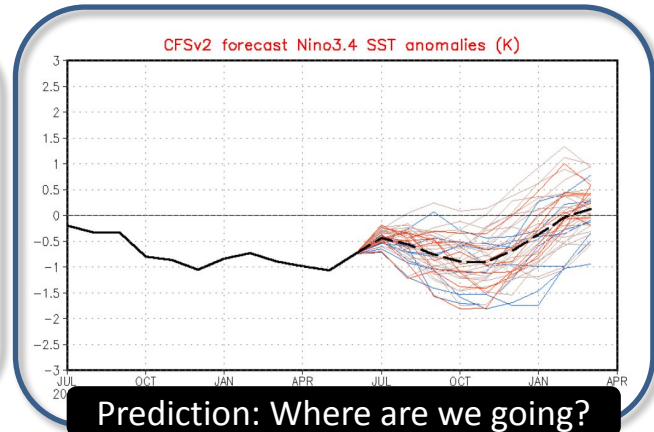
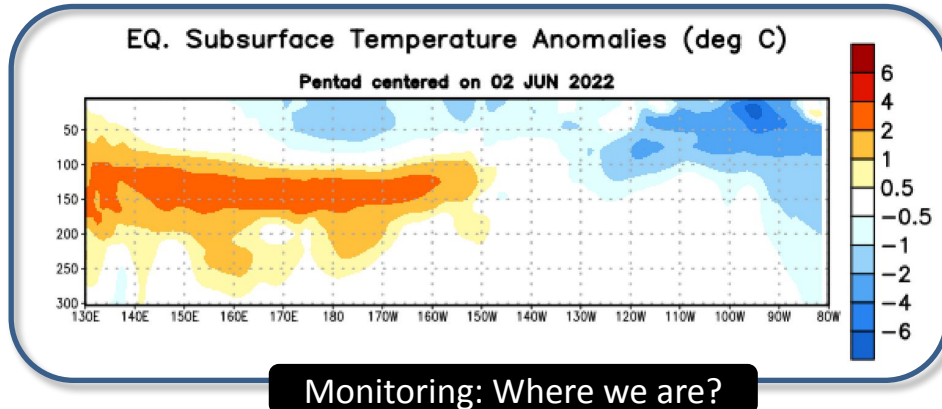


Ocean Observations in Support of Operational Monitoring and Prediction

Arun Kumar
Principal Scientist
Climate Prediction Center/NCEP/NWS/NOAA

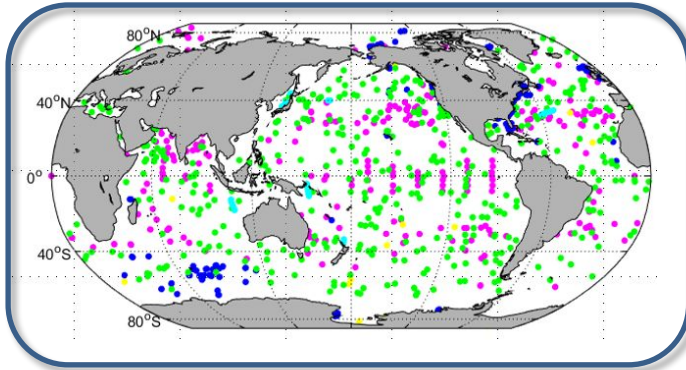
Climate Prediction Center (CPC)

- Mission: Deliver products that monitor and predict and describe climate variations.
- CPC maintains a wide-range of ocean relevant products.



CPC: Reliance on ocean observations

- Products rely on model based real-time ocean analysis.
- Ocean analysis hinges on timely availability of in situ observations.



- In situ ocean observations received via GTS at different centers (NCEP, ECMWF, UKMO,...).
- Observations are critical for the quality of the ocean data assimilation in support for forecast initialization and for ocean monitoring.
- GOMO's support for maintaining in situ network and transmission on GTS is essential.

GOMO links (specific to CPC)

- Collaborative effort between CPC and GOMO for the delivery of ocean analysis and monitoring.
- GOMO supports the delivery of the current state of the ocean to the community – [Monthly Ocean Briefings](#).
- GOMO's is supporting a project to compare in situ observations and with model analysis.



<http://www.cpc.ncep.noaa.gov/products/GODAS/>

This project, to deliver real-time ocean monitoring products, is implemented
by CPC in cooperation with NOAA's Global Ocean Monitoring and Observing Program (GOMO)



Global Ocean Monitoring:
Recent Evolution, Current Status,
and Predictions

Prepared by
Climate Prediction Center, NCEP/NOAA

June 10, 2022

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Future initiatives and opportunities supported by GOMO

- Developing an observing system experiment (OSE) and observing system simulation experiment (OSSEs) capability.
- Initiating a dialog across different operational centers (NCEP, ECMWF, JMA etc.) on a coordinated assessment of the current and future ocean observing system.

Roles of TAO/TRITON and Argo in Tropical Pacific Observing Systems: An OSSE Study for Multiple Time Scale Variability

Jieshun Zhu^{1,2}, Guillaume Vernieres³, Travis Sluka³, Stylianos Flampouris⁴, Arun Kumar¹, Avichal Mehra⁵, Meghan F. Cronin⁶, Dongxiao Zhang⁷, Samantha Wills⁷,

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GOMO's role in delivering climate services

- Supporting a sustained in situ ocean observing network for real-time ocean monitoring, predictions, and model validation.
- Supporting the transmission of in situ observation via GTS for their use at operational centers.
- Supporting capabilities for assessing the utility of future observations - OSEs and OSSEs.
- Supporting intercomparison of operational ocean analyses and reanalyses.

**NCEP Global Ocean
Data Assimilation System (GODAS)**