

The background features a gradient of blue and white. On the left side, there are several overlapping, curved, translucent blue shapes that create a sense of depth and movement. The rest of the background is a light, clean white.

# Enhancing Our Basic Understanding of the Ocean

# Overarching Issues

- Build a strong, vibrant case for the value and excitement of basic science - carefully cast its role in the spectrum from basic to applied.
- The human dimension as both topic and scholarship should be a cross-cutting theme of its own.

# Challenges

## (4-5 Subgroups)

- Ecosystem dynamics (5)
- Human dimensions, interconnectivity (5)
- Variability, change, anthropogenic (5)
- Create ability to predict (4)

# Challenges

## (1-2 Subgroups)

- Understanding of complex systems (2+)
- Exploration and Discovery (2)
- Oceans as part of Earth System (2)
- Time-space, scaling issues (2)
- Climate (1)
- Lithosphere (1)
- Exchanges across boundaries (1)

# Action Items

## (3-4 Subgroups)

- Advances in Modeling Capabilities (4)
- Connections to fields outside oceans (3)
- Build genomics and related expertise (3)
- Infrastructure for full access to oceans (3)
- Interdisciplinary scholarship, partners (3)
- Data, cyber issues at petascale (3)

# Action Items

## (1-2 Subgroups)

- Trophic dynamics, cascades (2)
- Incorporation of Social Sciences (2)
- Educate about excitement of basic sci (1)
- Build support for basic science (1)
- Build international (1)
- Biodiversity, biogeochemistry topics (1)
- Transfer research to operations/decisions (1)