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Regional NWP model for Prediction of Adverse Weather Conditions and Nowcasting

Sownal Chand

FIJI METEOROLOGICAL SERVICES

Numerical weather prediction and Artificial intelligence has improved forecasting and weather prediction for global model and developed countries. This evolution has made a major impact on small and developing countries by providing the global models to assisting in weather prediction, forecasting and analysis. Climate change has affected RA-V regional countries with adverse weather and tropical cyclones every year which has been well predicted by global models but there are some limitations for these models in prediction accurately the intensity, actual onset of events (TCs, Heavy Rain, etc) and impact these weather condition would bring in terms of damages to infrastructure, livelihood and economic growth.

Fiji Metservice provides alerts and warnings to the regional countries which are smaller than the actual size of a grid, the intensity of events (Heavy Rain, Strom surges, Inundation) has impacted these countries a lot and needful improvement can be made in prediction of the intensity, onset of events so that these small and developing islands can save their infrastructure. Regional Models will assist in prediction of the events more accurately and will also assist them to take action well in advance in terms of disaster preparedness.

Proposed plan is to develop regional weather analysis and nowcasting model which can predict these adverse weather well in advance and provide alerts and warnings at least a week in advance for the Disaster Managers to act accordingly. Regional model with the assistance of actual observation/data assimilation will improve nowcasting for such

events and also assist the tourism sector which is why pacific islands are well known for;

it's pleasant weather and hospitality