

NOAA Comments on the Tropical Atlantic Observing Systems (TAOS) Review

Requirements and support

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NOAA'S MISSION:
SCIENCE, SERVICE & STEWARDSHIP



To understand and predict changes in climate, weather, oceans, and coasts,
To share that knowledge and information with others, and
To conserve and manage coastal and marine ecosystems and resources

SCIENCE & TECHNOLOGY ENTERPRISE

RESEARCH

A holistic understanding of the Earth system through research

OBSERVE

Accurate, reliable data from integrated Earth observations

MODELING

An integrated environmental modeling system

CLIMATE

Improved scientific understanding
Assessments identify impacts, inform decisions
Mitigation, adaptation choices supported
A climate-literate public

CLIMATE ADAPTATION & MITIGATION

RESILIENT COASTAL COMMUNITIES & ECONOMIES

Resilient coastal communities
Ocean and coastal planning, management
Safe, sound, efficient marine transportation
Improved coastal water quality
Safe, sound Arctic access, management

COASTS

WEATHER

Reduced loss of life, property, disruption
Improved freshwater management
Transportation efficiency, safety
Healthy people, communities
Productive, efficient economy

WEATHER READY NATION

HEALTHY OCEANS

Improved understanding of ecosystems
Recovered, healthy species
Healthy habitats sustain resources, communities
Sustainable fisheries, safe seafood

ECOSYSTEMS

ENGAGEMENT ENTERPRISE

An engaged, educated public for informed environmental decisions

Integrated services for evolving demands of regional stakeholders

International partnerships and policy leadership

NOAA'S VISION OF THE FUTURE:
RESILIENT ECOSYSTEMS, COMMUNITIES & ECONOMIES
Healthy ecosystems, communities, and economies that are resilient in the face of change

Diverse, evolving workforce

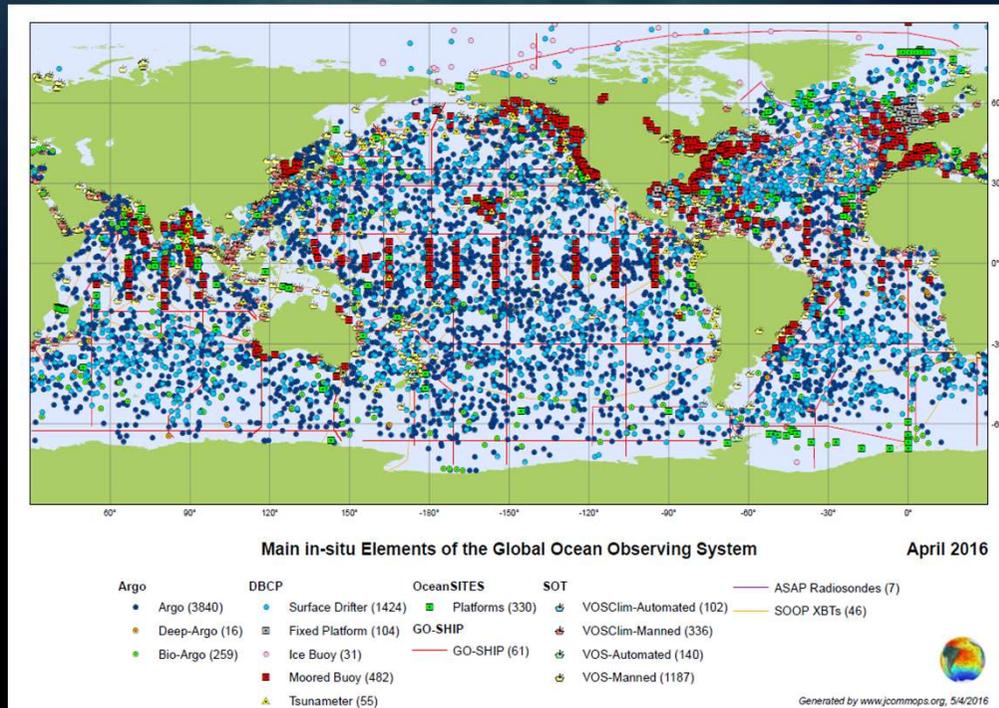
Modern information technology

Modern, safe, sustainable facilities

A high performing organization

ORGANIZATION & ADMINISTRATION ENTERPRISE

Global In-Situ Sustained Ocean Climate Observing



Essential ocean variables:

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

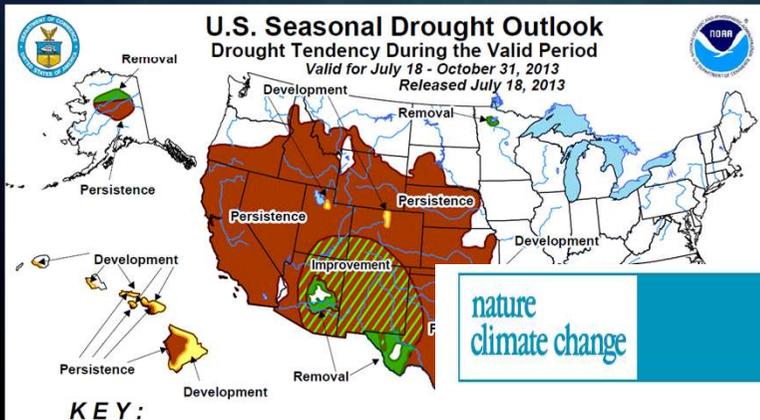
Major Observing Networks

- Argo, surface drifters, RAMA, PIRATA, Oceansites, GLOSS Tide gauges, SOOP/XBT, gliders, pCO₂, GO-SHIP, etc

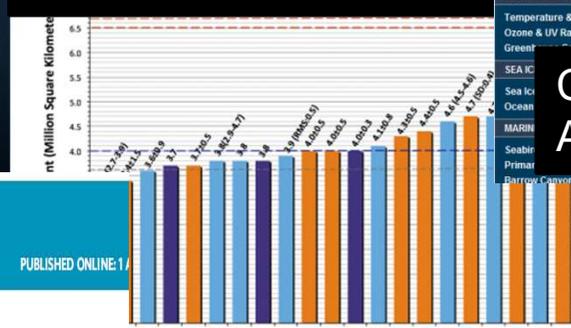
Key Attributes

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

Providing high-quality long-term global observations, climate information, and products to researchers, forecasters, and other users to inform and prepare society for environmental challenges



SEA ICE OUTLOOK



Arctic Report Card: Update for 2012
Tracking recent environmental changes

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Executive Summary
ATMOSPHERE
Temperature & Clouds
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Greenland
SEA ICE
Sea Ice
Ocean
MARINE
Seabirds
Primates
Barrow Canyon Ecosystem

STATE OF THE CLIMATE IN 2013

Climate Assessments

nature climate change

PUBLISHED ONLINE 1

135 years of global ocean warming | Challenger expedition and the Argo

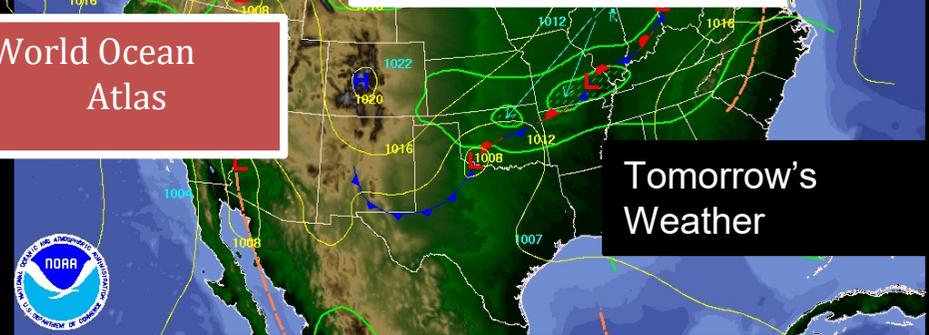
Dean Roemmich^{1*}, W. John Gould² and John Gilson¹

Changing temperature throughout the oceans is a key indicator

Referred Publications

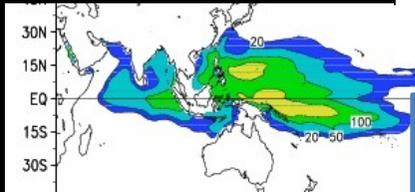


World Ocean Atlas

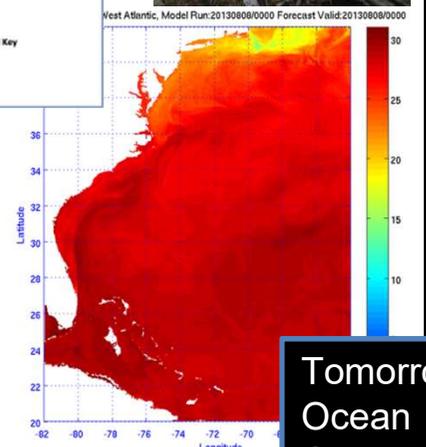


Tomorrow's Weather

Tropical Cyclone Heat Potential



Tomorrow's Ocean Conditions





Requirements and Activities

- Requirements for tropical Atlantic observing are numerous and compelling (refer to day 1)
 - Weather, extremes, climate, marine ecosystems, etc.
- Observing system should evolve/improve to address widening range of stakeholder needs (Demonstrated ability to address stakeholder needs is paramount)
- NOAA has significant observing, research, and services investments in the Atlantic (focused in the tropics)
 - NOAA's Research (\$M's), Weather (\$M's) and Satellite (\$100M's) programs contribute towards TAOS
 - **Downward budget pressure expected to continue/increase**

NOAA Advice to TAOS Review

- The tropical Atlantic Observing system is not just a *collection* of networks, it's should be an integrated enterprise delivering data, information, and providing demonstrable value to its stakeholders
- Framework for Ocean Observing & EOY-framing are essential guides
- Approach and lessons-learned from TPOS should and must be considered
 - Think strategically...the decade ahead
 - Requirements: Identify them and determine how to meet them.
 - Integrated approach, operations, and delivery of information
 - Observing systems can and must evolve
- Be mindful of AtlantOS planning and policy-level attention/interest (e.g. Galway and EU/US/Canadian agreements, G7, etc)
- TAOS as a standalone entity... or part of something bigger? (governance discussion)
- This meeting is not the end. It is likely the beginning....



NOAA Support for TAOS Review

- NOAA is supportive of a planning efforts to improve the tropical Atlantic ocean observing system (as part of the Atlantic observing system)
 - Travel support for several at this meeting
 - Jim Todd (NOAA CPO) and Renellys Perez (NOAA AOML) have central roles for future planning efforts
 - David Legler (NOAA CPO) and Molly Baringer (NOAA AOML) involved in higher-level activities (AtlantOS, G7, etc)
- Modest resources for travel, etc can be expected
- **What is the path ahead for TAOS Review? Next Steps?**

Many opportunities ahead...

Thank You

