

Ocean Climate Research Division

Wrap Up

- We support the NOAA Mission.
- We make high quality observations which are relevant to that mission.
- The scientists' performance is outstanding. They publish their results in the refereed literature, and are highly cited.
- They have received numerous honors and awards.

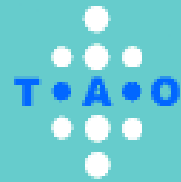
Ocean Climate Research Division

Wrap Up Continued

- OCRD scientists are leaders, involved in planning major national and international programs.
- We participate fully in the PPBES process.
- We are helping plan for the NOAA Climate Service.
- We are developing new instruments, and transitioning their manufacture to industry.
- We are transitioning projects from research to operations when appropriate.



Global Tropical Moored Buoy Array



Future Activities

- **Complete TAO Transition**
- **Demonstrate scientific value of PIRATA extensions**
- **Implement RAMA to complete the global tropical moored buoy array**
- **Introduce new technologies when available for greater efficiency and effectiveness**
- **Promote use of the data by the international community for research and forecasting**





Future Directions for the Ocean Carbon Program

- Complete the Observing System
- Continue the Coastal Program
- Integrate the Ocean Acidification and the Ocean Carbon Observing Networks
- Integrate the Ocean Carbon Observing System into the Carbon Tracker





Argo Future Possibilities



- Full-depth sampling:

- 52% of ocean volume below 2000 m

- For climate studies: ocean heat storage, sea level rise, and MOC

- Under ice systems:

- Make Argo truly global

- More observations in climate-sensitive high latitudes

- Oxygen & other biogeochemical sensors:

- Would improve ocean carbon storage estimates

- Additional link to ecosystems studies

- Iridium data transmission system

- Reduces surface time

- Allows better vertical resolution

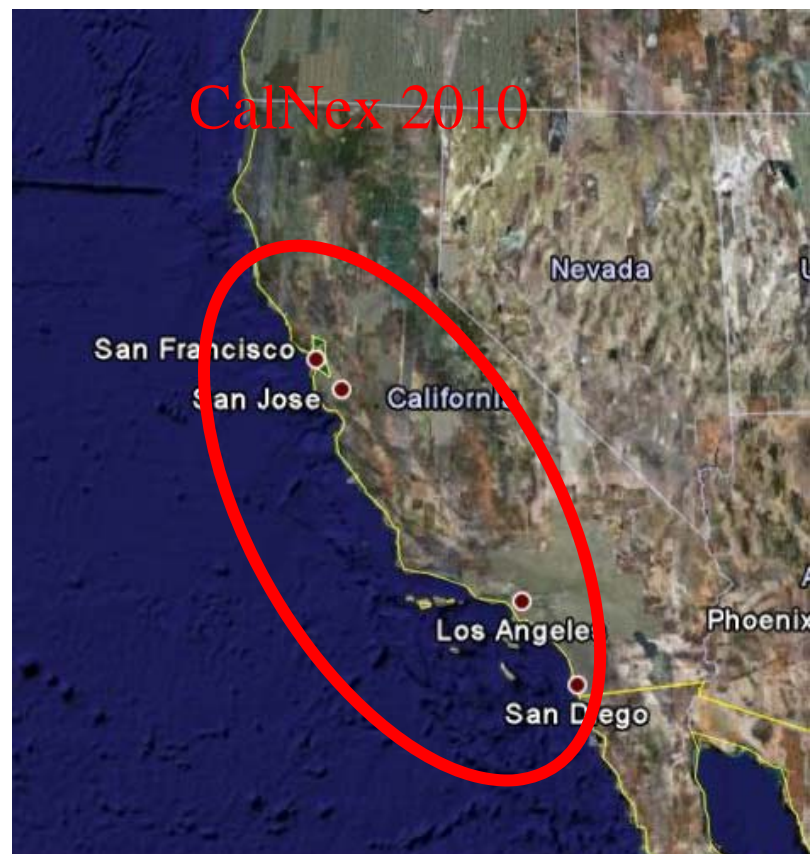
- Allows more sensors



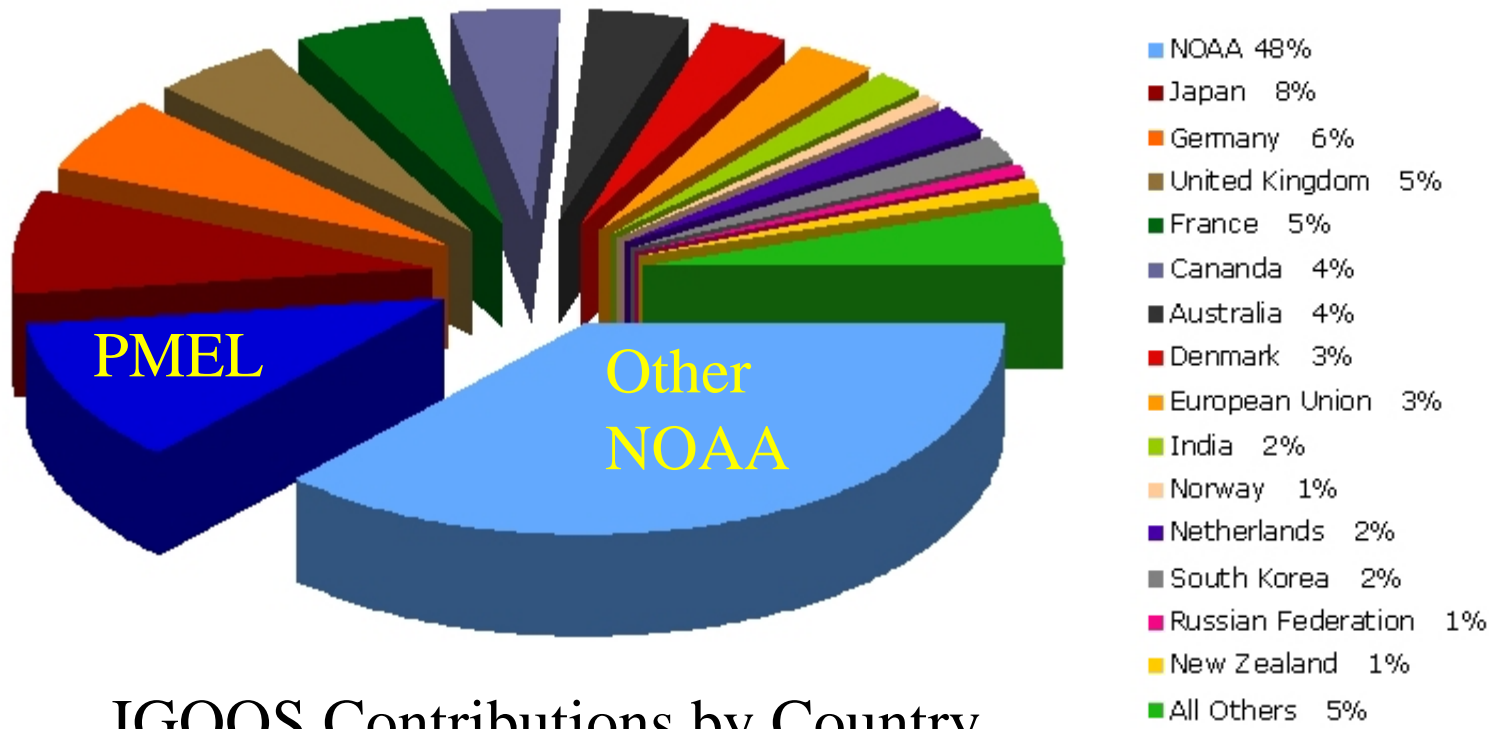
All will require more resources

Future Directions:

- Continue bi-annual air quality/climate cruises to explore aerosol distributions, properties, and processes in new regions around the globe. The 2010 experiment will take place off the coast of California.
- Expand our sea-level based measurements to the atmospheric column above the ship using unmanned automatic systems (UASs).



The quality, relevance and performance of OCRD is exemplified by our major contribution to the International Global Ocean Observing System.



IGOOS Contributions by Country

PMEL OCRD comprises 23% of the NOAA contribution to IGOOS or 11% of the total network (greater than any non-US country)



Thank you!