



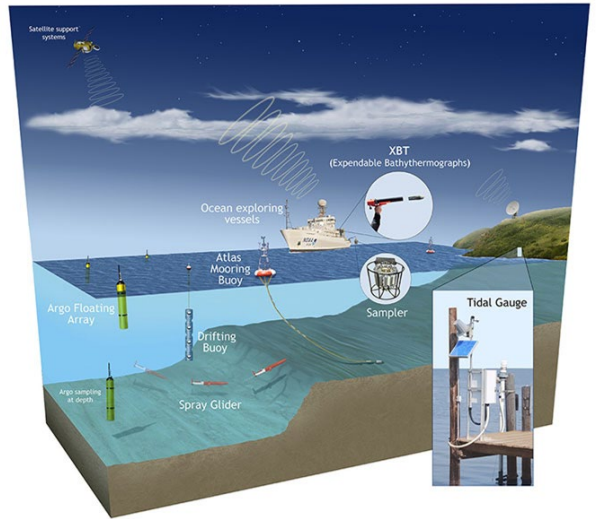
Global Ocean Monitoring and Observing Program

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About GOMO

Our mission is to provide and support high quality global ocean observing research to improve our scientific understanding and inform society about the ocean's role in environmental change.



Interests in Marine Debris

- Observing systems provide critical data and products for informing and understanding marine debris studies
- Interest in incorporating marine debris data collection and monitoring into the Global Ocean Observing System.





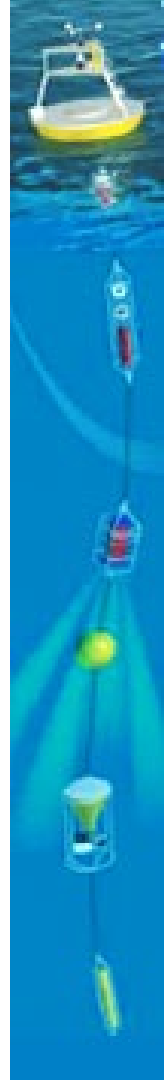
Activities Related to Marine Debris

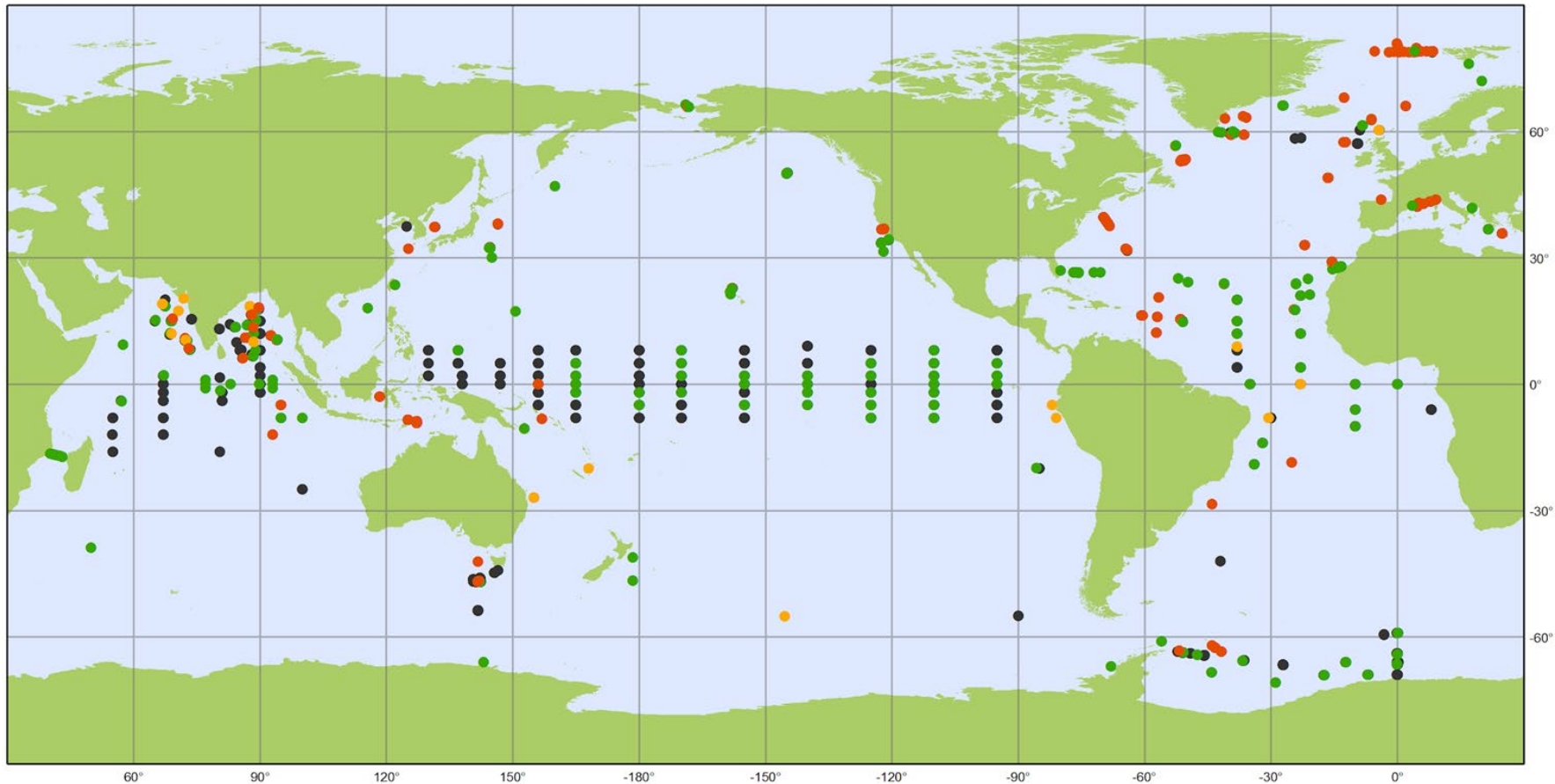
- Management of U.S Contribution to the Global Ocean Observing System.
- Extensive international collaborations and partnerships.
- GOMO's Role in UN Decade on Ocean Science.
- Arctic Monitoring and Assessment Program.
- Arctic Report Card - Essay on Microplastics.

Resources Available at GOMO

OceanSITES Reference Stations: Global system of long-term, open ocean, fixed moorings monitoring air-sea interactions down to the seafloor at 5,000 m.

- Surface: Wind speed and direction, temperature, barometric pressure, [solar radiation](#), CO2, humidity, precipitation
- Subsurface: Current speed and direction (ADCPs), PCO2, CTD, current meter.
- WHOTS: Complementary monthly HOTS surveys
- Annual Service Cruises - *Opportunity for MDP?*





OceanSITES

Platforms by status

February 2020

Information received from the platform operators

● REGISTERED ● OPERATIONAL ● INACTIVE ● CLOSED

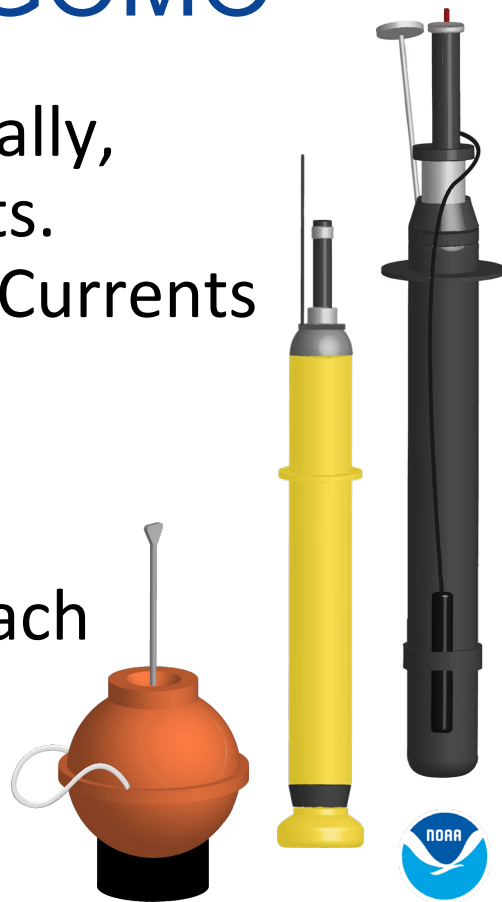


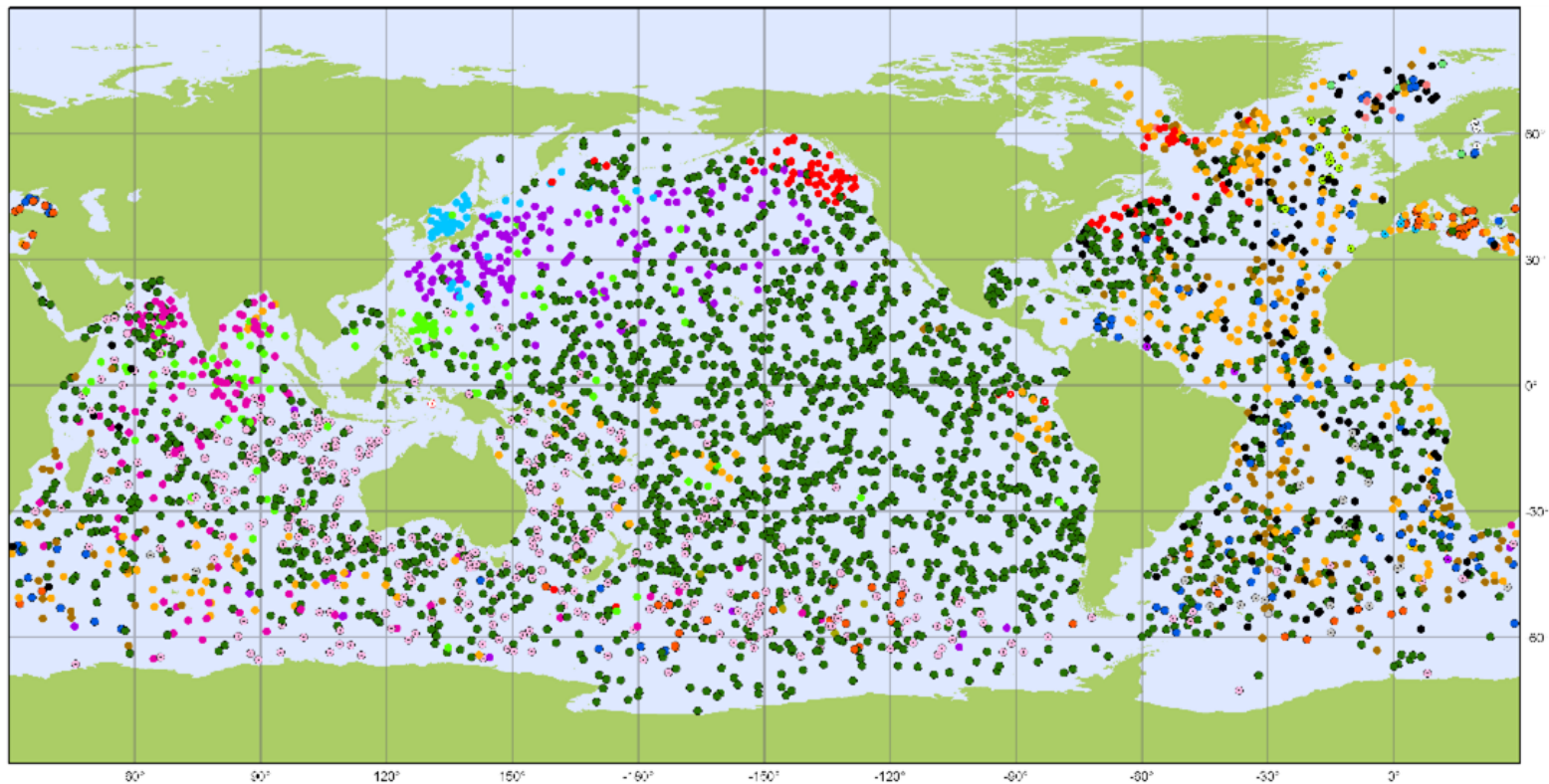
Resources Available at GOMO

Argo Program: 50% of Argo floats globally, including floats in remote environments.

- ~4,000 Core globally: 2000 m, CTD, Currents
- 300 BGC globally: ≥ 4 BGC sensors
- 136 Deep: 6000 m, CTD, Currents

Products include trajectory maps for each float. Informs current maps.





Argo

National contributions - 3881 Operational Floats

February 2018

Latest location of operational floats (data distributed within the last 30 days)

• ARGENTINA (1)	• EUROPE (94)	• INDIA (124)	• KENYA (1)	• PERU (3)	• USA (2179)
• AUSTRALIA (361)	• FINLAND (3)	• INDONESIA (1)	• MEXICO (2)	• POLAND (5)	
• BRAZIL (3)	• FRANCE (277)	• IRELAND (12)	• NETHERLANDS (24)	• KOREA, REPUBLIC OF (53)	
• CANADA (87)	• GERMANY (142)	• ITALY (65)	• NEW ZEALAND (6)	• SPAIN (5)	
• CHINA (105)	• GREECE (2)	• JAPAN (156)	• NORWAY (7)	• UK (163)	





Resources Available at GOMO

Global Drifter Program: Lagrangian floats drift at surface with currents.

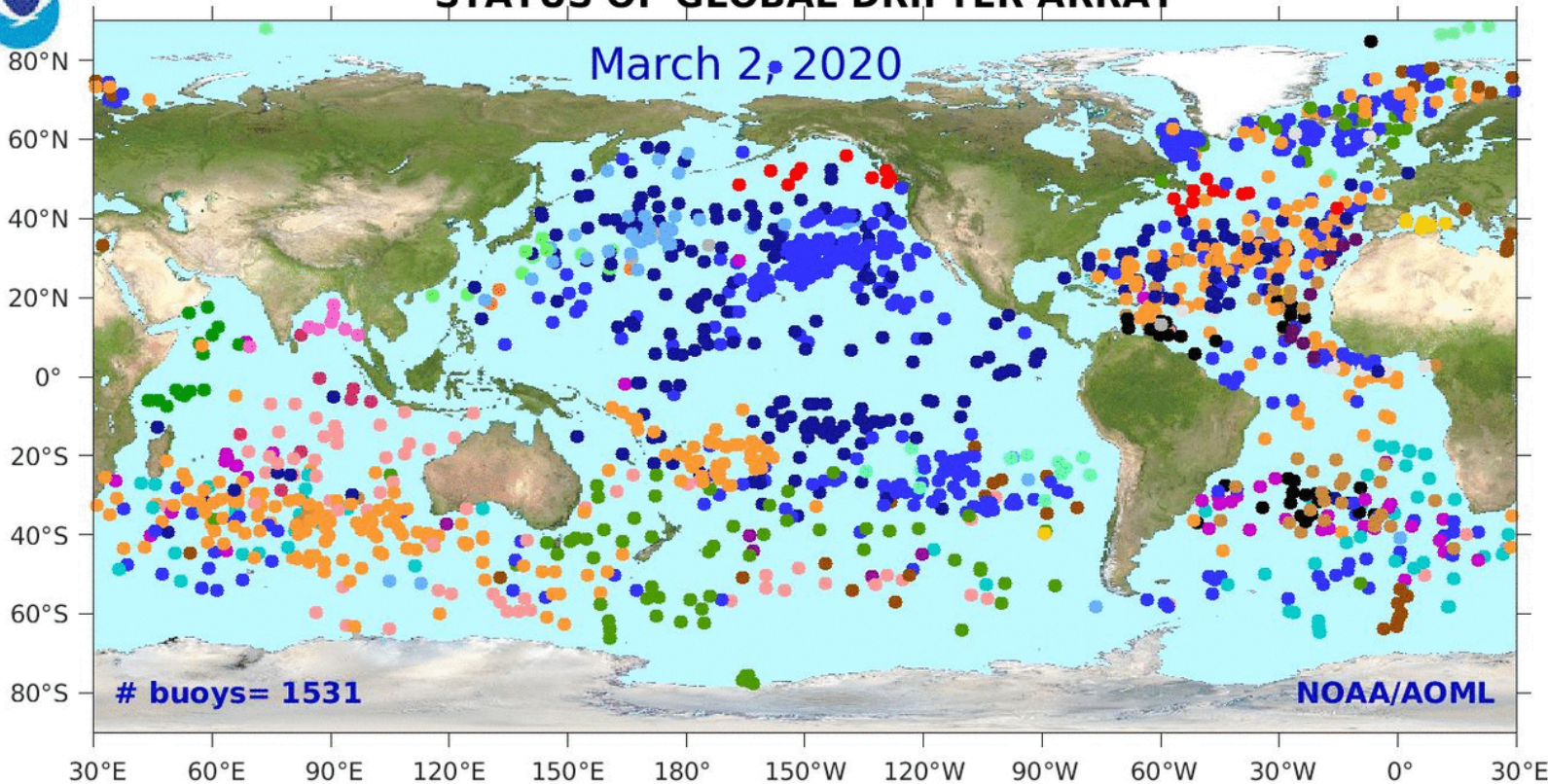
- ~1,500 drifters globally. Deployed in open ocean.
- Sea surface temperature, pressure, and current data; Wave height, frequency and direction.
- Could deploy these in debris fields to track events
- Actively pursuing eco-friendly options/solutions.
- 50+ International Collaborators





STATUS OF GLOBAL DRIFTER ARRAY

March 2, 2020



buoys= 1531

NOAA/AOML

Deploying Country

- | | | | | | |
|------------------|----------------|-----------------------|--------------------|---------------------|-------------------|
| ● Australia (67) | ● Denmark (7) | ● Indonesia (7) | ● New Zealand (61) | ● South Africa (65) | ● USA-NOAA (249) |
| ● Brazil (29) | ● France (300) | ● Italy (40) | ● Netherlands (11) | ● Spain (10) | ● USA-other (432) |
| ● Canada (20) | ● Germany (38) | ● Japan (5) | ● Palau (3) | ● Thailand (8) | ● Unknown (10) |
| ● Chile (12) | ● Iceland (25) | ● Kenya (16) | ● Portugal (8) | ● Tonga (1) | |
| ● China (10) | ● India (12) | ● Korea, Rep. of (42) | ● Seychells (1) | ● UK (42) | |



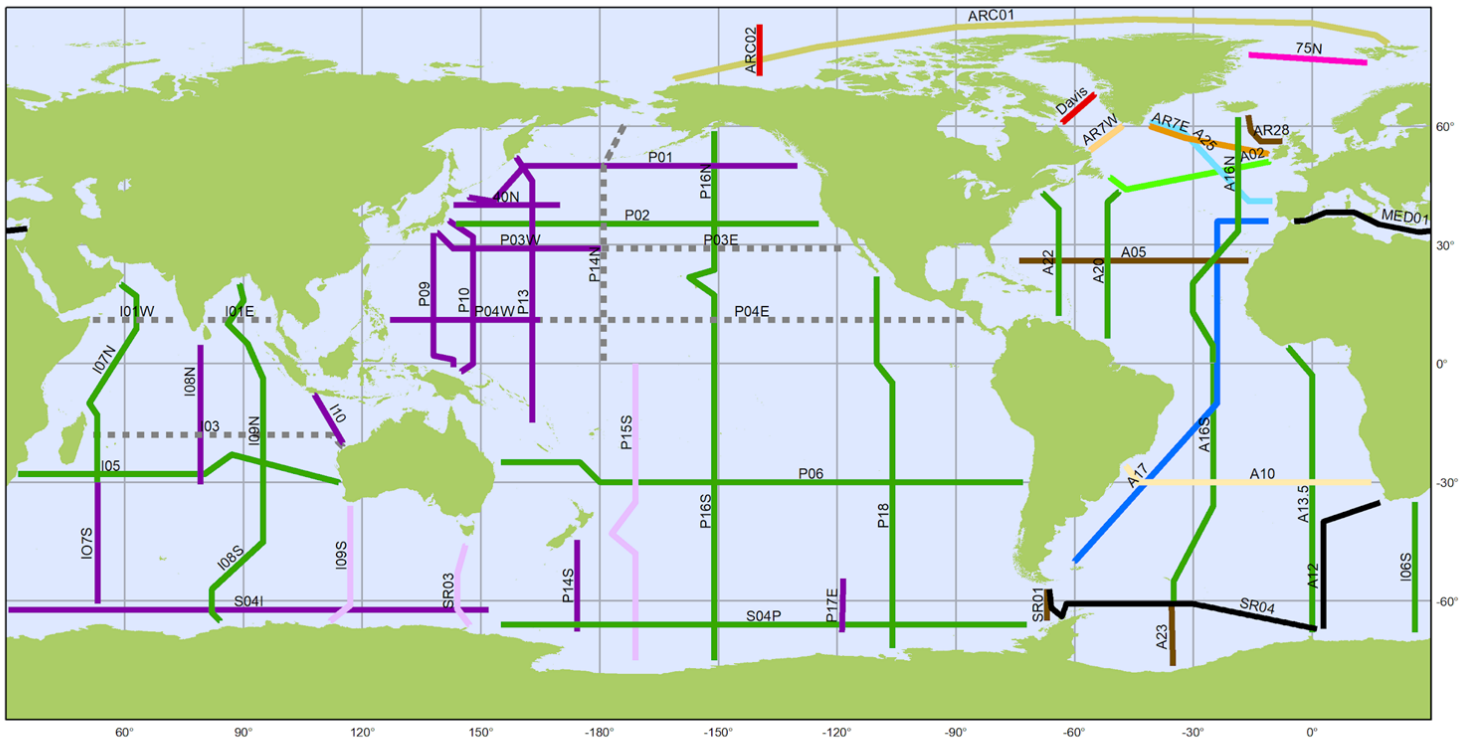
Resources Available at GOMO



GO-SHIP: A globally coordinated network of repeat, ship-based hydrographic measurements. GOMO and NSF responsible for U.S. Lines.

- Decadal resolution. Full water column.
- Inventories of heat, freshwater, carbon, oxygen, nutrients and transient tracers.
- [Level 1](#), [2](#), and [3](#) datasets. Potential for marine debris to be added as level 2 or 3.
- About a cruise annually in Atlantic & Pacific.





GO-SHIP

2012-2023 Survey (55 Core Lines): Lines by Nation

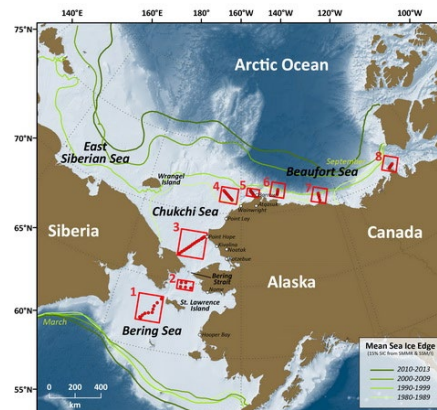
August 2019



Resources/Expertise Available at GOMO

Arctic Research Program

- DBO & [EcoFOCI](#): Shipboard surveys, service cruises, water column and sediment sampling
- Sailability operations in Bering & Chukchi
- Arctic Region Expertise
- Grants Management



Resources Available at GOMO

CalCOFI

- Quarterly cruises to study area off southern & central CA.
- Hydrographic and biological data on station and underway.
 - Marine plastics not currently part of study - could be?
- Potential to add surveys of opportunity.



SPRAY Gliders for long-term, continuous monitoring

- Surface to 500 m.
- CA (runs 3 CalCOFI Lines) and Solomon Sea.
- Potential for testing new sensors/capabilities



Opportunities for Interagency Collaboration

- GOMO is the U.S./NOAA's home for sustained global ocean observing. We have a global reach with observing infrastructure and cruises around the globe.
- Some work on autonomous platforms - could be opportunities for technology/sensor testing
- Expertise: Sustained observing; Arctic region; Global partnerships.
- How can we collaborate to include marine debris?



Thank You!

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