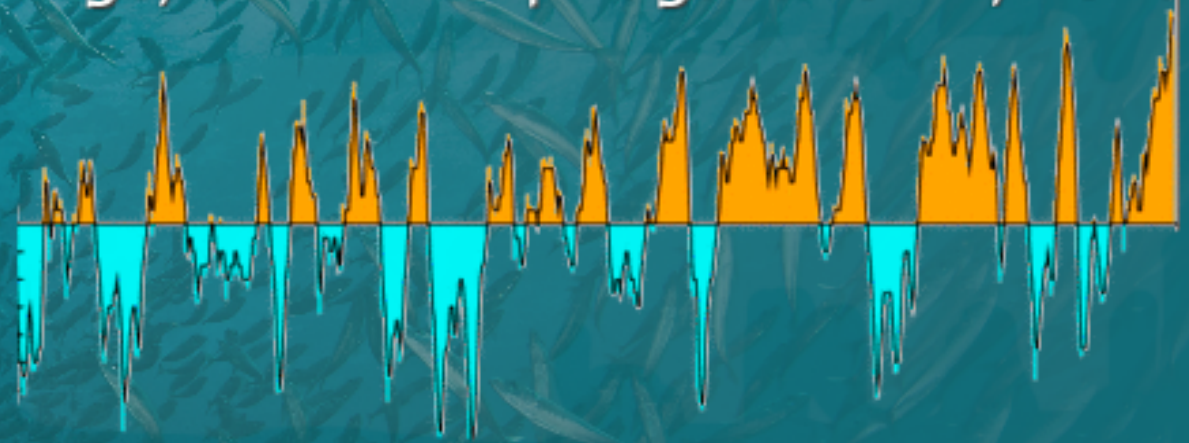


Forecasting ENSO Impacts on Marine Ecosystems of the US West Coast

San Diego, California | August 10-11, 2016



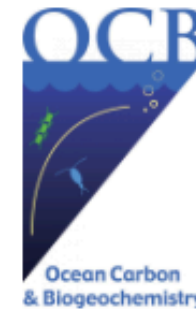
- *Welcoming Remarks and Sponsors*
- *Logistics (e.g. lunch, transportation, reception, electronic material)*
- *Goals and Motivation of Workshop & Agenda (e.g. note taking assignments, contributing material)*
- *Diverse biological ramifications of ENSO*

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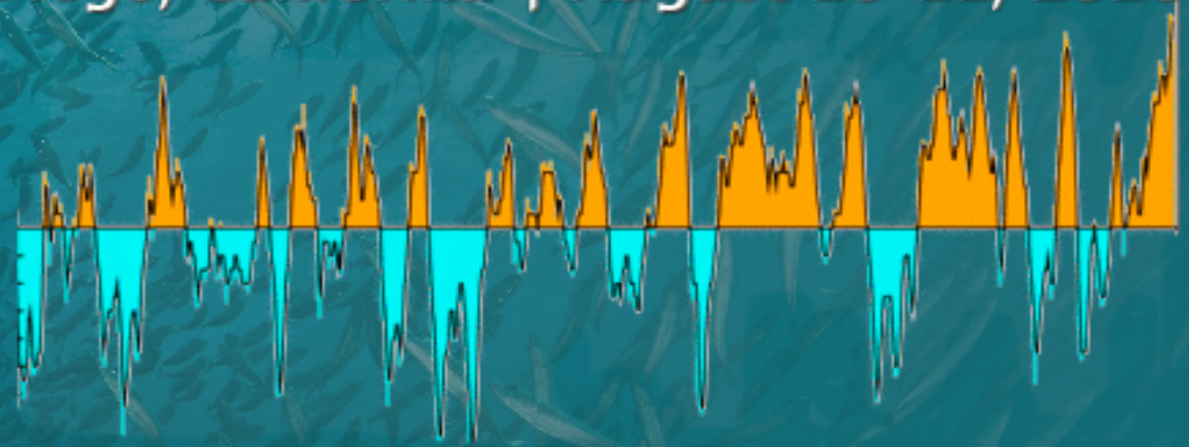


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Forecasting ENSO Impacts on Marine Ecosystems of the US West Coast

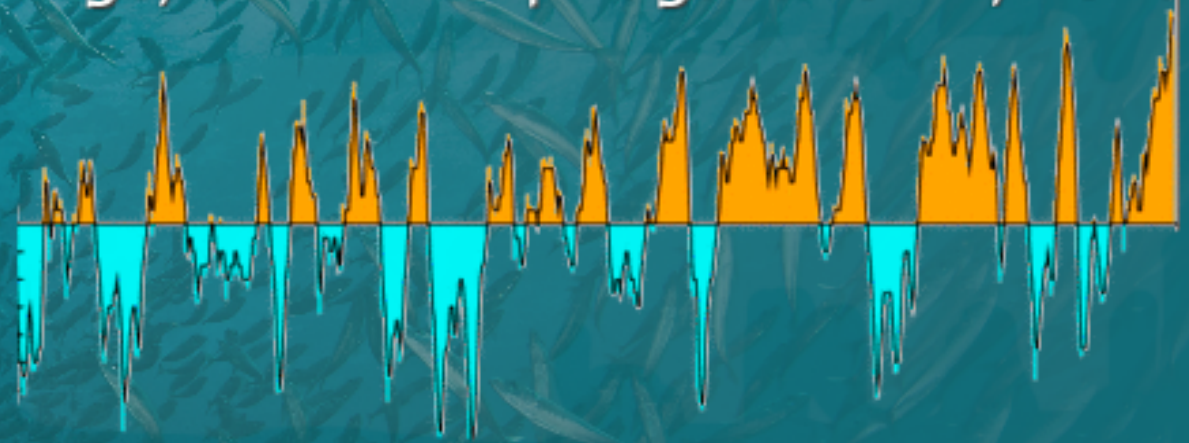
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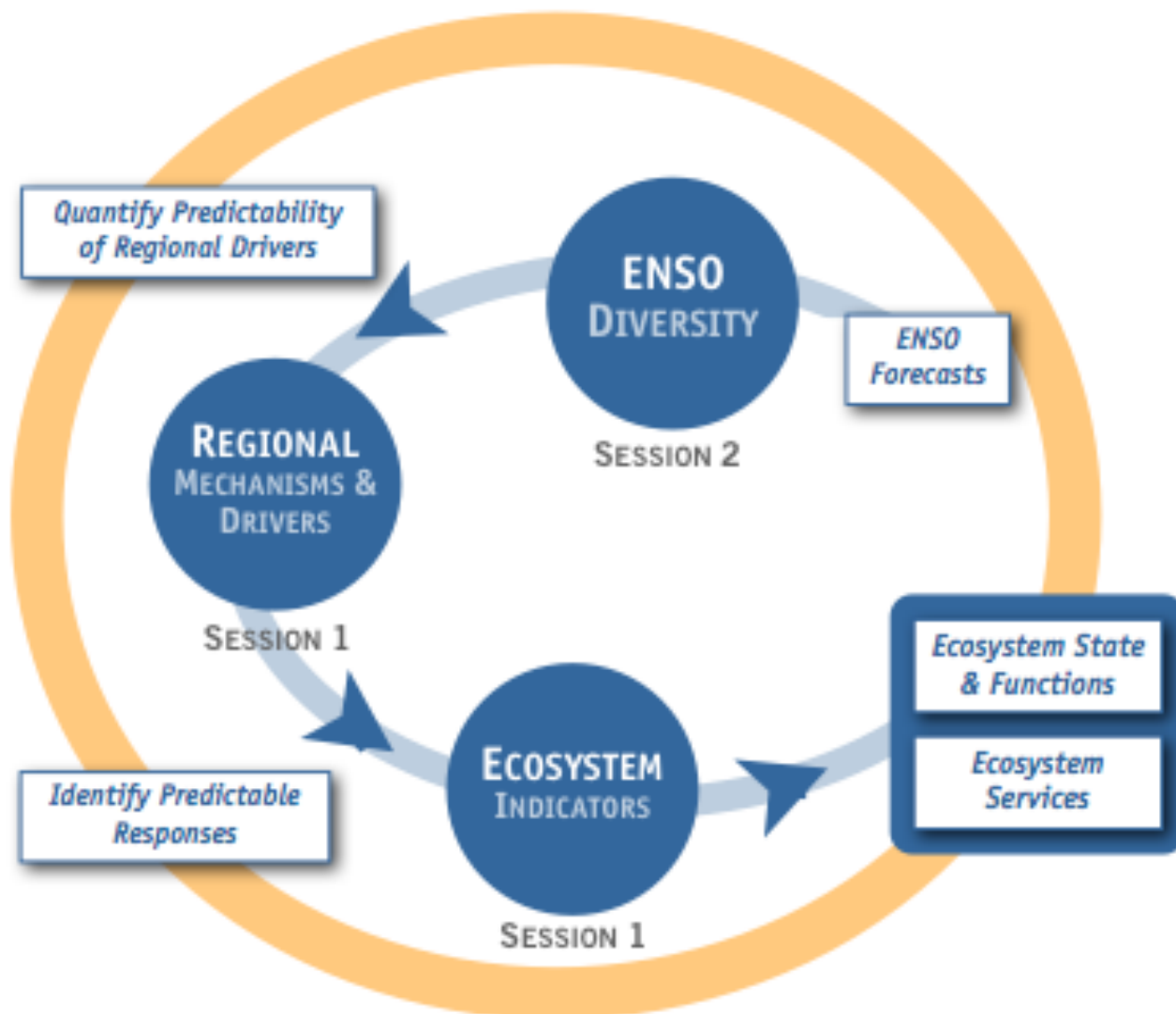
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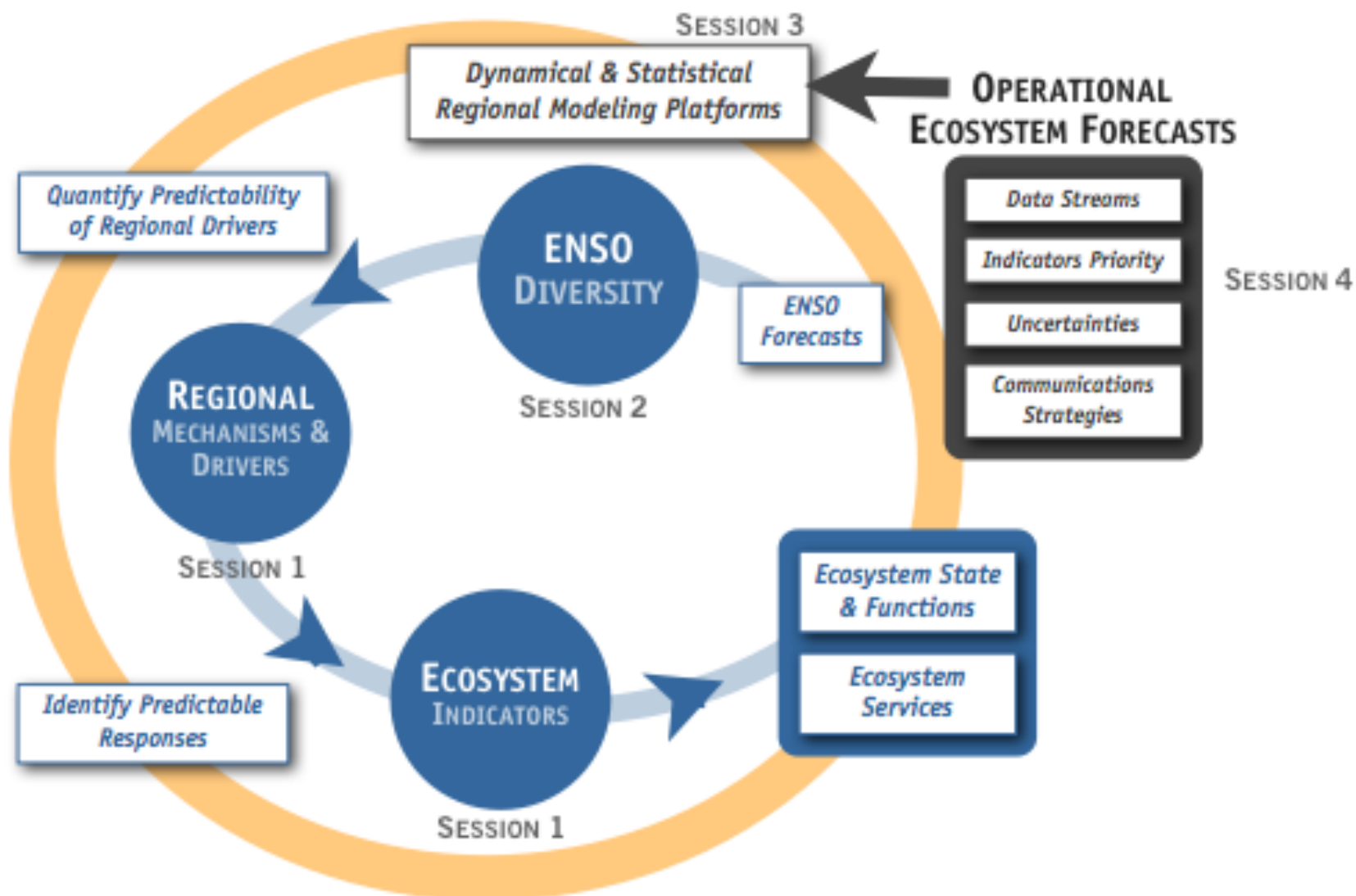


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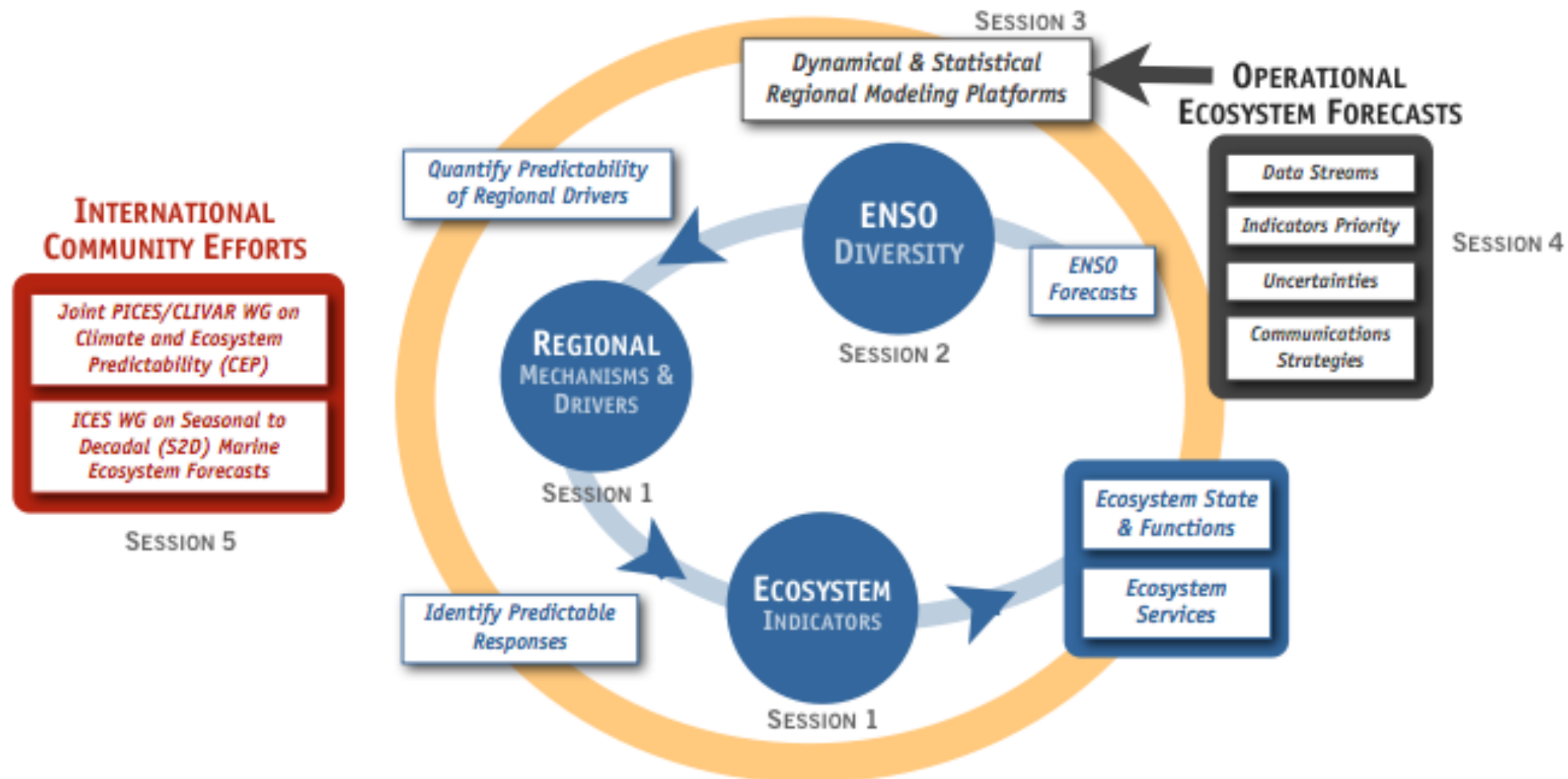
FORECASTING ENSO IMPACTS ON MARINE ECOSYSTEMS US WEST COAST



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SESSION 3

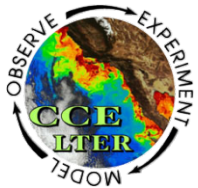
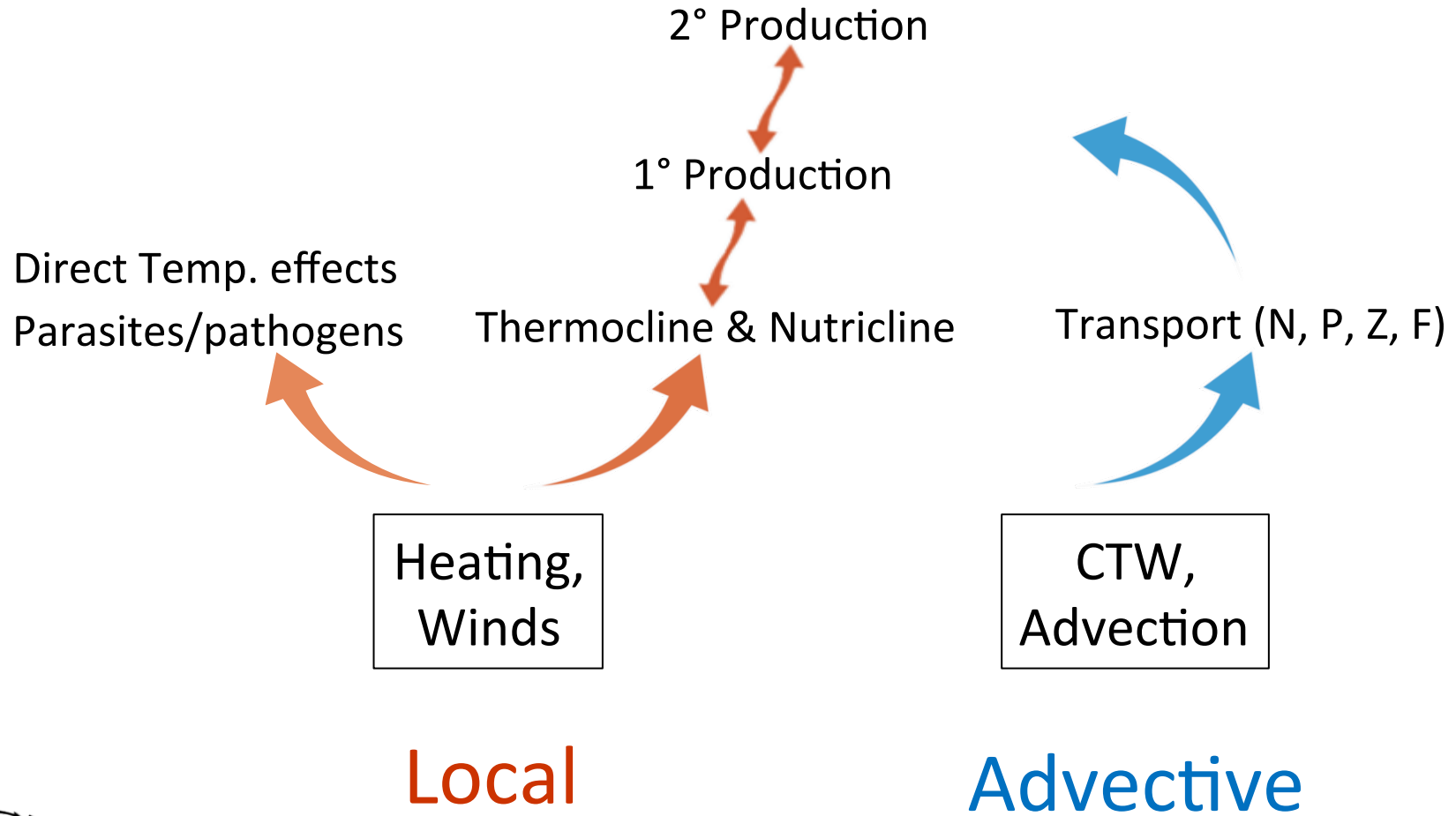
*Dynamical & Statistical
Regional Modeling Platforms*

← OPERATIONAL
ECOSYSTEM FORECASTS


Prospects on forecasting ecosystem responses to El Niño along the US West Coast

- Synthesis of where we are
- Research and operational needs

Biological ramifications of ENSO



ENSO forecasts



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EL NIÑO/SOUTHERN OSCILLATION (ENSO)

DIAGNOSTIC DISCUSSION

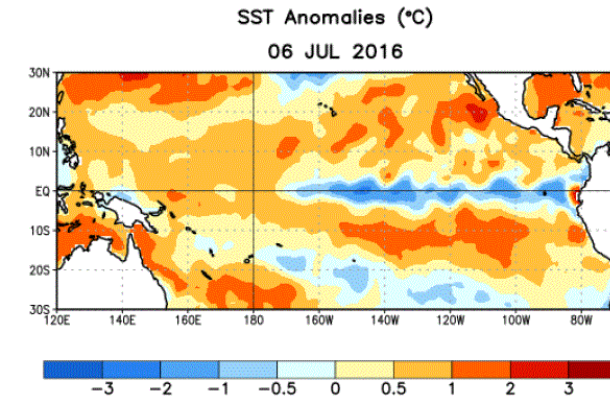
issued by
CLIMATE PREDICTION CENTER/NCEP/NWS
and the International Research Institute for Climate and Society
14 July 2016

ENSO Alert System Status: La Niña Watch

Synopsis: La Niña is favored to develop during August - October 2016, with about a 55-60% chance of La Niña during the fall and winter 2016-17.

ENSO-neutral conditions were observed during the past month, as indicated by near-to-below average surface temperatures (SST) across the eastern equatorial Pacific Ocean (Fig. 1). While the Niño-4 region was slightly above average, the other Niño indices were either slightly below average or near zero during June (Fig. 2). Below-average subsurface temperatures continued (Fig. 3) and extended to the surface in parts of the central and eastern equatorial Pacific (Fig. 4). Atmospheric anomalies over the tropical Pacific Ocean also indicated ENSO-neutral conditions. The traditional Southern Oscillation index was slightly positive while the equatorial Southern Oscillation index was near zero. The upper and lower-level winds were both near average across most of the tropical Pacific. Convection was slightly suppressed over portions of the western tropical Pacific and enhanced over part of Indonesia (Fig. 5). Collectively, these atmospheric and oceanic anomalies reflect ENSO-neutral conditions.

Many models favor La Niña (3-month average Niño-3.4 index less than or equal to -0.5°C) by the end of the Northern Hemisphere summer, continuing during fall and lasting into winter (Fig. 6). Statistical models predict a later onset time (i.e., mid-fall) than dynamical models, and also predict a relatively weaker event. The



Dynamical and Statistical Models

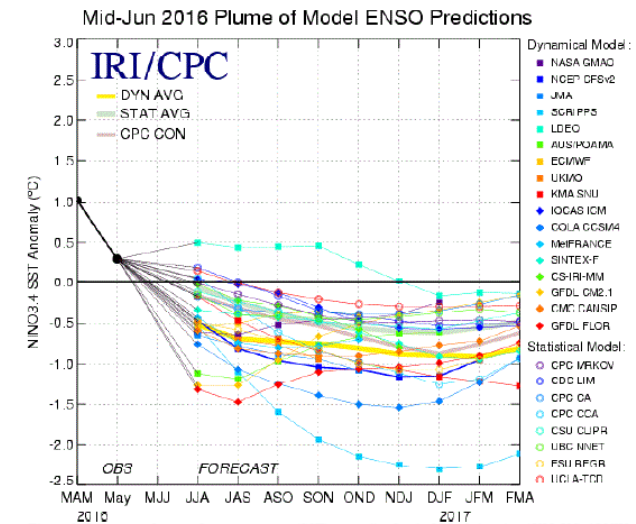


Figure 6. Forecasts of sea surface temperature (SST) anomalies for the Niño 3.4 region (5°N - 5°S , 120°W - 170°W). Figure updated 16 June 2016.