported there. However, five people were killed in accidents related to strong or gale force winds in Kiribati. This occurred in a belt of westerlies just north of the area where Betsy developed a few days later.



GMS satellite image on 9 January 1992 showing Typhoon Axel in the northwest Pacific and Cyclones Mark and Betsy in the southwest Pacific. Bureau of Meteorology

Following information taken from:
<http://ntlapp.nt.gov.au/tracy//advanced/Met/cyclones.html> (Australian governmental department and

Tropical Cyclone Pam/Bavi

Introduction

The development of two low pressure systems into Tropical Storm Bavi (located North of Western Kiribati) and Tropical Cyclone Pam (located south of Western Kiribati) was the sole contributor to the severe weather (heavy rain, strong winds, and swell waves) experienced on the 8th-11th March, 2015.

These severe weather conditions disrupted and impacted daily activities. In the capital island; Tarawa, the main causeway connecting the main port (Betio) to the rest of the island was closed due to severe damages sustained by destructive waves. Major damages were also beared over the southern islands of Western Kiribati, where many homes have been destroyed and its residents forced to move inland; away from the surging waves.

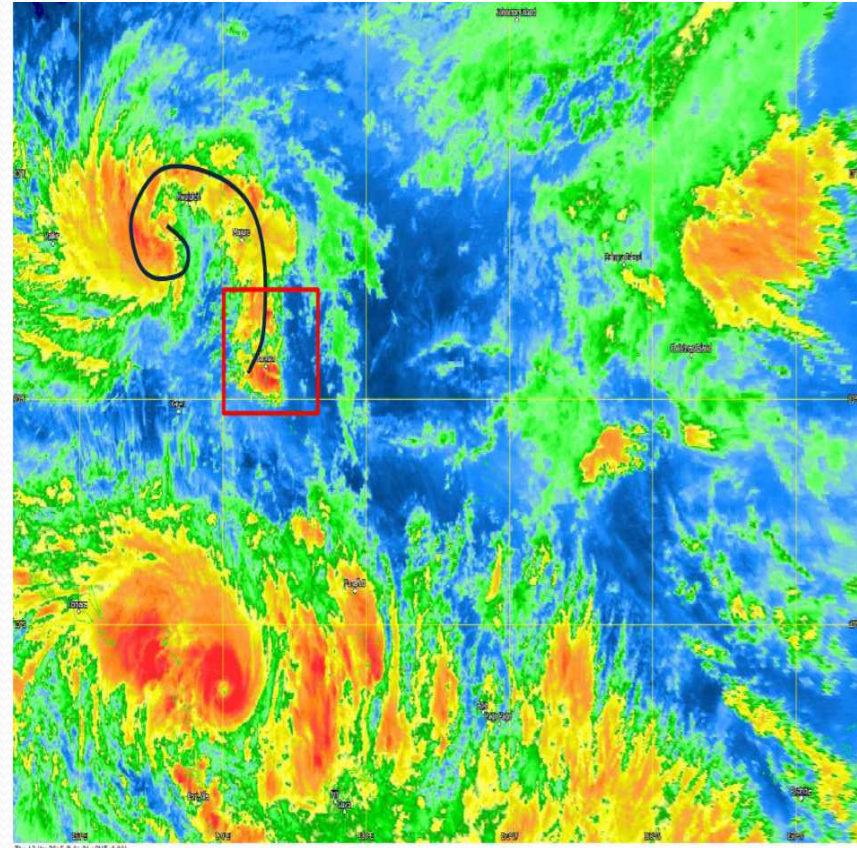


Figure 4: Rain bands (curved line) from tropical storm Bavi covering the northern parts of Western Kiribati (enclosed in red) as it moves NW from Western Kiribati.

Tropical Depression

Case Studies: Strong wind on 06th that affect Kiribati Islands including fishermen

Background.

The low pressure system that persist over the southern part of phoenix islands which later upgraded on 06th February to tropical depression (TD06F) was bringing a devastating impact to some people of Kiribati including properties and live. Two fishermen were found dead early in the morning which later confirmed the system upgraded. The Kiribati Meteorological services responsible for weather monitoring and weather watch have long headed issued a Advisory to the public over the radio on Swells and gusty winds and since early detection on this system on Wednesday 30 of January 2019.

Even though this system was very far from Gilbert group, but the convergence of the wind cause by this system may drive weather to form continuously active convective cloud especially during the night.

There are two casualties that reported and later found in the morning died due to the capsized of their fishing boat near Bairiki.

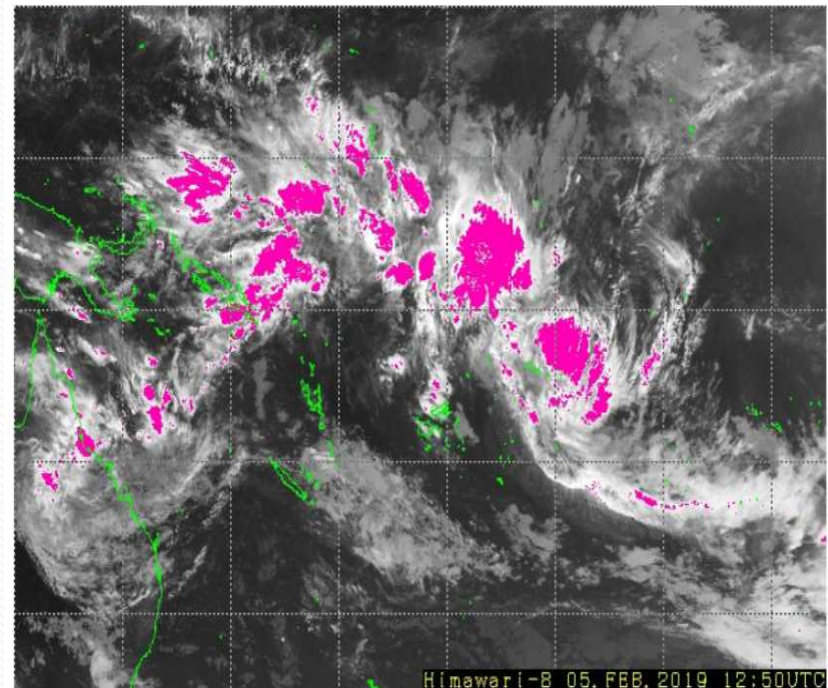


Figure 1: The low pressure system that later upgraded to TD06F with band of convective cloud associated from convergence.

Challenges & Gaps

- People of Kiribati doesn't know what TC/TD is?
- Forecasting is partly 24hrs
- Government budget
- Traditional knowledge
- Capacity of forecaster
- Forecaster to issue Tropical cyclone
- Resources (Human, Equipment and tools)
- Internet speed
- Research capacity
- Documentation of past event on TC/TD.

Conclusion

- Even though Kiribati Islands are out of tropical cyclone. “TC has are lots of Friends” one of them is Storm surge.
- KMS mission is to save lives and properties. So accurate and timely early warning.
- ENSO enhance and strengthen formation of twin vortex .
- Climate Change is a issue in Kiribati (low lying and flats)

