PACIFIC METEOROLOGICAL COUNCIL

Agenda Session 2:

ENSO Update and Outlook

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National Centers for Environmental Information (NCEI)

National Environmental Satellite Data and Information Service (NESDIS)

NOAA

Pacific Islands Climate Outlook Forum (PICOF 11)

Virtual (via Zoom) Meeting on 25 October 2022

WORLD METEOROLOGICAL ORGANIZATION

Australian Government Department of Foreign Affairs and Trade Bureau of Meteorology

CSIRO

NOAA

APCC APEC CLIMATE CENTER

NIWA Taihoro Nukurangi

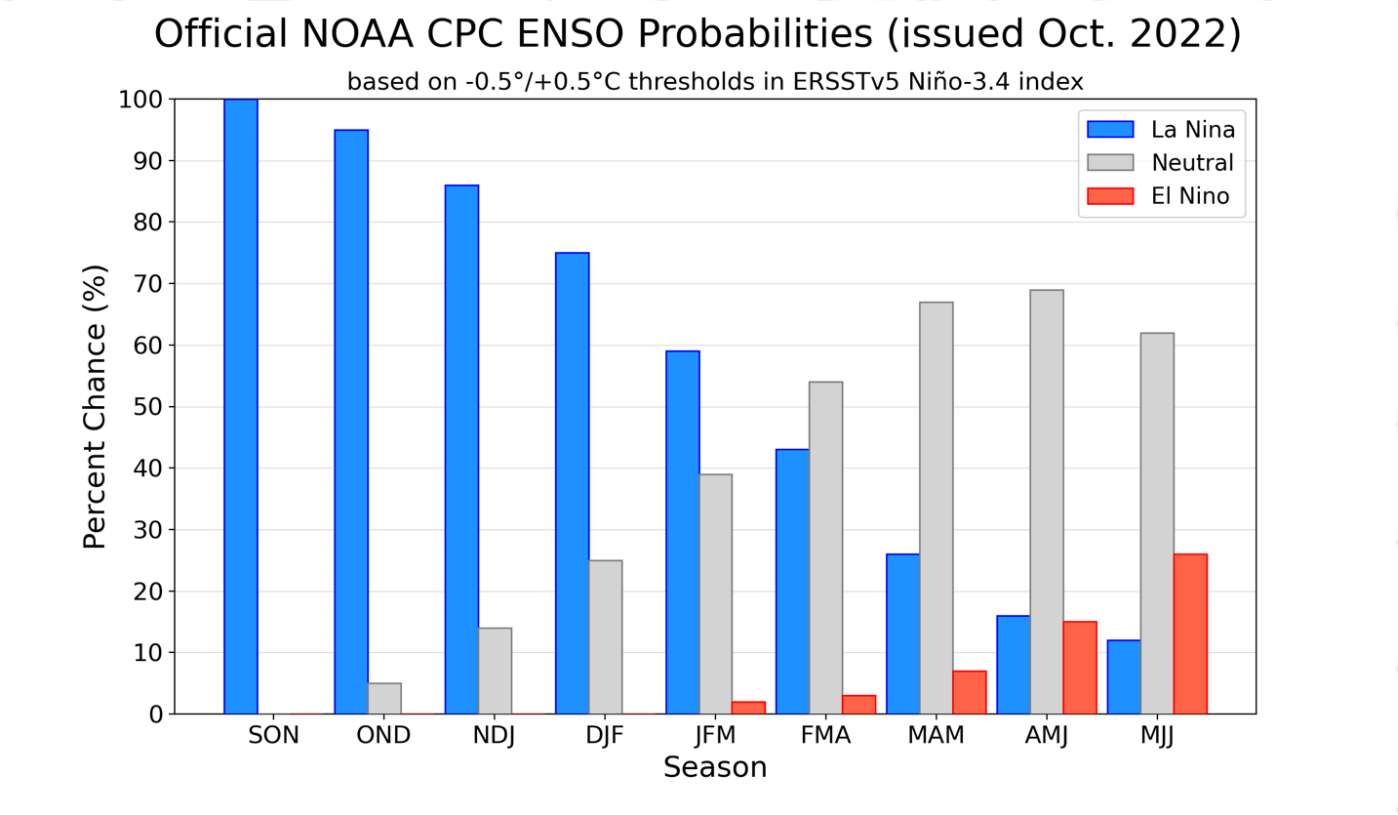
SPC Secretariat of the Pacific Community

SPREP Secretariat of the Pacific Regional Environment Programme

October 12th, 2022 NOAA NWS CPS ENSO Diagnostics Discussion

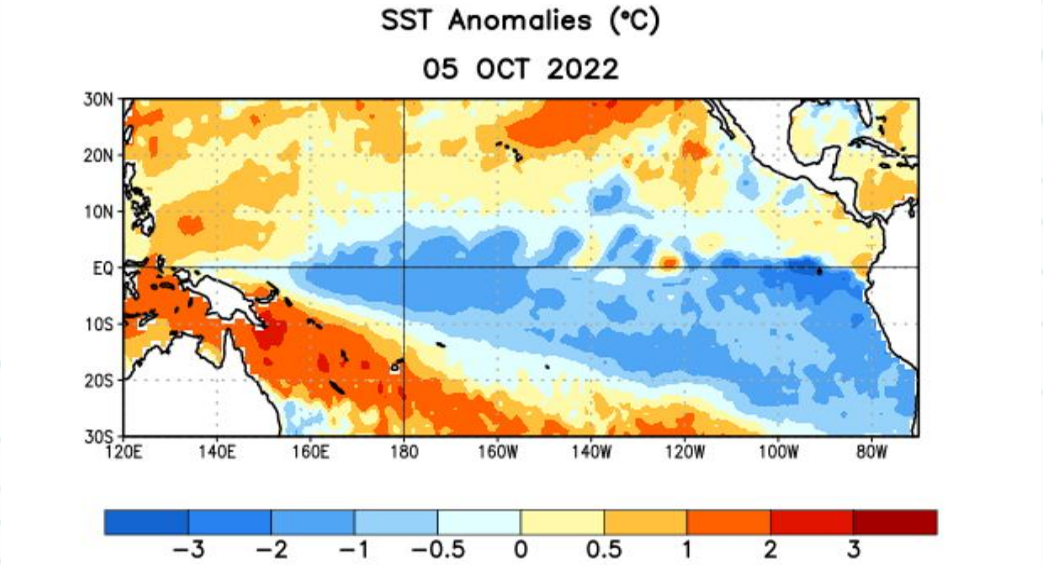
The La Niña Advisory remains in effect.

There is a 75% chance of La Niña during the Northern Hemisphere winter (December-February) 2022-23, with a 54% chance for ENSO-neutral in February-April 2023.

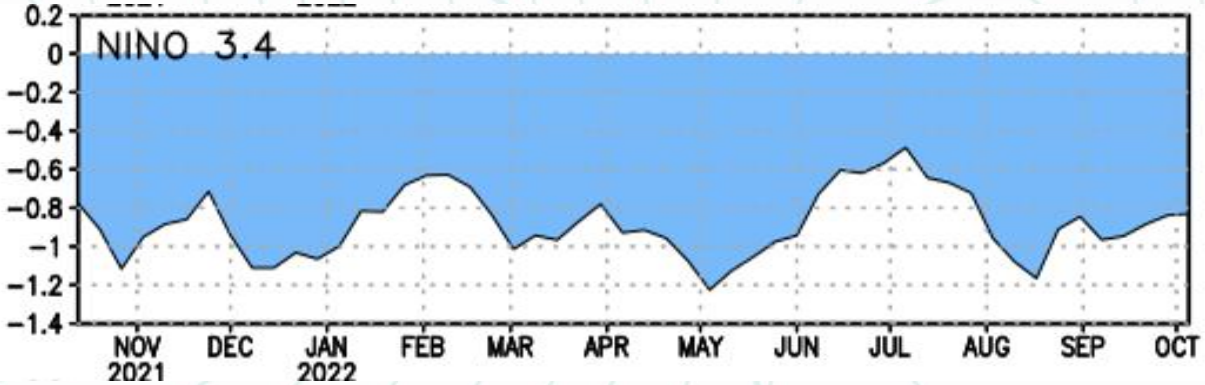


Information Courtesy of Michelle L'Heureux, NOAA NWS CPC

Below-average SSTs continued across the central and eastern equatorial Pacific Ocean during September.



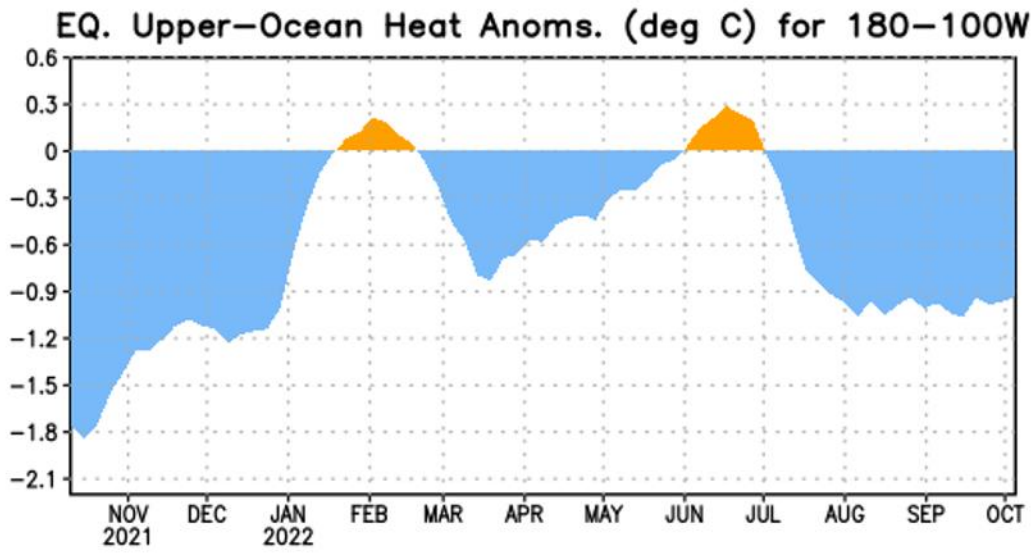
The Oceanic Niño Index (ONI) for the July-September 2022 season was -0.93°C. The ERSSTv5 Niño-3.4 index value for September was -1.09°C, which is stronger than the previous month (August was -0.98°C).

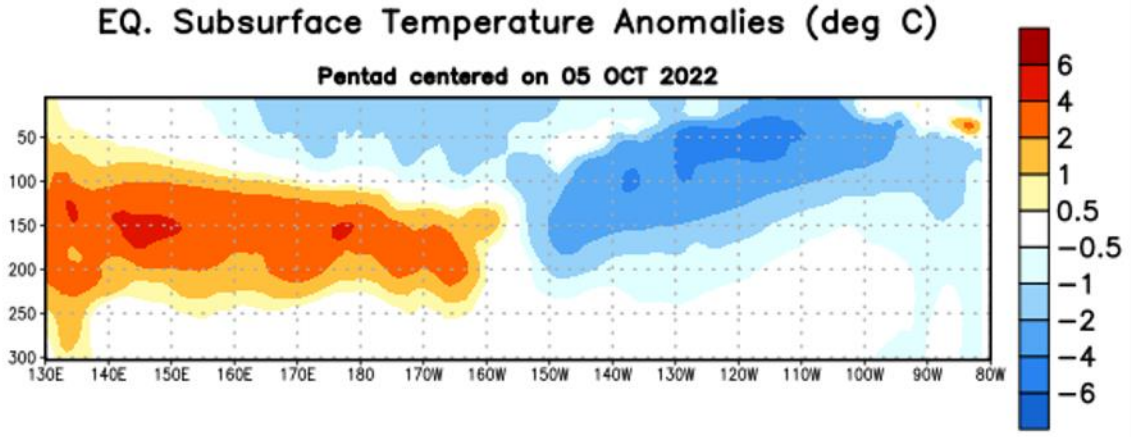


Time series of area-averaged SST anomalies (ºC) in the Niño-3.4 region (5º N- 5º S, 170º W-120º W).

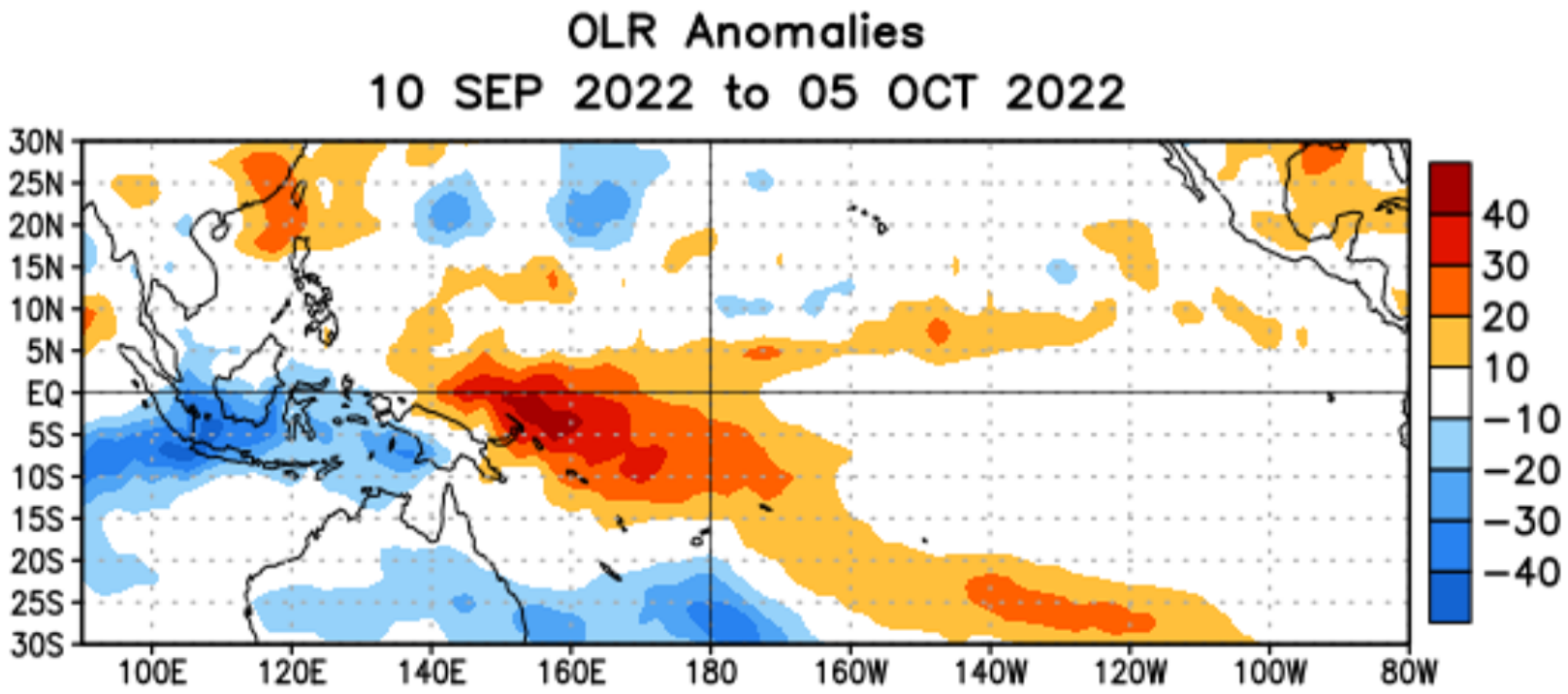
SST anomalies are departures from the 1991-2020 base period weekly means.

For the last couple months, negative subsurface temperature anomalies remained mostly unchanged, reflecting the persistence of below-average temperatures across the eastern Pacific Ocean.



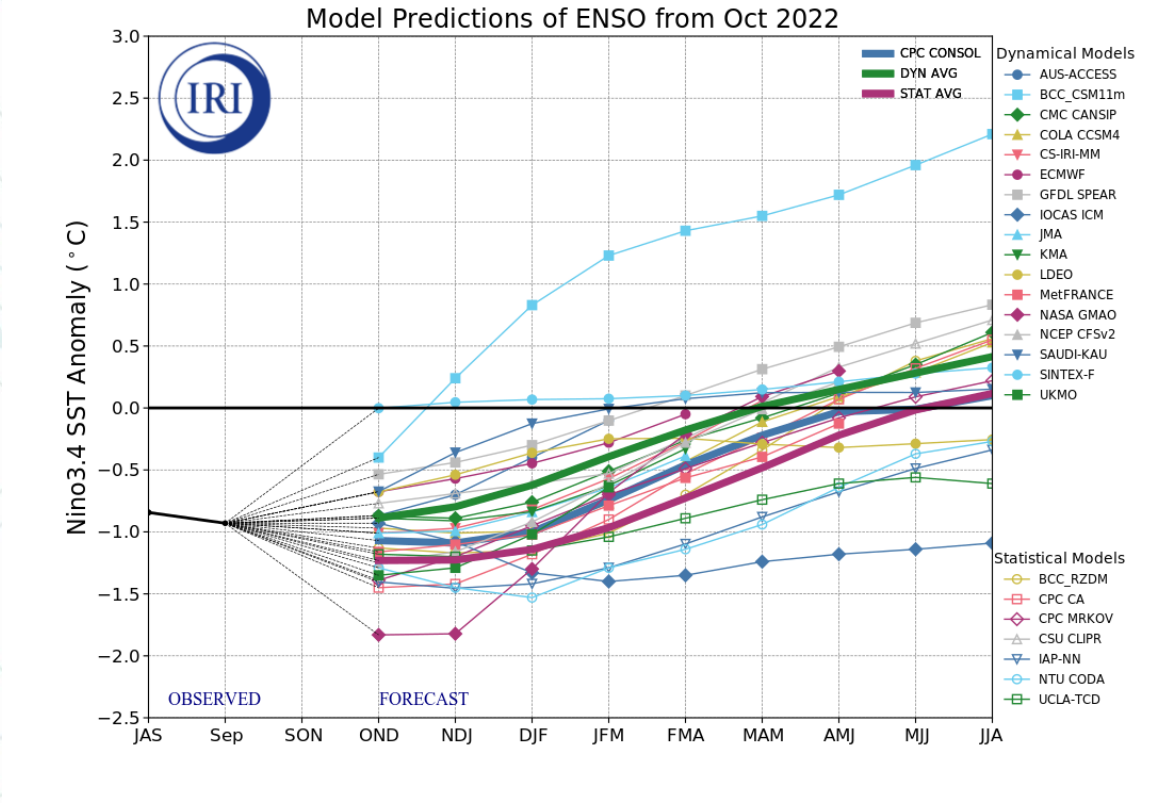


During September, convection remained suppressed over the western and central Pacific and enhanced over Indonesia. Low-level easterly wind anomalies and upper-level westerly wind anomalies prevailed over most of the equatorial Pacific.



OLR anomalies are computed as departures from the 1991-2020 base period pentad means.

The forecast this month largely relies on the IRI plume, the North American Multi-Model Ensemble (NMME), CFSv2, and some model runs from our international partners (BOM and ECMWF). **There continues to be uncertainty over how long La Niña will persist**, with statistical model averages favoring a transition to ENSO-neutral in February-April 2023, and dynamical model averages favoring a quicker transition during January-March 2023.



The average of the forecasts of the dynamical models is shown by the thick yellow line, and of the statistical models by the thick green line.

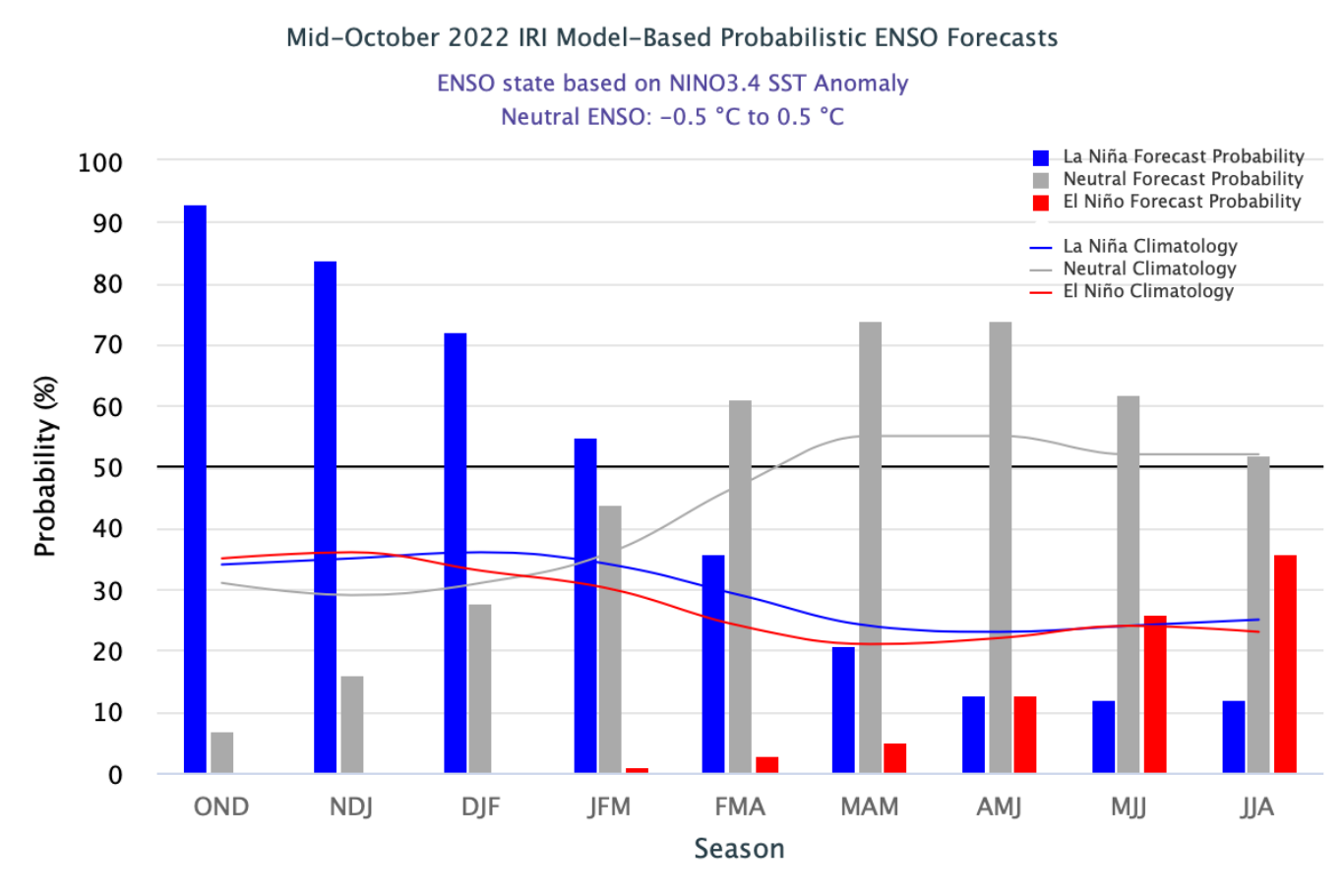
Mid-October Update – statistical model averages favoring a transition to ENSO-neutral in March-May 2023, and dynamical model averages favoring a December 2022-February 2023.

Data: IRI

Model	OND	NDJ	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA
AUS-ACCESS	La Niña	La Niña	Neutral	Neutral					
BCC_CSM11r	Neutral	Neutral	El Niño	El Niño	El Niño	El Niño	El Niño	El Niño	El Niño
CMC CANSIP	La Niña	La Niña	La Niña	Neutral (-)	Neutral	Neutral	Neutral	Neutral	Neutral (+)
COLA CCSM4	La Niña	La Niña	La Niña	La Niña	Neutral	Neutral	Neutral	Neutral	Neutral (+)
CS-IRI-MM	La Niña	La Niña	La Niña	Neutral (-)	Neutral	Neutral			
ECMWF	Neutral (-)	Neutral (-)	Neutral	Neutral	Neutral				
GFDL SPEAR	Neutral (-)	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral (+)	El Niño
IOCAS ICM	La Niña	La Niña	La Niña	La Niña	La Niña	La Niña	La Niña	La Niña	La Niña
JMA	La Niña	La Niña	La Niña	Neutral (-)	Neutral				
KMA	La Niña	La Niña	La Niña	Neutral (-)	Neutral				
LDEO	Neutral (-)	Neutral (-)	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
MetFRANCE	La Niña	La Niña	La Niña	La Niña	Neutral (-)	Neutral	Neutral		
NASA GMAO	La Niña	La Niña	La Niña	Neutral (-)	Neutral	Neutral	Neutral		
NCEP CFSv2	La Niña	La Niña	La Niña	Neutral (-)	Neutral	Neutral	Neutral		
SAUDI-KAU	Neutral (-)	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
SINTEX-F	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
UKMO	La Niña	La Niña	La Niña	Neutral (-)					
Average, Dynamical models	La Niña	La Niña	Neutral (-)	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
BCC_RZDM	La Niña	La Niña	La Niña	La Niña	La Niña	Neutral	Neutral	Neutral	Neutral (+)
CPC CA	La Niña	La Niña	La Niña	La Niña	Neutral (-)	Neutral	Neutral	Neutral	Neutral (+)
CPC MRKOV	La Niña	La Niña	La Niña	La Niña	Neutral	Neutral	Neutral	Neutral	Neutral
CSU CLIPR	La Niña	La Niña	Neutral (-)	Neutral (-)	Neutral	Neutral	Neutral	Neutral (+)	El Niño
IAP-NN	La Niña	La Niña	La Niña	La Niña	La Niña	La Niña	Neutral (-)	Neutral	Neutral
NTU CODA	La Niña	La Niña	La Niña	La Niña	La Niña	La Niña	Neutral (-)	Neutral	Neutral
UCLA-TCD	La Niña	La Niña	La Niña	La Niña	La Niña	La Niña	Neutral (-)	Neutral (-)	Neutral (-)
Average, Statistical models	La Niña	La Niña	La Niña	La Niña	La Niña	Neutral	Neutral	Neutral	Neutral
Average, All models	La Niña	La Niña	La Niña	Neutral (-)	Neutral	Neutral	Neutral	Neutral	Neutral

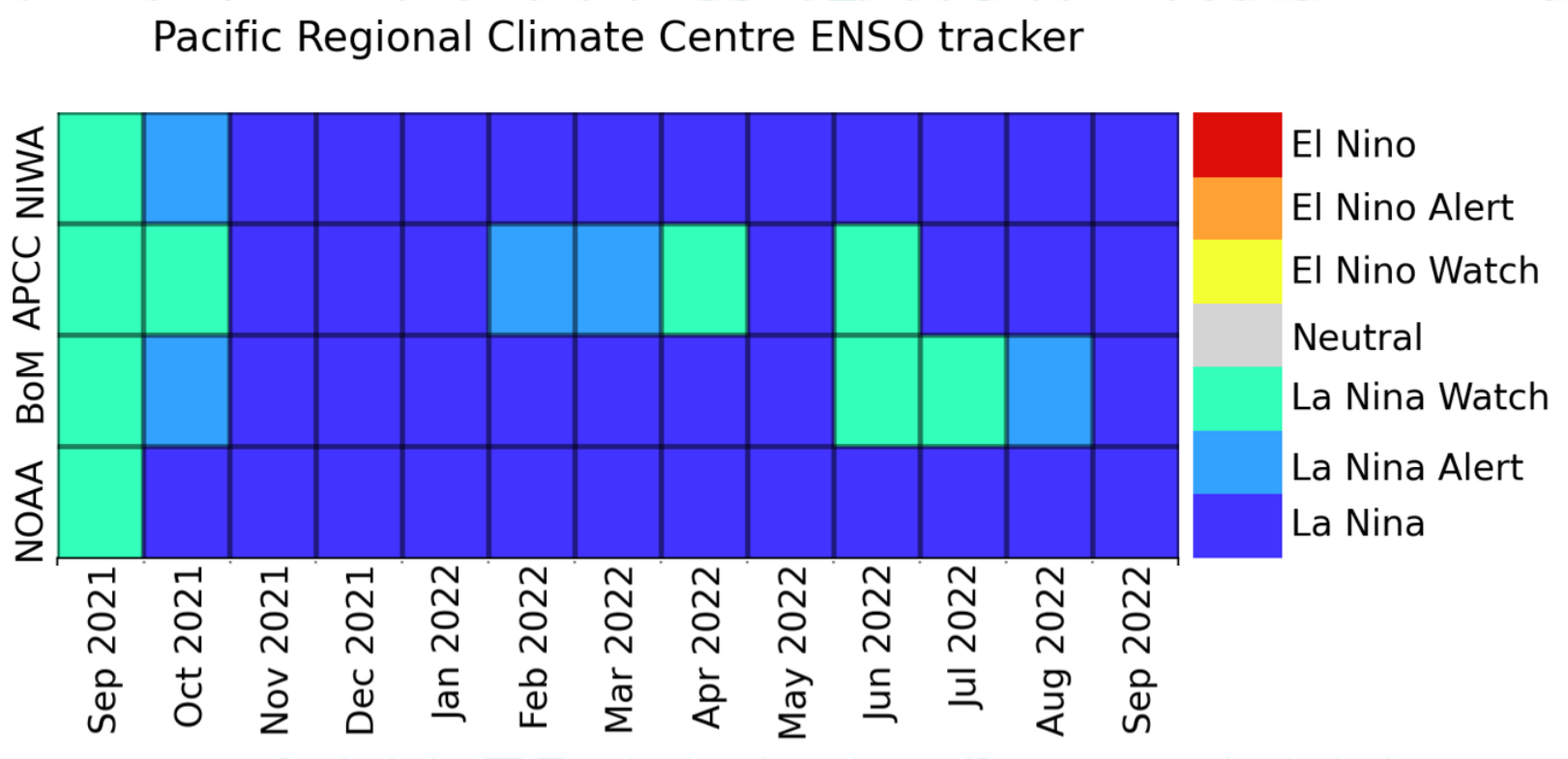
Mid-October Update

There is a 72% ~~75%~~ chance of La Niña during the Northern Hemisphere winter (December-February) 2022-23, with a 61% ~~54%~~ chance for ENSO-neutral in February-April 2023.



Data: IRI

Season	La Niña	Neutral	El Niño
OND	93%	7%	0%
NDJ	84%	16%	0%
DJF	72%	28%	0%
JFM	55%	44%	1%
FMA	36%	61%	3%
MAM	21%	74%	5%
AMJ	13%	74%	13%
MJJ	12%	62%	26%
JJA	12%	52%	36%



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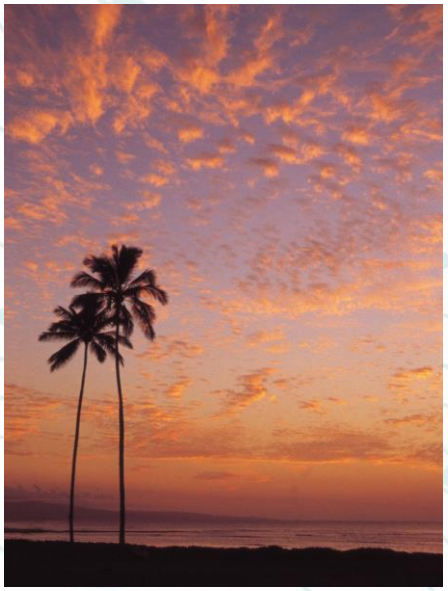
Current Situation and Outlook: August 2022

La Niña conditions in the tropical Pacific have persisted and strengthened as trade winds intensified during mid-July to mid-August 2022. **It is likely that these conditions will continue at least for the remainder of 2022, becoming the first "triple-dip" La Niña event of the 21st century**. WMO Global Producing Centres of Long-Range Forecasts predict the continuation of the current La Niña over the next six months, with a 70% chance in September-November 2022 but gradually decreasing to 55% in December-February 2022/2023.



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