

# 2021-22 Southwest Pacific Tropical Cyclone Outlook

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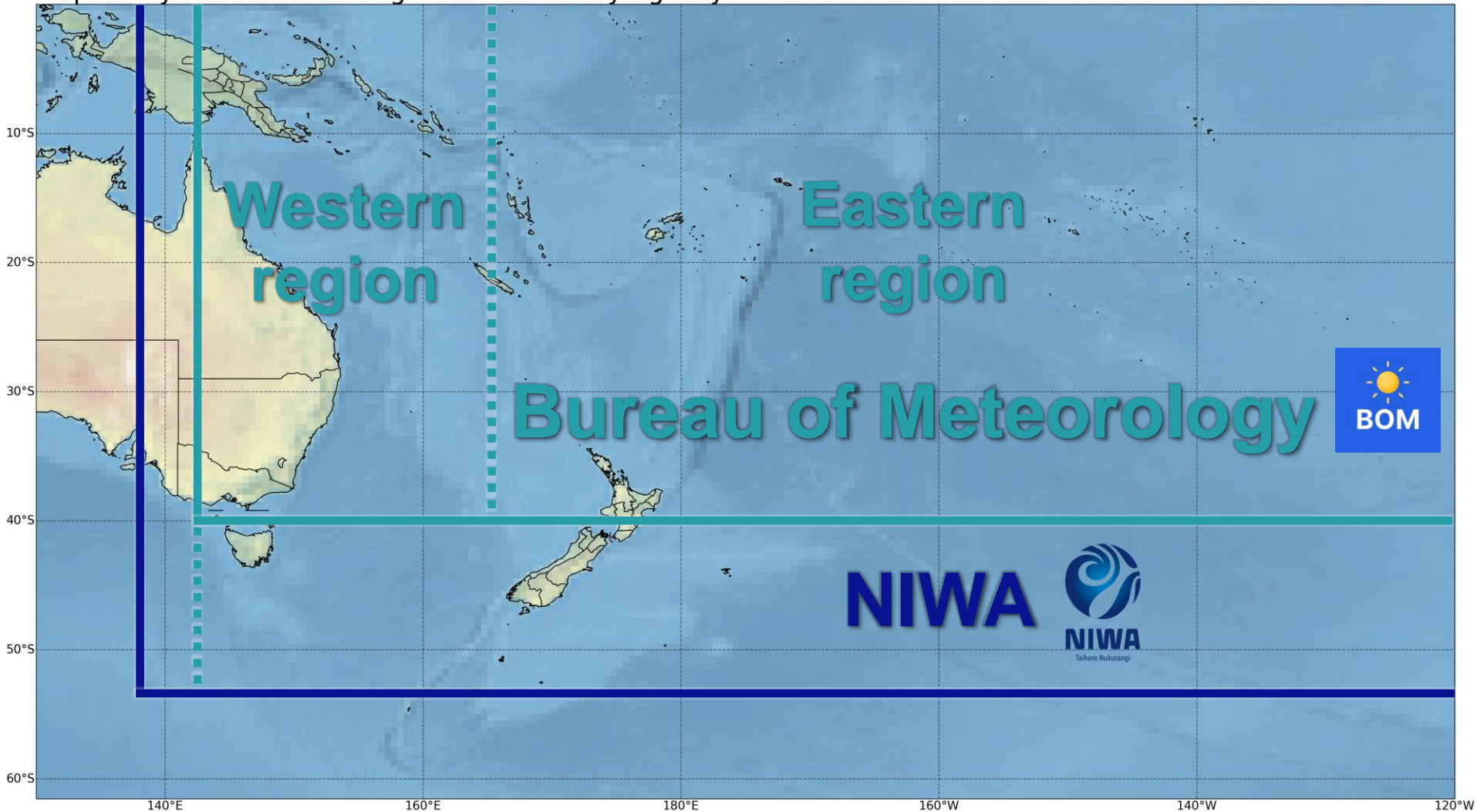
Support from: BoM, Météo-France,  
NOAA, SPC, SPREP, RSMC Nadi

# Outline of Presentation

- Reminder about different outlook regions
- Predicted tropical cyclone numbers
- Regional cyclone activity heatmaps
- Climate drivers of this outlook



# Friendly reminder: cyclone outlook areas differ

Tropical Cyclone Outlook Region of Interest by Agency





## Quick review of 2020/21 season

Agency	Prediction		Observed	
	Total TCs	Severe TCs	Total TCs	Severe TCs
 <b>BoM</b> (142.5°E - 120°W)	51% chance of above average (9)		8	3
 <b>NIWA</b> (135°E - 120°W)	8-10	3+	8	3

- Normal to slightly below normal season predicted and validated
- La Niña conditions were present



***It only takes one...***

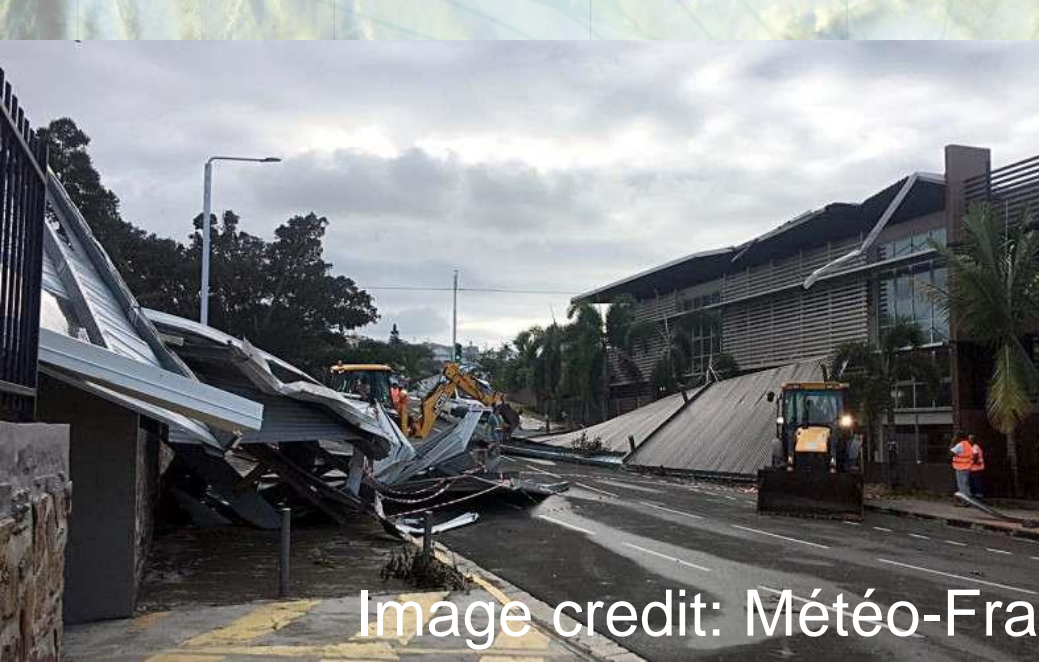




Image credit: Météo-France New Caledonia

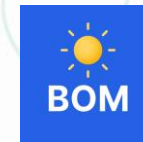


# 2021/22 tropical cyclone outlook

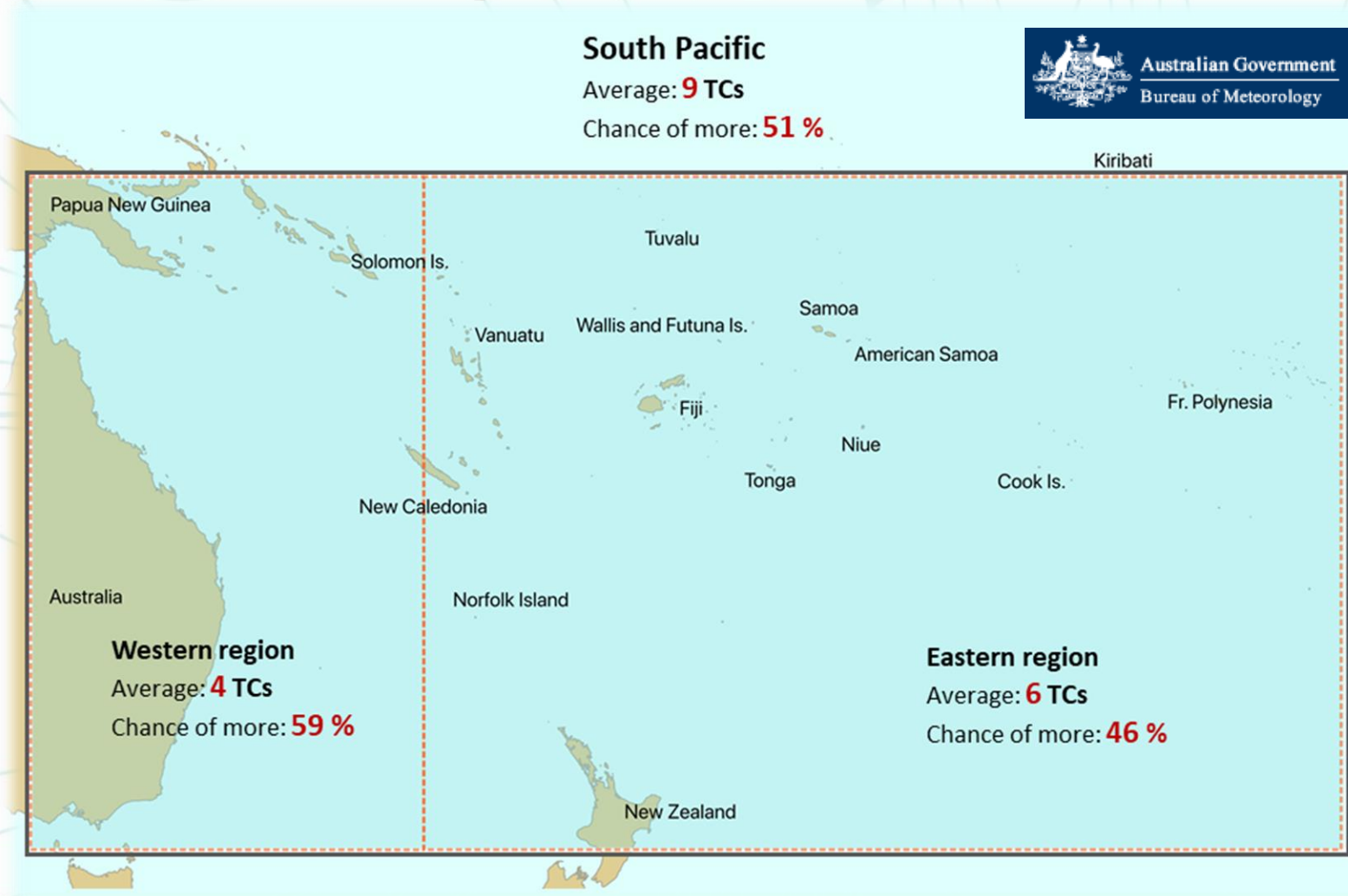
Agency	Prediction	
	Total TCs	Severe TCs
 <b>BoM</b> (142.5°E - 120°W)	51% chance of above average (9)	
 <b>NIWA</b> (135°E - 120°W)	9-12	3+

- A near or slightly above normal season is the consensus outlook
- Increased likelihood for La Niña conditions
- Both outlooks consider relationships between ENSO indicators and tropical cyclone numbers

# 2021-22 BoM outlook



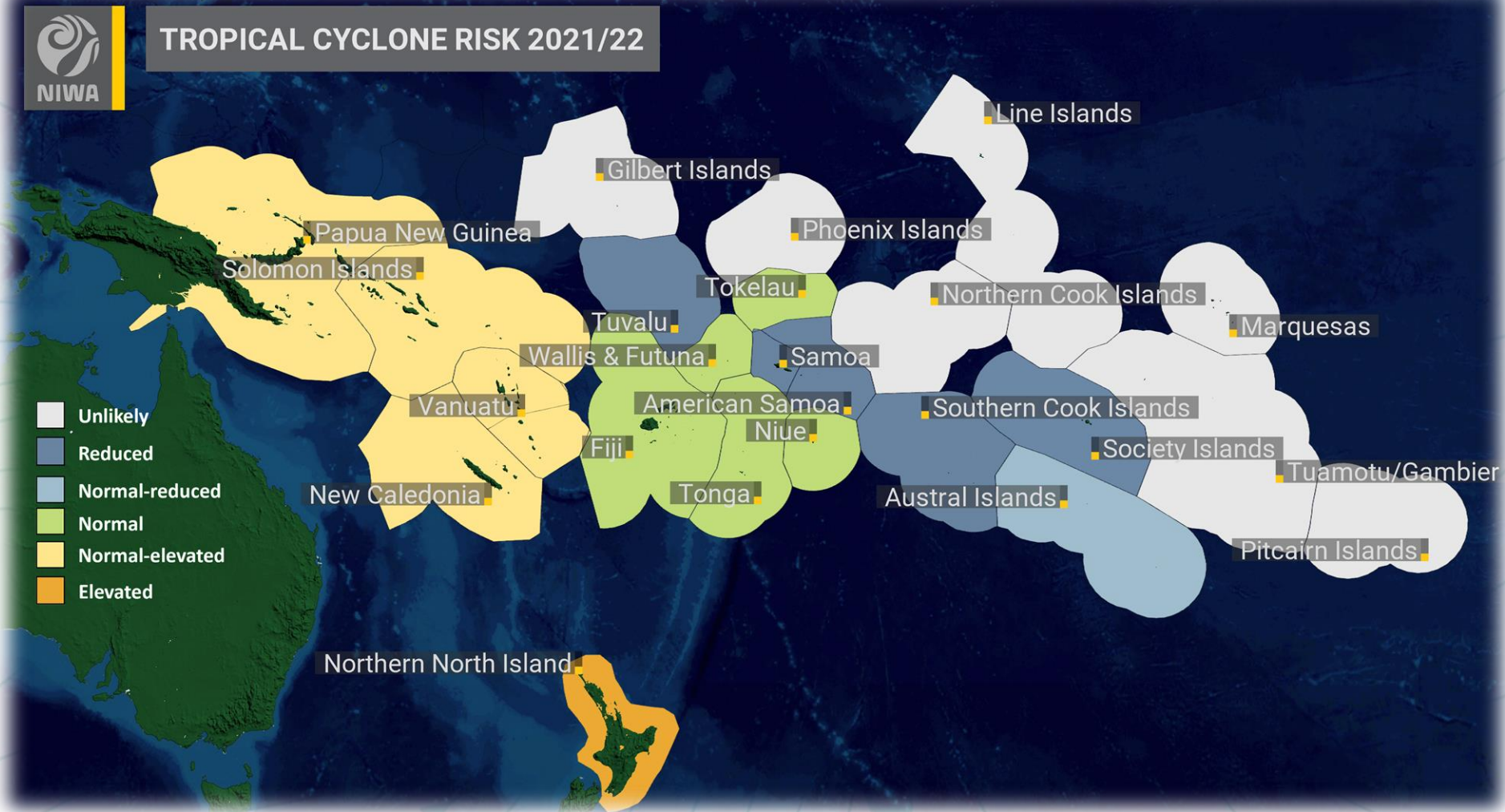
*Above average numbers favoured in the west*



- Additional info: <http://www.bom.gov.au/climate/cyclones/south-pacific/#tabs=Outlook>

# 2021-22 NIWA cyclone risk outlook

## *Normal to slightly above normal season predicted*

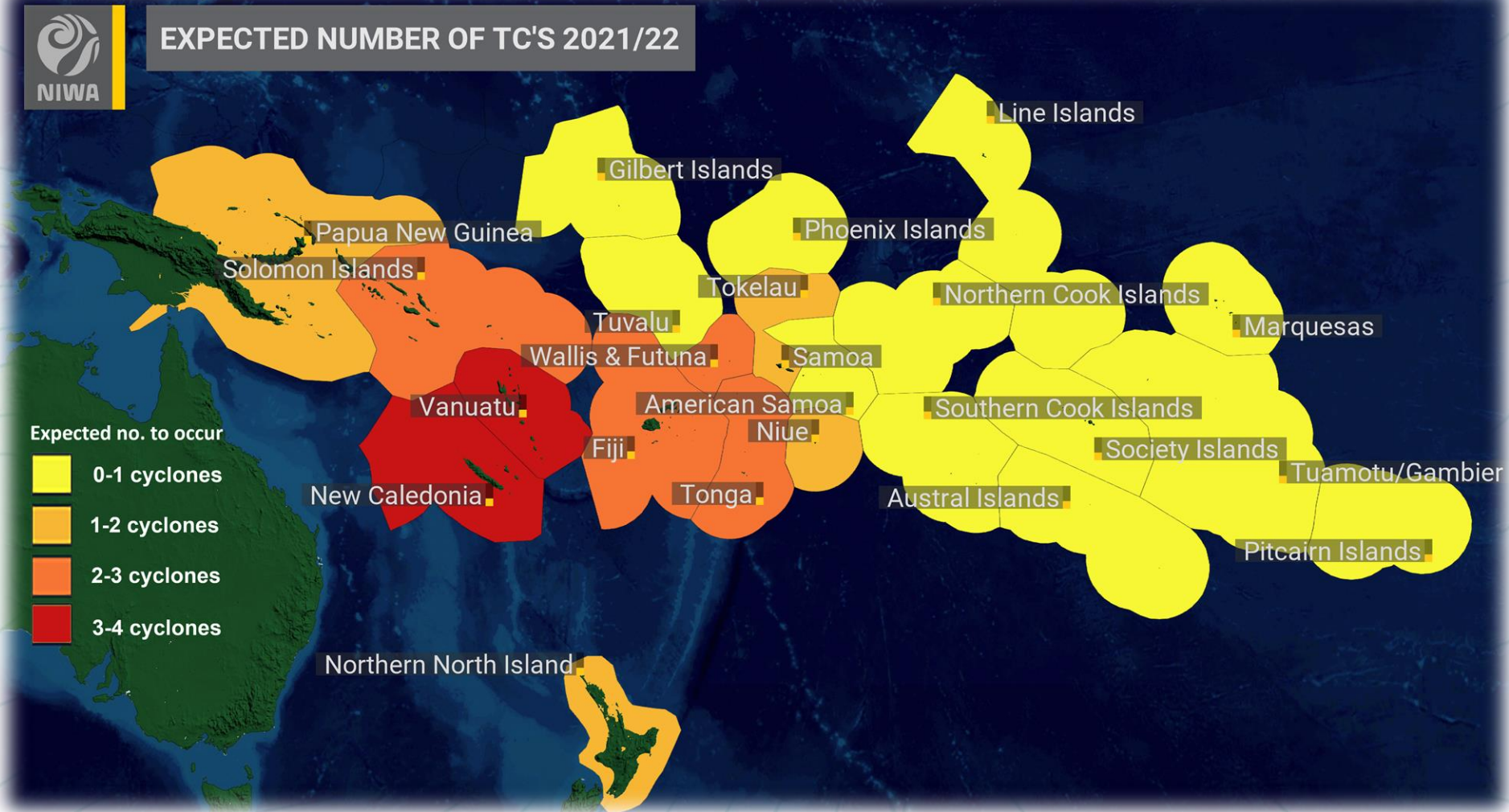


- Additional info: <https://niwa.co.nz/climate/southwest-pacific-tropical-cyclone-outlook/southwest-pacific-tropical-cyclone-outlook-october-2021>

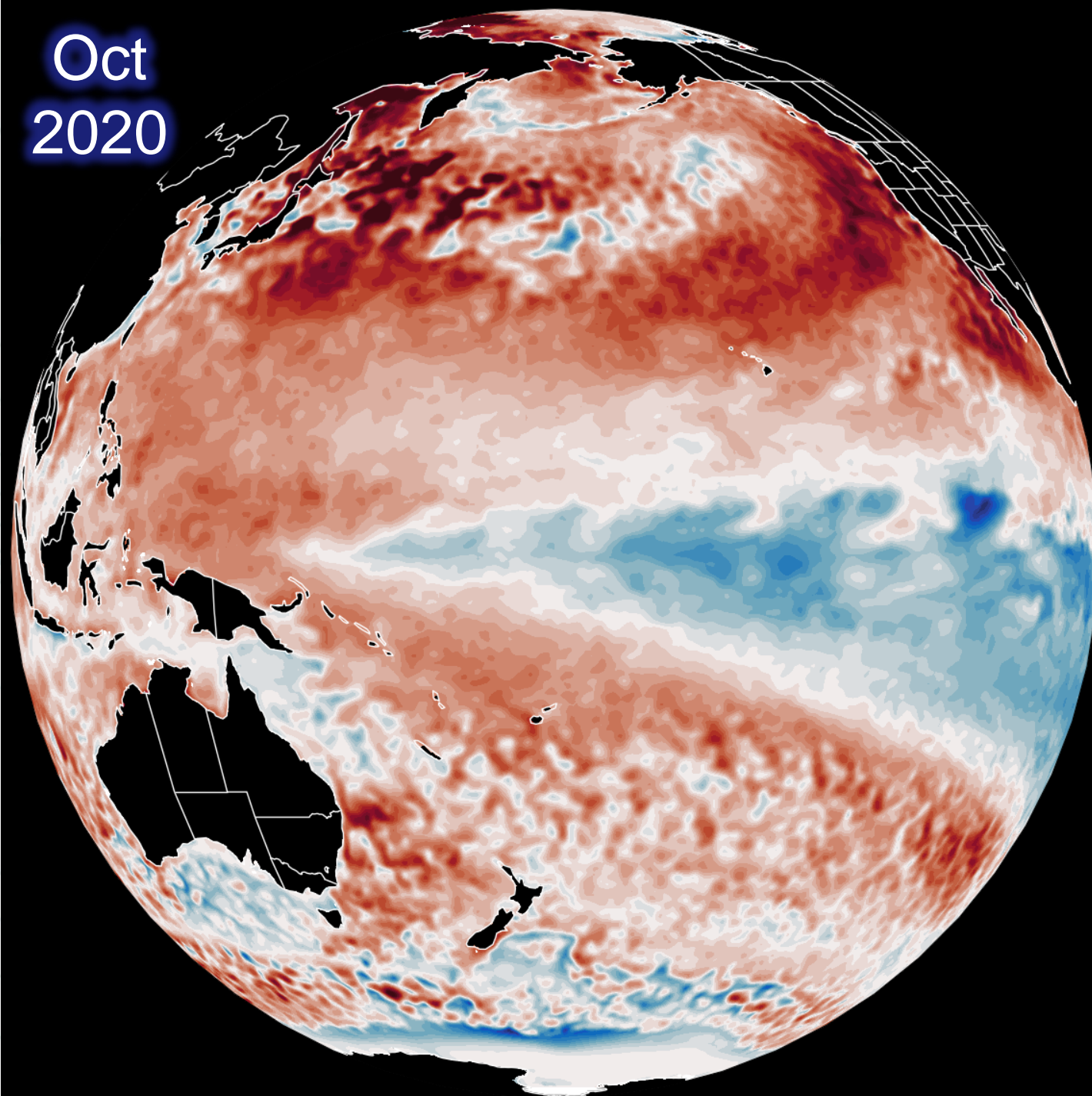


# 2021-22 NIWA cyclone number outlook

**9 to 12 named storms predicted**

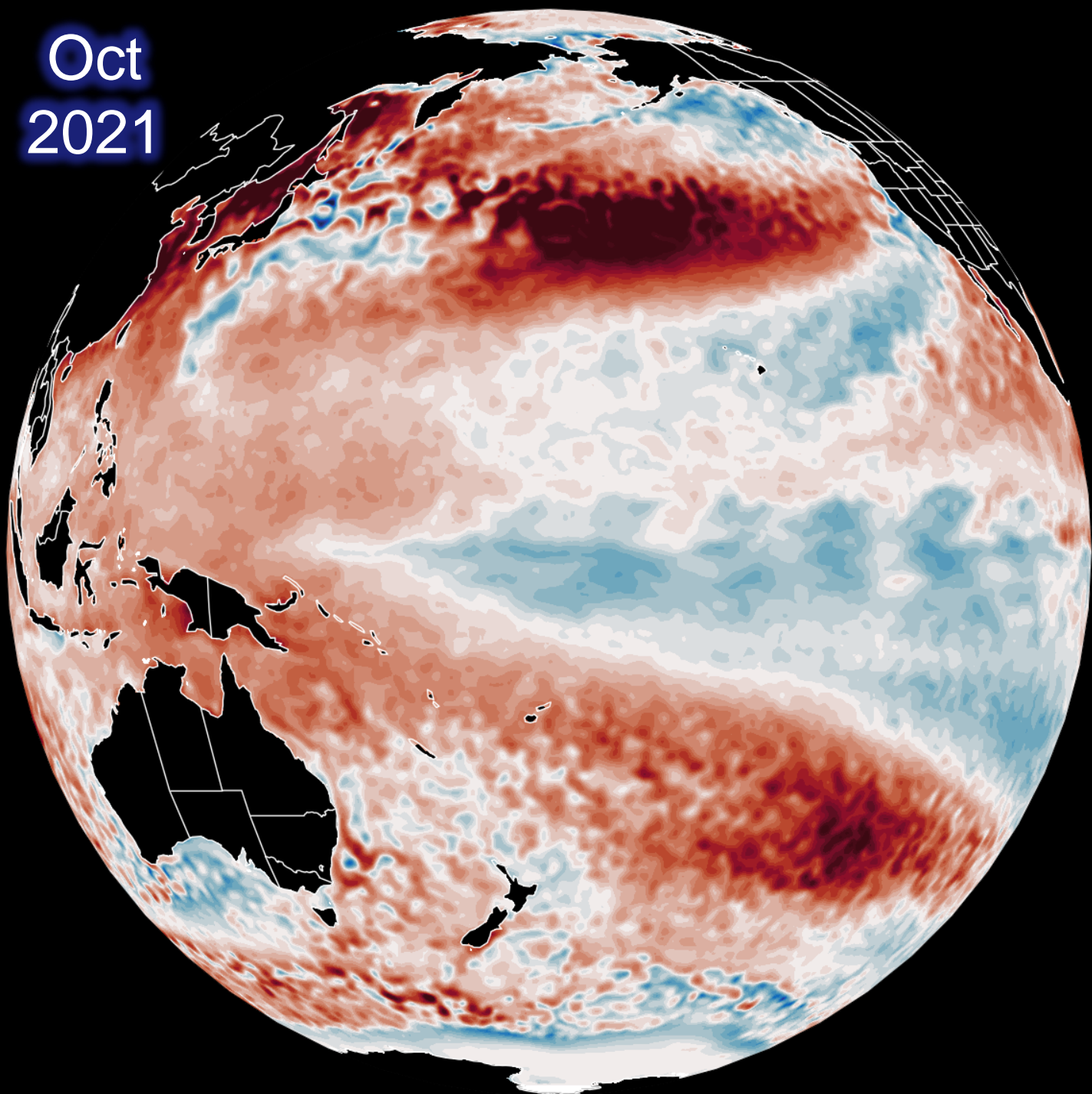


Oct  
2020





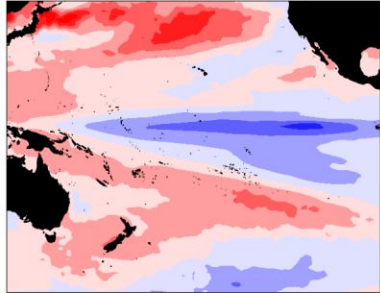
Oct  
2021



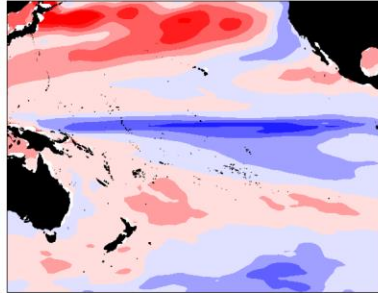
# Key climate driver: La Niña

*Multi-model agreement...*

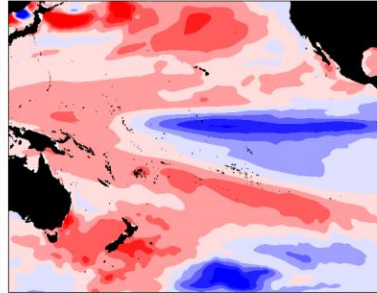
C3S Ensemble Mean



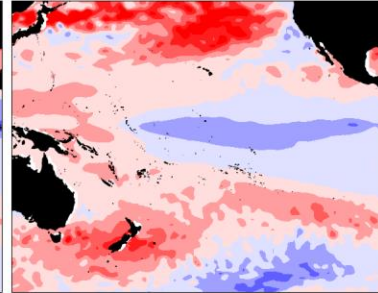
ECCE



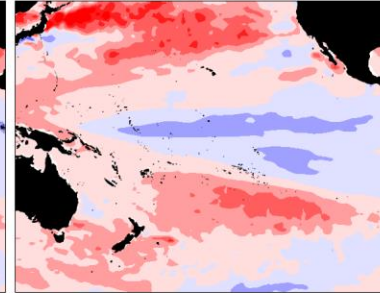
CFSv2



DWD



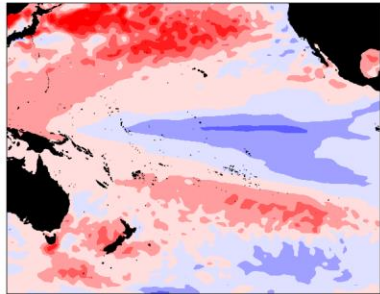
CMCC



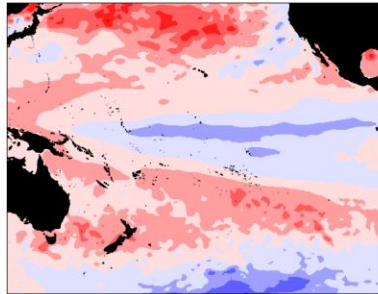
**2022-01 to 2022-03 SST Anomalies**

*SST anomalies range from -2 to 2 °C*

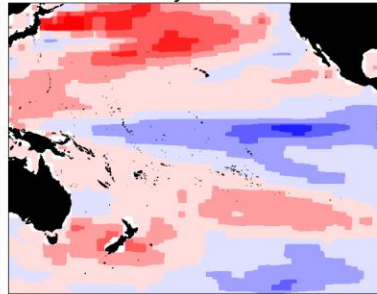
UKMET



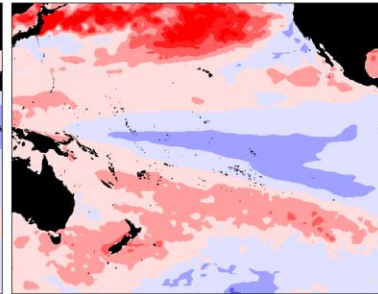
Météo-France



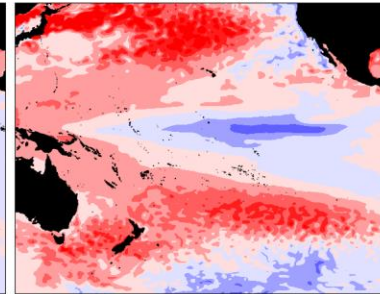
JMA



ECMWF



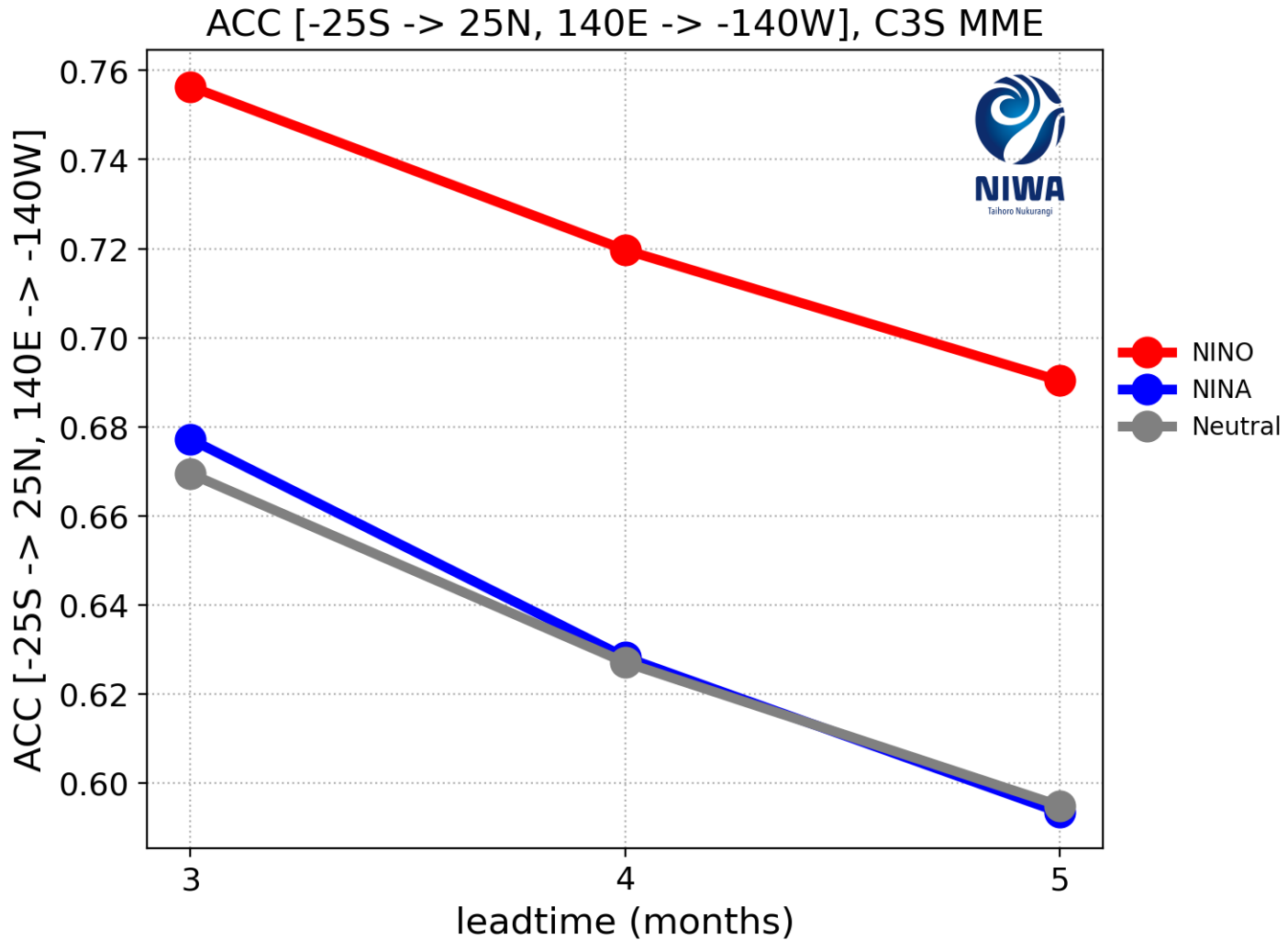
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# Model precipitation skill based on ENSO status

*Best during El Niño*



# Atmospheric response to La Niña

## *Strong agreement on low pressure in the west*

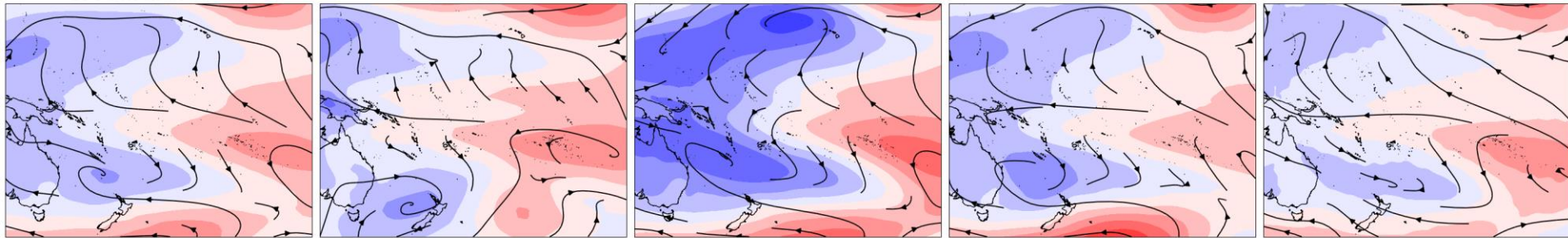
C3S Ensemble Mean

ECCC

CFSv2

DWD

CMCC



**2022-01 to 2022-03 Air Pressure Anomalies & Streamlines**

MSLP anomalies range from -3 to 3 hPa

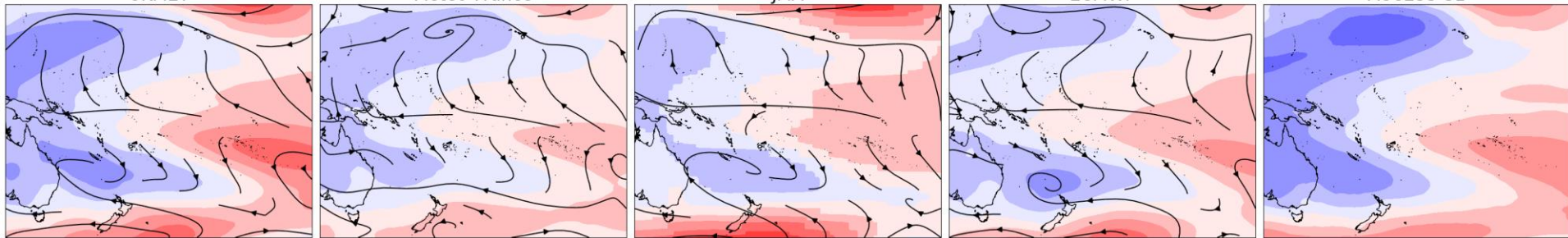
UKMET

Météo-France

JMA

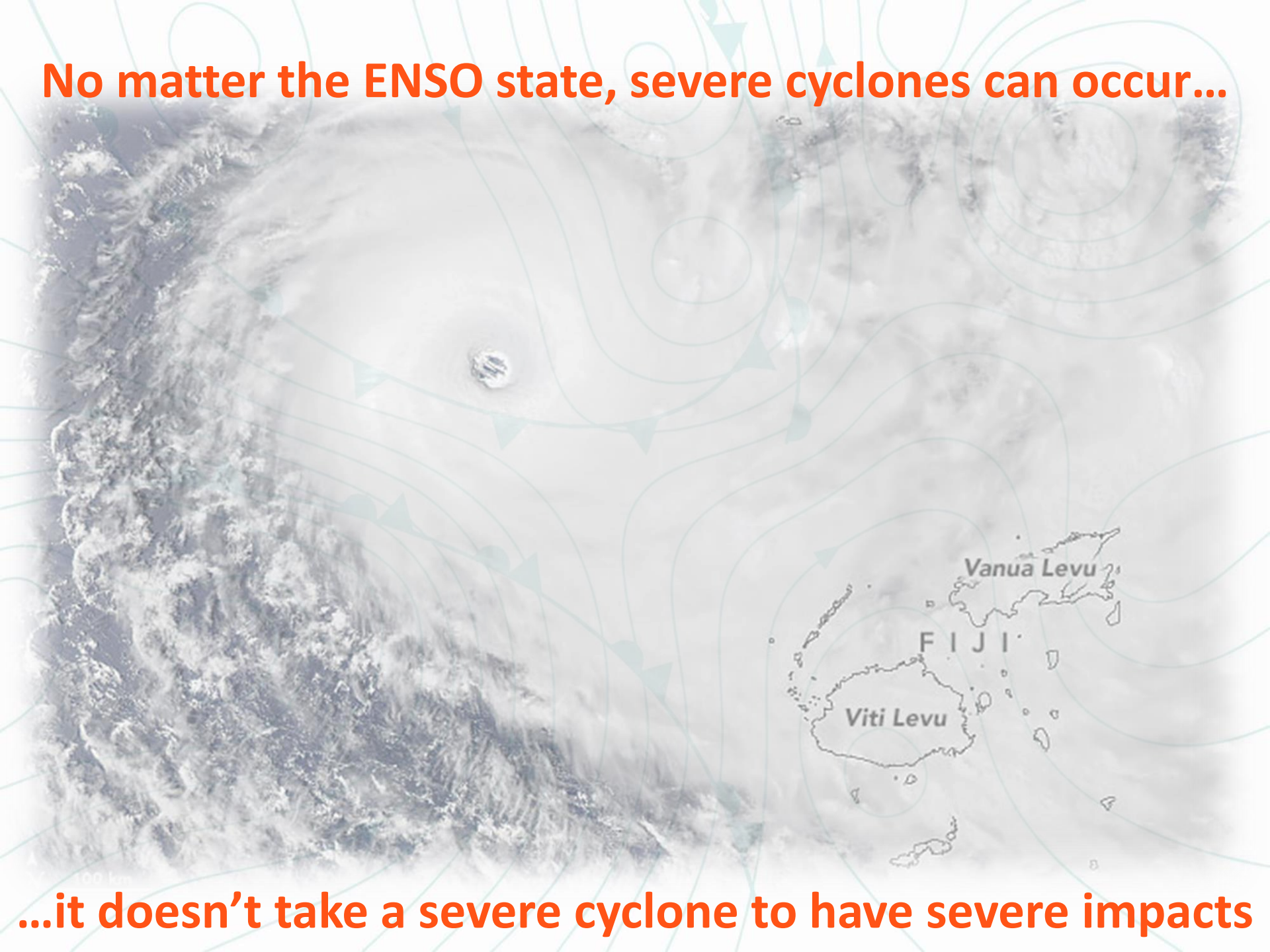
ECMWF

ACCESS-S1





**No matter the ENSO state, severe cyclones can occur...**



**...it doesn't take a severe cyclone to have severe impacts**

The background of the slide is a stylized map of the Pacific Ocean. It features white outlines of the continents of North and South America, as well as various island groups. Overlaid on the map are green contour lines representing weather patterns, with arrows indicating the direction of flow. The text is centered over the map.

**Thank you!**

**Vinaka!**

**Merci!**

**Questions?**