

TOWS-WG Task Team on Tsunami Watch Operations Meeting
February 27 – March 3, 2023
UNESCO Headquarters, Paris, France

CARIBE-EWS - Tsunami Watch Operations Status and Plans

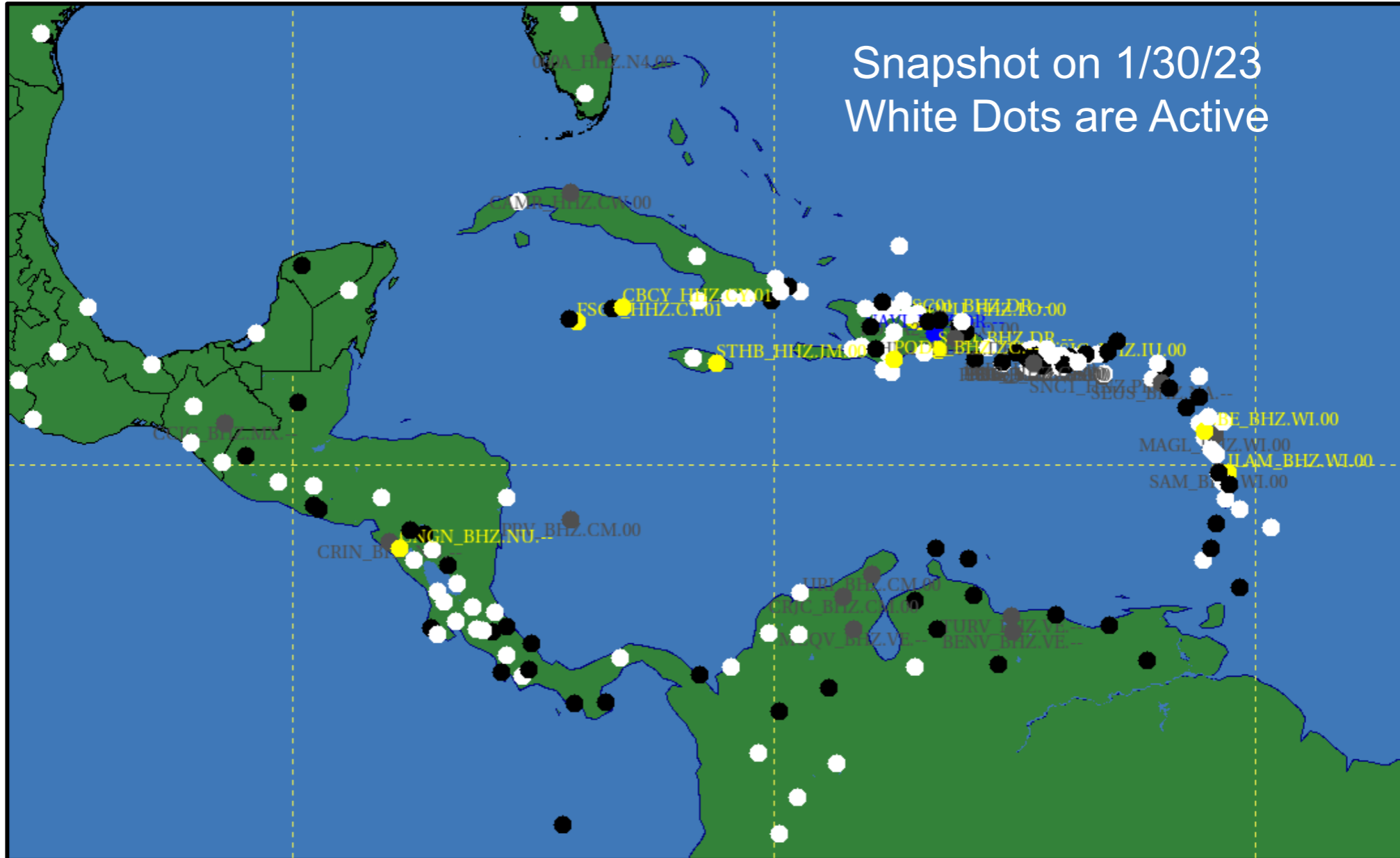
Chip McCreery, PTWC Director
charles.mccreery@noaa.gov
808-725-6301



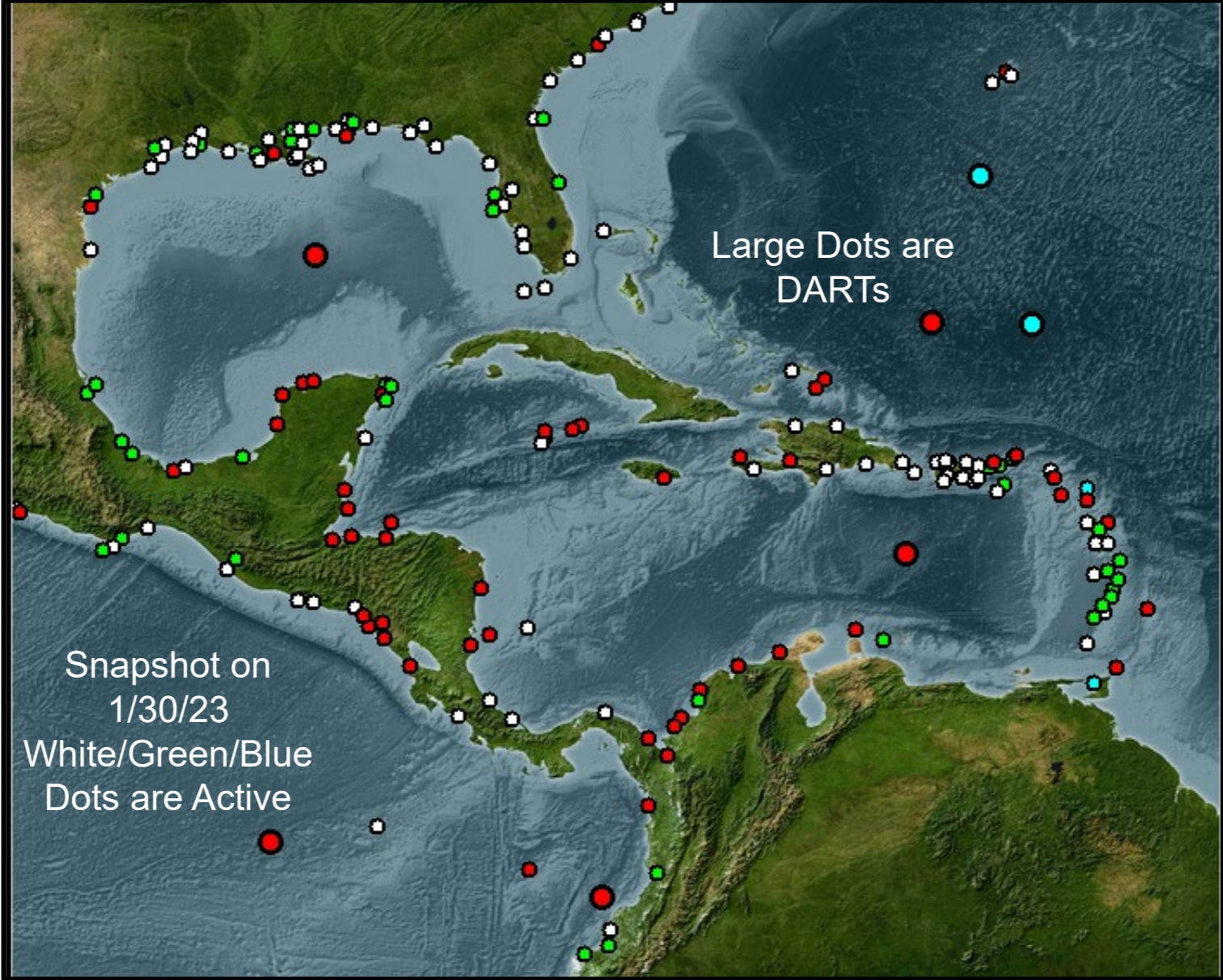
Current Staff

- ❑ **Director:** Charles McCreery
- ❑ **Science Officer:** Stuart Weinstein
- ❑ **Electronic Systems Analyst:** Earl Jerome ← **New Position**
- ❑ **Administrative Assistant:** Vacant
- ❑ **Duty Scientists:** Dailin Wang, David Walsh,
Nathan Becker, Kanoa Koyanagi,
Stan Goosby, Andrei Natarov,
Jonathan Weiss, **3 Vacant**
- ❑ **IT Specialist:** Aaron Beers ← **New Position**
- ❑ **IT Contractor:** Sean Gleason
- ❑ **Electronics Technician:** Lynn Kaisan

Sensing Network: Seismic – 1/30/23



Sensing Network: Sea Level – 1/30/23





Upcoming Product Changes

- ❑ **Initial Threat Message – Countries and territories in alphabetical order**
- ❑ **ETAs grouped by Country or Territory**
- ❑ **Observations grouped by Country or Territory**
- ❑ **Observations tagged by Type – Middle-to-Peak, Middle-to-Trough, Half Peak-to-Trough**
- ❑ **Add language about small possibility of a local tsunami in Tsunami Information Statements?**
- ❑ **Base initial alerts on travel time or model versus on distance (e.g., ETA within an hour versus areas within 300 km, or on preliminary RIFT forecast versus within 300 km)?**
- ❑ **A few new requested ETA forecast points**

Upcoming Product Changes



TSUNAMI THREAT FORECAST

- * TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

PERU.

- * TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

ECUADOR... FIJI... FRENCH POLYNESIA... HAWAII...
KIRIBATI... NEW ZEALAND... NIUE... PITCAIRN ISLANDS...
TONGA... AND VANUATU.

- * TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

AMERICAN SAMOA... ANTARCTICA... AUSTRALIA... CHILE...
CHUUK... COLOMBIA... COOK ISLANDS... COSTA RICA... EL
SALVADOR... GUAM... GUATEMALA... HONDURAS... HOWLAND AND
BAKER... INDONESIA... JAPAN... JARVIS ISLAND... JOHNSTON
ATOLL... KERMADEC ISLANDS... KOSRAE... MARSHALL ISLANDS...
MEXICO... MIDWAY ISLAND... NAURU... NICARAGUA... NORTHERN
MARIANAS... NORTHWESTERN HAWAIIAN ISLANDS... PALAU...
PALMYRA ISLAND... PANAMA... PAPUA NEW GUINEA...
PHILIPPINES... POHNPEI... RUSSIA... SAMOA... SOLOMON
ISLANDS... TAIWAN... TOKELAU... TUVALU... WAKE ISLAND...
AND WALLIS AND FUTUNA.

- * TSUNAMI WAVES ARE FORECAST TO BE LESS THAN 0.3 METERS ABOVE

Upcoming Product Changes



* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

AMERICAN SAMOA... ANTARCTICA... AUSTRALIA... CHILE...
CHUUK... COLOMBIA... COOK ISLANDS... COSTA RICA... EL
SALVADOR... GUAM... GUATEMALA... HONDURAS... HOWLAND AND
BAKER... INDONESIA... JAPAN... JARVIS ISLAND... JOHNSTON
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ISLANDS... TAIWAN... TOKELAU... TUVALU... WAKE ISLAND...
AND WALLIS AND FUTUNA.

* TSUNAMI WAVES ARE FORECAST TO BE LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL FOR THE COASTS OF

BRUNEI... CHINA... MALAYSIA... VIETNAM... AND YAP.

Upcoming Product Changes



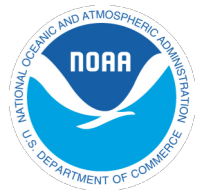
ESTIMATED TIMES OF ARRIVAL

* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREATENED REGIONS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	COORDINATES	ETA (UTC)

FRENCH POLYNESIA		
HIVA OA	10.0S 139.0W	0224 02/24
RAPA ITI	27.6S 144.3W	0320 02/24
TUBUAI	23.3S 149.5W	0358 02/24
PAPEETE	17.5S 149.6W	0409 02/24
MEXICO		
ENSENADA	31.8N 116.8W	0245 02/24
SAN FELIPE	31.0N 114.8W	0416 02/24
KIRIBATI		
FLINT ISLAND	11.4S 151.8W	0412 02/24
MALDEN ISLAND	3.9S 154.9W	0436 02/24
CHRISTMAS ISLAND	2.0N 157.5W	0514 02/24
KANTON ISLAND	2.8S 171.7W	0654 02/24
TARAWA ISLAND	1.5N 173.0E	0951 02/24
COOK ISLANDS		
PENRYN ISLAND	8.9S 157.8W	0457 02/24
RAROTONGA	21.2S 159.8W	0522 02/24
PUKAPUKA ISLAND	10.8S 165.9W	0612 02/24

Upcoming Product Changes



TSUNAMI OBSERVATIONS

- * THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI AMPLITUDE IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.
- * MEASUREMENT TYPE INDICATES WHAT WAS MEASURED ON THE GAUGE.
CR - TIDE LEVEL TO THE MAXIMUM TSUNAMI CREST
TR - TIDE LEVEL TO THE MAXIMUM TSUNAMI TROUGH
HF - HALF OF THE MAXIMUM TSUNAMI CREST-TO-TROUGH OR TROUGH-TO-CREST
- * THE TIME SHOWN INDICATES THE TIME OF THE RESPECTIVE MAXIMUM CREST OR MAXIMUM TROUGH OR THE TIME HALFWAY BETWEEN THE MAXIMUM CREST-TO-TROUGH OR TROUGH-TO-CREST

GAUGE LOCATION	COORDINATES		TIME	TSUNAMI		MEAS
	LAT	LON	(UTC)	AMPLITUDE		TYPE

USA-CALIFORNIA						
LA JOLLA	32.9N	117.3W	0315	0.89M/	2.9FT	HF
FRENCH POLYNESIA						
NUKU HIVA MARQUESAS	8.9S	140.1W	0242	1.72M/	5.6FT	CR
HIVA OA MARQUESAS	9.8S	139.0W	0233	1.87M/	6.1FT	HF
CHILE						
PUERTO AGUIRRE	45.2S	73.5W	0229	1.02M/	3.4FT	TR
ANCUD	41.9S	73.8W	2259	0.96M/	3.2FT	HF
EASTER	27.2S	109.4W	2240	1.74M/	5.7FT	HF
QUEULE	39.4S	73.2W	2237	1.10M/	3.6FT	HF
BAHIA MANSA	40.6S	73.7W	2231	0.83M/	2.7FT	CR

Upcoming Product Changes

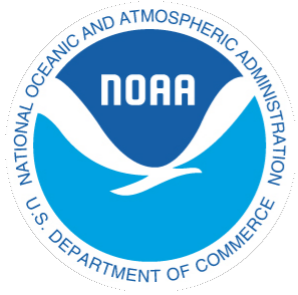


COORDINATES	TIME	TSUNAMI	MEAS			
GAUGE LOCATION		LAT	LON	(UTC)	AMPLITUDE	TYPE

USA-CALIFORNIA						
LA JOLLA		32.9N	117.3W	0315	0.89M/ 2.9FT	HF
FRENCH POLYNESIA						
NUKU HIVA MARQUESAS		8.9S	140.1W	0242	1.72M/ 5.6FT	CR
HIVA OA MARQUESAS		9.8S	139.0W	0233	1.87M/ 6.1FT	HF
CHILE						
PUERTO AGUIRRE		45.2S	73.5W	0229	1.02M/ 3.4FT	TR
ANCUD		41.9S	73.8W	2259	0.96M/ 3.2FT	HF
EASTER		27.2S	109.4W	2240	1.74M/ 5.7FT	HF
QUEULE		39.4S	73.2W	2237	1.10M/ 3.6FT	HF
BAHIA MANSA		40.6S	73.7W	2231	0.83M/ 2.7FT	CR
CORRAL		39.9S	73.4W	2226	1.11M/ 3.7FT	CR
NEHUENTUE		38.7S	73.4W	2218	0.96M/ 3.1FT	HF
MEXICO						
LA PAZ		24.3N	110.3W	0130	0.62M/ 2.0FT	HF
ISLA CLARION		18.5N	114.7W	0052	0.96M/ 3.2FT	HF
MAZATLAN		23.2N	106.4W	0051	0.79M/ 2.6FT	HF
PUERTO VALLARTA		20.7N	105.2W	0024	1.07M/ 3.5FT	HF
MANZANILLO		19.1N	104.3W	2351	0.95M/ 3.1FT	HF
LAZARO CARDENAS		17.9N	102.2W	2326	0.99M/ 3.2FT	HF
ZIHUATANEJO		17.6N	101.6W	2331	1.16M/ 3.8FT	HF
ACAPULCO		16.8N	99.9W	2306	1.17M/ 3.9FT	HF
DART						
MANZANILLO 43412		16.0N	107.0W	2346	0.11M/ 0.4FT	HF
ACAPULCO 43413		10.8N	100.1W	2216	0.12M/ 0.4FT	HF
CONCEPCION 34420		35.8S	75.3W	2134	0.10M/ 0.3FT	HF
VALP 32404		32.1S	73.4W	2102	0.13M/ 0.4FT	HF
PANAMA 32411		5.0N	90.8W	2037	0.11M/ 0.4FT	HF

Upcoming Improvements

- ❑ **Additional South Pacific seismic data**
- ❑ **Incorporating GNS data for more rapid, accurate Mw**
- ❑ **Faster RIFT server**
- ❑ **US TWC alignment for seamless backup**
- ❑ **SMARTcable project for more deep ocean sensors (looking way ahead)**



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Thank You
