

CPO-Ocean Observing and Monitoring Division (OOMB) – Overview

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Climate Program Office/Ocean Observing and Monitoring Division

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

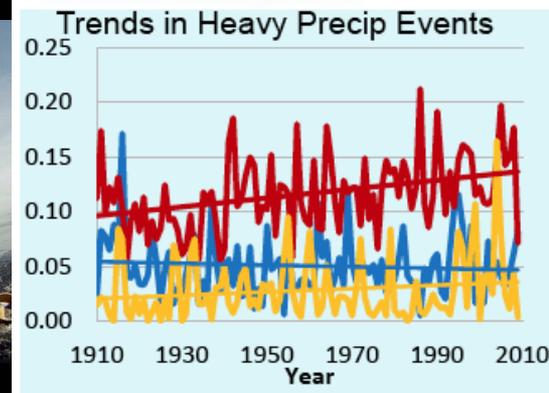
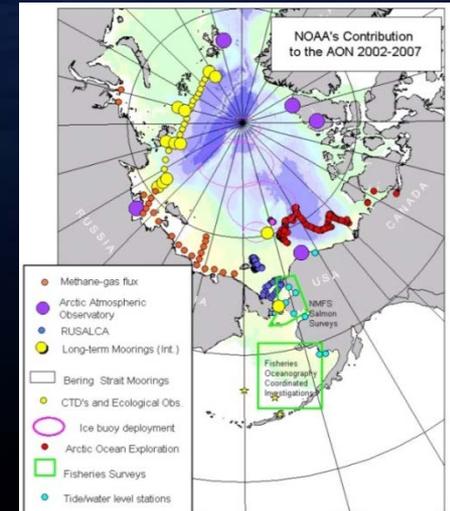
January 30, 2017



CPO/Ocean Observing & Monitoring Division

Long-term high-quality global observations, climate information and products

Customers: researchers, forecasters, assessments and other users of environmental information.



Key Activities

- Sustained Ocean Observing
- Arctic Research Program
- Climate Monitoring/Products

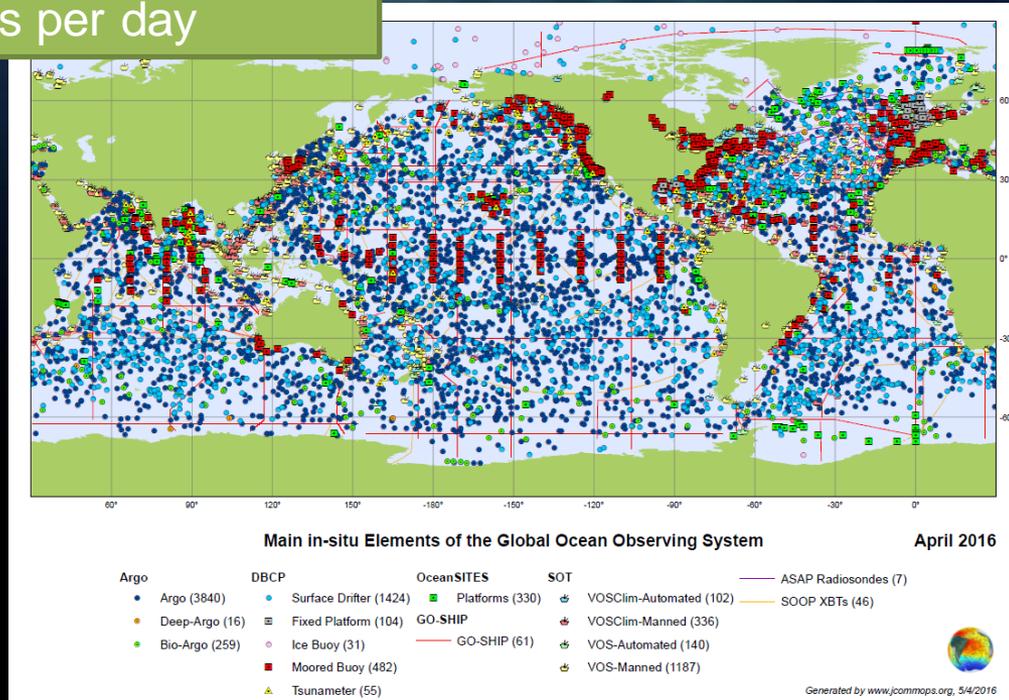
Strategic Partners

- NOAA (PMEL, AOML, GFDL, GLERL, CPC, EMC, NCDC, NCEI, ESRL, NDBC), US Navy, NSF, NASA, DOE, Academia (Scripps, WHOI, UW, Miami, UH, FSU, ...)
- Int'l collaborators in Europe, Asia, Russia, Australia, S. America, Africa, etc Int'l Research Programs (e.g. WCRP), IOC, Arctic Council, IASC, PAG, WMO, etc

Global In-Situ Sustained Ocean Climate Observing

NOAA Leverages 50% of the Global Ocean Observing System

1M obs per day



Essential ocean variables:
temperature,
salinity,
currents/circulation,
carbon/Ph, sea-level, sea-ice, air-sea fluxes, waves, ocean acoustics, and surface meteorology

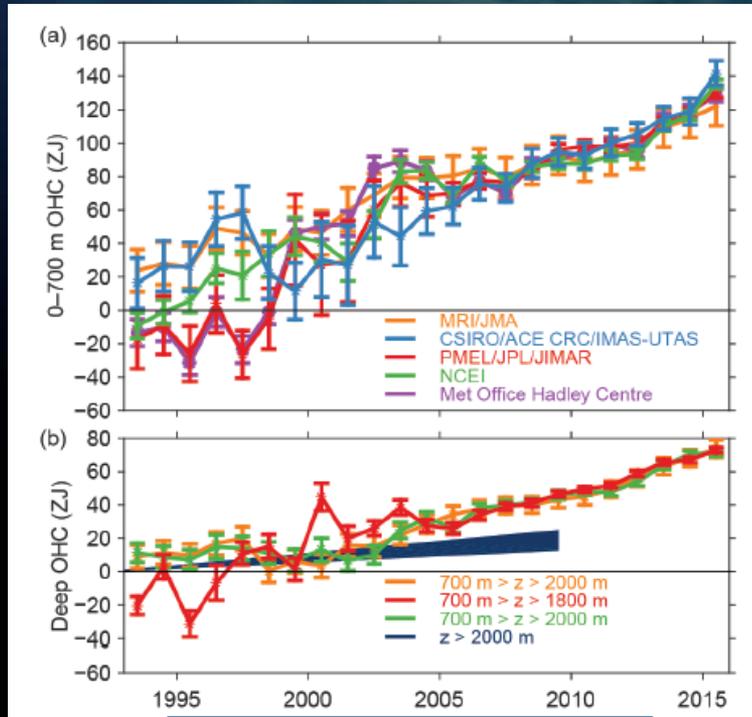
OOMD Sponsored Observing Networks

- Argo, surface drifters, RAMA, PIRATA, Oceansites, GLOSS Tide gauges (int'l and US), SOOP/XBT, gliders, pCO₂, GO-SHIP, etc

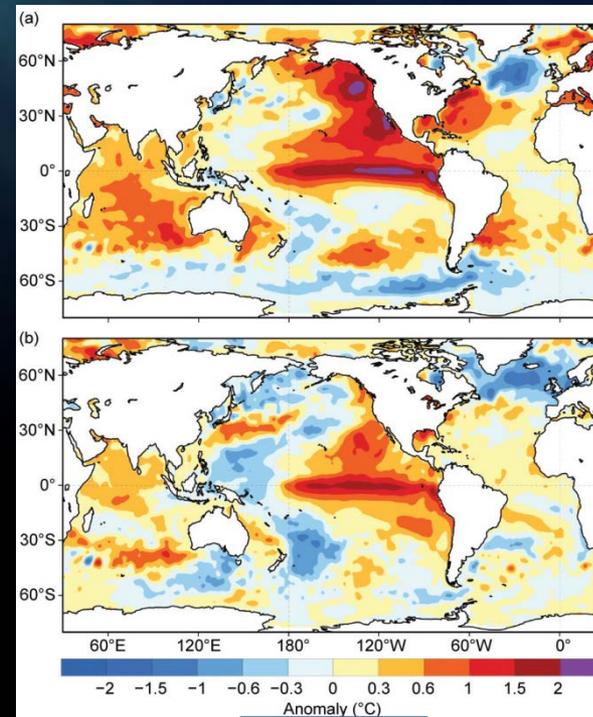
Key Attributes

- Global in coverage, fixed and Lagrangian/autonomous platform strategy
- International effort (dozens of countries contribute)
- Data reported in real-time (over 5000 platforms)

Ocean Products

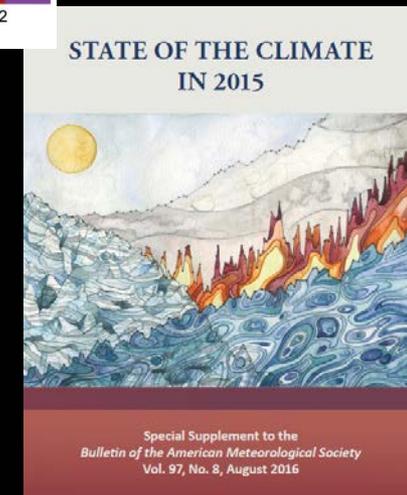


Ocean Heat Content



OISST

- Are we optimally utilizing in-situ and satellite data to provide quality products for climate (monitoring and modeling/prediction)?
- Which EOVs'/data streams (e.g. salinity, carbon) need further development and products?





OOMD: Monitoring Grants Program

On the Horizon

FY17 competitions – 1st in 3 years

- Global Climate Indicators
 - Partnership with Assessments Program
 - Aimed at feeding USGCRP Indicators System
- Ocean Climate Products
 - Continuing focus on research stakeholders
 - Emphasis on demonstrating use through pilot activities and research partnerships (e.g. modeling groups)

IPCC AR6 scheduled for 2021

- Past projects have made major contributions
- Inputs will need to be developed in near future
- Priority for the program

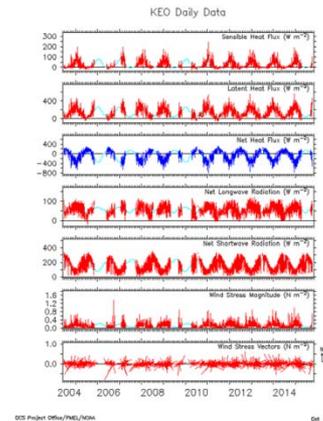
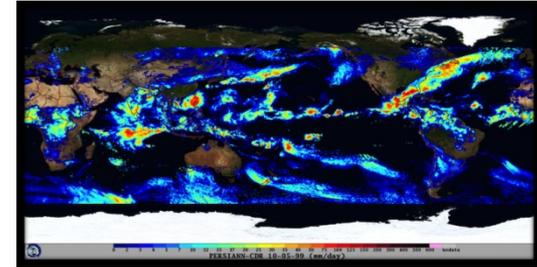
Enhanced Partnership with NCEI ARC

- Focus on scientific stewardship and maintenance of authoritative long term climate records
- More formal processes/information for transitioning in and out of the ARC

Paleoclimate

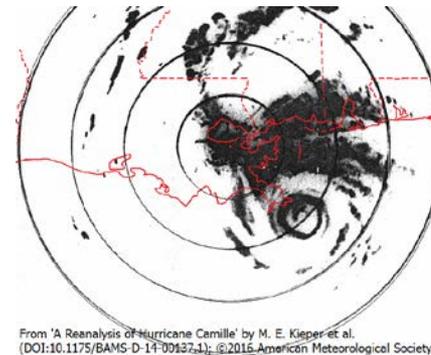
- LMR – ensuring stewardship and long term community access
- Community process of LMR important to provide input on future paleo efforts

Through the ARC, the program will continue to support New and updated **Climate Data Records (CDRs)**. Recently delivered CDRs include precipitation (CDR-PERSIANN –below) and atmospheric temperature (MSU and RSS brightness and mean layer temperatures)



Development and delivery of new Ocean Climate Products leverages and creates added value products to the investments made by OCO in sustained observing, and can create targeted products (such as these air-sea fluxes (courtesy: M. Cronin) to address science questions and model biases in climate and weather prediction.

A central goal of the program has always been to support data development that advances science and support climate assessments. Inputs to IPCC AR6 will be a key contribution of near-future projects. Illustration: CM has funded the continuing Landsea et al. Hurricane reanalysis, updating IBTrACS and HURDAT, **cited in IPCC5, NCA3, used by academia and industry**

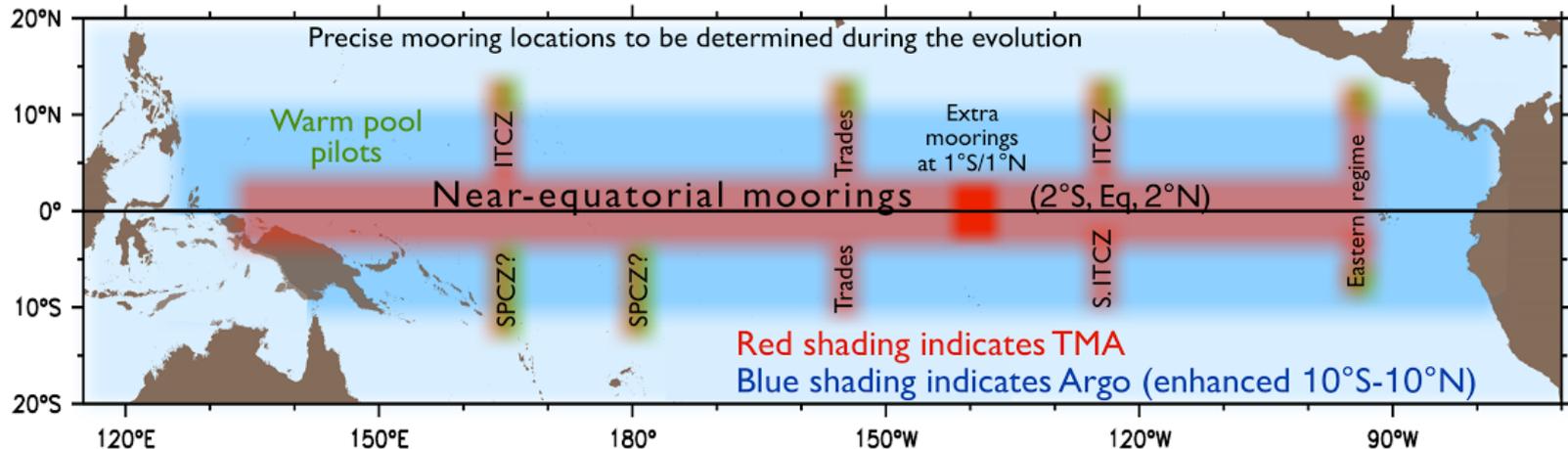


From 'A Reanalysis of Hurricane Cemille' by M. E. Kieper et al. (DOI:10.1175/BAMS-D-14-00137.1); ©2015 American Meteorological Society

TPOS 2020

Tropical Pacific Observing System in the next decade

- The TPOS-2020 Project First Report (Dec 2016)
 - 22 Strategic Recommendations
 - 14 Actions (short-term concerns)
 - Data assimilation studies to assess design
 - Improve assimilation systems: utilization of data streams



Many challenges and opportunities ahead...

Thank You

