



Global Ocean Monitoring and Observing  
NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION

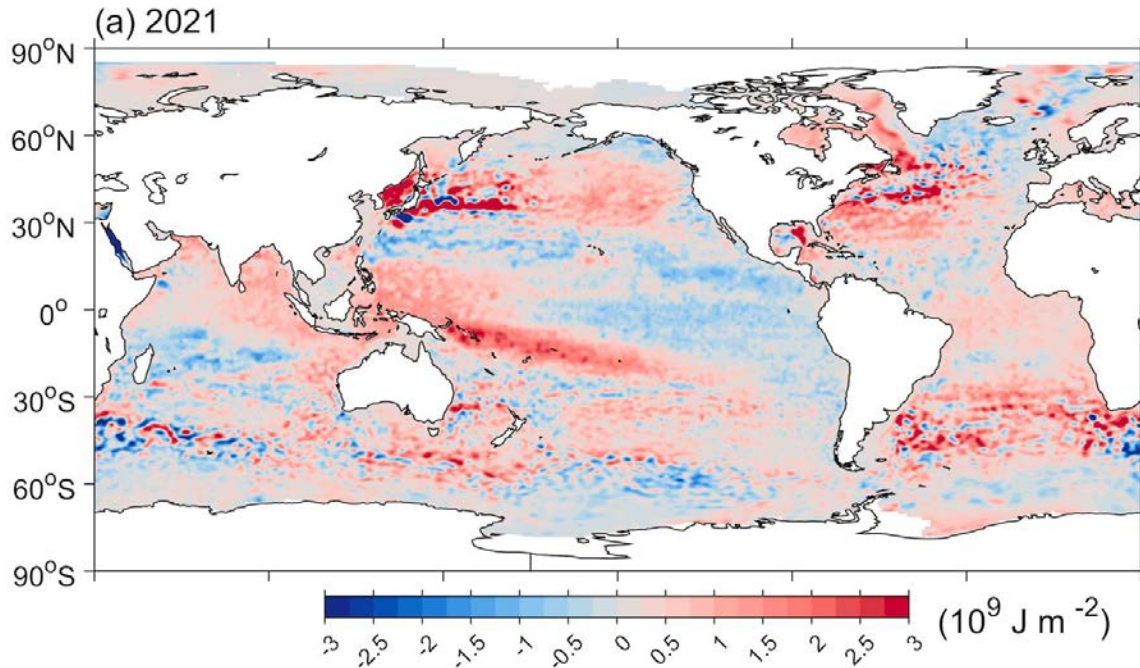
# Global Ocean Temperature & Salinity Analyses

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# Project Overview

- Regularly update analyses of ocean salinity and temperature
- Use these analyses in climate reports & scientific publications
- Improve analyses using innovative techniques



# GOMO links

- GOMO supports two **Global Temperature & Salinity Analyses**:
  - Ocean Climate Lab, NCEI, PI Tim Boyer
  - Pacific Marine Environmental Lab, OAR, PI Gregory C. Johnson
- GOMO supports **key observations** central to these analyses:
  - Core & Deep Argo for 2 km & full-depth temperature & salinity
  - GO-SHIP data for “gold standard” calibration & full-depth data
- GOMO supports **dissemination of the results**:
  - *Global Oceans* chapter of the *Annual State of the Climate Report*
  - Chapter editors Greg Johnson (PMEL) & Rick Lumpkin (AOML)
  - Report co-editor Tim Boyer (NCEI)



# Achievements and Impacts

- Analyses central to societally relevant change in Earth's climate:
  - Earth's Energy Imbalance
  - Sea Level Rise
  - Ocean Ecosystems
  - Ocean Biogeochemistry
  - Weather (tropical cyclones, atmospheric rivers...)
- Analyses featured in *State of the Climate* reports, IPCC assessments, & high-impact scientific publications

## STATE OF THE CLIMATE IN 2020

### GLOBAL OCEANS

G. C. Johnson and R. Lumpkin, Eds.



Special Online Supplement to the *Bulletin of the American Meteorological Society* Vol.102, No. 8, August, 2021

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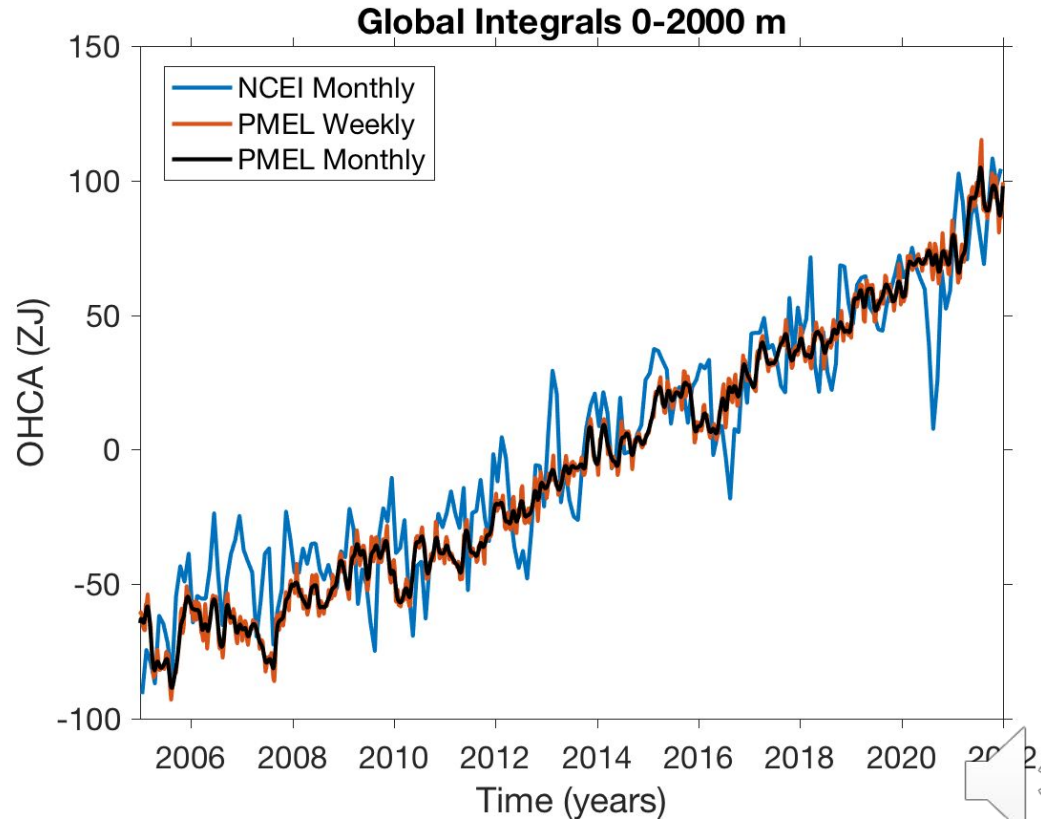
AUGUST 2021 | State of the Climate in 2020 BAMS

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# Future plans and opportunities

- New near-global high-temporal (7-day) and spatial ( $1/4^\circ \times 1/4^\circ$ ) resolution maps using machine learning
- PMEL work leverages relationships of satellite SSH & SST with subsurface temperature & salinity variability



# Future plans and opportunities

