



Setting the Scene: Climate Risk and Resilience



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Report Documentation Page

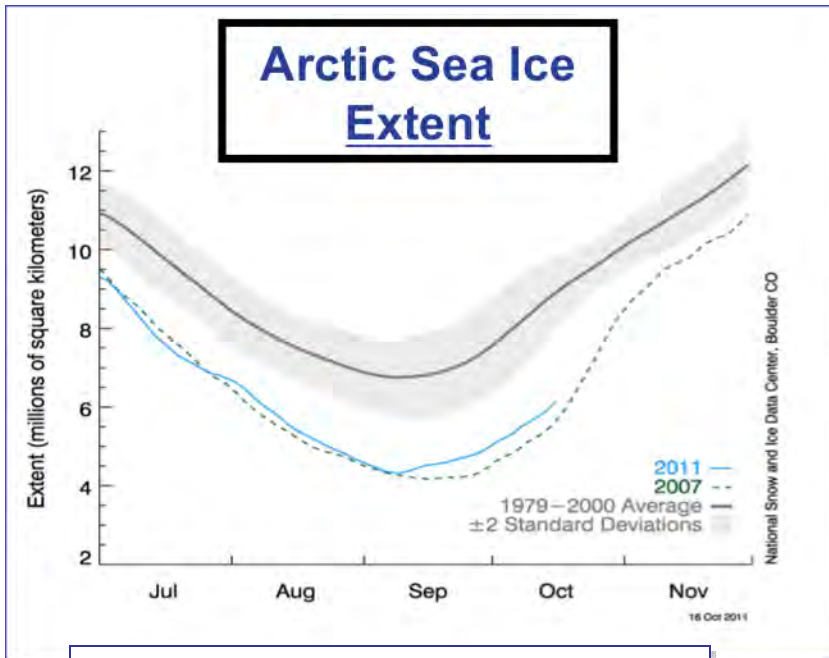
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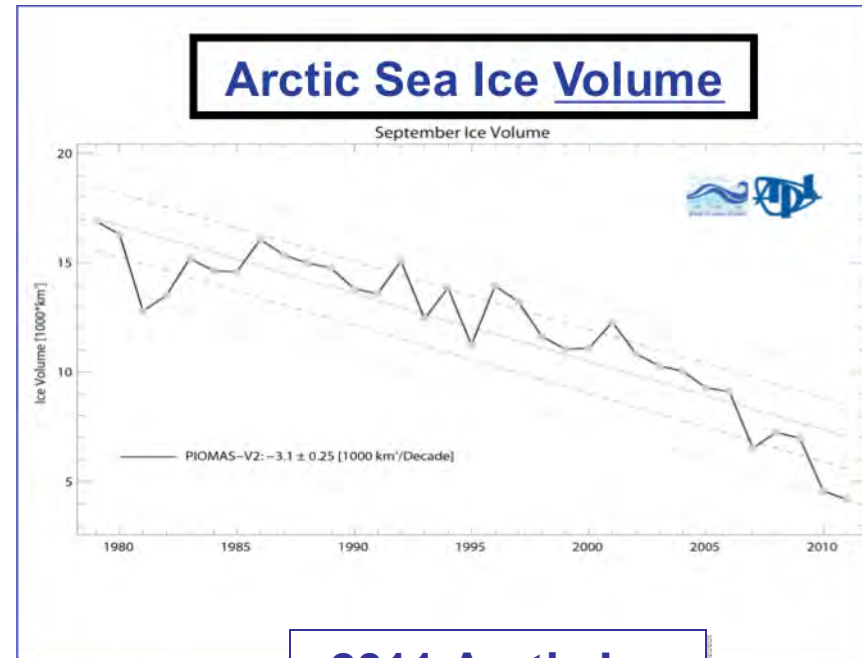
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Arctic Trends



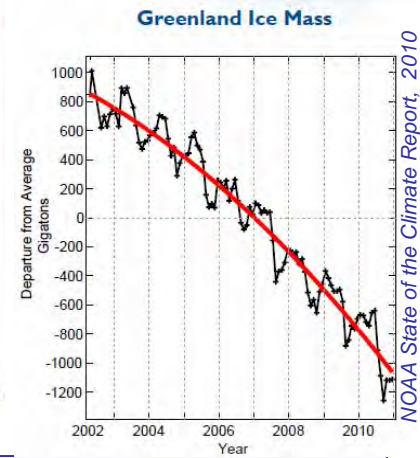
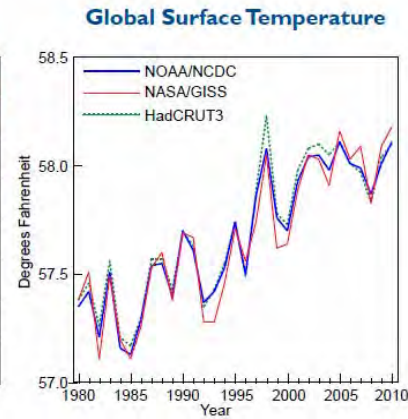
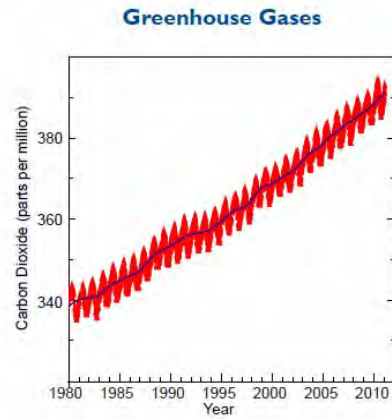
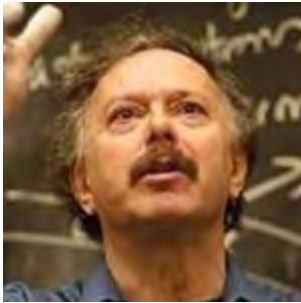
2011 Arctic Ice extent close to 2007's record low



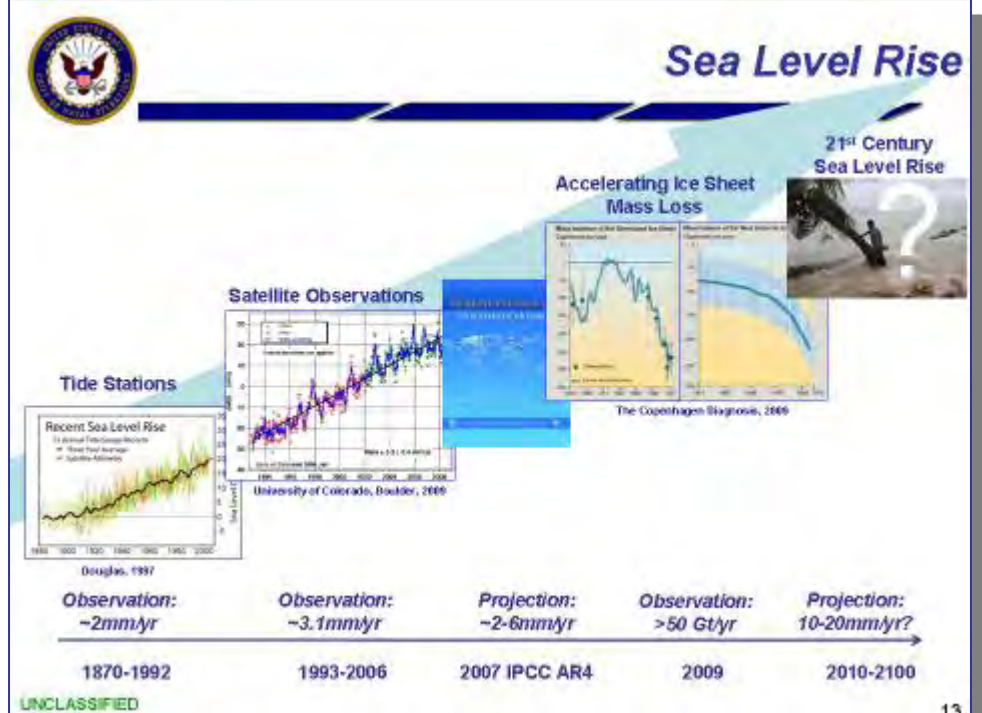
2011 Arctic Ice volume was a record low



Global Climate Change



NOAA State of the Climate Report, 2010

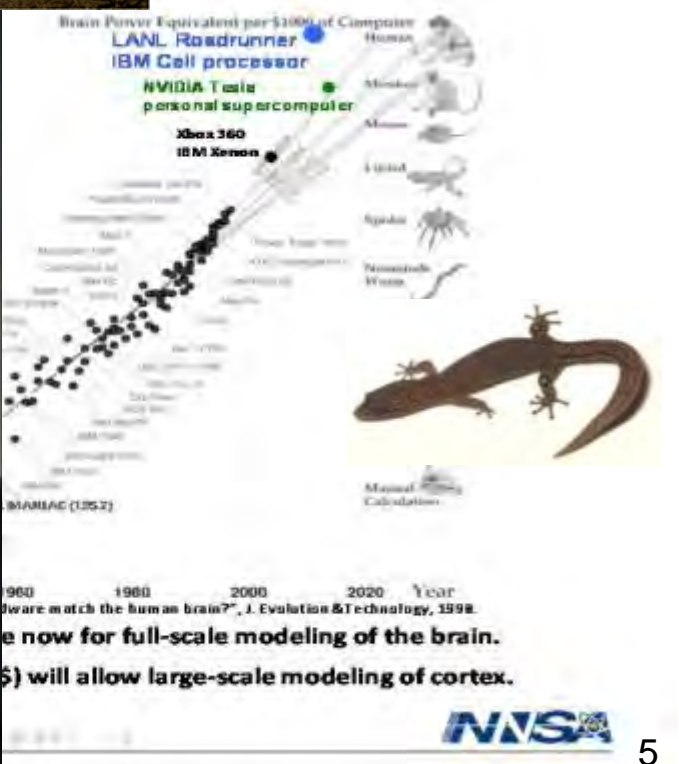
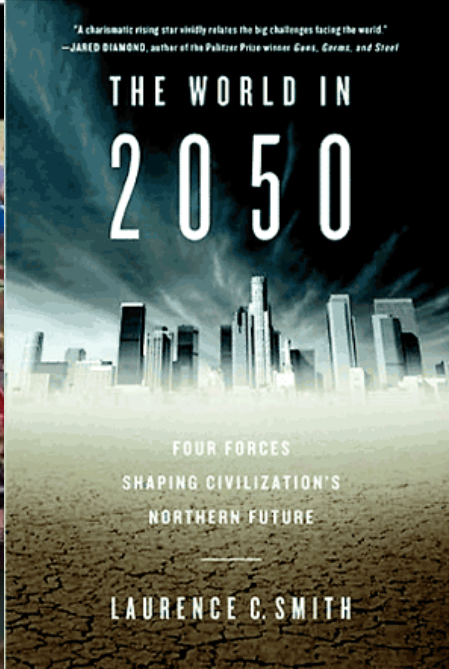




So What Does this Mean?



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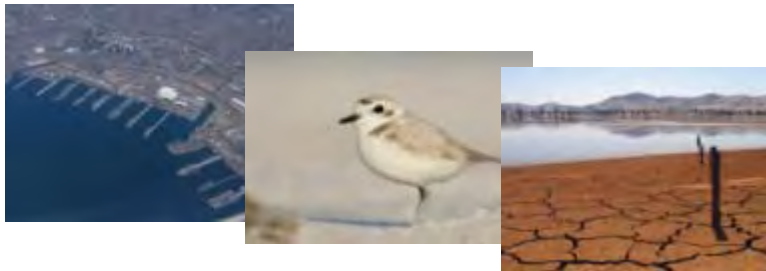




Navy Concerns

Operations & Plans

- Increasing Arctic maritime activity
- Adaptation partnerships opportunities
- Potential increase in Humanitarian Assistance/Disaster Response



Installations & Environment

- Impact of sea level rise
- Water resources
- Natural & cultural resources

Wild-cards

- Ocean acidification
- Abrupt climate change
- Geoengineering



It's all about Readiness



U.S. Navy Task Force Climate Change



The Team...

INTERAGENCY NATIONAL INTERNATIONAL

Improving Understanding

ONR Initiatives

- Streamline climate Prediction
- Climate Change Impacts of Major USFA Zone

More Interagency Collaboration

Earth System Prediction Capability

Academic Coursework & Projects

Navy Installation Vulnerability

Physical Impacts

- Inundation
- Wetlands
- Erosion patterns & rates
- Surface-ground water supplies
- Water tables
- Tidal flows & currents
- Storm & flood damage

Navy Study

- Identify most vulnerable installations
- Local and regional infrastructure
- Prioritize spending
- Maintain mission readiness

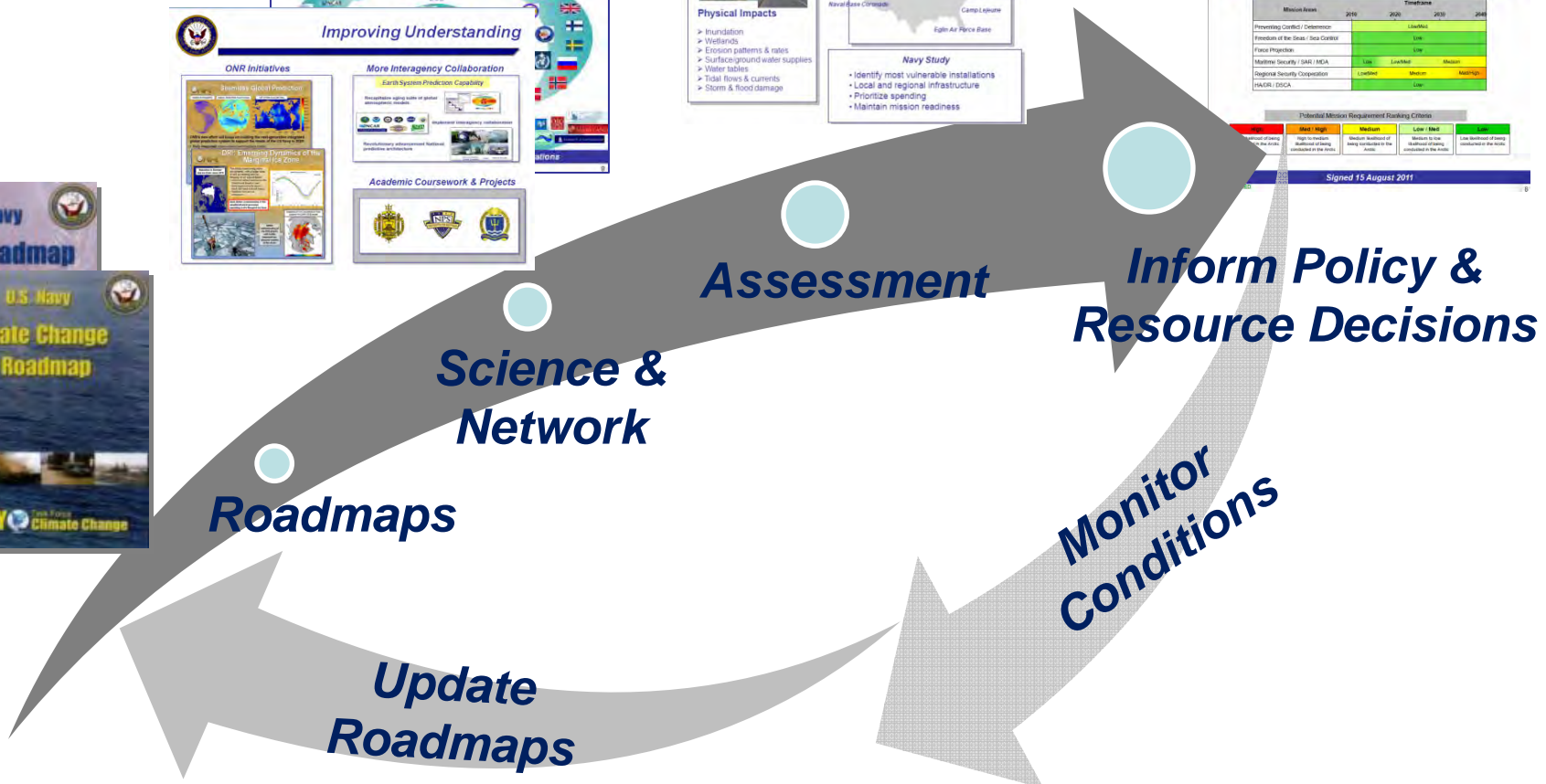
Navy Arctic Mission Trends

Mission Area	2010	2020	2030	2040
Preventing Conflict / Deterrence	Low/Mid	Low/Mid	Low/Mid	Low/Mid
Presence of the Fleet / Sea Control	Low	Low	Low	Low
Force Projection	Low	Low	Low	Low
Maritime Security / S&I / MCA	Low	Low/Mid	Medium	Medium
Regional Security Cooperation	Low/Mid	Medium	Medium	High/Mid
NAACP / EOCA	Low	Low	Low	Low

Potential Mission Requirement Ranking Criteria

High	Mid-High	Medium	Low / Mid	Low
High in priority	High in priority	Medium in priority	Medium in priority	Low in priority
High in priority	Medium in priority	Medium in priority	Low in priority	Low in priority

Signed 15 August 2011



Science-based approach, cooperative partnerships, risk assessments





CLIMATE CHANGE IN PREHISTORY

The End of the Reign of Chaos

