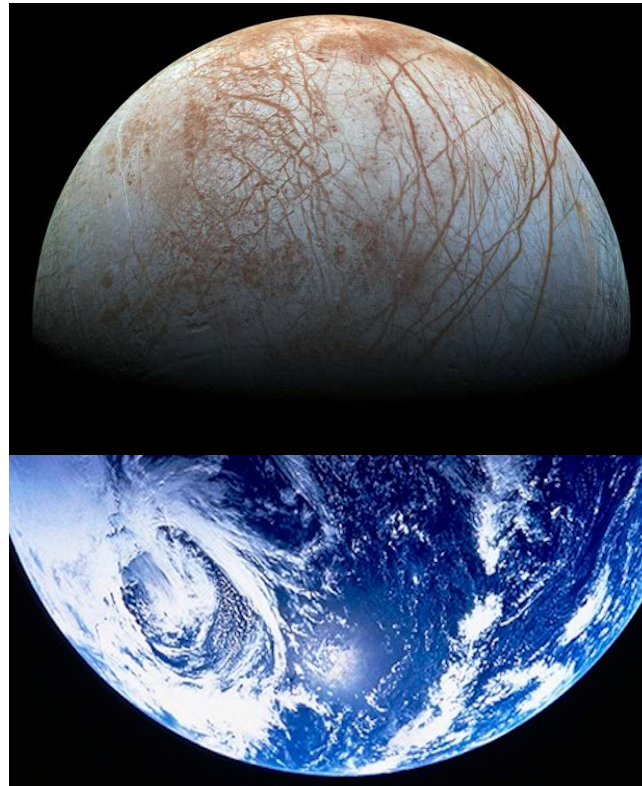


# Workshop Goals and introduction



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# Workshop goals

- Cross fertilization of ongoing sensor developments and exploration in the field of **deep sea** and **planetary sciences**
- Presentation of **innovative observational concepts** focusing on new sensors and instruments
- Specific, cross-cutting themes like modularity, **standardization** in both mechanical and electronic design will be addressed
- Preparation of an **executive summary** report/note of the workshop results in a well-known journal like EOS (<https://eos.org>)

# Specific challenges

- **Ocean science**

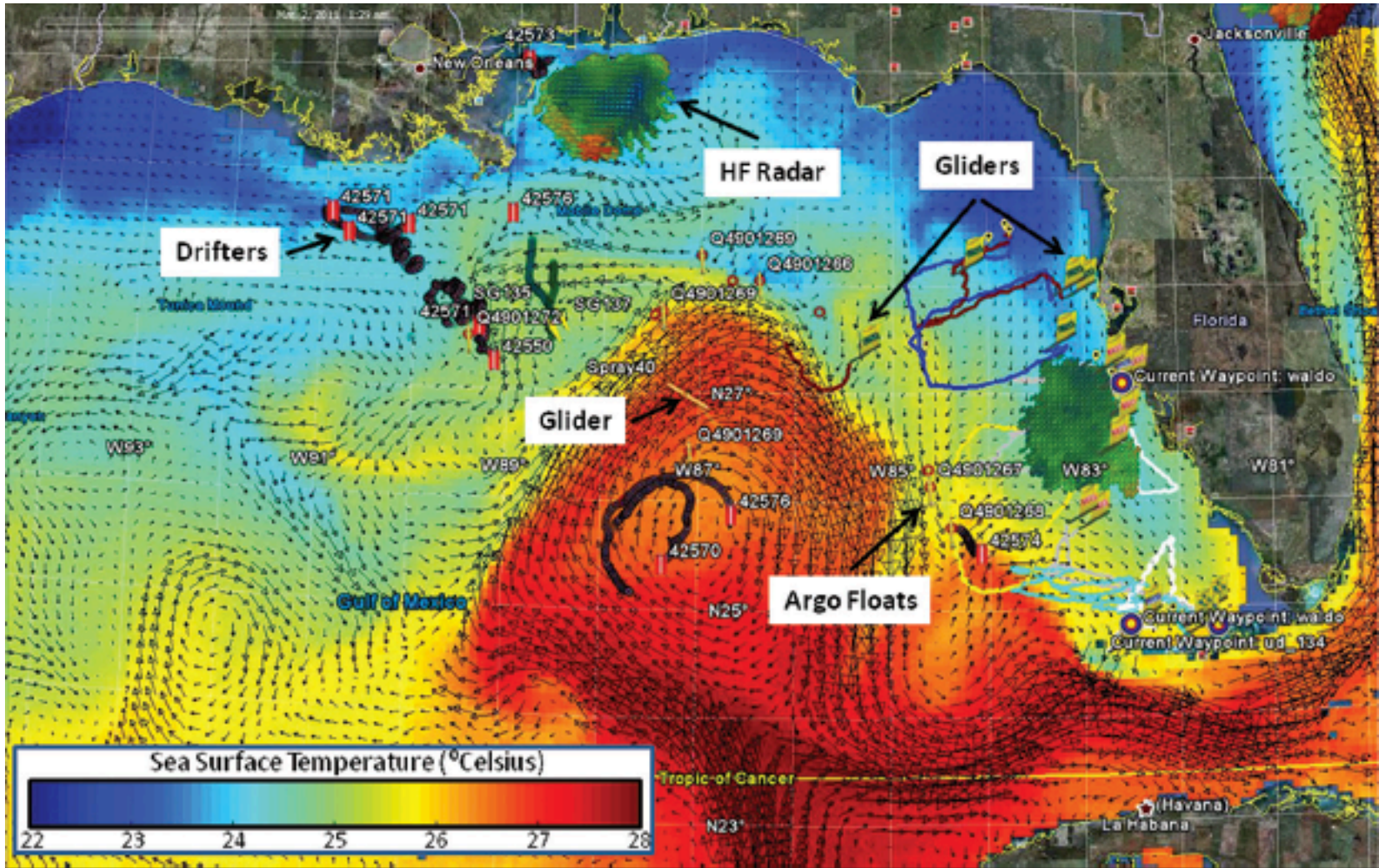
- Cover high spatio-temporal variability
- Cope with long-term deployments (biofouling, corrosion, energy consumption)
- Robust against interference with other parameters

- **Space science**

Autonomous instruments with high sensitivity and reliability

Low power and weight, tolerate cosmic radiation and large temperature variations

# Deepwater Horizon Oilspill



# Topics to be discussed

- Subsurface investigations to explore geophysical and biochemical processes
- Novel exploratory observation concepts for investigating unknown extreme environments
- Cross-cutting themes – best practices

# Summary document

*What is needed in the medium and long-term and how should topics be prioritized?*

- Observational methods
- Long-term observations
- Higher temporal spatial resolution
- Combining in-situ with remote sensing to enhance spatial footprint
- Multidisciplinary observations – Integration of individual sensors into packages and into platforms
- Cross-cutting technological challenges (Standards)

# Opportunities

- Connecting communities to allow for completely new concepts
- Building up on existing synergies – ocean science with extensive measuring experience

versus

- high standards in technological developments