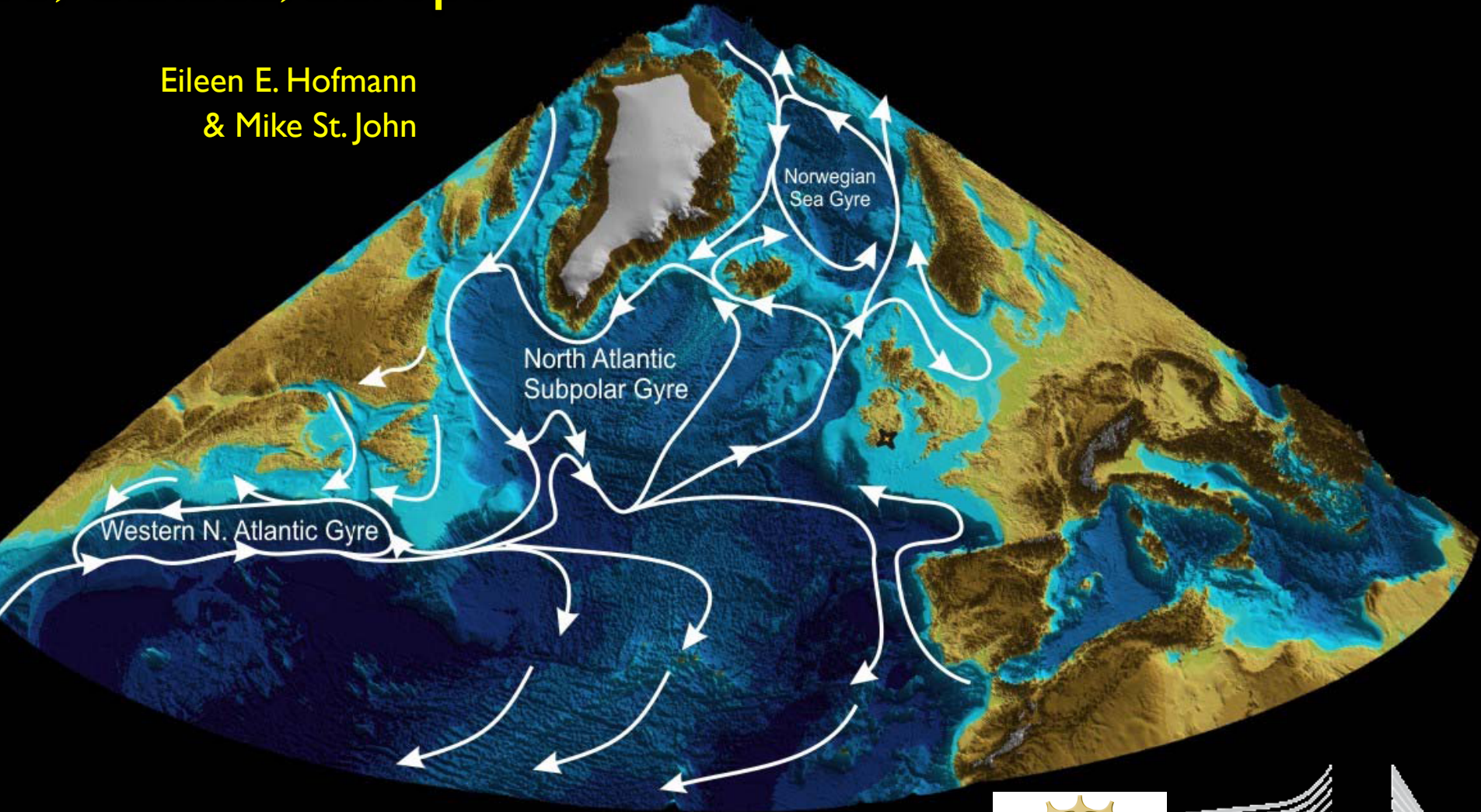


North Atlantic-Arctic Workshop

US, Canada, Europe

Eileen E. Hofmann
& Mike St. John





Background

- EU-U.S. Joint Consultative Group Meeting on Science and Technology Cooperation – February 2013
 - Focus on developing the knowledge and technologies that can foster economic growth, create jobs and help solve shared challenges, such as in health, climate change and food security
 - Explored how to advance cooperation in transatlantic marine, maritime and Arctic research, transport research, health research and materials science



Background

- Galway Statement on Atlantic Ocean Cooperation – Signed May 2013
 - Agreement between US, European Union, Canada to join forces on Atlantic research
 - Goals are to better understand the Atlantic Ocean and to promote the sustainable management of its resources
 - Study the interplay of the Atlantic Ocean with the Arctic Ocean, particularly with regards to climate change
 - Recognizes that Atlantic research will in many areas be more effective if coordinated on a transatlantic basis

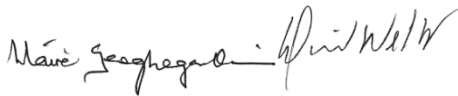
A New Era of Trans-Atlantic Cooperation

Signed in Galway on 24 May 2013 in three originals in the English language.

For the European Union

For the Government of
Canada

For the Government of the
United States of America



Máire GEOGHEGAN-
QUINN
Commissioner for Research,
Innovation and Science

Edward FAST
Minister of International
Trade and Minister for the
Asia-Pacific Gateway



Dr Kerri-Ann JONES
Assistant Secretary of State
for Oceans and International
Environmental and Scientific
Affairs



Maria DAMANAKI
Commissioner for Maritime
Affairs and Fisheries



The Galway Statement on Atlantic Ocean Cooperation

Launching a European Union – Canada – United States of America Research Alliance

24th May 2013

To provide a vision for enhanced cooperation on both sides of the Atlantic and a set of jointly agreed priority actions to provide the means to achieve these goals .

27/03/2014



www.marine.ie/atlanticasharedresource





Key Challenges

- Integration of historical and paleo data, ocean observing and forecasting systems to provide better indicators of past, current and future environmental status
- Advance existing technologies, ecosystem and biogeochemical models, and develop empirical and modelling approaches to enable the quantification of evolutionary change in ocean systems
- Quantify the effects of multiple stressors on biogeochemistry, organisms and ecosystems



Key Research Areas

- Implement ecosystem approach to improve the stewardship of natural resources
- Main stream chemical and biological (including genomic) sensors as well as robotic and autonomous systems for ocean observation
- Evaluate the role of biodiversity in the health and functioning of ecosystems and the maintenance of ecosystem services
- Shared data collection, management and information infrastructure
- Standardize sampling and observation techniques, common data standards

Background

- **Future Earth** - New 10-year international research initiative focused on connecting research and responses to societal challenges
- International Collaborative Research Actions – issue annual multi-lateral calls for research (Belmont Forum)
- IMBER and SOLAS – international global environmental change programs that are making the transition to Future Earth
- WRCPC collaborations - CLIVAR



Background

- Euro-Basin 2010-2014 – focus on North Atlantic
- OCB workshop summer 2013 NSF expressed interest in a North Atlantic-Arctic initiative
- Proposal to develop workshop for joint US, Canada, EU effort in North Atlantic-Arctic began summer 2013
- Workshop convened April 2014





Workshop Objectives

Considering the targets of the Galway Declaration, identify and report on potential areas for trans Atlantic collaboration which

- link basic and applied research
- span disciplines from physical oceanography to socio economics

As a starting point, the following themes have been put forward



Workshop Scientific Themes

- **Gateways:** Implications of warming, freshening, and more open Arctic-North Atlantic gateways for circulation, biogeochemical cycling, and marine ecosystems
- **Circulation:** Role of large-scale (e.g. AMOC) versus meso- to sub-mesoscale processes (e.g. eddies, fronts) in different parts of the Atlantic-Arctic system and feedbacks to biogeochemistry and ecosystem structure and function
- **Spring bloom dynamics:** Interactions between physical, biogeochemical, and ecological processes involved in the initiation, evolution, and termination of the spring bloom and associated sensitivities to climate and circulation changes
- New Knowledge



Workshop Scientific Themes

- **Sustainable fisheries:** Collective impacts of fishing pressures, climate, and ocean circulation changes on key North Atlantic fisheries, including the lower trophic levels that support them
- **Marine ecosystem health:** Sensitivity of marine biodiversity and ecosystem resilience to climate and circulation changes
- **Prediction:** Development, validation, and application of advanced earth system models to predict future changes and inform decision-making
- **Translation of new knowledge into advice**



Agenda

- Cross-cutting presentations – provide current understanding
- Four breakout groups
 - Overarching interdisciplinary science questions
 - Relevant international activities and resources
 - Knowledge gaps and future needs
 - Research tools and approaches
- Outcome – Science plan/implementation strategy that provides advice to funding agencies on key science issues for North Atlantic-Arctic system