

SCCWRP's El Niño Related Research

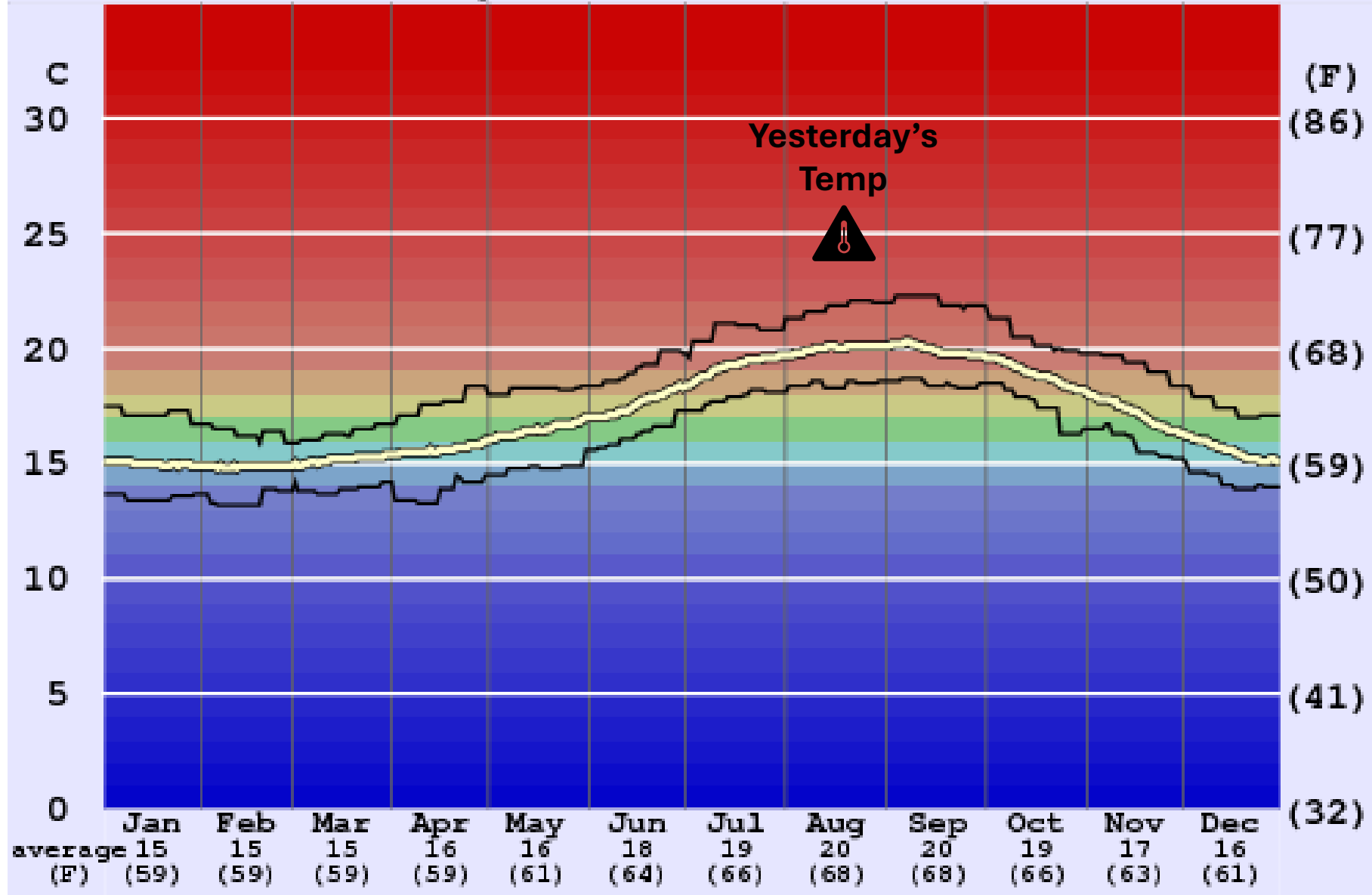
Commission Update, 04 Sep 2026

2026-27 is expected to be an epic El Niño

- NOAA prediction upgraded to ~~81%~~ >90% chance of a “strong El Niño”
 - Average sea surface temps exceeding 2° C in equatorial Pacific
- Can produce heavy rainfall
 - 1982-83 El Niño delivered over double the average annual rainfall
- Can cause coastal flooding and sea level rise
 - Some scientists estimate an additional 6 – 10 inches in SLR this year

Sea Temperature Range for Scripps Pier

Thick line is average since 1984. Thin lines are extremes



The Commission's Ask for Today

- **What El Niño Research is SCCWRP conducting?**

The answer comes in three parts:

- 1) What we have done previously
- 2) What is new and focused specifically on this El Niño
- 3) What are we doing that keeps us prepared for additional El Niño research needs

This Isn't Our First El Niño: SCCWRP's Previous Research Findings

- El Niño fueled storms can produce the majority of annual stormwater pollutant mass emissions
 - Mapped mainland stormwater plumes extending to the Channel Islands
- Warming water can dramatically change fish and invertebrate species assemblages
 - Alters local monitoring results
- Additional rainfall increases in beach bacteria levels and resulting beach warnings
 - Perhaps increases in warm-water pathogens
- Impervious surfaces exacerbate hydromodification impacts during El Niño rain events

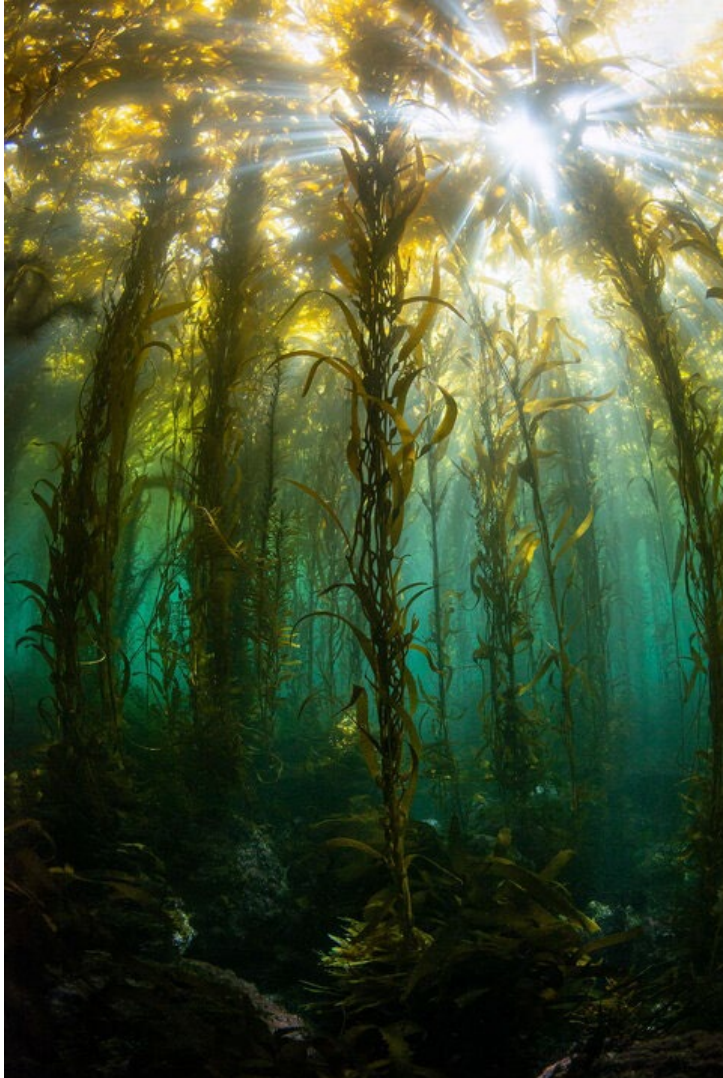


Quantifying Alterations in Beach Extent

- Large waves may generate dramatic shoreline erosion
- SCCWRP is partnering with the USGS to map changes in beach extent Pre- and Post-El Niño
- Assessing using new satellite technology
 - Can also use this technology to quantify recovery



Fluctuations in Water Temperature



- SCCWRP is working with the West Coast Ocean Alliance (WCOA) on an Ocean Report Card
 - Designated the next assessment on Ocean Temperature
- We have engaged the best physical oceanographers on the Pacific Coast to quantify temp anomalies
- Part of the Ocean Temperature report card will include impacts
 - Rocky intertidal communities
 - Kelp bed canopy coverage
- Report Card should be available in Spring 2027

SCCWRP Is Well-Positioned for Quantifying Alterations from Baseline Conditions

- Harmful Algal Bloom monitoring and event response
- Estuary mouth breaching and inundation
- Hydrologic controls on stormwater BMPs
- Operations and maintenance of infiltration BMPs
- Stormwater capture and release for ecohydrology