Extreme Events Ocean Observations Task Team (EEOOTT)

**TIMELINE**

- Spring 2020: Inception

- Integrate ocean observations into models
- Bring together cross-line office and academic expertise
- Build on the work of HFIP, EMC, AOML, and IOOS
- Integrate ocean observations into models
Extreme Events Ocean Observations Task Team (EEOOTT)

TIMELINE

- Spring 2020: Inception
- August 2020: First big coordinated success with Hurricane Isaias

NOAA's Efforts to Improve Hurricane Forecasts Tested on Isaias
Extreme Events Ocean Observations Task Team (EEOOTT)

**TIMELINE**

- Spring 2020: Inception
- August 2020: First big coordinated success with Hurricane Isaias
- January 2021: Workshop to bring community together to develop priorities & recommendations

**Priority Recommendations:**

Integrating Ocean Observations to Improve NOAA's Hurricane Intensity Forecasts
2021 Major Milestones: Cross-LO Coordination

**NWS**
Provides weather, water, and climate forecasts and warnings for the protection of life and property

**OAR**
Provides the research foundation for understanding the complex systems that support our planet

**NOS**
Provides data, tools, and services that support coastal economies and their contribution to the national economy

**Priority Recommendations:**

- **Coordinate efforts** to close gaps in ocean and transition zone observations
- **Evaluate the impacts** of ocean and transition zone observations on hurricane intensity forecasts
- **Improve assimilation** of ocean and transition zone observations into numerical modeling systems
- **Prioritize** and recommend ocean and transition zone observations for future operational investment
Extreme Events Ocean Observations Task Team (EEOOTT)

TIMELINE

- Spring 2020: Inception
- August 2020: First big coordinated success with Hurricane Isaias
- January 2021: Workshop to bring community together to develop priorities & recommendations
- Spring 2021: Form working groups to address priorities
Extreme Events Ocean Observations Task Team (EEOOTT)

TIMELINE

- Spring 2020: Inception
- August 2020: First big coordinated success with Hurricane Isaias
- January 2021: Workshop to bring community together to develop priorities & recommendations
- Spring 2021: Form working groups to address priorities
- Hurricane Season 2021: Participation in AOML/HRD Hurricane Field Program; draft Integrated Field Campaign strategy

30+ members with cross-LO and non-NOAA partners representation
2021 Significant Accomplishments: Coordination for 5 TC

Hurricane Sam (2021)

Credit: Saildrone, Inc., NOAA AOML, PMEL
Future Plans: Integrated Field Campaign

- **Sustained observations** (gliders and USVs) of essential ocean features in the Caribbean and Gulf of Mexico
  - Loop Current
  - Freshwater Barrier Layers
  - Eddies

- **Dispersed, sustained observations** (gliders, USVs, drifters, Argo, XBT) around the Western Atlantic, Gulf of Mexico, and Caribbean Sea will help to improve model biases

- **Targeted observations** (ALAMO, drifter packages, sUAVs, aircraft obs - WSRA, KAIA) ahead of and during a major hurricane
Future Plans: Integrated Field Campaign

1 RMW

Gale force wind arrival

T - 24 hr from C-130

T - 0 hr from P-3

Take advantage of aircraft measurements (WSRA, KAIA)

Minimet+DWSD Package
ADOS+DWSD Package
ALAMO Floats
sUAS
Summary

- Decades of research and operational activities conducted by NOAA and our partners have solidified the **ocean as a key component of the TC intensity change**

- There is a critical need to **develop a robust support system** for future complementary observing and modeling efforts

- The EEOOTT will continue bridging the gap between **modeling + observing communities**, plan for an **integrated ocean-atmosphere observing field campaign**, and planning for future operational infrastructure

- Addressing priority recommendations for improving intensity forecasts will require **coordinated implementation across NOAA mission areas**, programs, & service areas
THANK YOU!
Supplemental Materials
‘Improving Hurricane Intensity Forecasts’ Workshop Publications

Available on the globalocean.noaa.gov website!