

“แนวโน้มสถานการณ์น้ำ 67-68 และมาตรการปรับตัว”

สภาพอากาศและแนวโน้ม ปี 2567-68

Chalump Oonariya, Ph.D.

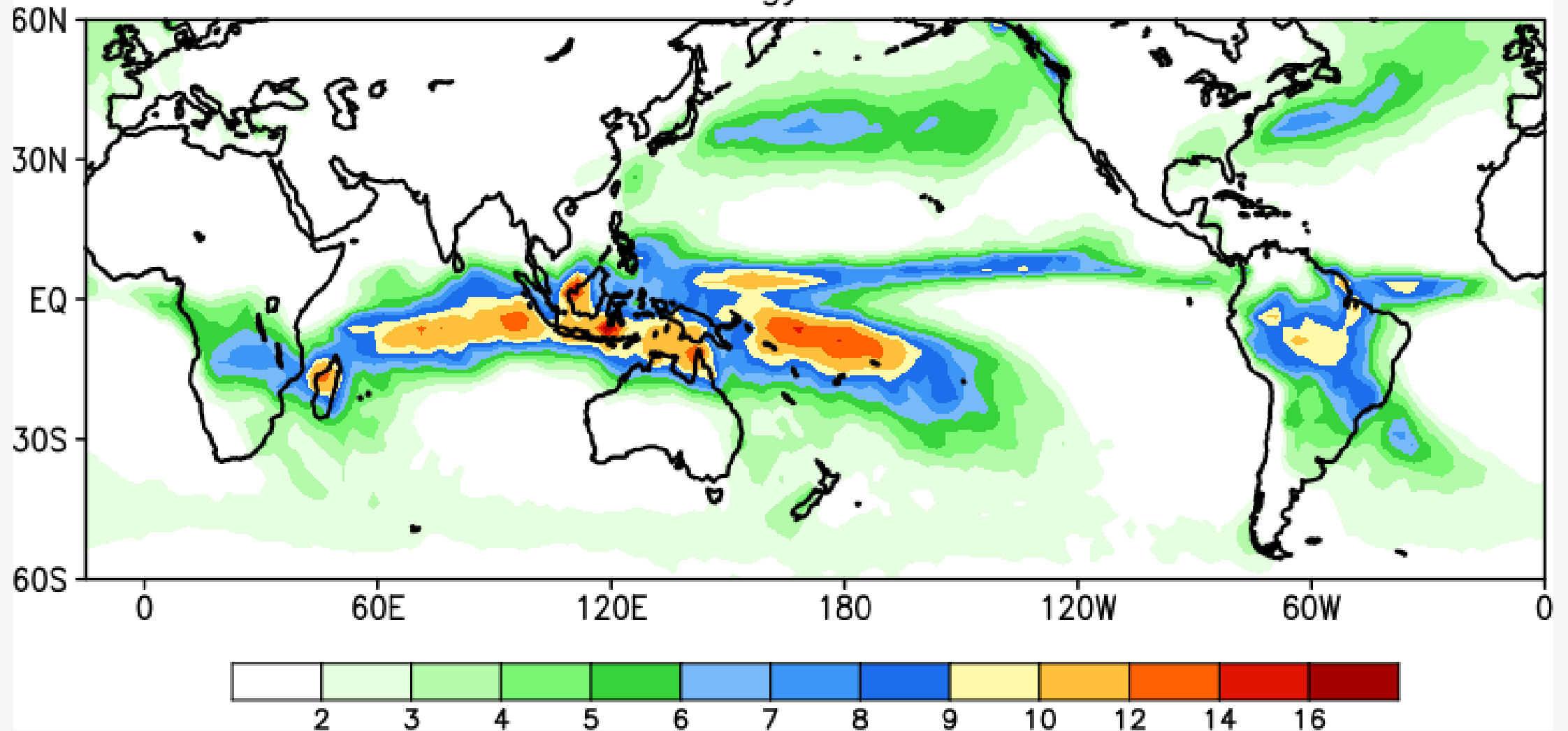
Meteorologist

Climate Center, Thai Meteorological Department

วันที่ 12 มีนาคม 2567 สำนักงานการวิจัยแห่งชาติ (วช.)

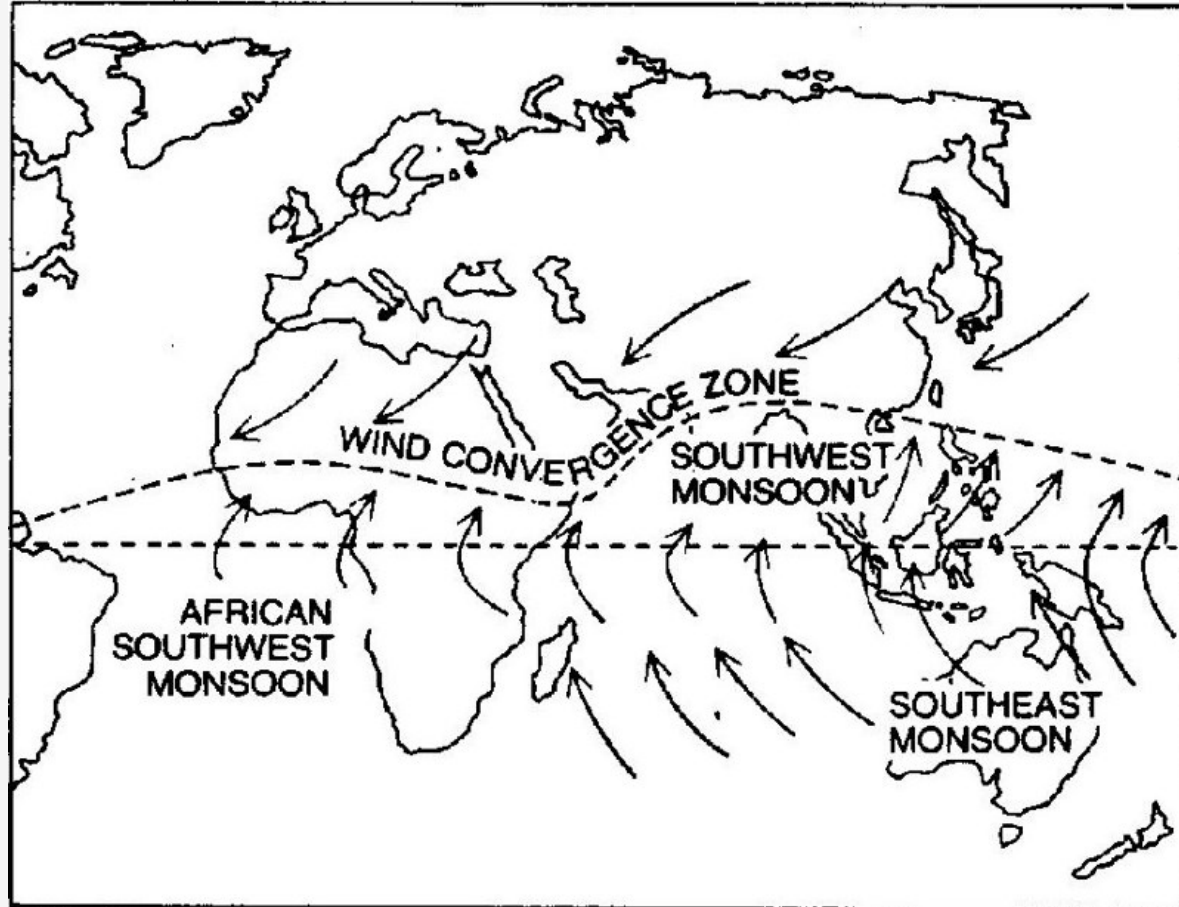
Inter Tropical Convergence Zone (ITCZ)

CMAP ITCZ Climatology Mean JAN 1981–2010

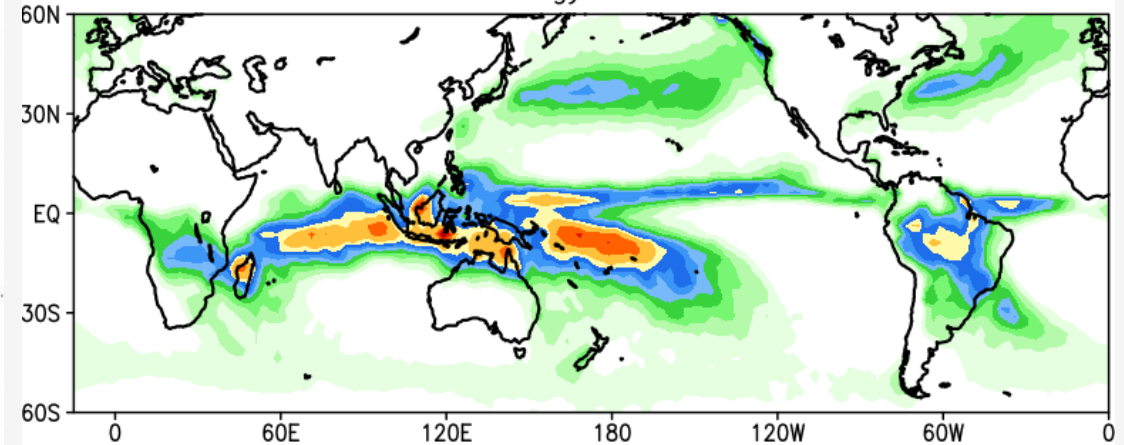


Wind Convergences and ITCZ displacement

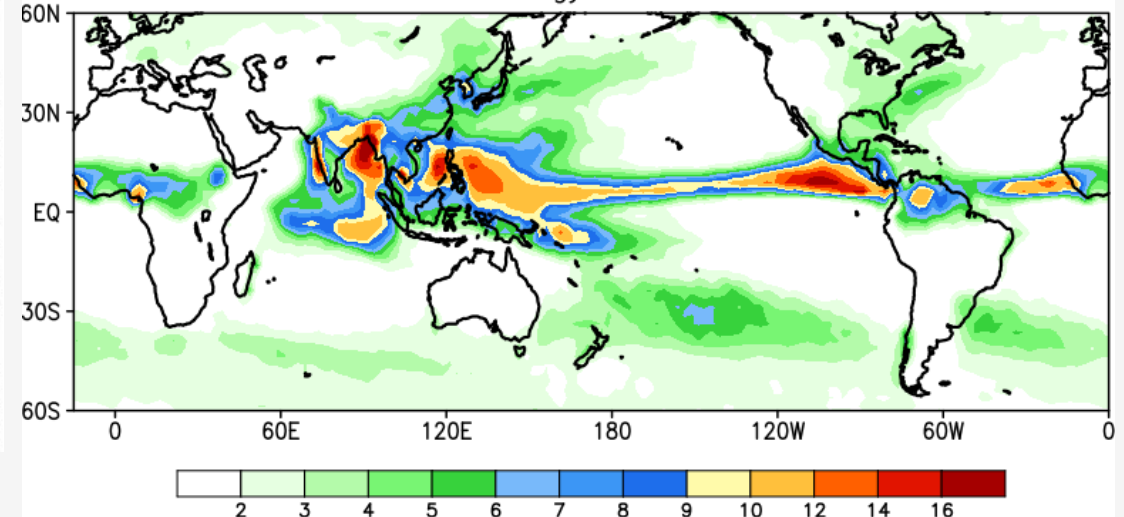
JULY



CMAP ITCZ Climatology Mean JAN 1981–2010



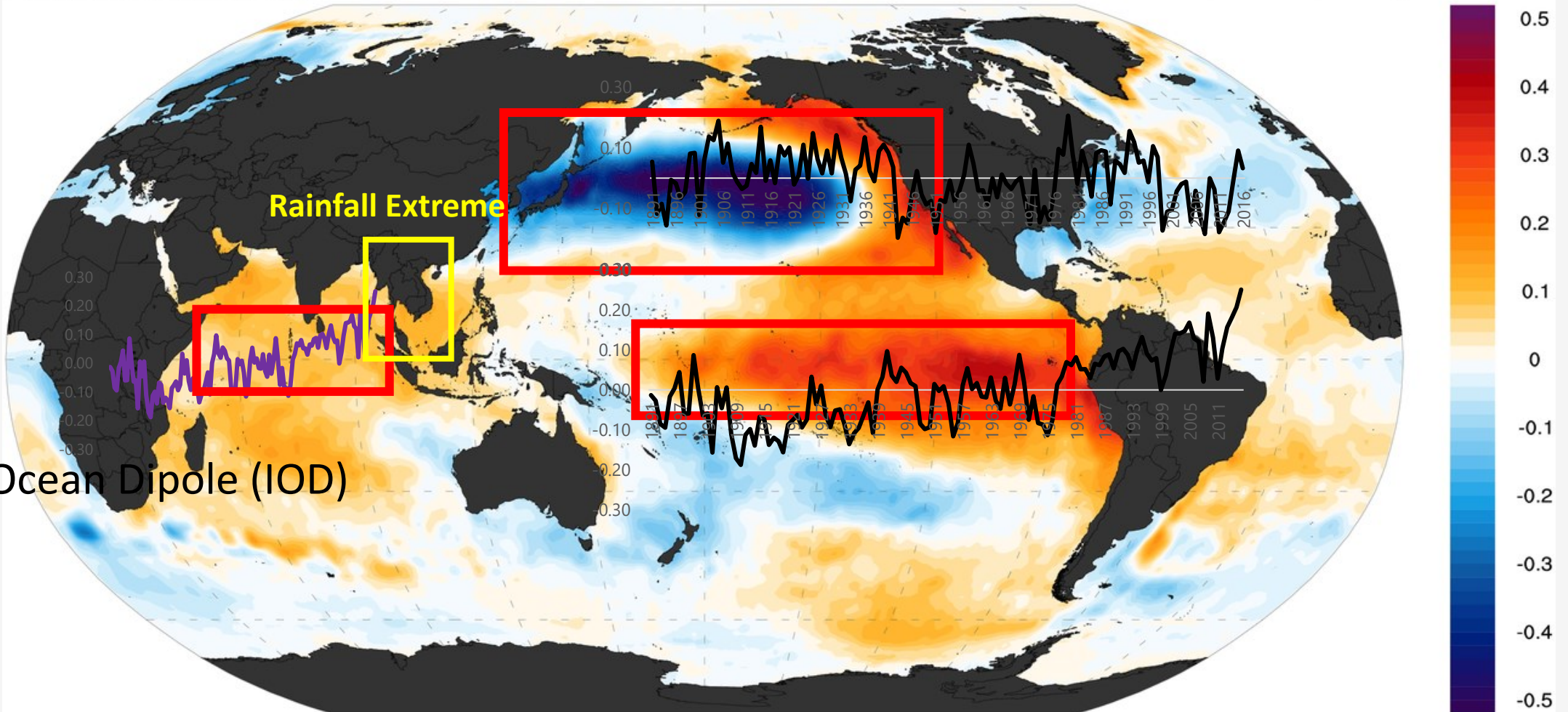
CMAP ITCZ Climatology Mean JUL 1981–2010



Pacific Decadal Oscillation (PDO)

Pacific Decadal Oscillation

Temperature ($^{\circ}\text{C sd}^{-1}$)

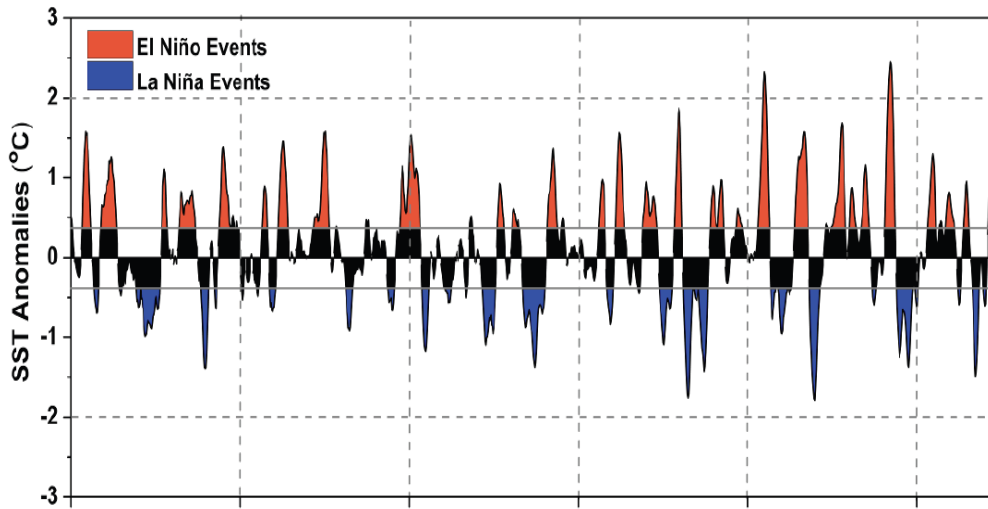


Indian Ocean Dipole (IOD)

El Niño Southern Oscillation (ENSO)

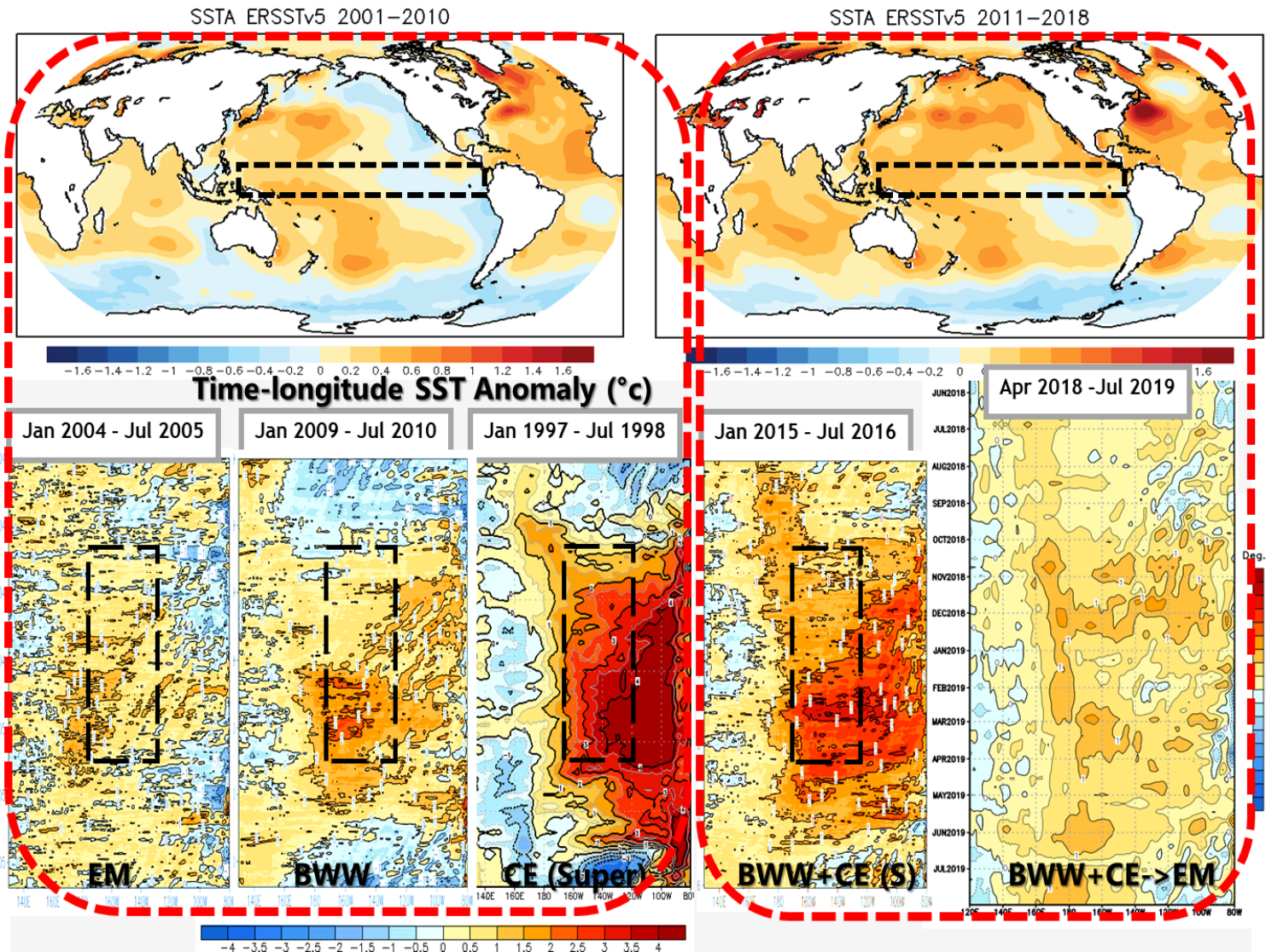
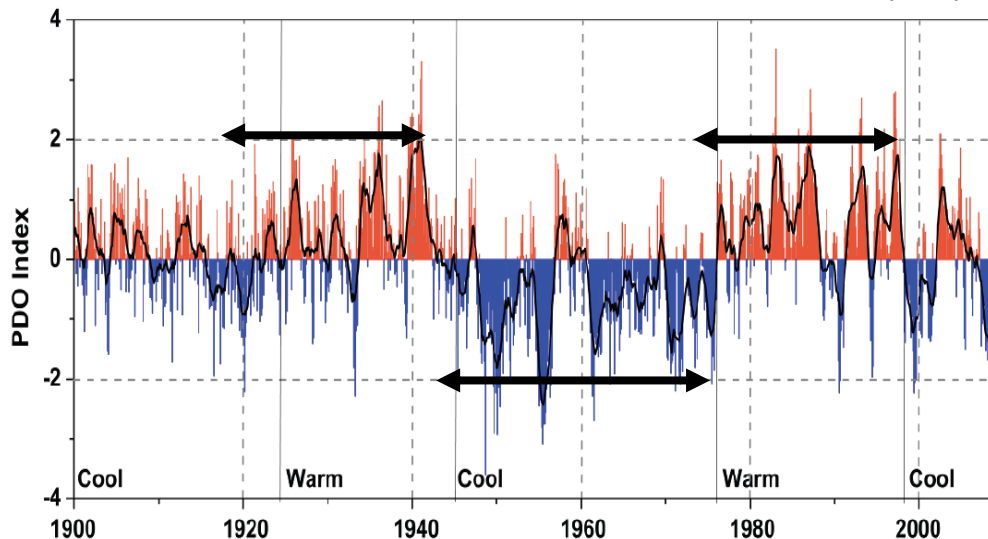
From Wikipedia

Warm(Cool) phase PDO keeps ENSO staying longer-live and more intense (Luiz Carlos B. 2013)



PDO and ENSO time series

W. Liu (2014)



Antarctic sea-ice expansion between 2000 and 2014 driven by tropical Pacific decadal climate variability

Gerald A. Meehl, Julie M. Arblaster, Cecilia M. Bitz, Christine T. Y. Chung & Haiyan Teng

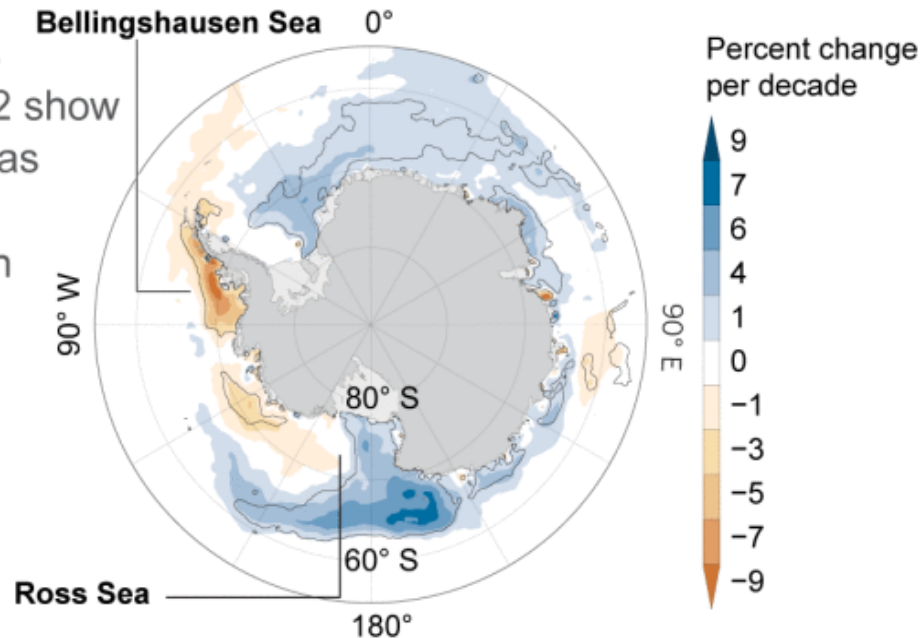
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Nature Geoscience (2016) | doi:10.1038/ngeo2751

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Change in Antarctic sea ice

Satellite measurements between 1979 and 2012 show that sea ice coverage has grown in some parts of Antarctica and shrunk in others, leading to an overall increase.

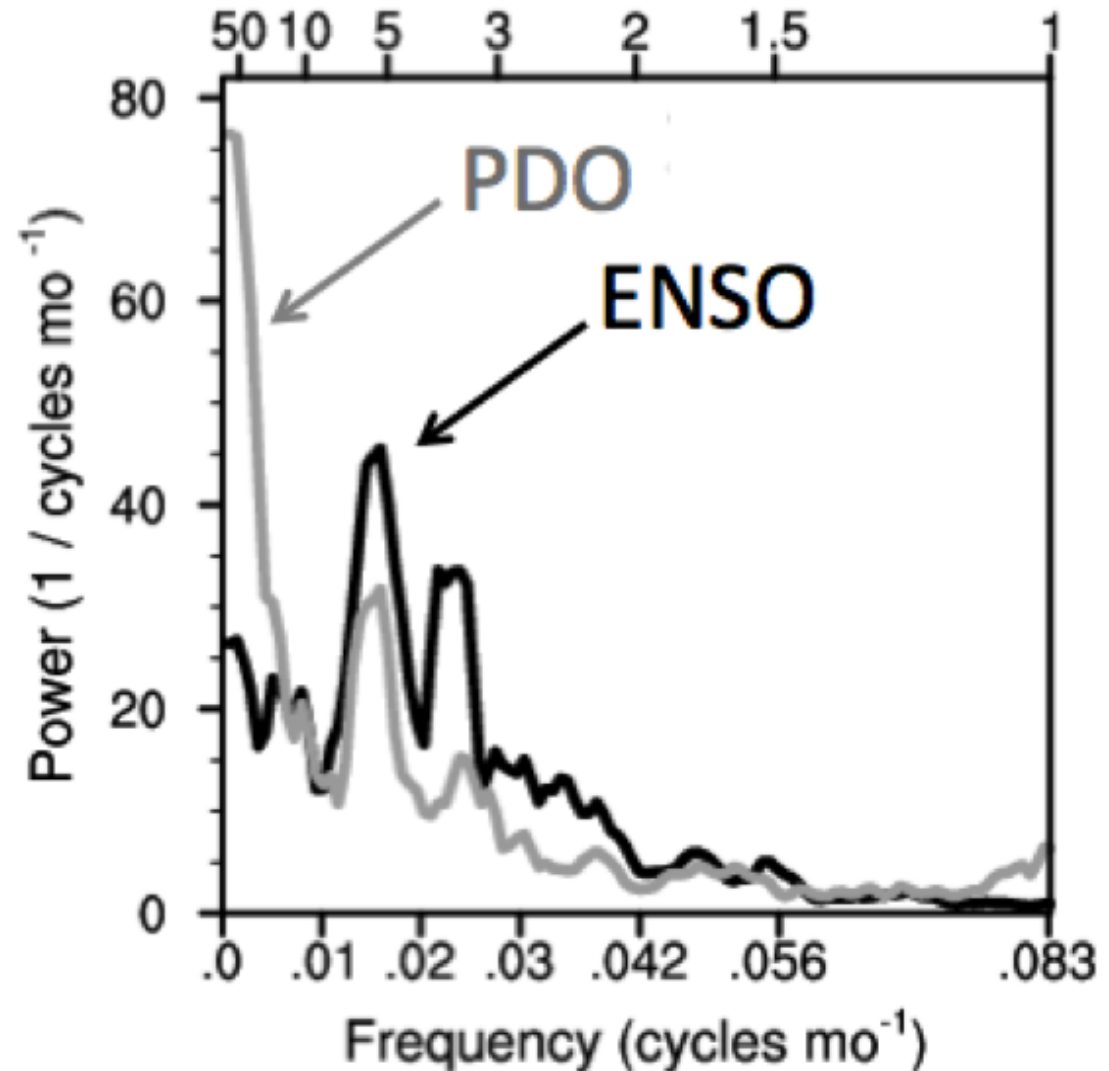


Source: National Snow and Ice Data Center

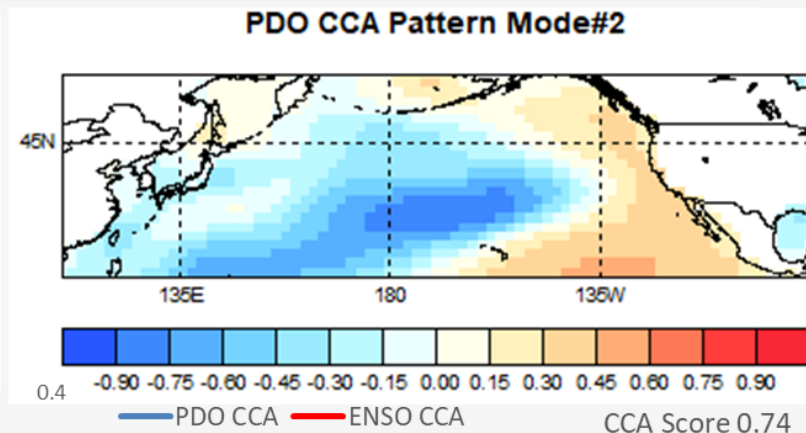
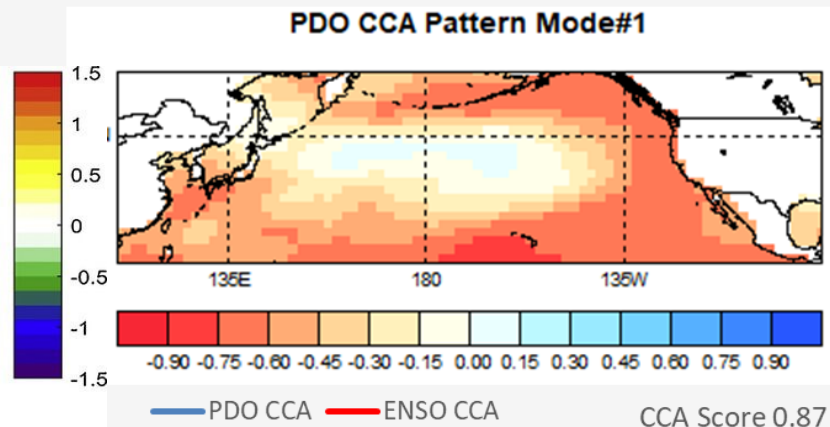
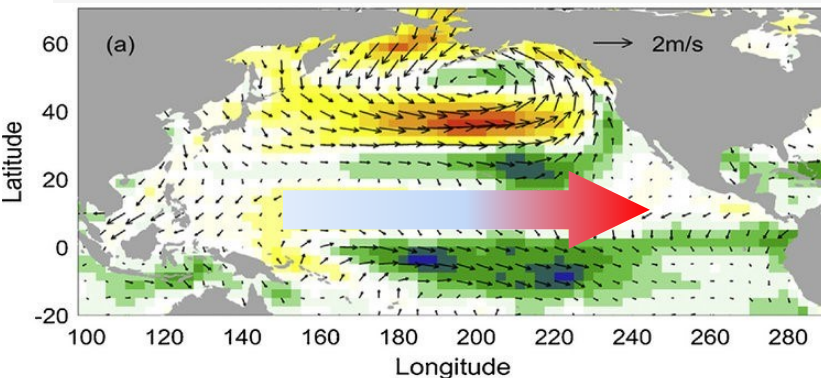
John King, Nature Publishing Group

Power Spectrum

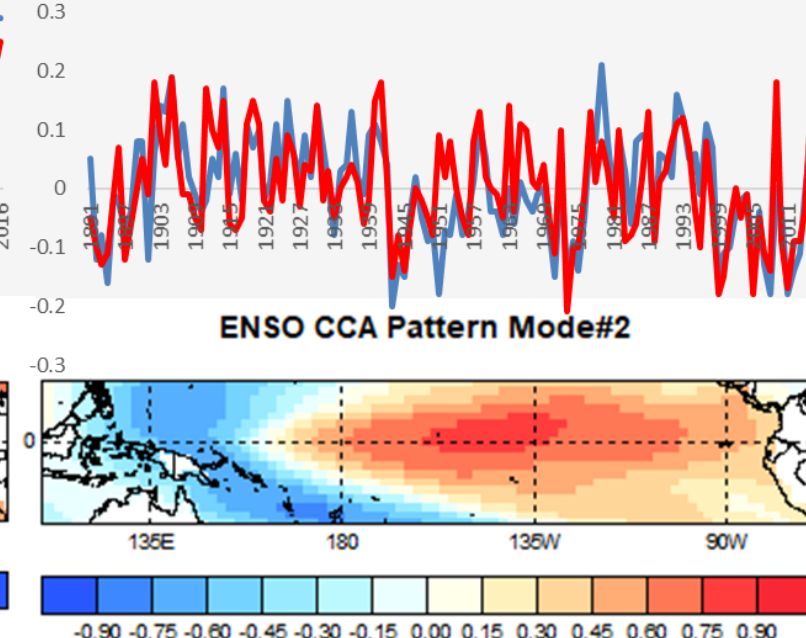
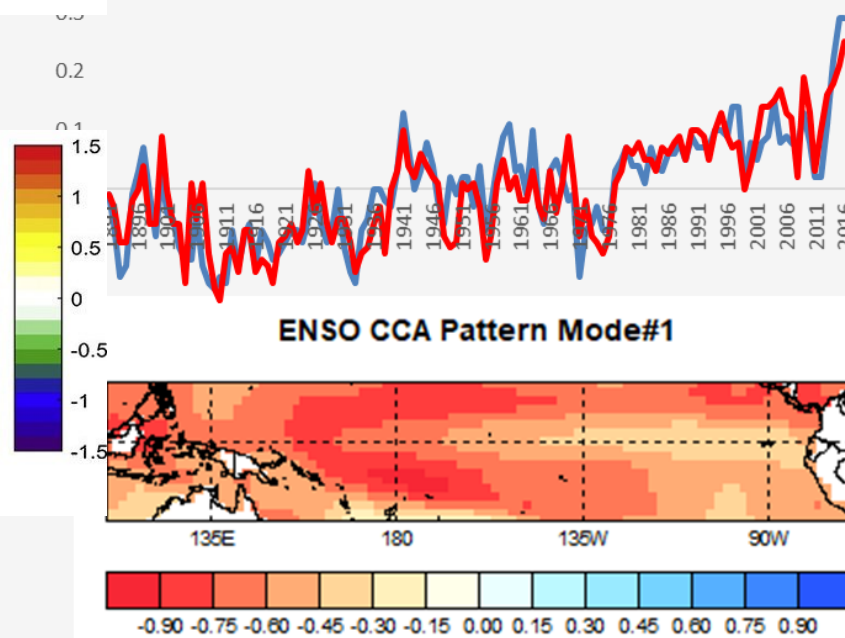
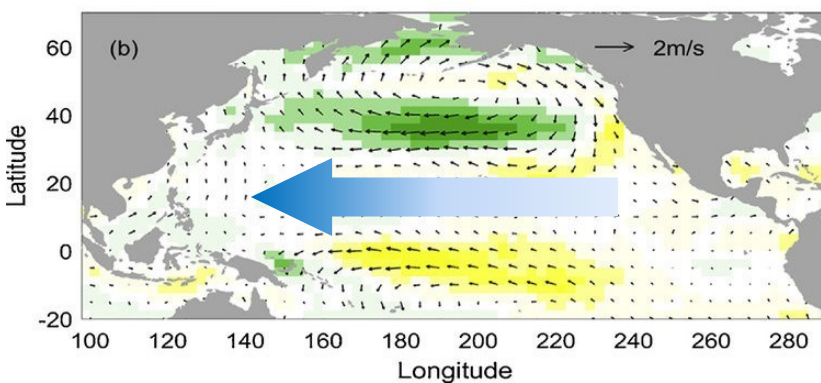
years



Warm(Cool) phase PDO keeps ENSO staying longer-live and more intense (Luiz Carlos B. 2013)

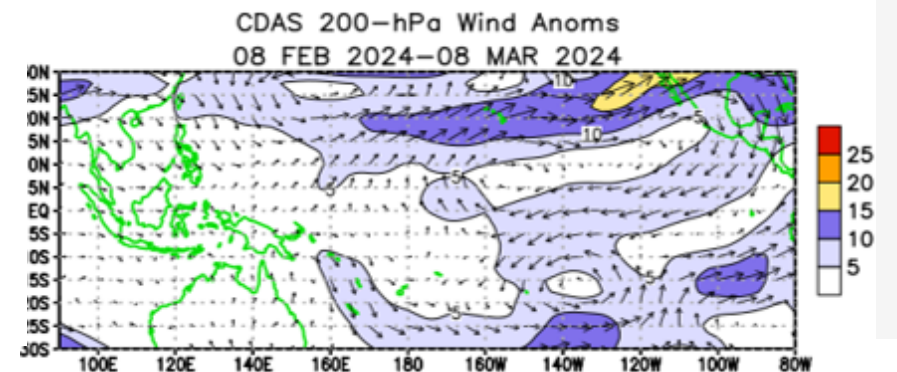
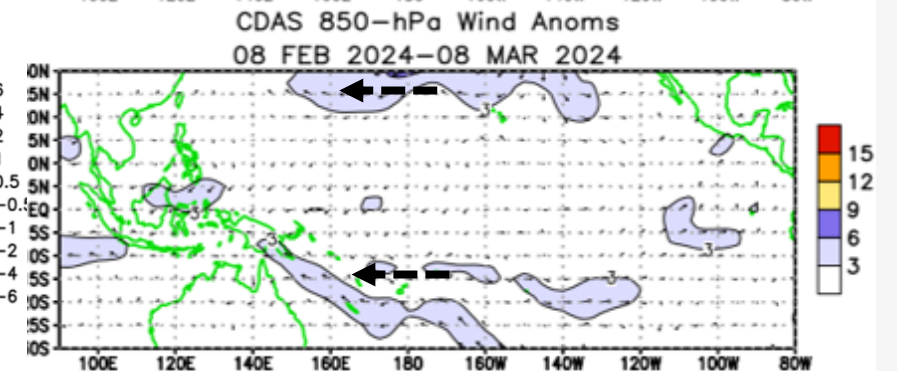
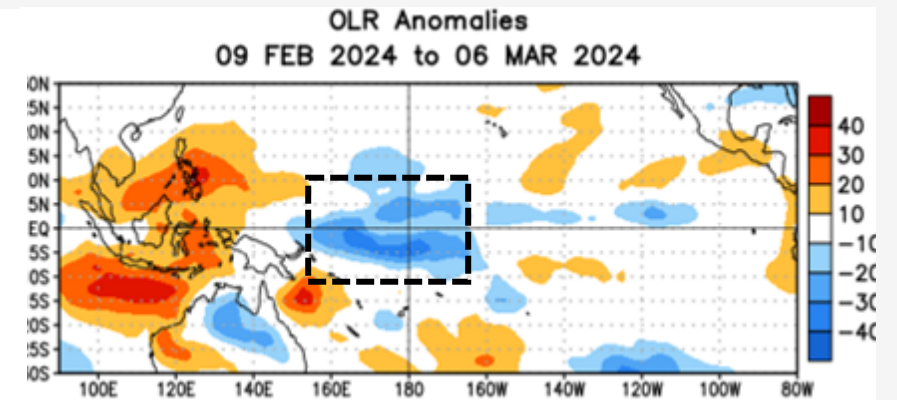
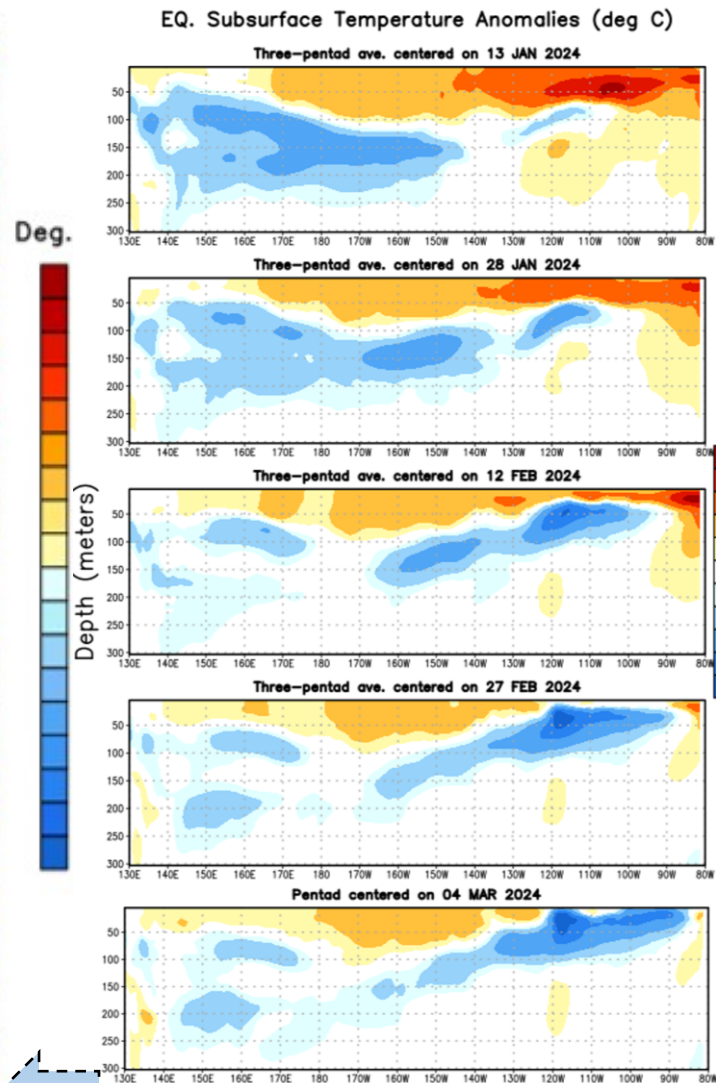
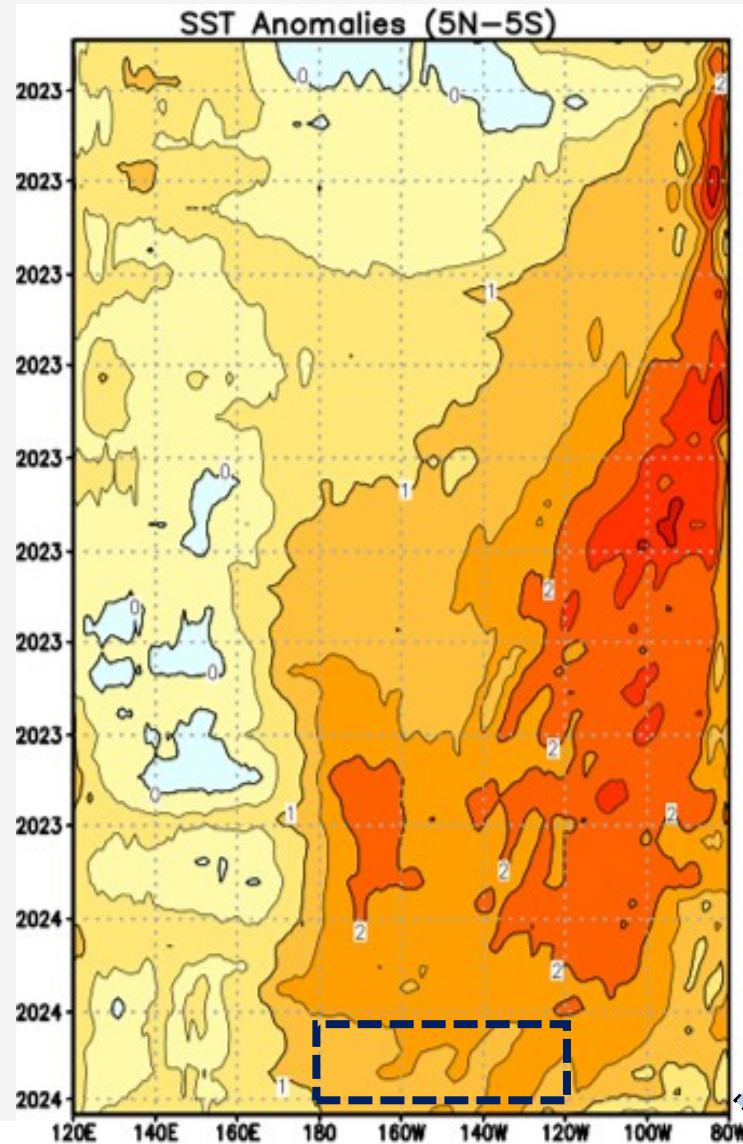


Mingting Li, et al., (2018)



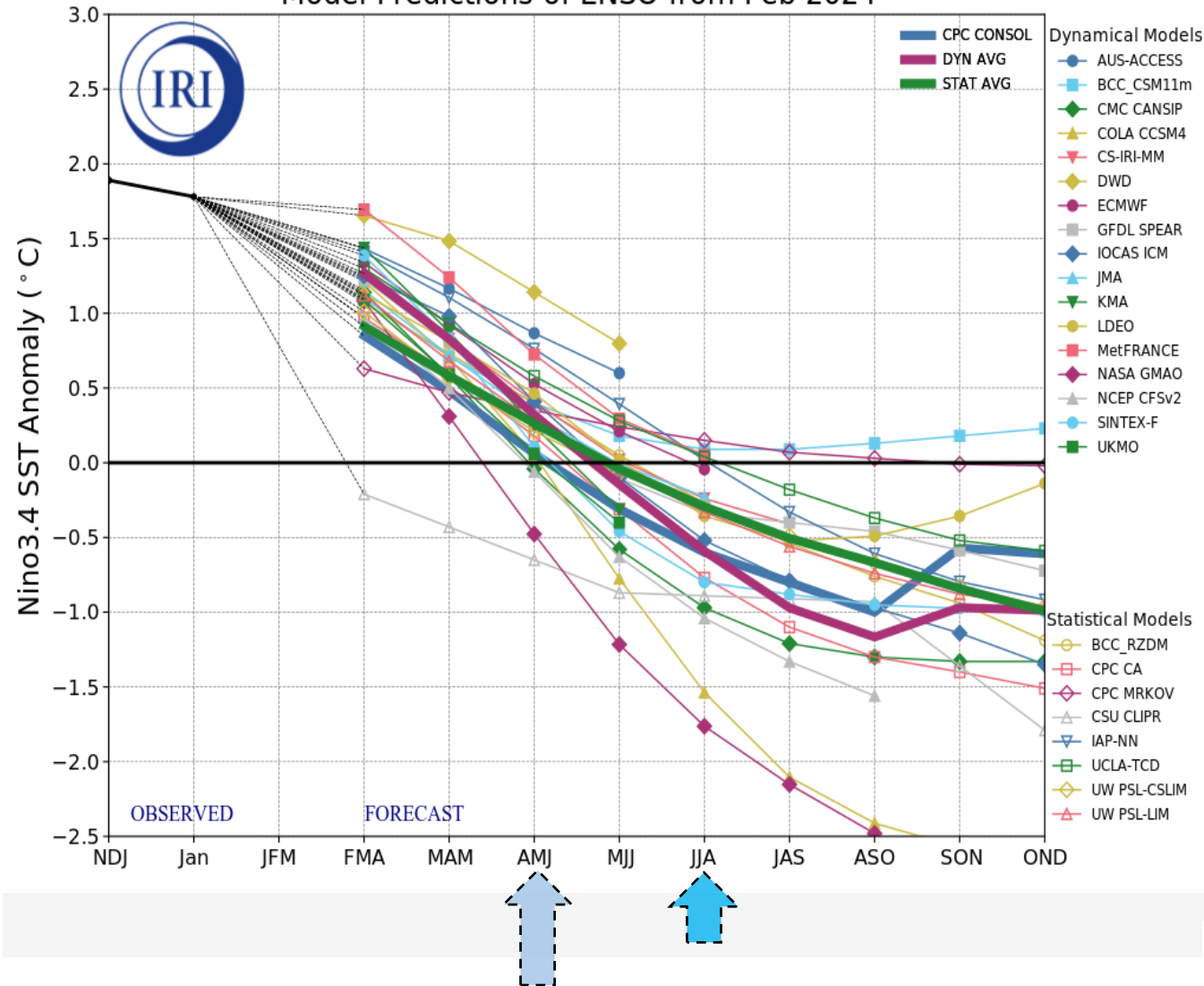
การเฝ้าติดตามอุณหภูมิผิวน้ำทะเล
และพัฒนาการของปรากฏการณ์
PDO ENSO และ IOD

การเฝ้าติดตามสถานการณ์ของปรากฏการณ์ ENSO

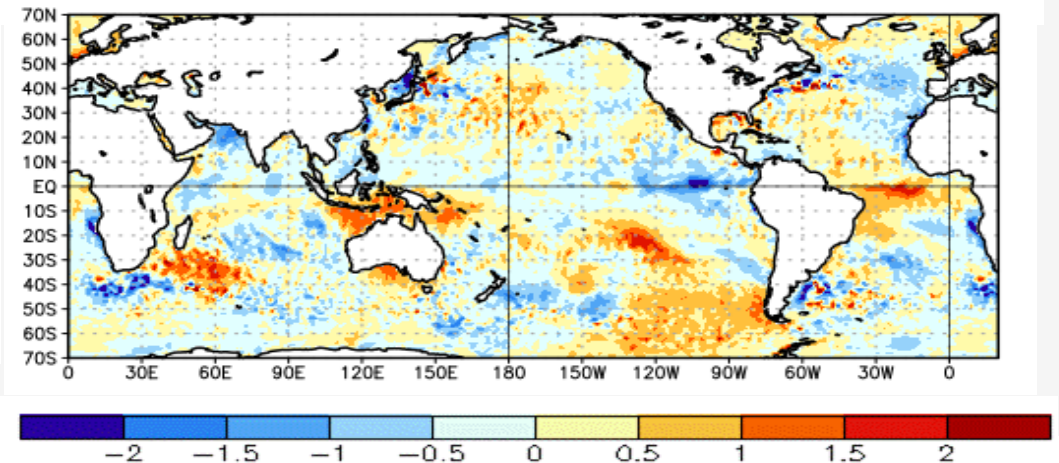
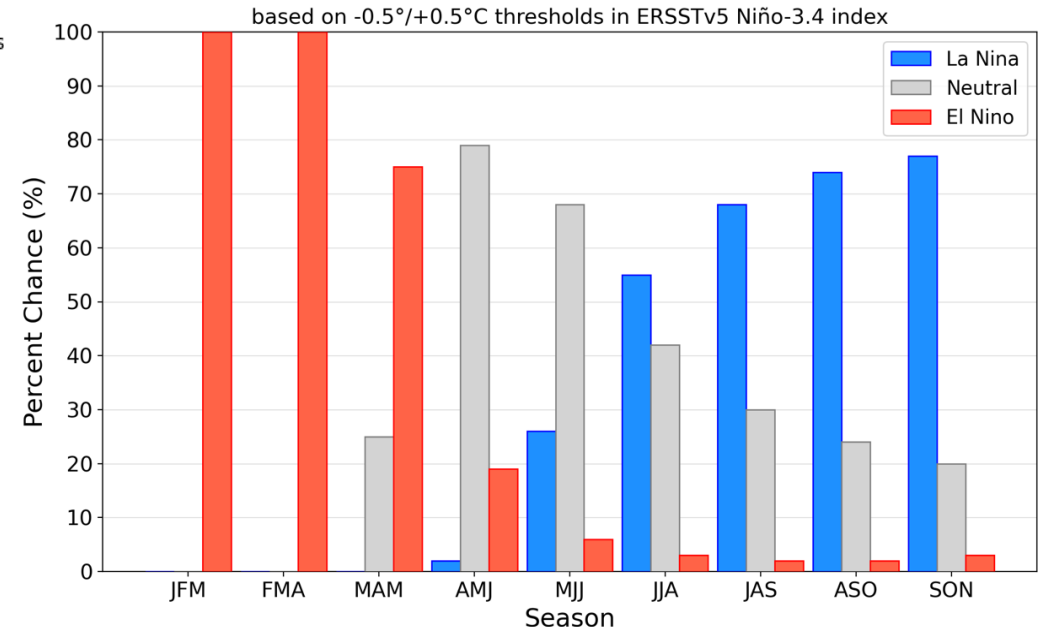


ENSO Predictions and SST Anomalies

Model Predictions of ENSO from Feb 2024



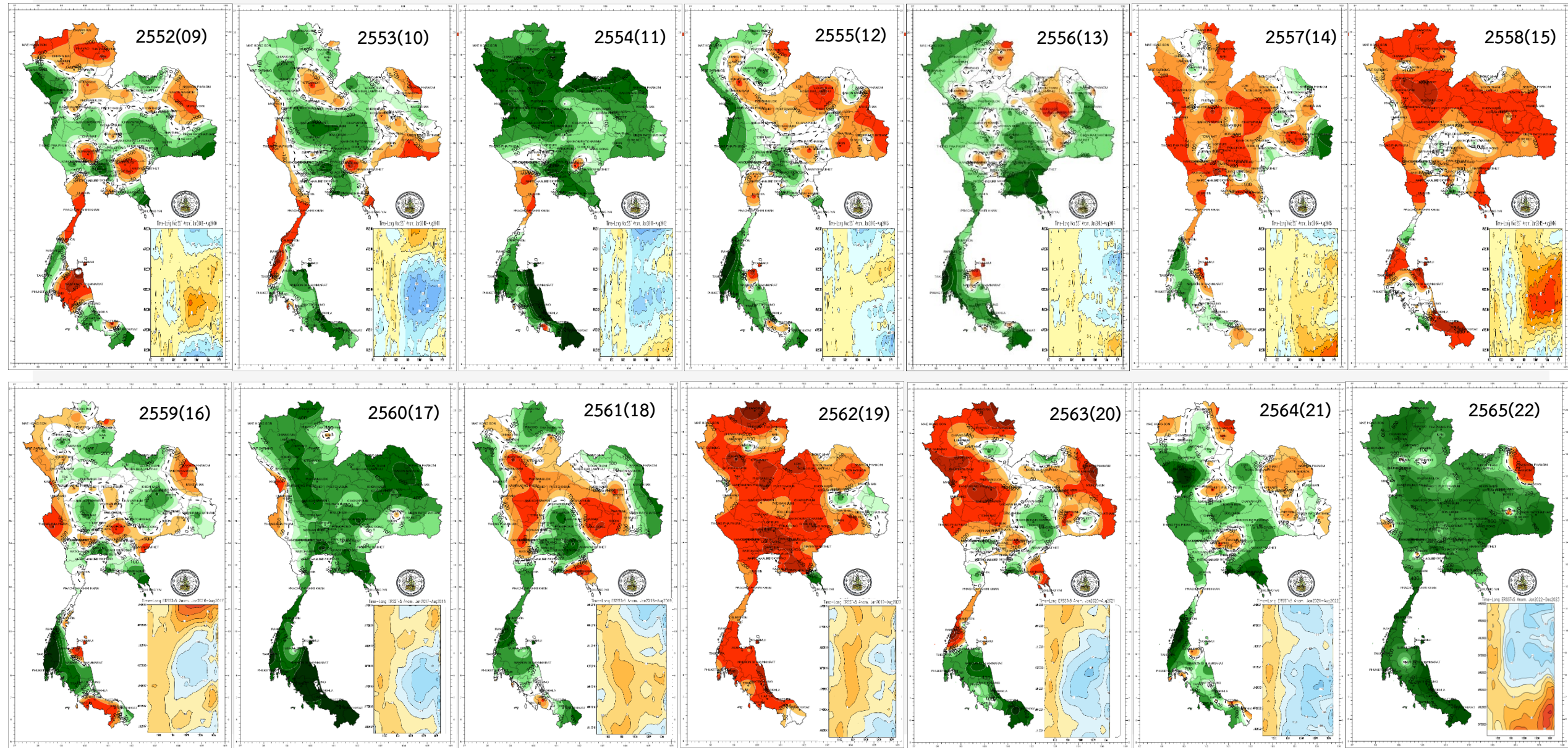
Official NOAA CPC ENSO Probabilities (issued Feb. 2024)



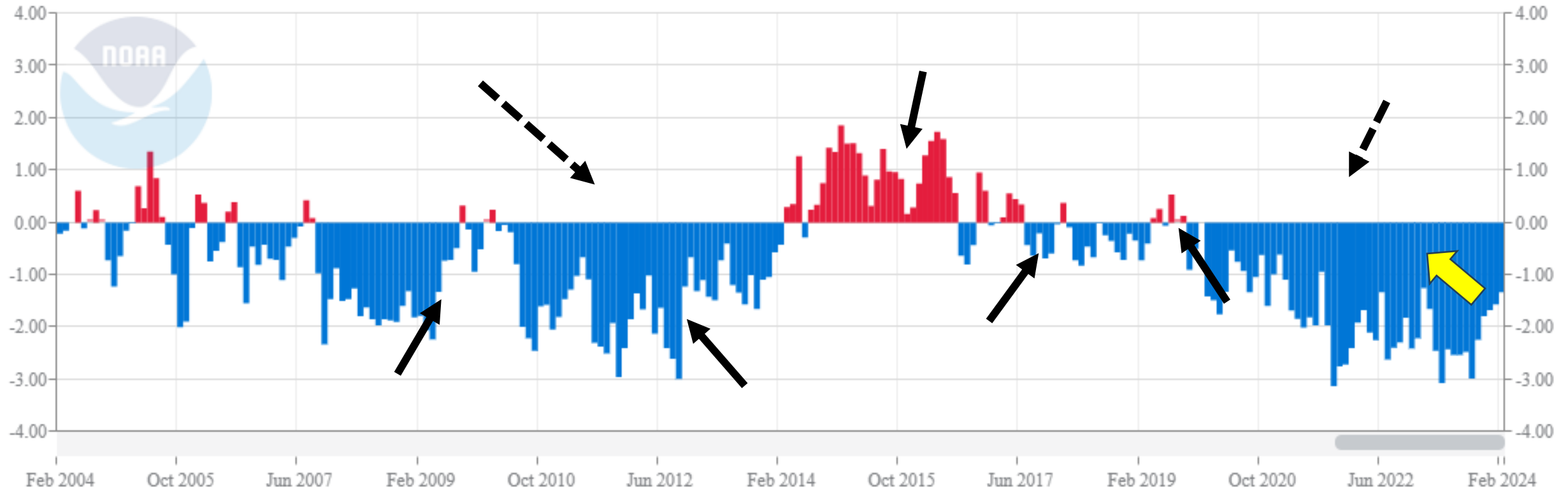


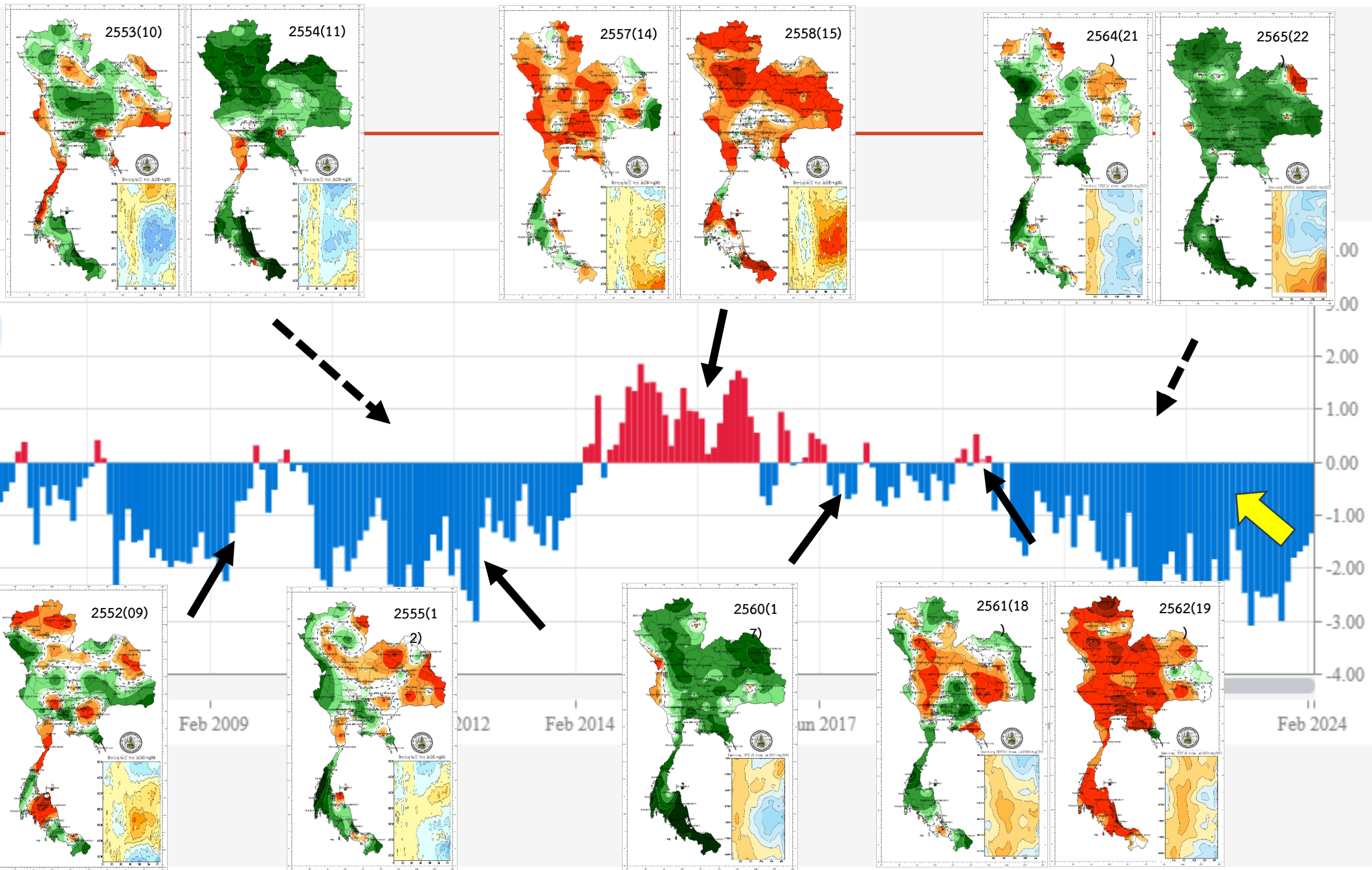
PDO & ENSO Influence on rainfall anomalies

Accumulated Rainfall Anomalies & SSTA (2009-2022)



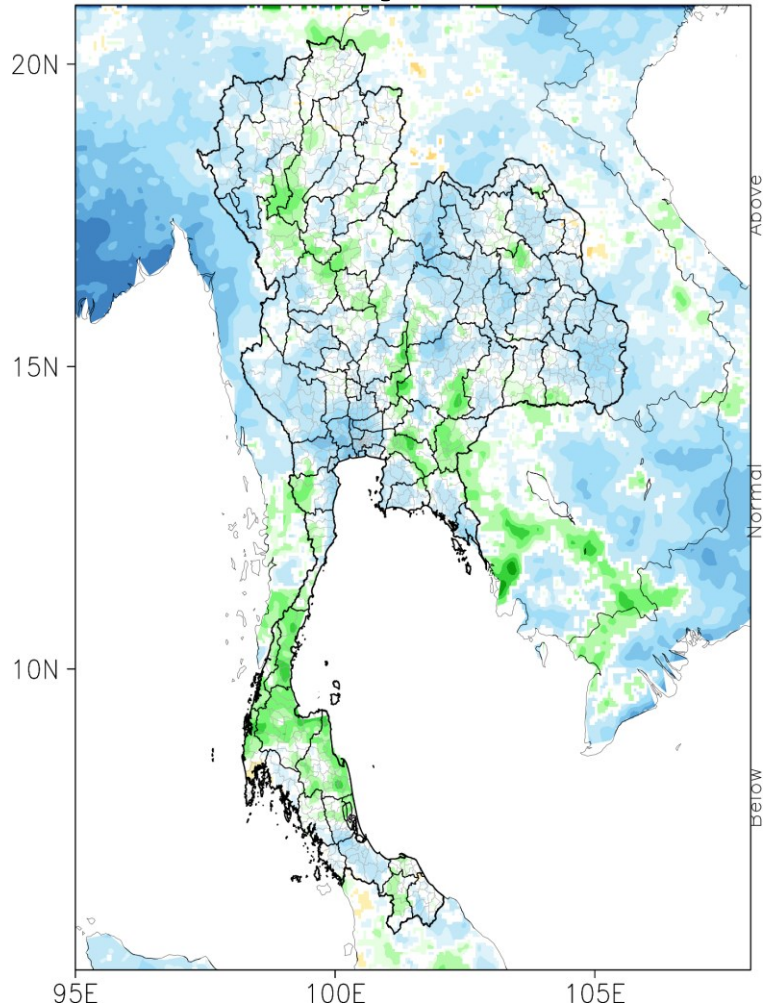
PDO forcing ENSO



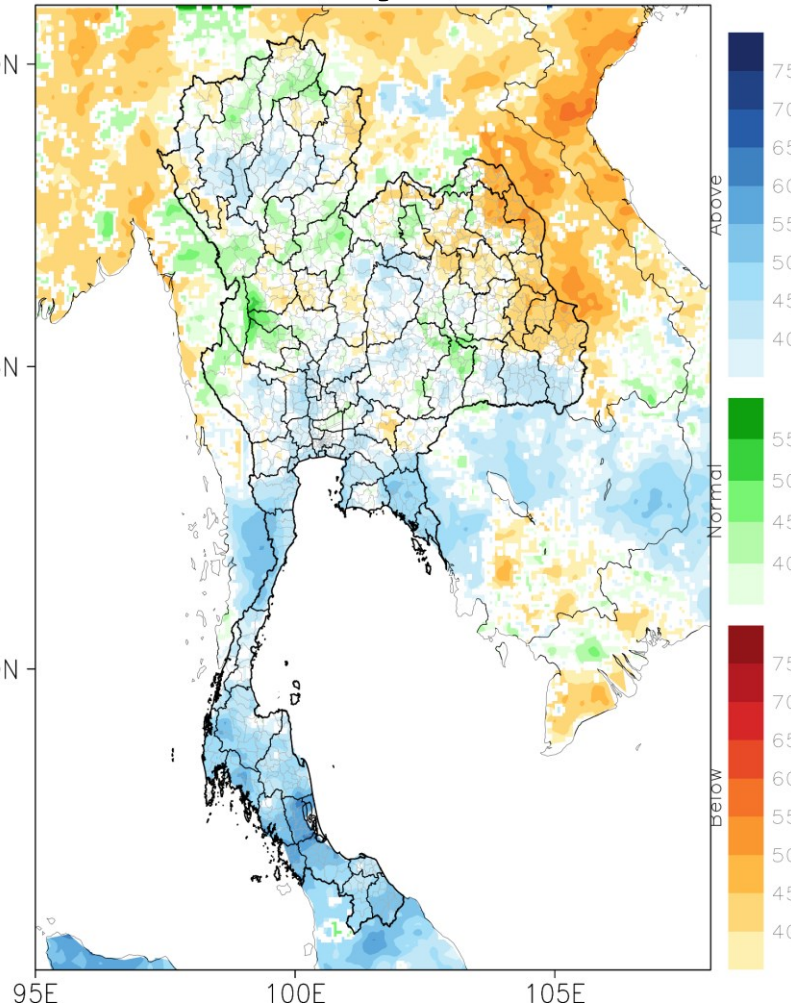


Probability Climate Outlook: Apr-Jun 2024

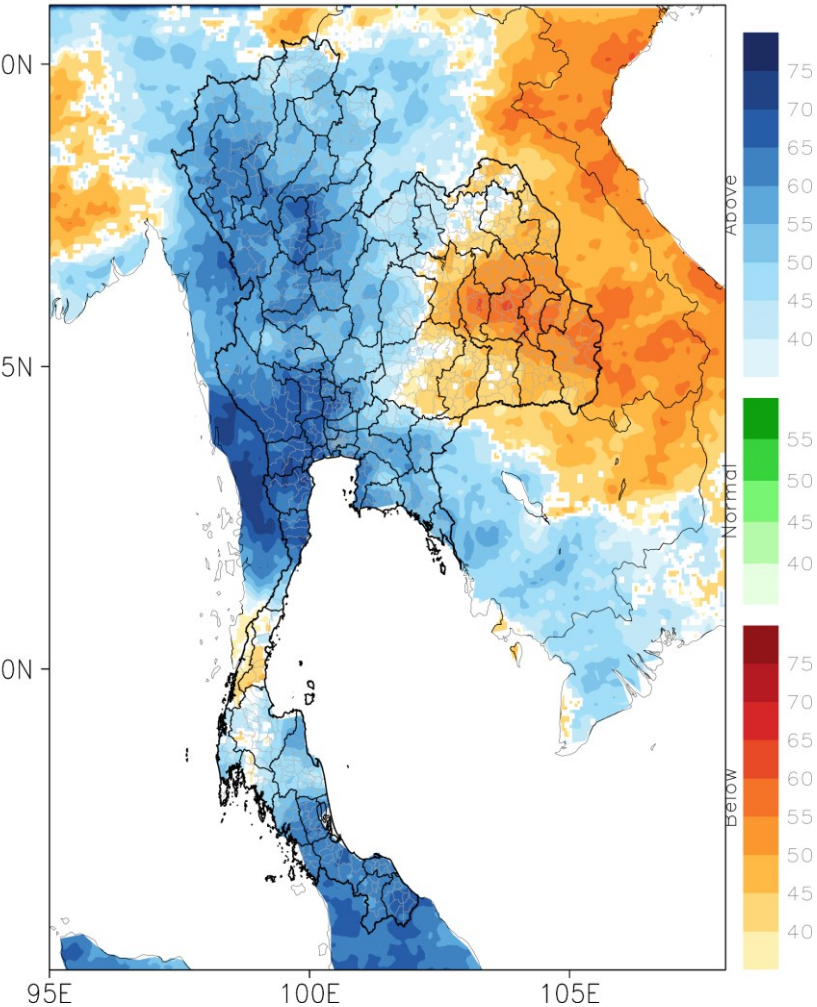
NMME Probabilistic Forecasts **April**



NMME Probabilistic Forecasts **May**

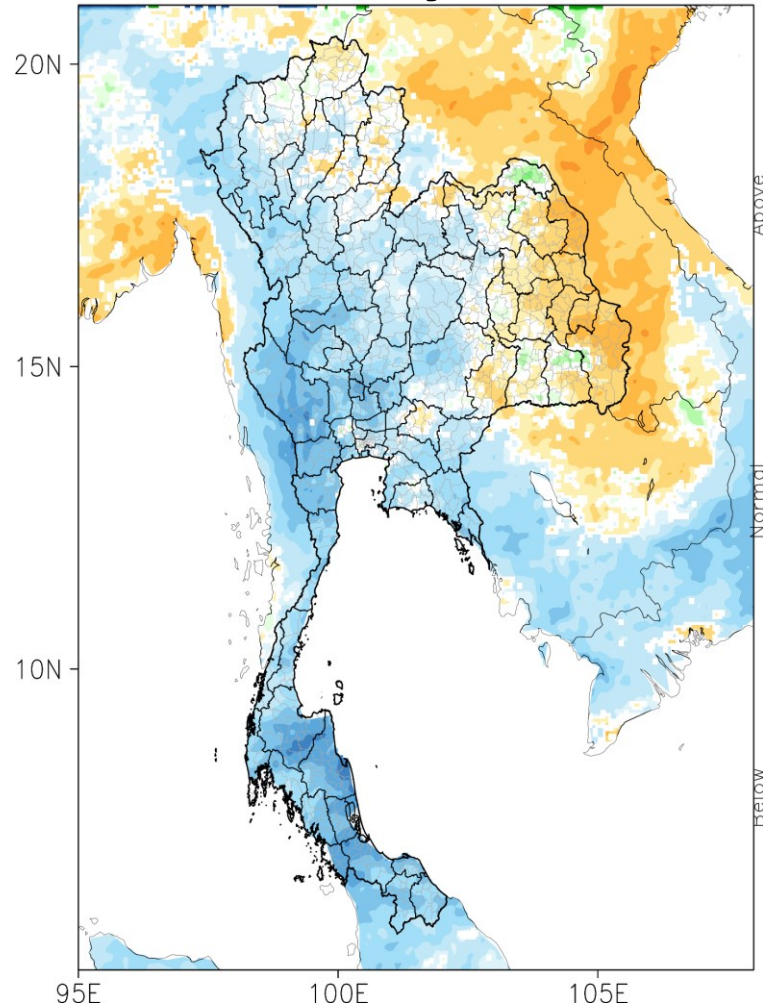


NMME Probabilistic Forecasts **June**

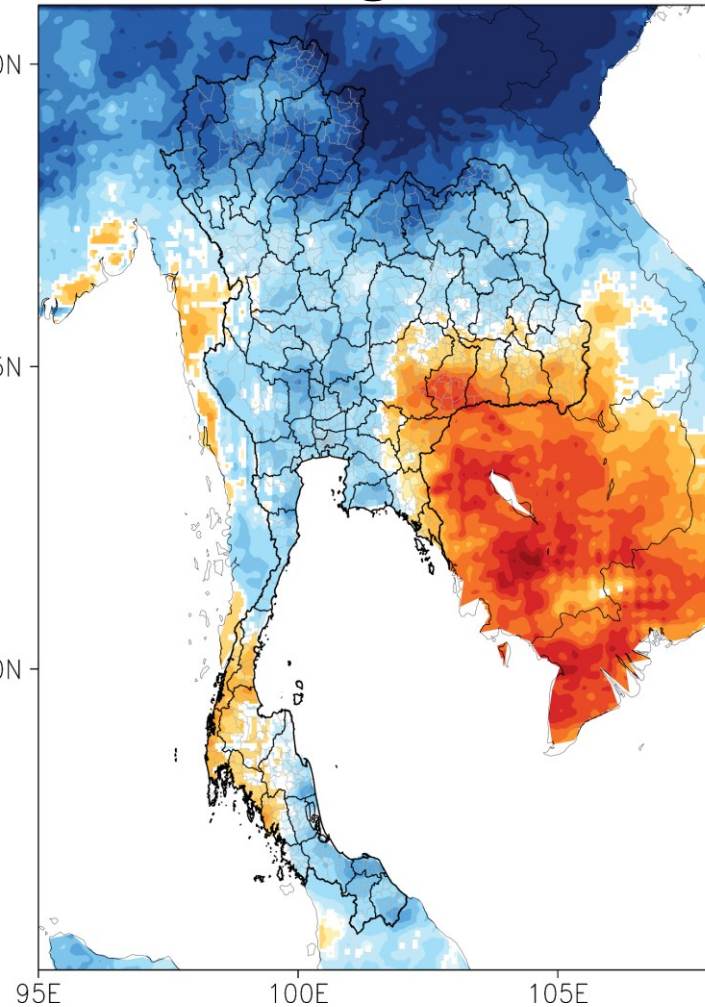


Probability Climate Outlook: Jul-Sep 2024

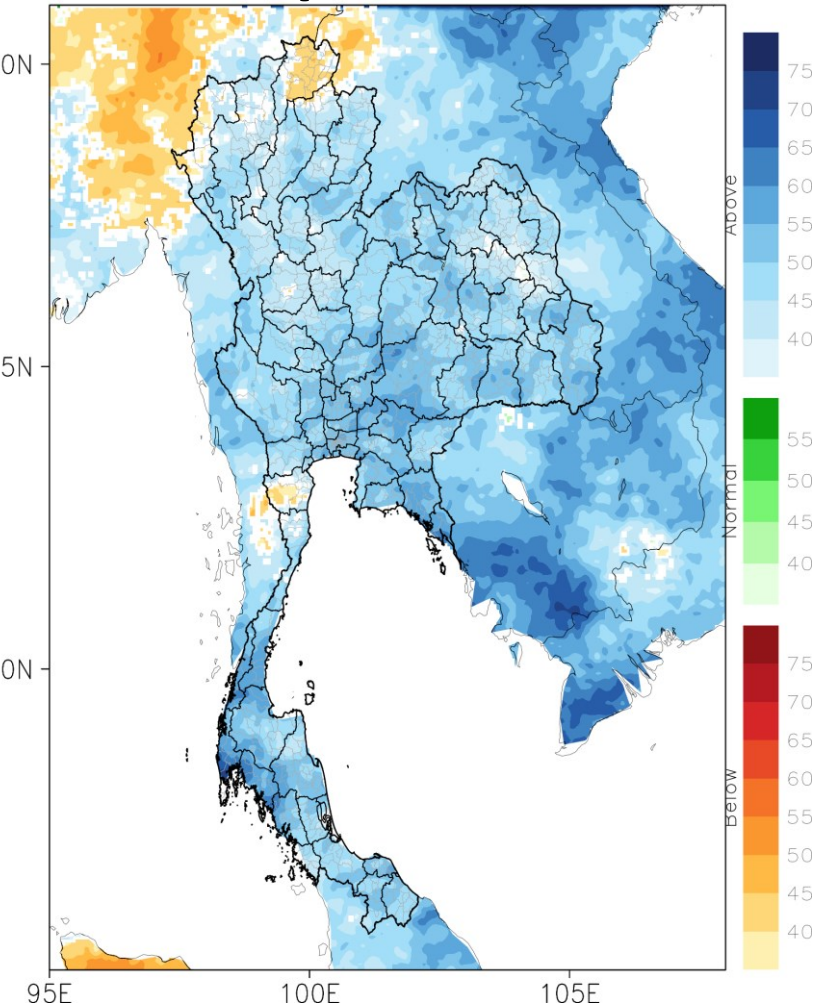
NMME Probabilistic Forecasts **July**



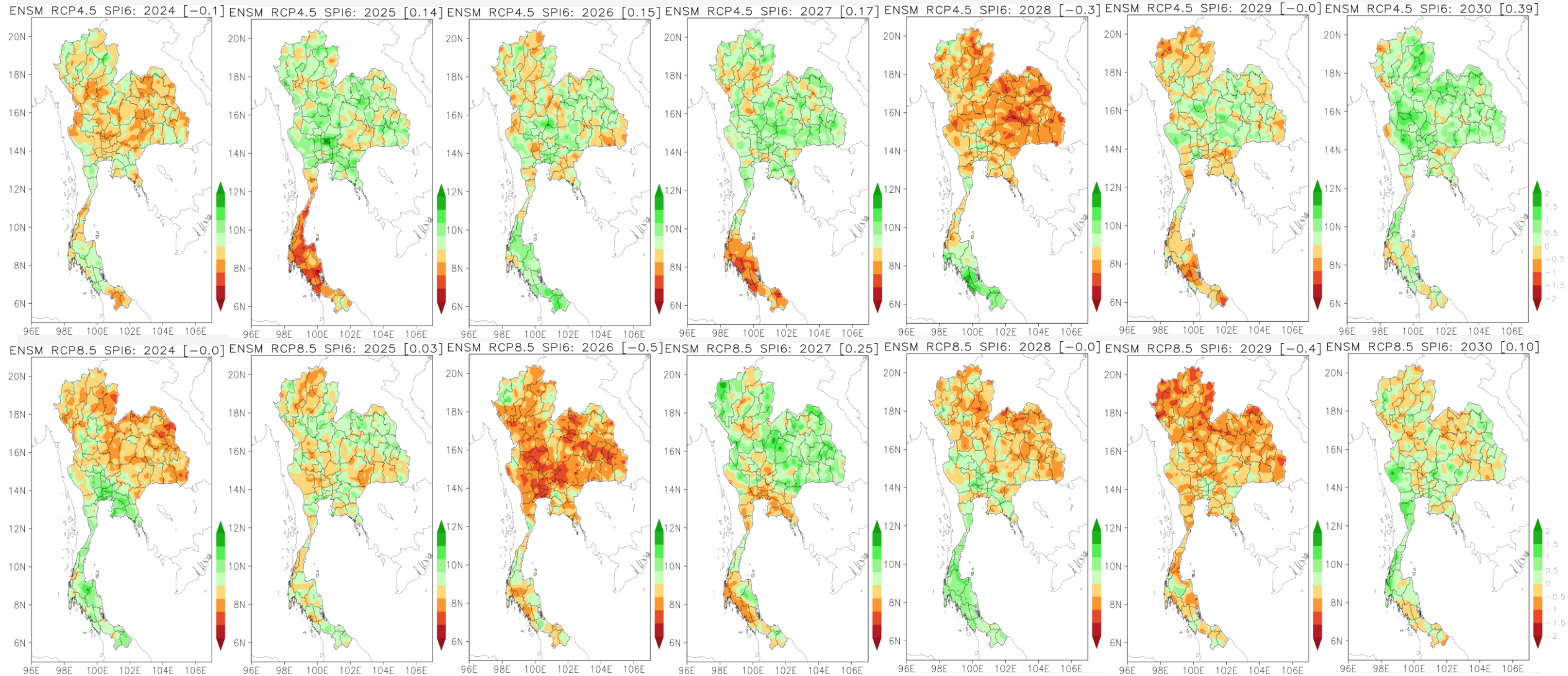
NMME Probabilistic Forecasts **August**



NMME Probabilistic Forecasts **September**



Climate Projection: RCP4.5 & RCP8.5 (2024-2030)



ขอบคุณครับ