

UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

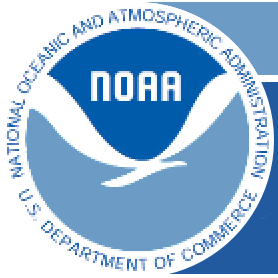


Marine, Tropical, & Tsunami Services Branch

Allison Allen

Marine, Tropical, and Tsunami Services Branch Chief
Analyze, Forecast and Support Office
National Weather Service

NOAA/NWS Tsunami Warning Program

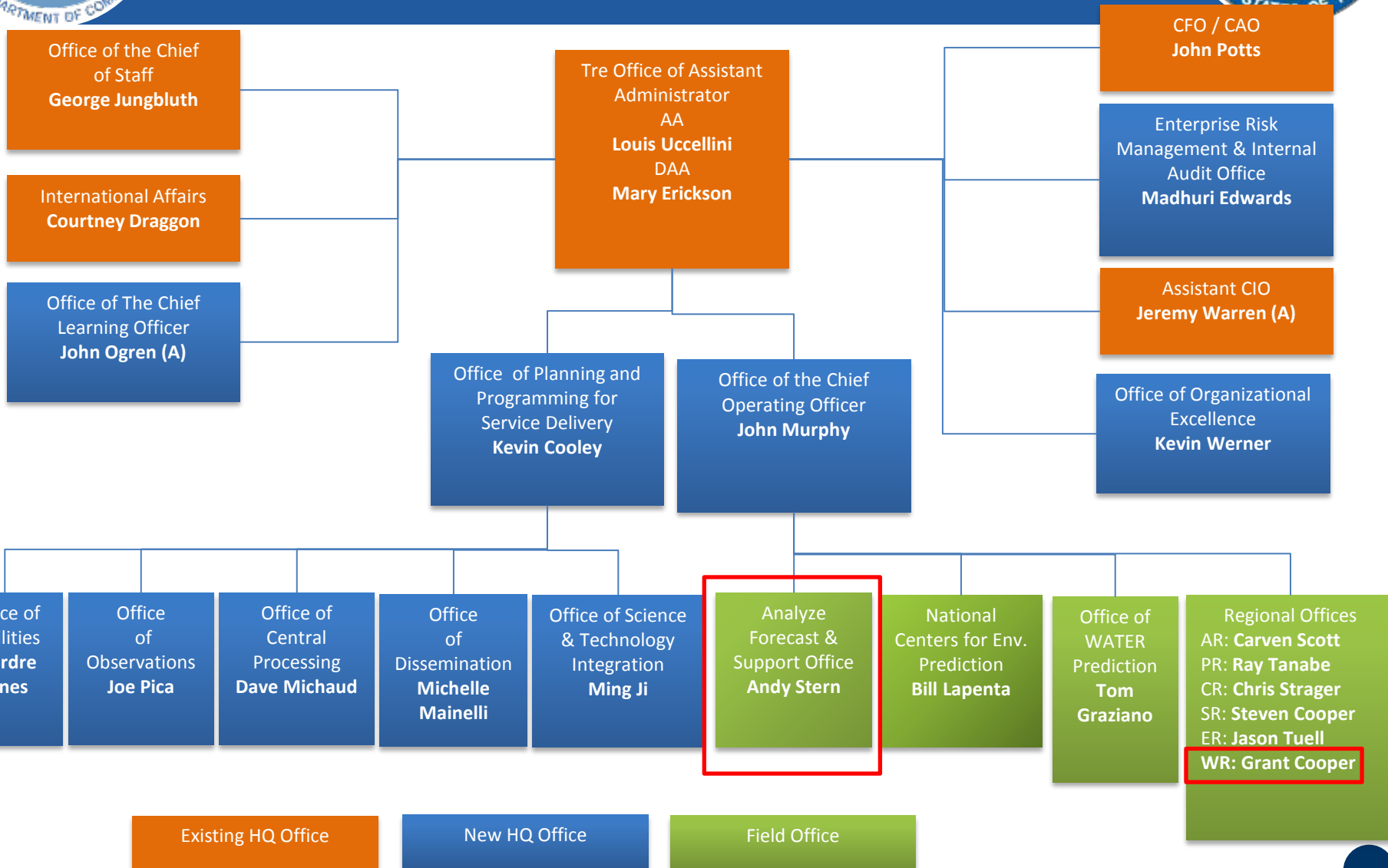


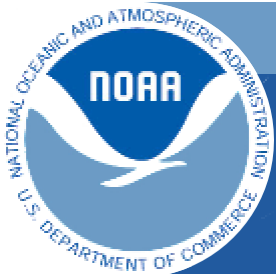
Review: NWS Budget Restructure and HQ Reorganization

- FY15 Budget Restructure – Mirrors the forecast process
 - Observations → Central Processing → Analyze, Forecast, Support → Dissemination
 - Science and Technology Integration: Improve today's forecast process
 - Facilities: House organizational units in modern facilities
- FY15 HQ Reorganization – Support mission operations
 - HQ structure maps directly to the six portfolios; Improves NWS' ability to prioritize and manage resources
 - Addresses specific recommendations in the National Academy of Public Administration 2013 Report: "Forecast for the Future: Assuring the Capacity of the National Weather Service"
 - Independent Operations and Workforce Analysis
 - Analyze and address the systemic communications, organizational structure, and skills gaps and opportunities that will enable NWS to deliver more focused and robust IDSS in the future.



New NWS HQ Organization





Analyze, Forecast & Support Office

- Analysis and Mission Support Division

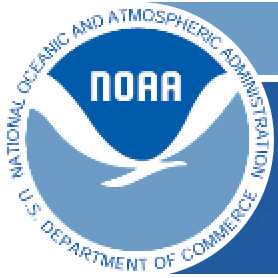
Validate new tools and innovations; maintain policy on the use of National Digital Forecast Database; and provide leadership associated with Weather Ready Nation initiatives, the Warning Coordination Meteorologist program, and emerging service sectors.

- Analysis and Nowcast Branch
- Decision Support Integration Branch
- Digital and Graphical Information Support Branch

- Forecast Services Division

Development of requirements, policy, and procedures for all NWS forecast and warning services; and oversight of the 11 National Service Programs.

- Severe, Fire, Public, and Winter Weather Services Branch
- Climate Services Branch
- Aviation and Space Weather Services Branch
- Water Resources Services Branch
- Marine, Tropical, and Tsunami Services Branch



Questions?

Thank You!

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NOAA/NWS Tsunami Program

Mike Angove
NOAA/NWS Tsunami Program Lead

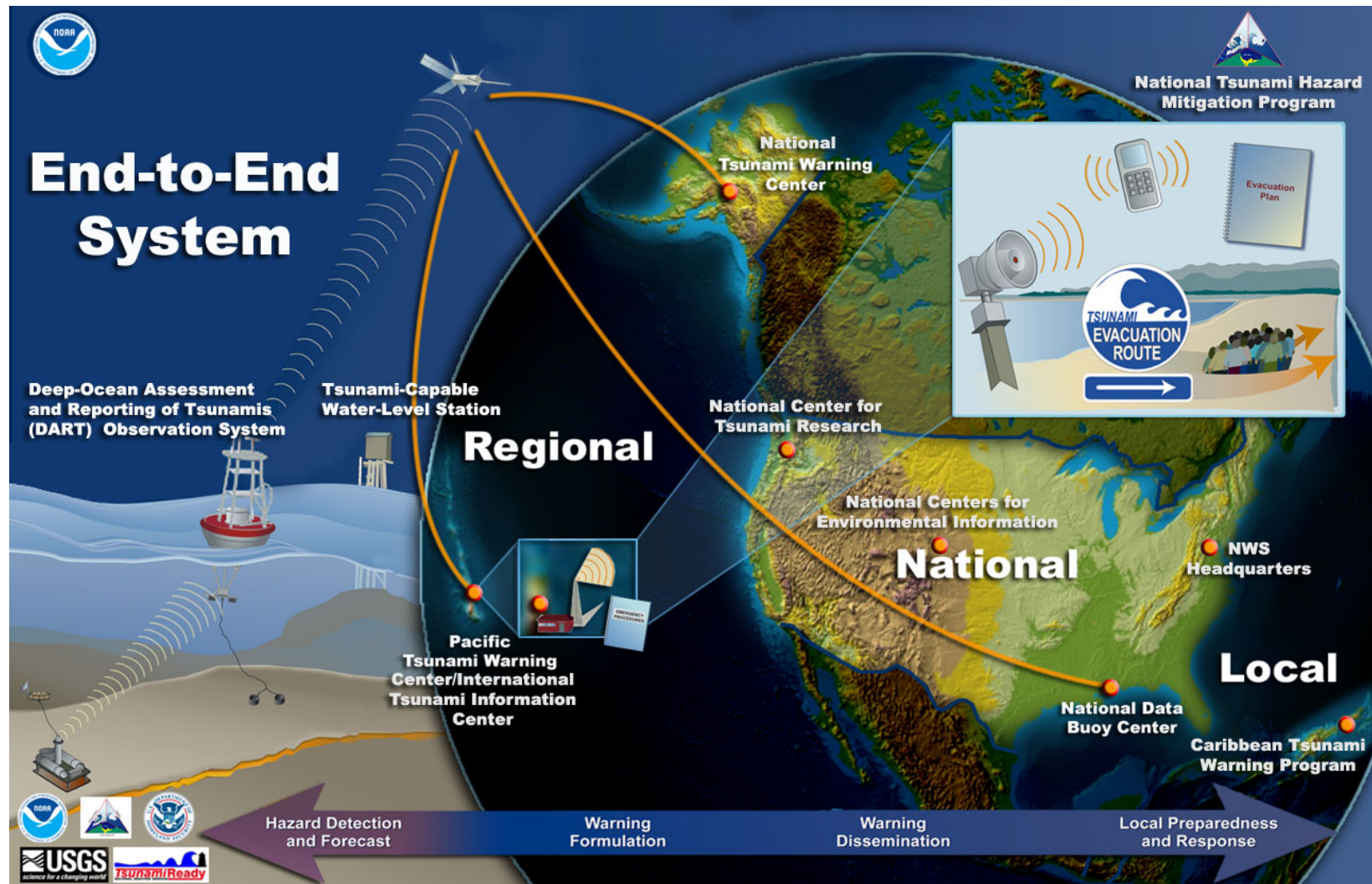
NTHMP Annual Meeting
February 2017



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION



U.S. Tsunami Warning System

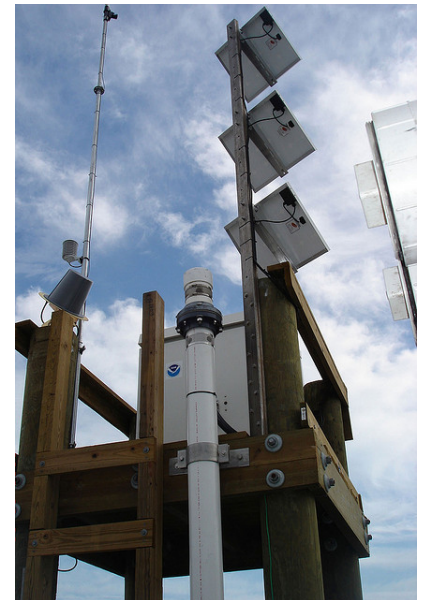


NOAA/NWS Tsunami Warning Program



Detection and Observation

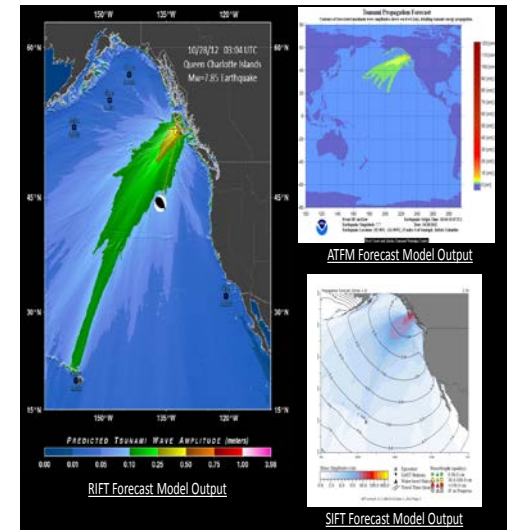
- Seismic Networks
 - Alaska, Hawaii, Caribbean
- Sea-Level Networks
 - 39 Deep-Ocean Assessing and Reporting of Tsunamis (DART) observation systems
 - National Data Buoy Center
 - Coastal sea-level stations
 - Center for Operational Oceanographic Products and Services (210)
 - Tsunami Warning Centers (23)





Forecasting and Warning

- National Tsunami Warning Center
- Pacific Tsunami Warning Center
- Pacific Marine Environmental Laboratory (models)
- National Centers for Environmental Information (coastal elevation and historical archive)



National Tsunami Warning Center, Palmer, Alaska

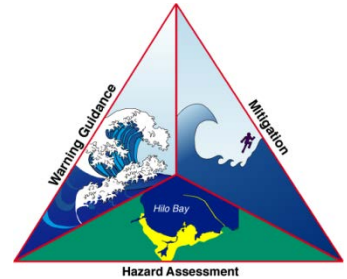


Pacific Tsunami Warning Center (at the NOAA Daniel K. Inouye Regional Center), Honolulu, Hawaii



Preparedness and Mitigation

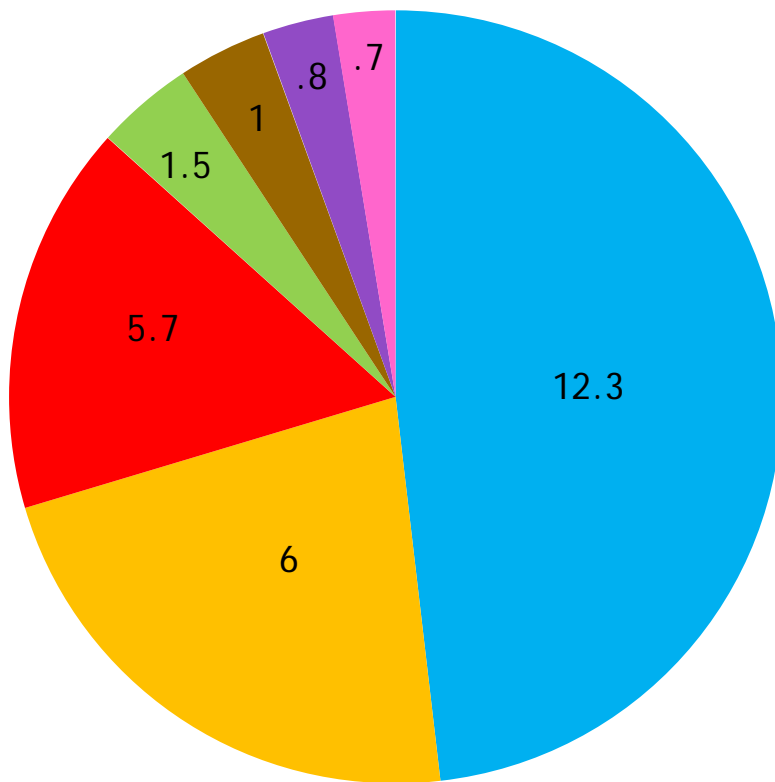
- National Tsunami Hazard Mitigation Program
 - NOAA, Federal Emergency Management Agency, U.S. Geological Survey, 28 states and territories
- TsunamiReady Program
 - 197 U.S. communities
- Weather Forecast Offices





FY16 Budget (ROM)

FY16 Appropriations: \$28M



- Sea Level Observations Operations & Maintenance
- State Partner Grants
- Tsunami Warning Center Operations
- Research and Development
- Dedicated Preparedness & Mitigation Activities (ITIC/CTWP)
- National Centers for Environmental Information
- Program Support & Administration



International Commitment—IOC

NOAA supports the UN's Intergovernmental Oceanographic Commission as **Tsunami Service Provider** for the Pacific (PTWS) and Caribbean (CARIBE EWS) through:

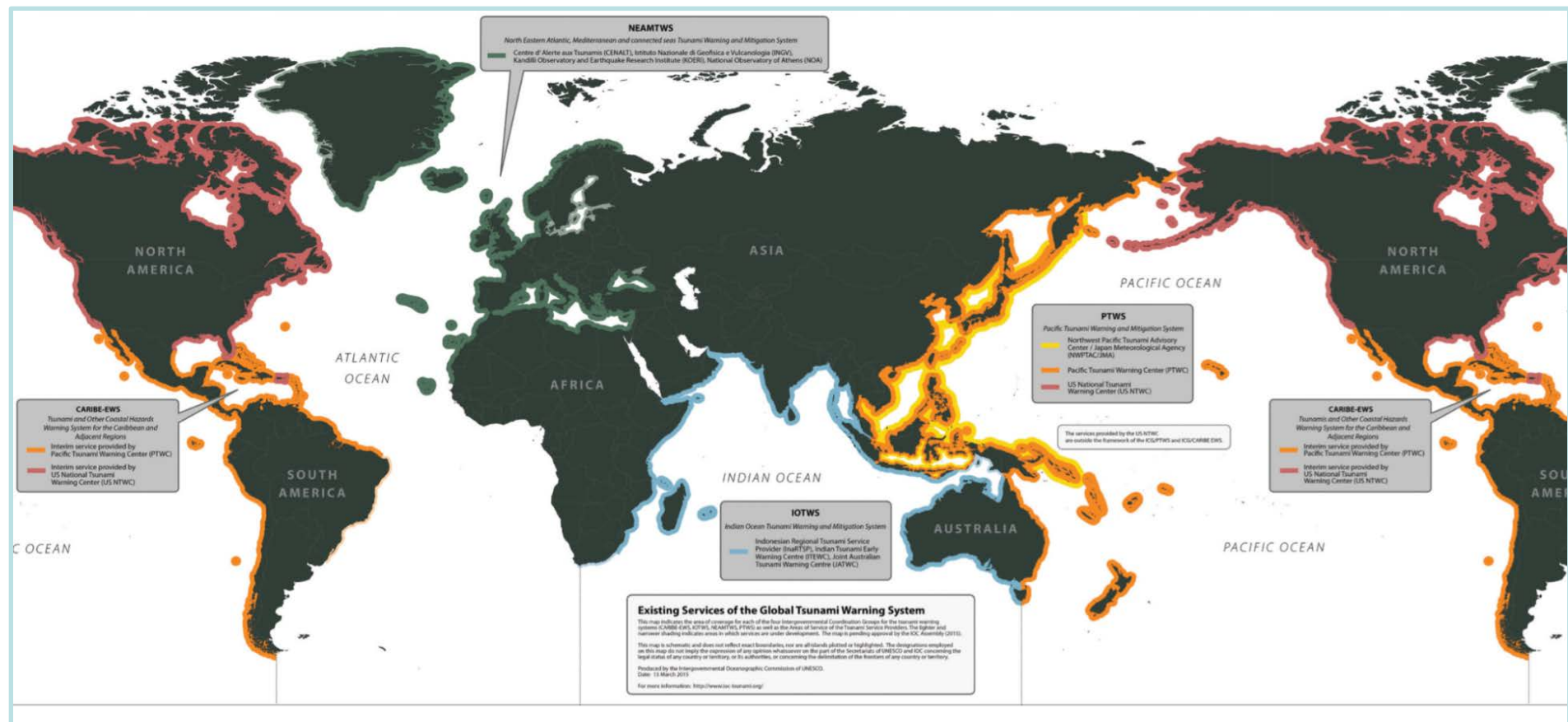
- Pacific Tsunami Warning Center
- International Tsunami Information Center
- Caribbean Tsunami Warning Program
- National Weather Service Headquarters



IOC is leveraged >\$20/yr in US Capability. But...US doesn't pay dues to UNESCO



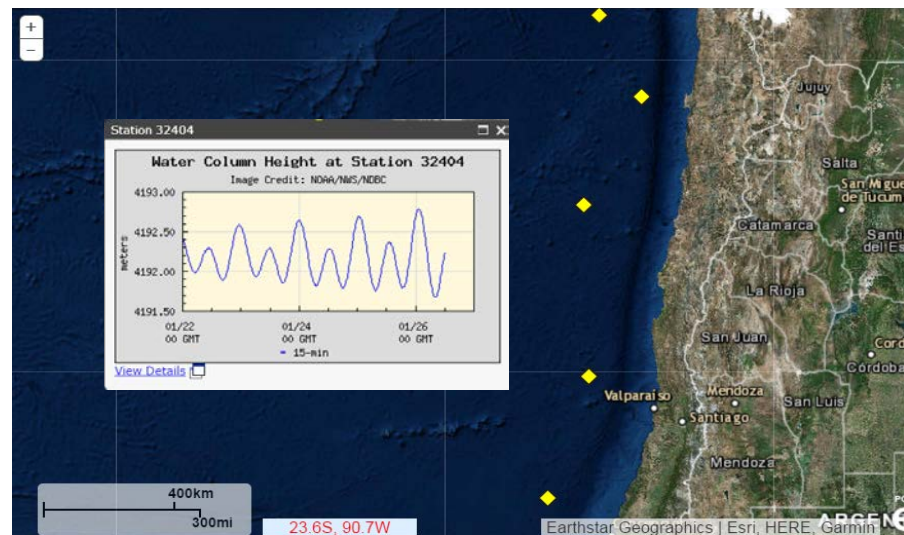
Global Tsunami Warning System





Bilateral activities

- Environment Canada
 - Tsunami Warning Services agreement
 - MT Workplan
- Chile—DART
 - 3rd 4G deployment
- UK—Tide gauges (Anguilla, Turks and Cacaos)
- BOM—collective sensing discussions





Research and Development

FY17

Priority CTWP ITIC NTWC PTWC				Operational Need	FY17 Research Efforts	Operational Sponsor
1	1	1	1	Impact-based DSS	<ol style="list-style-type: none">1. Tsunami Forecast Applications2. NCEI Archive3. International Capacity Building<ul style="list-style-type: none">• Exercise Scenarios• Training Initiatives• Hazard level based on scenario runs using ComMIT (Forecast Models/country developed grids/available grids)• Tsunami Coastal Impact Tool	<ol style="list-style-type: none">1. NTWC/PTWC2. NTWC/PTWC3. ITIC/CTWP
		2	2	Assimilation of EXISTING data to constrain tsunami source	<ol style="list-style-type: none">1. Assimilate available cabled data2. GPS/GNSS (NASA)3. DEM (NCEI recurring)	<ol style="list-style-type: none">1. NTWC/PTWC2. NTWC/PTWC3. NTWC/PTWC
		3	3	Near-real-time tsunami detection and measurement	<ol style="list-style-type: none">1. DART 4G (PMEL-engineering)2. HF Radar/CODAR (Barrick)	<ol style="list-style-type: none">1. NDBC2. NTWC
		4	4	Tsunami model forecasts for any source and any AOR coastline.	<ol style="list-style-type: none">1. Forecast Models (Recurring)2. Testbed (New models)	<ol style="list-style-type: none">1. NTWC/PTWC2. NTWC
		5	5	Reduce model run times and forecast latency	<ol style="list-style-type: none">1. Model parallelization	<ol style="list-style-type: none">1. NTWC/PTWC



Updates for FY17

- Marine/Tropical/Tsunami Branch Chief position filled
- IT Modernization of TWC Operational System
- Tsunami.gov website
- Consolidation of Caribbean TSU Forecasts (Domestic and International) under PTWC
- Meteotsunami Operational Protocol
- International *Tsunami Ready* recognition pilot
- Tsunami event at UNESCO GA
- NOAA-led Tsunami session at AGU?
- TWERA
- Uncertainty related to transition (Administrator, CR, etc)



Q&A

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