

# NOAA and TPOS-2020

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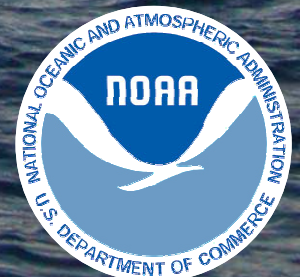
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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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# NOAA Strategic Plan

## SCIENCE & TECHNOLOGY ENTERPRISE

a holistic understanding of the earth system through research

accurate, reliable data from integrated earth observations

an integrated environmental modeling system

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

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

**NOAA'S VISION OF THE FUTURE:  
RESILIENT ECOSYSTEMS,  
COMMUNITIES & ECONOMIES**

Healthy ecosystems, communities, and economies that are resilient in the face of change

## ENGAGEMENT ENTERPRISE

an engaged, educated public for informed environmental decisions

integrated services for evolving demands of regional stakeholders

international partnerships and policy leadership

modern information technology

diverse, evolving workforce

modern, safe, sustainable facilities

a high performing organization

## ORGANIZATION & ADMINISTRATION ENTERPRISE

TPOS contributes to all of NOAA's strategic goals, and across its range of missions from research to services



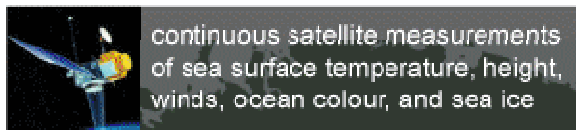
# NOAA's Contributions Towards the Global Ocean System

Status against the GCOS Implementation Plan and JCOMM targets

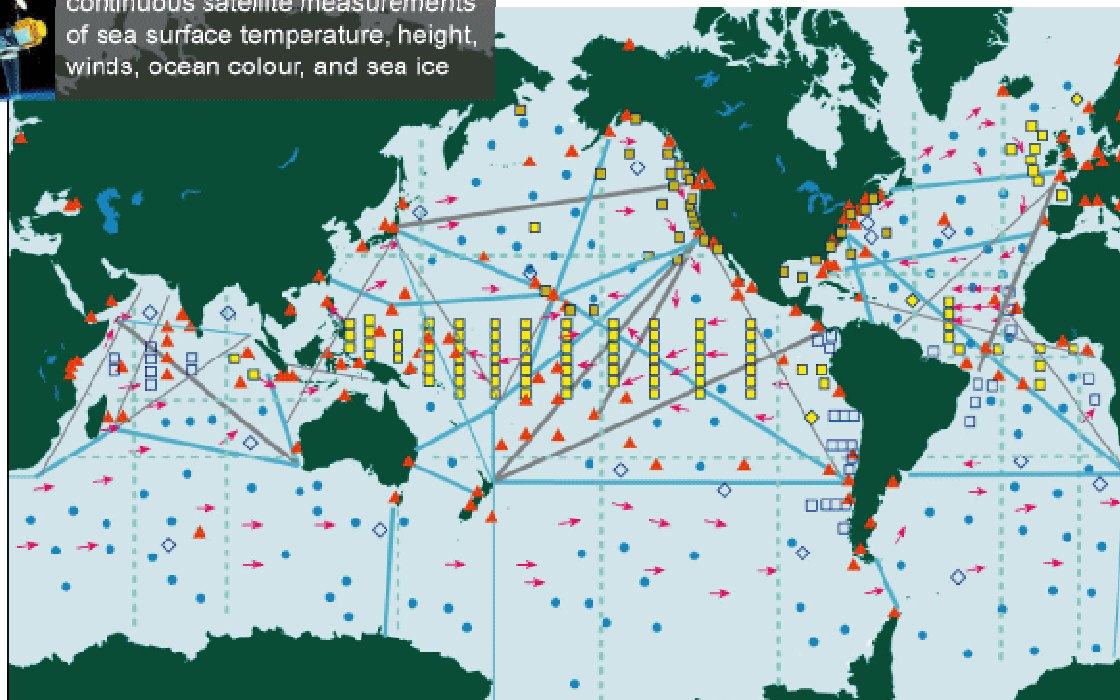
Total *in situ* networks

61%

October 2013



continuous satellite measurements of sea surface temperature, height, winds, ocean colour, and sea ice



87% **Surface measurements from volunteer ships (VOSclim)**

200 ships in pilot project



100% **Global drifting surface buoy array**

5° resolution array: 1250 floats



62% **Tide gauge network (GCOS subset of GLOSS core network)**

170 real-time reporting gauges



81% **XBT sub-surface temperature section network**

51 lines occupied



100+% **Argo profiling float network**

3° resolution array: 3000 floats



43% **Repeat hydrography and carbon inventory**

Full ocean survey in 10 years

Reference time series 24%

58 sites



48% **Global reference mooring network**



29 moorings planned



79% **Global tropical moored buoy network**



119 moorings planned



NOAA supports about half of the global *in situ* ocean observing system.

# Support for TAO Moorings

- \* For many years (well over 20), NOAA has sustained the development and maintenance of the TAO array
- \* This support has included ship time and servicing costs of the 55 US moorings as well as for numerous NOAA, US, and international projects that use TAO moorings as platforms for critical research projects
- \* *The development of alternative technical and operational strategies, along with international support, are needed to continue TAO at historical levels of data return*

## Part III. Adequacy of the Existing TPOS to Deliver on NOAA Requirements for Critical Variables

- TPOS addresses many of NOAA's requirements for operational forecasting and research.
- NOAA's views on adequacy are well-represented in the TPOS-2020 Whitepapers and presentations

## Part V: Expected NOAA TPOS Five-Year Plan Resource Investments

NOAA anticipates continued support of Tropical Pacific Ocean Observing in these areas:

- Global in-situ observing arrays (e.g. Argo, TAO, Global Drifter Program, Oceansites, GOSHIP, etc)
- Exploring and testing new observing technologies
- Scientific and technical expertise
- Coordination of global ocean observing (e.g. OOPC, JCOMM)
- Research vessel resources

## Technical Expertise

- NOAA employs and supports a large number of scientists, students, technicians, and other experts in pursuit of ocean observing, research, modeling/forecasting, and provision of useful information to policy- and decision-makers
- NOAA has a track record of openly sharing its knowledge and skills to increase the capabilities of others interested in ocean observing

## Observing Instrumentation, Equipment , (Where?, Parameters?, When?)

- NOAA's contributions to TPOS can be monitored through the many web sites, GTS, etc that provide data and information
- NOAA has begun a few feasibility studies :
  - 1) seeding equatorial Pacific with additional next-generation Argo floats,
  - 2) underwater gliders in the eastern Tropical Pacific
  - 3) Surface wavegliders and other autonomous technologies

Additional technological advances in mooring technologies (e.g. a refreshed TAO buoy design, a prawler mechanism for ocean profiling in upper 500m, and a lower-profile PICO mooring) are also under development
- NDBC has initiated a counter-vandalism program to address vandalism on TAO buoys



## NOAA Research Vessels Planned for the Tropical Pacific Ocean During the Next Five Years

- The prospect for new and/or additional NOAA ships to help in the Tropical Pacific is unknown at this time
- Potential ship services NOAA could explore:
  - International Research Vessel Fleets
  - Commercially Contracted Ships
  - US National Academic Research Fleet

## Slide 9

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s4

I don't like this slide ... I don't think we should discuss the specifics of RHB or NOAA Fleet 5yrs plan at TPOS. Suggest taking this slide out.

shannonm, 1/22/2014

## Part VI: Potential Opportunities for TPOS-2020 Resource-Sharing Partnerships

- NOAA has a strong record of successful international partnerships for in-situ ocean observing
  - TAO, PIRATA, RAMA
  - Indian Ocean Resource Forum
- NOAA is seeking to enhance current partnerships and add new partnerships that facilitate exchange of technical training for ship time and other mutually beneficial exchanges.
- NOAA supports WMO technical exchanges via the Regional Marine Instrumentation Center

## Recommendations Forward

- TPOS is vital to NOAA's mission
- NOAA encourages a TPOS strategy that considers the contributions of any/all platforms aimed at addressing key scientific, operational, and ultimately societal-driven needs
- Such a strategy should be forward-looking and strategic in nature (e.g. set the vision, near-term plans, and long-term needs for the decade ahead)
- Develop a mechanism for governance of TPOS which reflects this strategic nature, is inclusive, encourages dialogue amongst all stakeholders – especially those with emerging interests and capabilities, and fosters improved coordination of resourcing amongst its sponsors and stakeholders



**Thank You For Your  
Attention**