



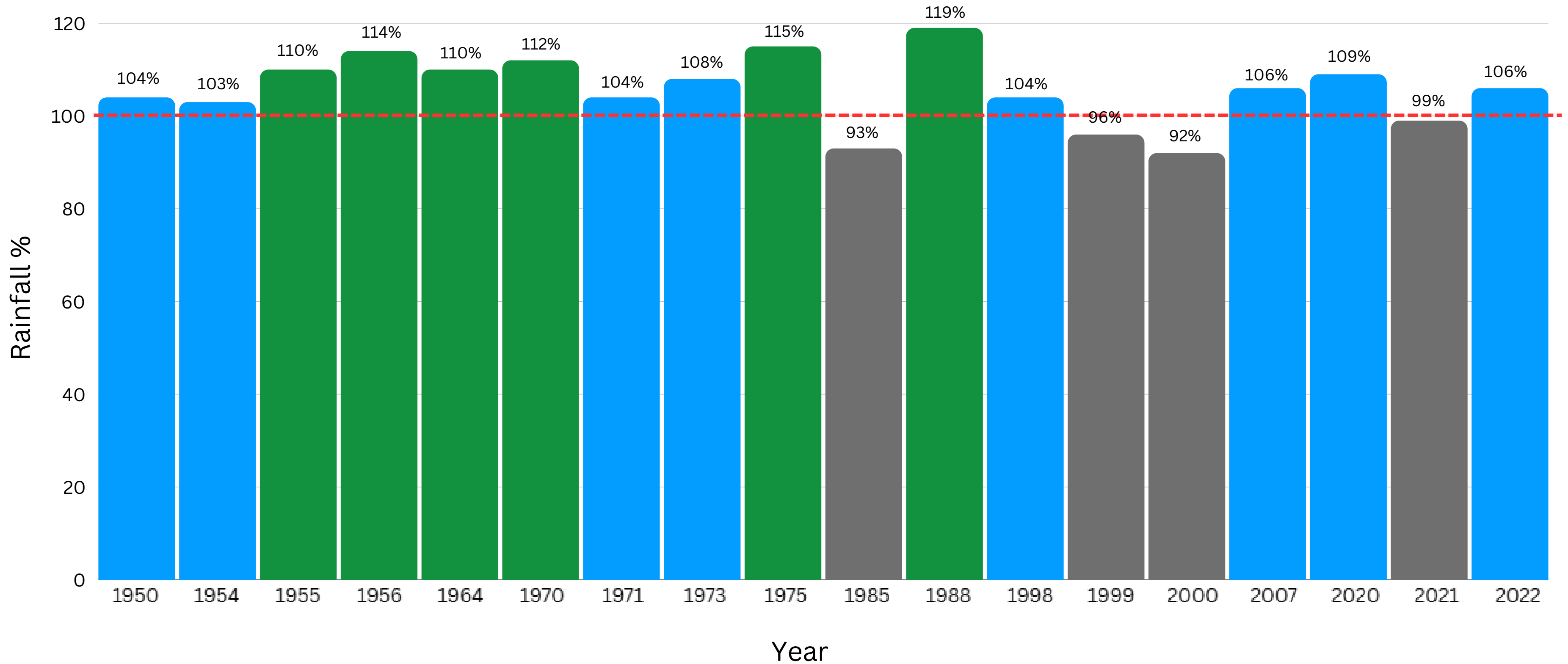
SEIC-2025 Sugar & Bioenergy Conclave

Presentation by: AVM GP SHARMA

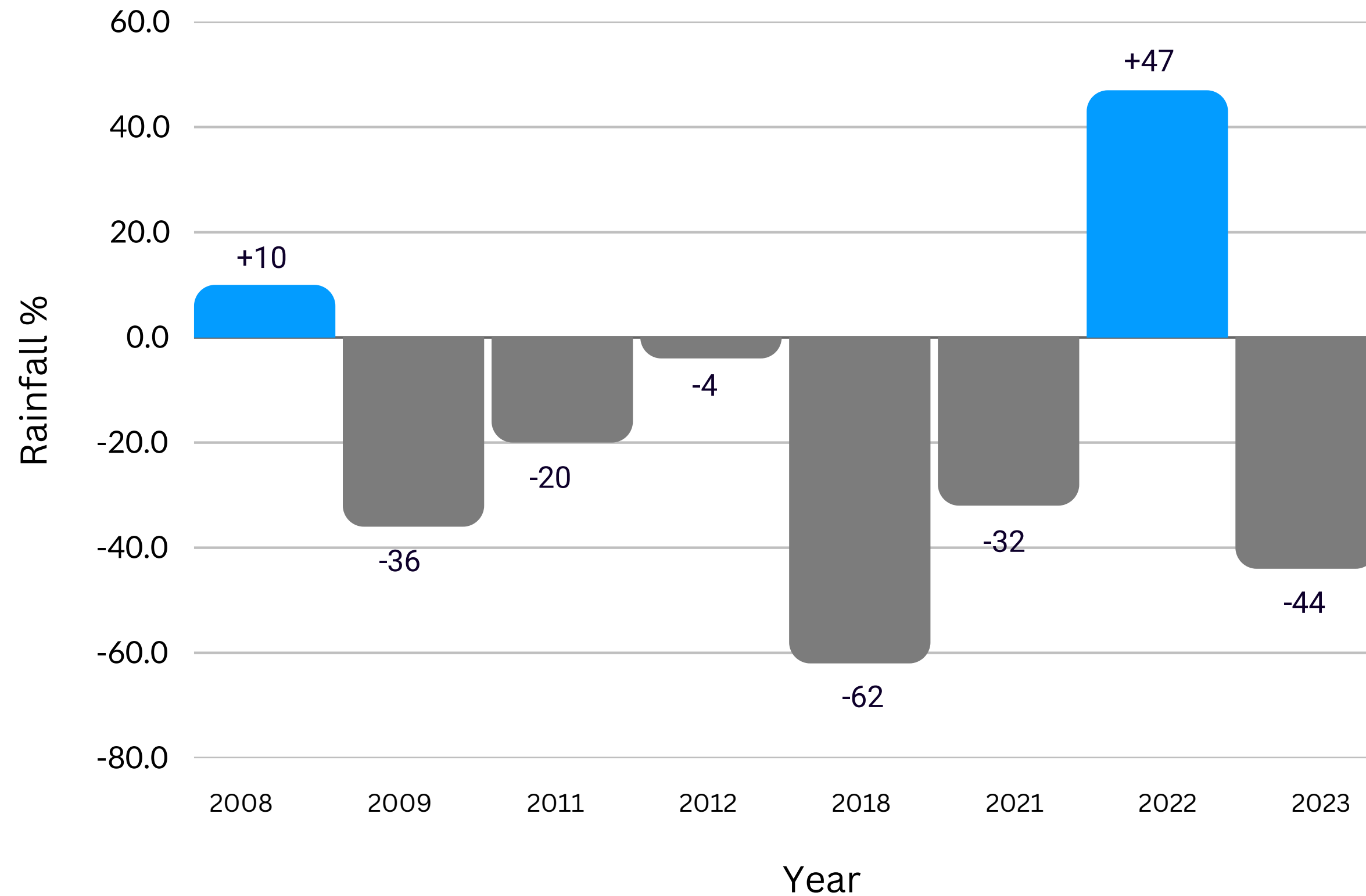


La Nina Prediction and Its Impact on Agriculture

La Nina - Monsoon Rainfall

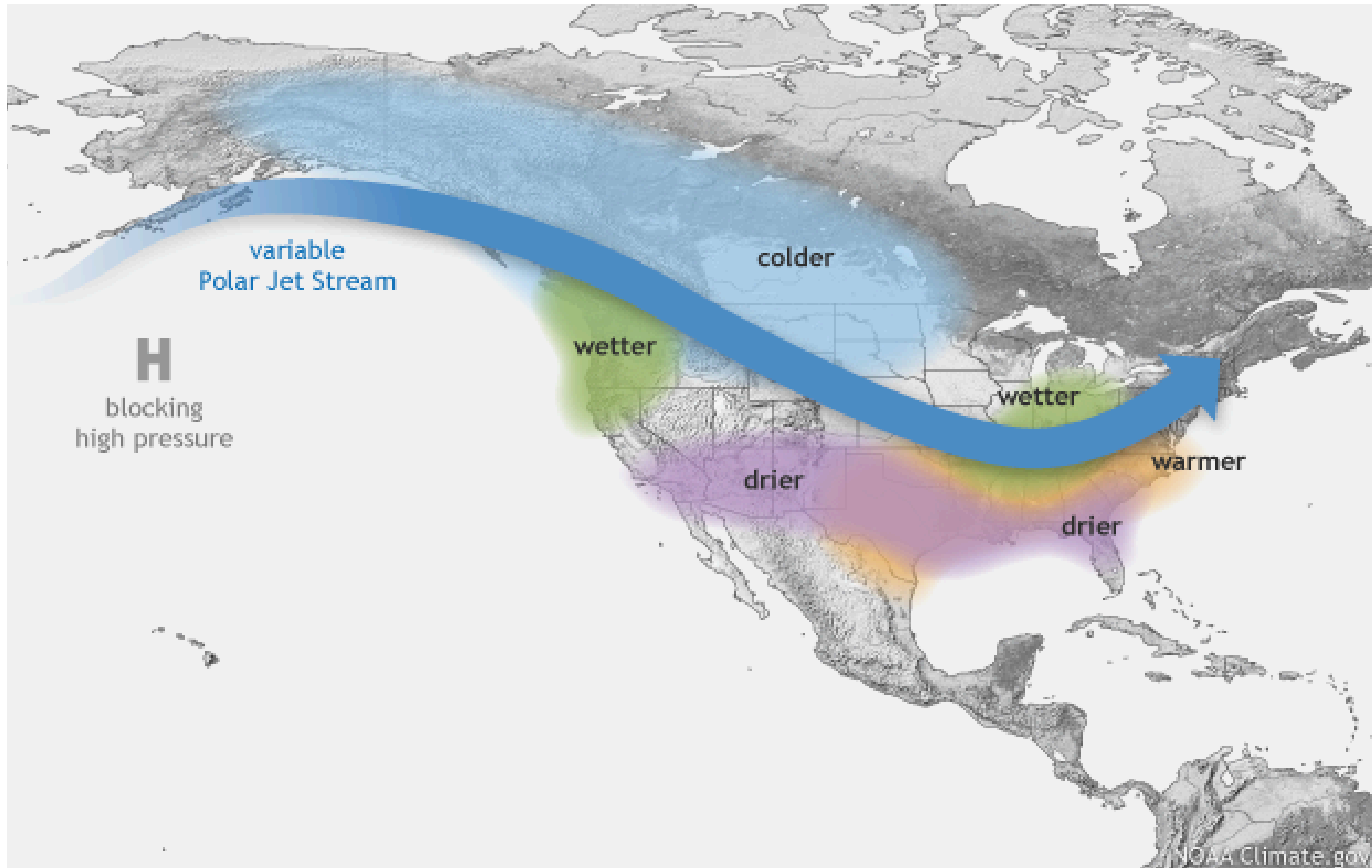


Winter Rainfall (Jan & Feb) : Surplus-Deficiency (%age)

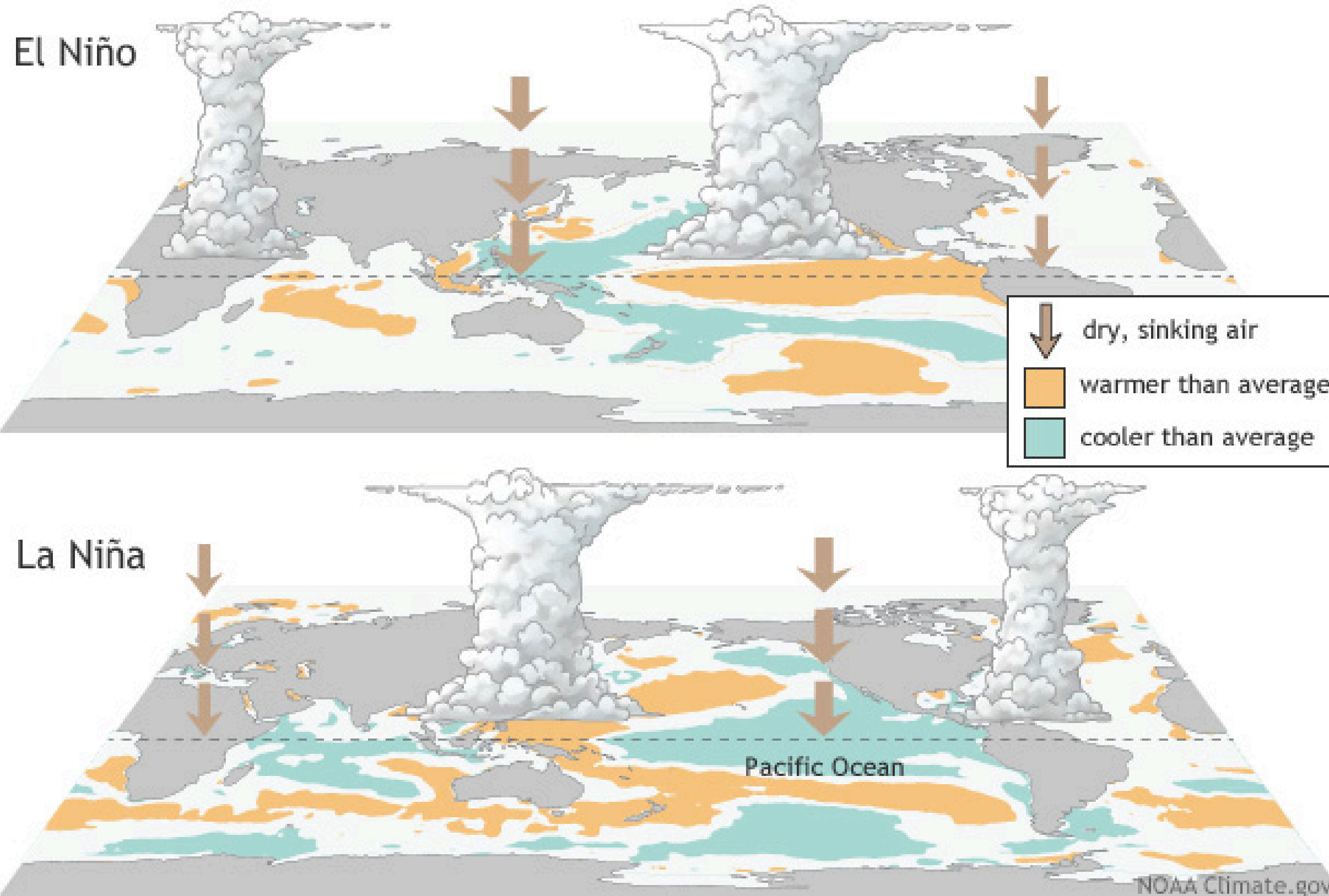




Wintertime La Nina Pattern



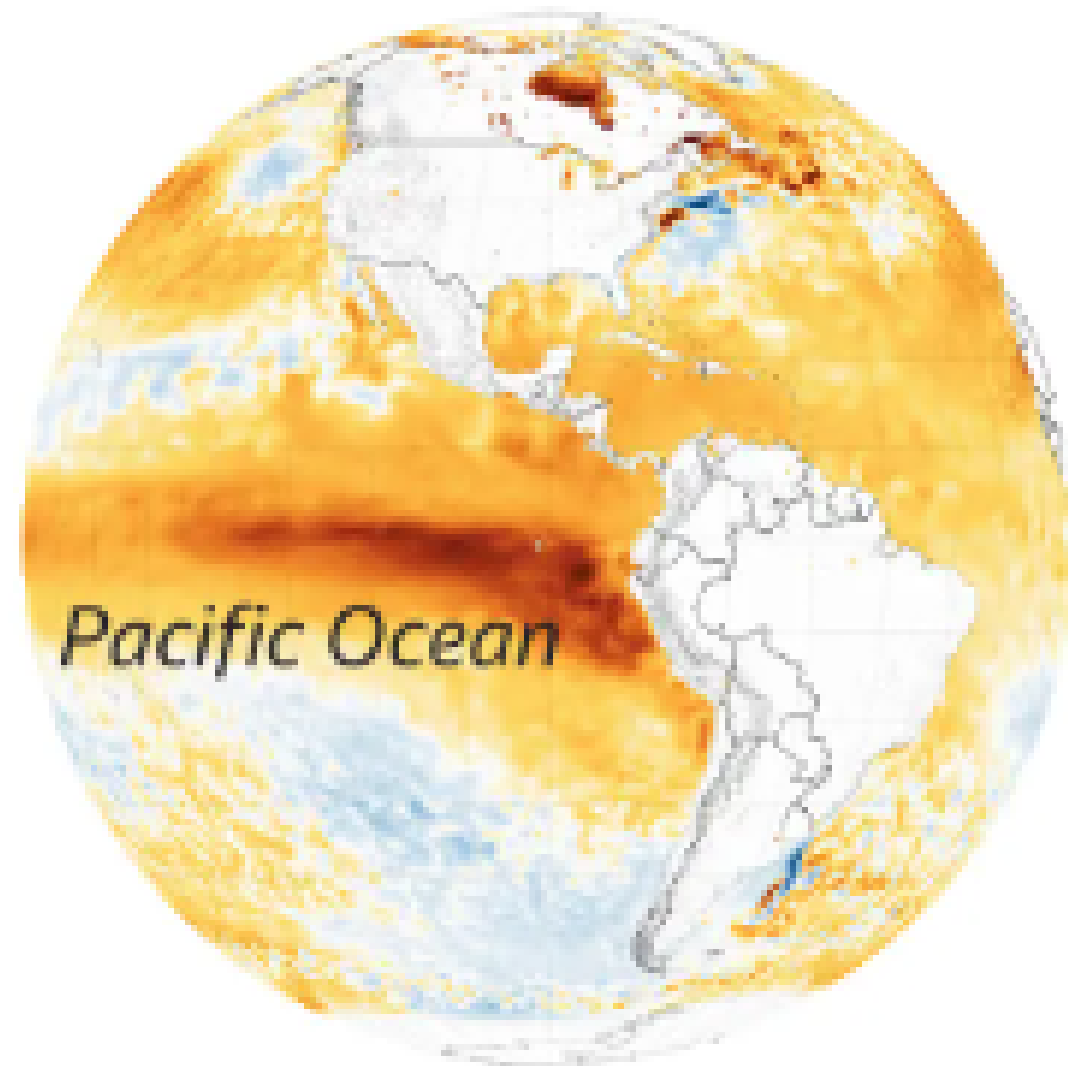
Rising & Sinking Motion of Air



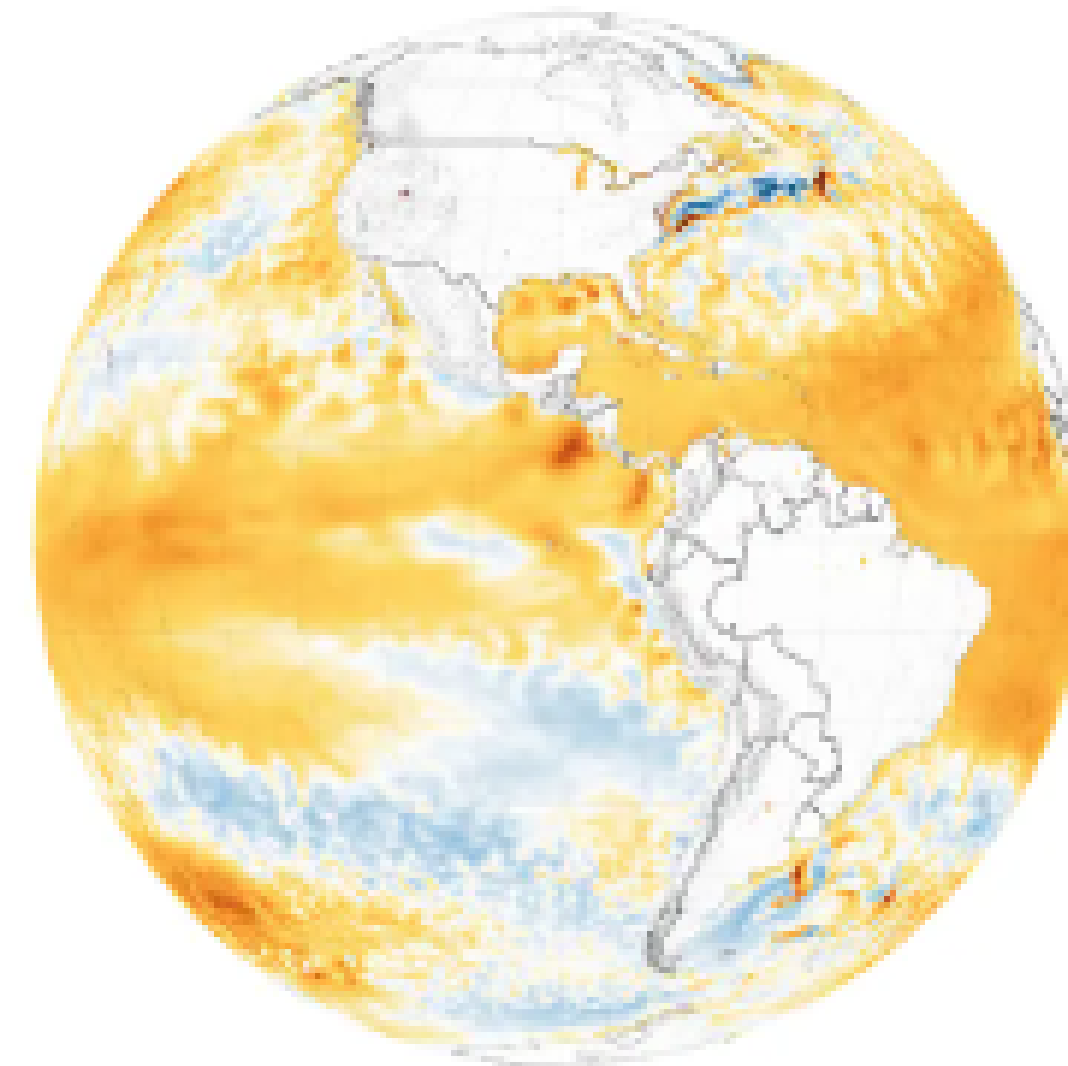
El Nino - La Nina Temperatures



October 2023
El Niño strengthening
across the Pacific

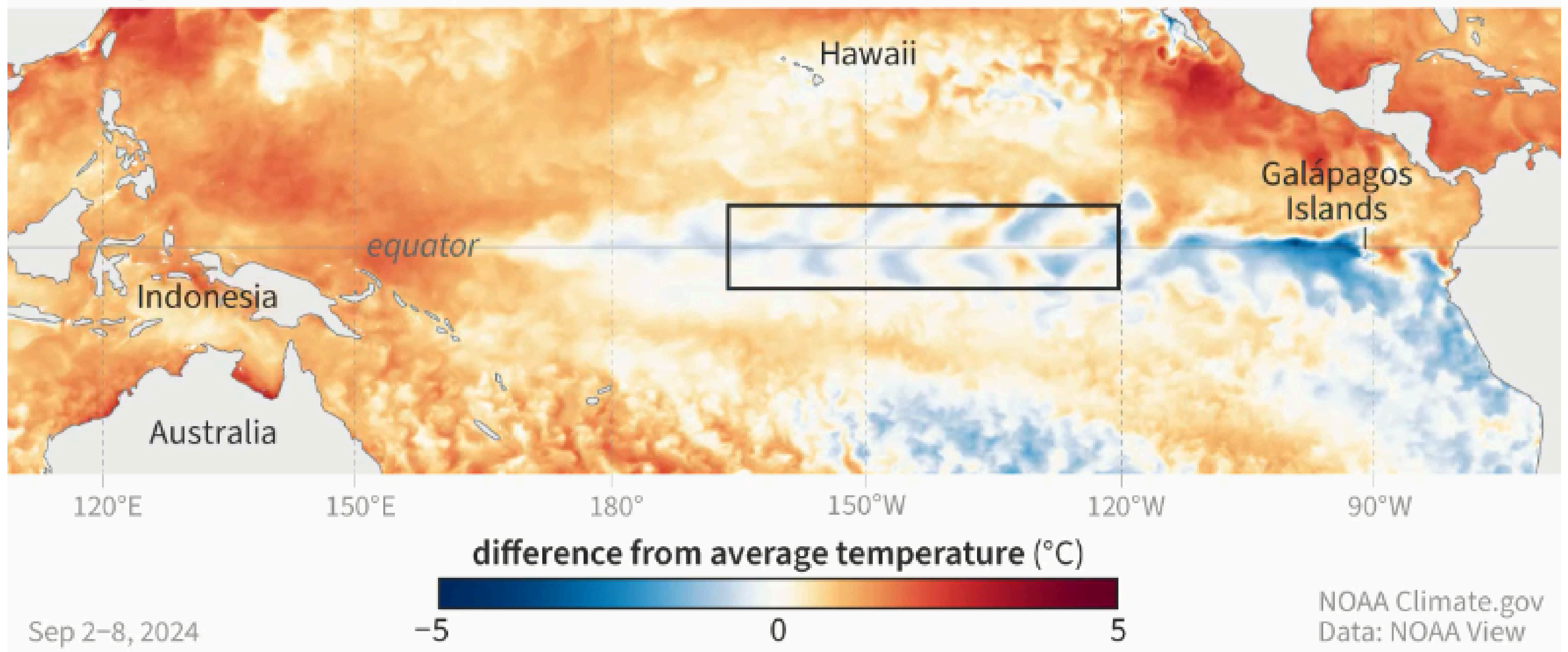


March 2024
El Niño weakening
in east Pacific





Weekly sea surface temperature patterns in tropical pacific (Jul 1- Sep 29, 2024)



La Nina - Regional Variations



- **South Asia**

La Nina often leads to strong monsoon in South Asia, including India

- **South East Asia**

Countries like Indonesia, Vietnam and Thailand can see increased rice production during strong La Nina years.

- **South America**

La Nina can lead to altered rainfall pattern in parts of South America, including Brazil, the chief producers of sugarcane worldwide.

La Nina - Global impact



- **India:**

Better spatiotemporal rainfall distribution

- **Brazil:**

Latin America exposed to extreme weather conditions triggered by ENSO.

- **Thailand:**

May not feel the full impact of La Nina this year- farmers alter crop cycle.

- **Indonesia:**

Increased production during La Nina years.

- **Pakistan:**

Better rains during La Nina. Widely planted in Sind and Punjab.

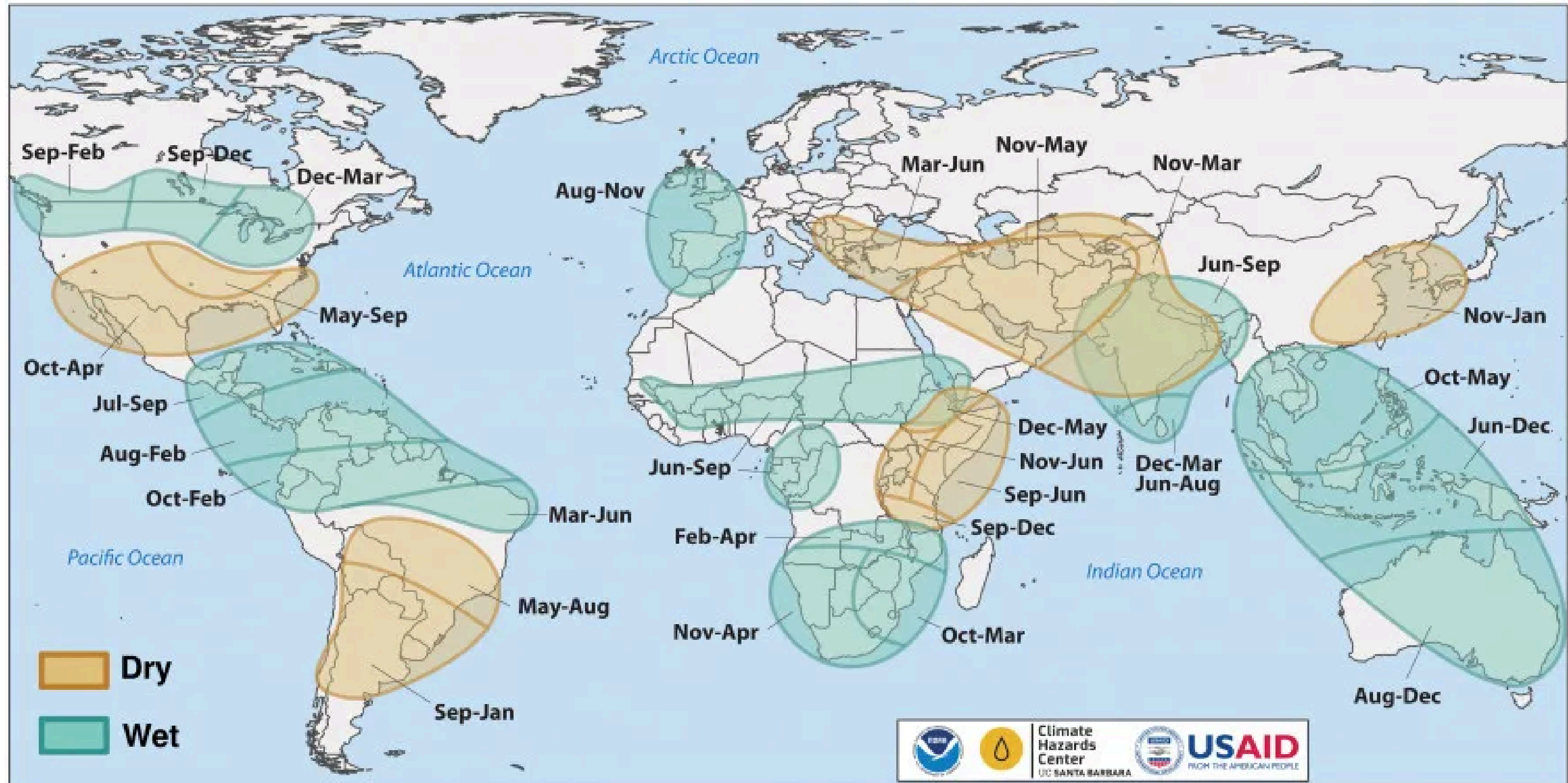
El Nino - Global Impact



Global climatological effects of the El Niño



Timing of wet & dry conditions related to La Nina

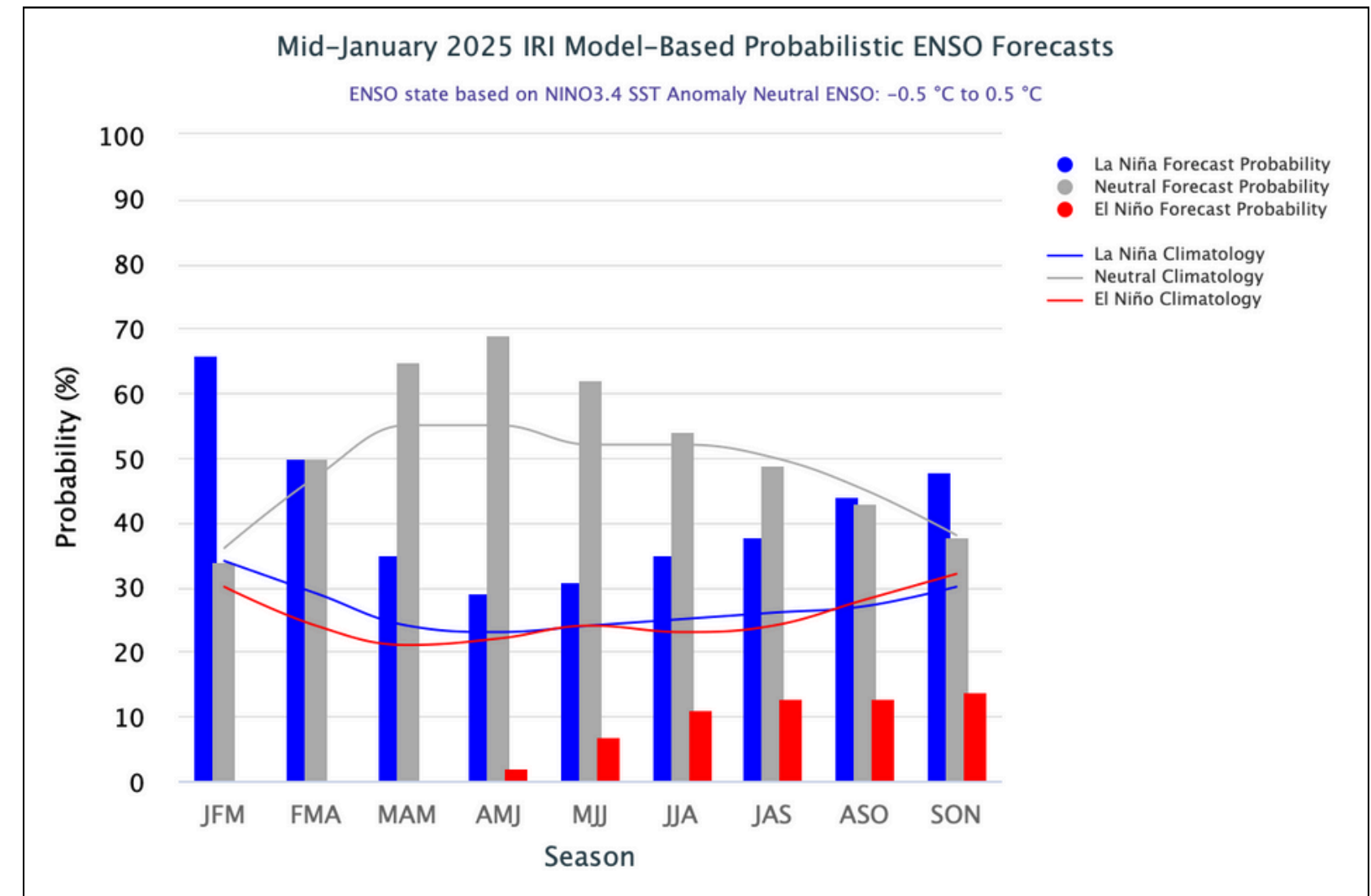
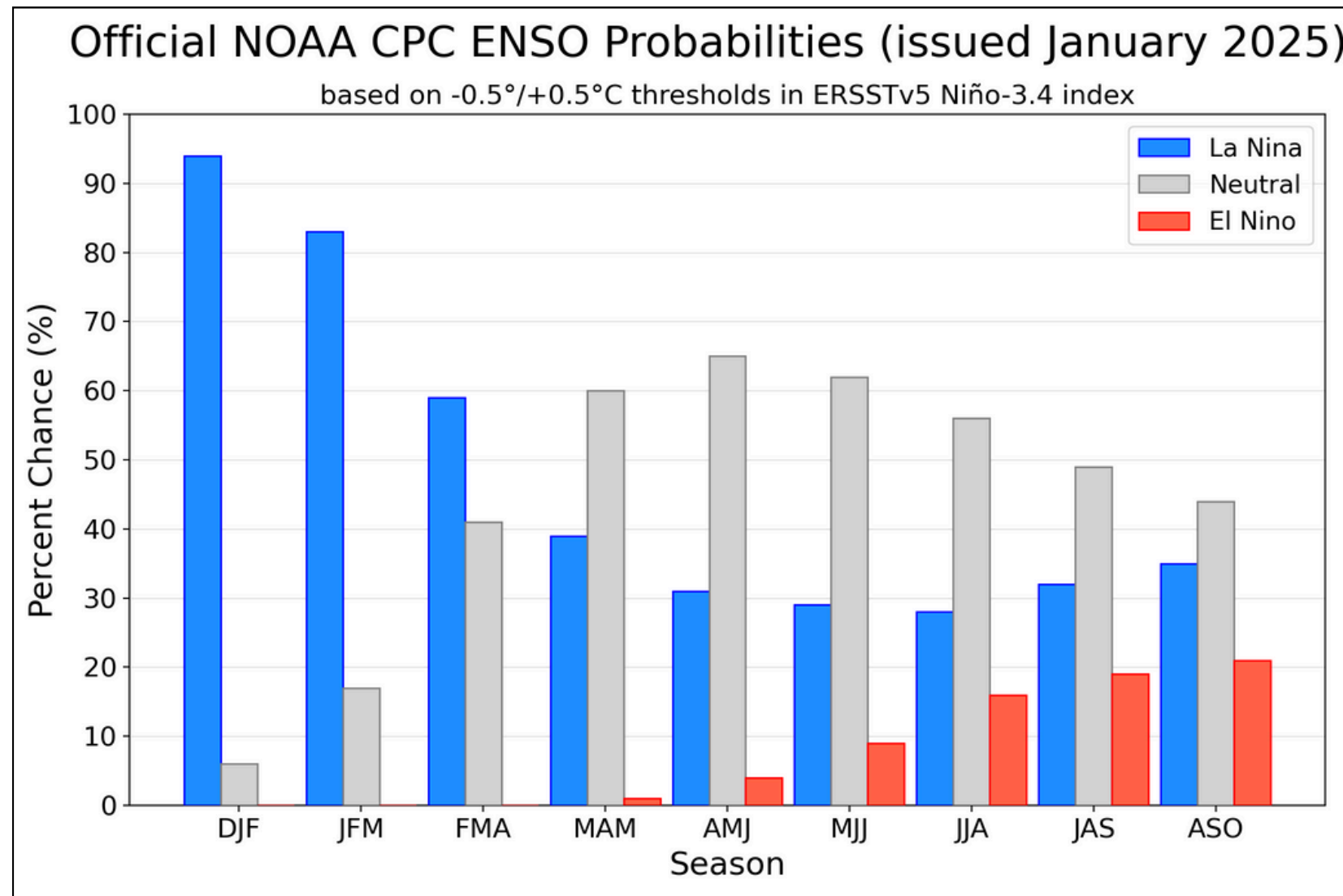


Swings of La Nina



- La Nina peak December, January, February.
- Transition to ENSO neutral March, April, May.

- ENSO neutral remaining period of forecast.
- Shortest La Nina on record.



Key Measures -Impact Mitigation



- Early warning to enable proactive planning
- Improved water management practices
- Strengthening and widening of irrigation network
- Flood plain Management





END OF PRESENTATION

Thankyou

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