



Gulf of Maine
Council on the
Marine Environment

December 2013

GOMC Committee Reports v.1

Table of Contents

Ecosystem Indicator Partnership 3

Coastal and Marine Spatial Planning 4

Habitat Restoration 5

Climate Network..... 6-11

Gulf of Maine Council on the Marine Environment

December 2013 • Committee Reports to the Council

Gulf of Maine Council on the Marine Environment Meeting Briefing Note										
Title of Agenda Item: EcoSystem Indicator Partnership (ESIP) Update										
Submitted by: Kathryn Parlee (Environment Canada) and Jim Latimer (US Environmental Protection Agency), co-chairs										
Type of Item (place X in appropriate box)	For Decision	For Direction	For Information X (internal GOMC)	For Information (External)						
Background (required):										
<p>ESIP has had a couple of busy and exciting months. In November ESIP released the new version of its homepage. A draft version of the homepage was presented during the June Working Group and Council meetings. Feedback has been positive from both the Steering Committee and visitors to the webpage.</p>										
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <div style="margin-top: 10px;"> <table border="1" style="width:100%; border-collapse: collapse; background-color: #333; color: white;"> <tr> <td style="padding: 5px; text-align: center;">Overview</td> <td style="padding: 5px; text-align: center;">Vision Statement</td> <td style="padding: 5px; text-align: center;">Data</td> <td style="padding: 5px; text-align: center; color: yellow;">Events & Documents</td> <td style="padding: 5px; text-align: center;">Highlights</td> <td style="padding: 5px; text-align: center;">Feedback</td> </tr> </table>  </div>					Overview	Vision Statement	Data	Events & Documents	Highlights	Feedback
Overview	Vision Statement	Data	Events & Documents	Highlights	Feedback					
<p>In addition, ESIP has continued to release monthly journal entries on a variety of subjects. This feature of the ESIP webpage has become one of the most visited pages. From July – November 2013 the ESIP journals were visited a thousand times! Examples of recent entries include the Annapolis Basin Integrated Water Quality Forecast (August 2013) which focused on predicting fecal coliforms in clam harvesting beds. Another recent entry (November 2013) focused on changes to the Right Whale populations in the Bay of Fundy.</p>										
<p>Be on the lookout for ESIP Contaminants fact sheet to be released late Winter/early Spring. In addition, ESIP plans on presenting at Coastal Zone Canada in June 2014.</p>										
Possible Activities / Next Steps (optional):										
Actions, Outcomes or Decisions Requested (optional):										
Supporting Documentation (If applicable, list additional documents included in the Briefing Book following this Briefing Note):										

Gulf of Maine Council on the Marine Environment

December 2013 • Committee Reports to the Council

Gulf of Maine Council on the Marine Environment Priority Projects in Need of Funding – Core Committee Functions

GOMC Committee: Coastal and Marine Spatial Planning (CMSP)

GOMC Committee Chairs: Betsy Nicholson (NOAA), Tim Hall (DFO)

Recent Accomplishments (refer to Action Plan goals, activities and outcomes):

- Goal 1.3.3 – Ongoing exchange of information and expertise between related CMSP activities of the New England Regional Planning Body (NERPB) and Northeast Regional Oceans Council (NROC) and the Regional Committee on Coastal and Ocean Management (RCCOM) through conference calls and sharing of information and approaches.
- Goal 1.3.4 – Appointment of Canadian ex-officio member to the U.S. Northeast Regional Planning Body.
- Goal 3.1.1 – See above.

Planned Activities for 2014:

- Ongoing exchange of information, expertise and lessons learned.
- Webinar working session between DFO Oceans (Maritimes) and NROC practitioners and managers to investigate need for transboundary collaboration with current mapping initiatives and applications, particularly for natural resource as well as shipping and fishing data.
- Review Canadian efforts to identify and map Ecologically and Biologically Significant Areas (EBSA) in the Bay of Fundy/Gulf of Maine to determine if application to US efforts exists and to determine if transboundary areas require identification.
- Ongoing Canadian participation on the Northeast Regional Planning Body.

Description of Core Committee Functions Required:

- Work with Management & Finance Committee to report on Action Plan contributions and progress.
- Will require support from Communications / Outreach Committee to ensure latest information and updates posted to the website.

Measures of Success (how will committee's success be measured / evaluated):

- Conference calls held
- Webinar completed and report prepared
- Regular updates to Council and Working Group
- Ongoing Canadian participation on Northeast Regional Planning Body.

Budget for 1 Year of Core Committee Functions: \$0

Potential Project Partners:

- Gulf of Maine Council and Working Group member agencies
- Northeast Regional Oceans Council
- New England Regional Planning Body
- Regional Committee on Coastal and Ocean Management

Gulf of Maine Council on the Marine Environment

December 2013 • Committee Reports to the Council

Gulf of Maine Council on the Marine Environment Meeting Briefing Note					
Title of Agenda Item: Habitat Restoration Committee update					
Submitted by: <i>Slade Moore, Habitat Restoration Coordinator</i>					
Type of Item (place X in appropriate box)	For Decision	For Direction	X	For Information (internal GOMC)	For Information (External)
<p>Background (required):</p> <p>The following items are meant to bring the WG and Council current with the Habitat Restoration Committee's (HRC) work:</p> <ol style="list-style-type: none"> The GOMC-NOAA Habitat Restoration Partnership is entering its final seven months of funding. Since 2002, this Partnership between NOAA, GOMC and contributing partners around the Gulf has directed funding and technical assistance to 114 restoration projects, of which 17 are currently active. A breakdown of completed project's impacts to date are provided below: <ul style="list-style-type: none"> <u>Habitats restored by funded projects</u> Stream miles with renewed fish passage: 122 Barrier-free stream miles: 80 Alewife spawning habitat acres with re-established access: 3,263 Tidal wetland acres enhanced/restored: 682 <ul style="list-style-type: none"> <u>Outreach materials</u> • The following publications are found at: http://www.gulfofmaine.org/2/resources/reports/ • U.S. Gulf of Maine habitat restoration and conservation plan • Salt marshes in the Gulf of Maine: human impacts, habitat restoration, and long-term change analysis • Stream barrier removal monitoring guide • American eels: restoring a vanishing resource in the Gulf of Maine • Gulf of Maine habitat restoration strategy • GOMC Habitat restoration web portal http://restoration.gulfofmaine.org <ul style="list-style-type: none"> <u>Ancillary Impacts</u> By funding the Habitat Restoration Coordinator Position, support from the GOMC-NOAA Partnership and other organizations reinvigorated restoration progress in Maine. One example is the Maine Stream Connectivity Work Group (SCWG), which is a forum, educational outlet, and network of restoration practitioners in Maine led by the Habitat Restoration Coordinator. The SCWG acts to hasten the pace of restoration through the development of tools, training, and collaborative efforts. Among other products delivered by the SCWG since 2009, the online Maine Stream Habitat Viewer was recently launched and can be accessed at: http://mapserver.maine.gov/streamviewer/streamdocHome.html GOMC was awarded funds for Five Royal Bank of Canada Blue Water Projects in 2013. These projects tend to target the stormwater abatement and debris removal side of habitat restoration. Common activities include riparian plantings, stream channel restoration, and management of offsite urbanized flows that can impair aquatic resources. The HRC and David Keeley have been active in several programmatic and project specific funding initiatives. The strategic intent is to provide funding necessary to support GOMC's restoration program, rather than funding that is geared only to site-specific projects. 					
<p>Possible Activities / Next Steps (optional):</p> <p>Continue supporting active restoration projects through grant management and technical assistance. Continue to investigate opportunities for programmatic, and where feasible, site-specific restoration funding.</p>					

Gulf of Maine Council on the Marine Environment

December 2013 • Committee Reports to the Council

Gulf of Maine Council on the Marine Environment Meeting Briefing Note				
Title of Agenda Item: Climate Network Committee Update				
Submitted by: Ellen Mecray and Bill Appleby, Co-Chairs				
Type of Item (place X in appropriate box)	For Decision	For Direction	For Information (internal GOMC)	For Information (External)
		X	X	
Background (required):				
<p>The Climate Network held a very successful meeting in September, drawing 60 professionals from around the Gulf to discuss cross-sectoral, cross border climate issues and to help identify needs that the Network can meet. Some of the top needs that emerged from that meeting include:</p> <ul style="list-style-type: none"> • Reinforce the GOM region’s capacity for place-based climate research, collaborative management and expanded funding (taking lessons from similar cross-border efforts such as the Gulf of Mexico Climate Community of Practice); • Create outreach material on adaptation and planning for the general public, providing landowners and communities with examples of Best Management Practices (BMPs) related to climate change and with comparative cost-benefit analyses of adaptive changes; • Help foster the sharing and coordination of data and modelling experiences, and help compile standardized and consistent land-based datasets (LIDAR, land-cover, LCC habitat classification map); and • Support development of high-resolution maps (at 5 km) in conjunction with federal, provincial, state, municipal, and private entities. <p>Since that meeting, the Climate Network has submitted three grant proposals to help make its web pages more of a regional informational clearinghouse, and provide decision-makers with more cost-benefit information for adaptation planning.</p> <p>Planning is underway for creation of a quarterly Gulf-wide Climate Impacts and Outlook (see similar NOAA and EC models).</p> <p>The new Climate Network Coordinator, Marina Schauffler, has compiled an initial list of Canadian data for entry into the neclimateus.org (NExUS) online climate database.</p> <p>With support from EC (pending), the Climate Network will be compiling information from Canadian municipalities around the Bay of Fundy documenting low-cost adaptation measures. This data and comparable US examples (gathered in a recent NOAA study Cost-Efficient Climate Adaptation in the North Atlantic) will be publicized on the Network’s web pages to help coastal decision-makers begin taking economical, ecosystem-based adaptation actions.</p>				
Supporting Documentation (If applicable, list additional documents included in the Briefing Book following this Briefing Note):				
Executive Summary from the September Climate Network Meeting in Orono, Maine.				

***A Canadian/US Gathering to Develop Direction and Research Priorities
for the Gulf of Maine Council's Climate Network***

September 10 & 11, 2013, University of Maine at Orono

Executive Summary

More than 60 people (including federal, state and provincial employees; university faculty and students; and representatives of nongovernmental organizations and first nations) met to discuss climate change issues in the states and provinces that border the Gulf of Maine (Nova Scotia, New Brunswick, Maine, New Hampshire and Massachusetts). Discussions focused on lessons learned; planning and strategies for adaptation and migration; further needs for management and policy; and ideas for future Climate Network (CN) initiatives.

Presentations centered on several themes: forest impacts; extreme events and adaptive management approaches; and marine fisheries/ocean acidification. Many of the gathering's presentations are posted on the CN page of the Gulf of Maine Council on the Marine Environment (GOMC) website: <http://www.gulfofmaine.org/2/committees-and-programs/climate-change-network/>.

Presenting scientists shared data confirming a modest increase since 1955 in GOM region air temperatures (0.8°C or 1.44° F.) and precipitation (9 percent). Precipitation from extreme events in the GOM region has increased 74 percent since 1958. IPCC models project a more rapid increase of 2.5 to 3.5°C (4.5 to 6.3° F) by 2050, with precipitation increasing 5-9 percent and more extreme precipitation events expected. Temperatures in the Gulf of Maine have risen much more in recent decades than many other coastal waters around the world, and an anomalous 2012 "heat wave" in sea surface temperatures had damaging economic impacts.

Extreme weather already poses challenges in ecological, economic and social terms for GOM communities and much discussion focused on ways to meet these challenges through planning, emergency preparedness and infrastructure adaptations. Extreme weather events can provide a valuable opportunity to raise public awareness and the will to take preventive action. More economic analyses demonstrating the cost-effectiveness of both mitigation and adaptive management might help persuade communities to make up-front investments (a dollar invested up front in adaptation can save four dollars in response costs).

Throughout the presentations and the ensuing discussions, seven over-arching themes emerged.

1) Local: It's important to apply research to the local level and connect it to communities.

2) Knowledge sharing: An informational clearinghouse would help facilitate improved sharing of research and best practices.

3) Communication: Citizens and communities need climate adaptation and mitigation conveyed through accessible stories and pictures, and clear web-based guidance on best adaptive management practices.

4) Data sharing: Data available across the GOM region need to be combined and shared through a readily accessible data-management system.

5) Monitoring: Monitoring, which is critical to tracking climate change impacts, must use consistent standards for data to be shared and effective.

6) Mapping: More detailed mapping is needed for many facets of the GOM region (including hydrology, habitats, water use and bathymetry). Accurate forecasting of the timing and degree of climatic changes may help foster greater resilience.

7) Analysis: More socio-economic analysis of what people value is needed in the GOM region to help guide climate change adaptation.

Following presentations and discussions, participants shared ideas for constructive roles that the GOMC and Climate Network (CN) could play in relation to the gathering's themes. Some participants had limited understanding of the Council's role as a regional partnership promoting the Gulf's long-term health through connecting people, organization and information; raising public awareness; conducting environmental monitoring;

and translating science into management. Some ideas suggested by participants expressed more general needs for the Gulf of Maine region that are not within the GOMC's scope: these are recorded in Appendix A.

Recommendations for further GOMC Climate Network projects included the following:

- Reinforce the GOM region's capacity for place-based climate research, collaborative management and expanded funding (taking lessons from similar cross-border efforts such as the Gulf of Mexico Climate Community of Practice);
- Create outreach material on adaptation and planning for the general public, providing landowners and communities with examples of Best Management Practices (BMPs) related to climate change and with comparative cost-benefit analyses of adaptive changes;
- Create a list of indicator species to monitor how climate change is affecting GOM marine life;
- Help foster the sharing and coordination of data and modelling experiences, and help compile standardized and consistent land-based datasets (LIDAR, land-cover, LCC habitat classification map);
- Support development of high-resolution maps (at 5 km) in conjunction with federal, provincial, state, municipal, and private entities;
- Re-engage GOMC on subfloor mapping of the entire Gulf of Maine, and fund sediment/habitat/deposits mapping;
- Include more representatives from the forestry and transportation infrastructure sectors on the GOMC and engage them in discussion of climate-related issues; and
- Work with New England Governors-Eastern Canadian Premiers on resolutions concerning climate adaptation planning.

This presentation summary will help guide development of a Climate Network Plan (to be completed by April 2014) describing high-priority climate-related projects for the GOMC and region. Participants at the initial CN gathering in Orono found the sharing of perspectives across sectors to be valuable, and expressed a desire for the CN to organize additional forums fostering dialogue between scientists and those in management and policy. Future gatherings would draw participants from a broader spectrum of sectors such as agriculture, public health, public outreach, wastewater management and energy transmission.

Presentations from the meeting are available on the GOMC website at:

<http://www.gulfofmaine.org/2/committees-and-programs/climate-change-network/>

Gulf of Maine Council on the Marine Environment

December 2013 • Committee Reports to the Council

Gulf of Maine Council on the Marine Environment Priority Projects in Need of Funding

GOMC Committee: Climate Network - Core Committee Functions

GOMC Committee Chair (s): Ellen Mecray, NOAA; Bill Appleby, EC

Recent Accomplishments (refer to Action Plan goals, activities and outcomes):

- 1) Bi-national, cross-sector meeting with 60 professionals from around Gulf region to discuss shared needs and outline possible actions for the GOMC Climate Network (supports Activities 1.3.1 and 2.33)
- 2) Compilation of Canadian climate-related data for entry into the neclimateus.org database (NExUS), which will become a regional resource for scientists and decision-makers to locate climate-related reports, plans, tools and organizations (supports Action Plan Activities 1.3.1; 2.3.1; and 2.3.2)

Description of Core Committee Functions:

Goals (refer to Action Plan Goals where appropriate)

1. Provide decision makers within the Gulf of Maine watershed (including those active in GOMC projects) with information to understand and prepare for climate-related impacts on ecosystems and human well-being (supports Action Plan Goals 1, 2 and 3)
2. Foster bi-lateral sharing of climate-related knowledge and complete collaborative, climate-related projects that support mitigation, resilience and planned adaptation (supports Action Plan Goals 1, 2 and 3)

Activities (refer to Action Plan Activities where appropriate)

1. Create and maintain (on the GOMC's Climate Network web pages) an informational clearinghouse where decision-makers can turn for climate-related, ecosystem-based tools, training opportunities (webinars, videos, etc.); data on regional climate impacts and outlooks; case studies; municipal adaptation guidance; and more (supports Action Plan Activities 1.2.3; 1.3.1; 1.3.3; 2.3.1; 2.3.3; 3.1.1; and 3.2.2)
2. Convene regular meetings of the Climate Network Steering Committee to foster collaborative project planning and regional exchange of climate-related information (supports Action Plan Activities 1.3.1; 2.3.3 and 3.2.2)
3. Manage grant-funded collaborative projects that foster ecosystem-based climate adaptation (supports Action Plan Activities 1.3.3; 2.3.1; 2.3.2; 2.3.3; 3.1.1; 3.2.2)
4. Keep Gulf of Maine Council members, Working Group and committees informed about Climate Network and relevant climate research and resources, particularly involving ecosystem-based approaches (supports Action Plan Activities 1.3.1; 1.3.3; 2.31; 2.3.3; 3.1.1; 3.2.2)

Outcomes (refer to Action Plan Outcomes where appropriate)

1. Decision-makers across sectors, levels of government and jurisdictional borders around the Gulf of Maine region have ready access to reliable data and resources on which to base mitigation and adaptation choices (supports Outcomes 2.3; 3.1; 3.2)
2. Communities around the Gulf learn from climate-related initiatives and best practices adopted by others in the region, making the process of mitigation and adaptation more cost-efficient, timely and sustainable (supports Outcomes 2.3; 3.2)
3. Communities around the Gulf better understand the economic and ecological costs/benefits/tradeoffs involved in climate mitigation and adaptation measures, and incorporate coastal and marine habitats and water quality into their climate-related planning and actions (supports Outcomes 1.1; 1.2; 1.3; 2.3; 3.2)

Gulf of Maine Council on the Marine Environment

December 2013 • Committee Reports to the Council

Measures of Success (how will committee's success be measured / evaluated):

- Traffic to its web pages (which will undergo a major upgrade in 2014) will be closely tracked (and visitor surveys will be administered to determine whether information is reaching the intended audiences)
- Reports on annual activities and grant-funded projects will be reviewed by the Council's Working Group
- Visitor use of/access to the Network's quarterly Climate Impacts and Outlooks

Budget for 1 Year of Core Committee Functions: \$41,000*

*based on current 6-month funding level of \$20,500 (all grant-funded)

**Gulf of Maine Council on the Marine Environment
Priority Projects in Need of Funding**

GOMC Committee (s): Climate Network – New Projects

GOMC Project Lead (s): Marina Schauffler, Climate Network Coordinator

Project Names/Descriptions:

1. Creation of an online informational clearinghouse with extensive climate adaptation/mitigation resources, data and guidance for decision-makers across governmental levels/sectors throughout the Gulf of Maine/Bay of Fundy region.
Need for this clearinghouse was affirmed at the September 2013 meeting of 60 climate-related professionals from different sectors and jurisdictions. While there are grants pending for elements of this, the Network will seek additional grants to create new resources for this clearinghouse; potentially make it more interactive (creating a Gulfwide Climate Community of Practice); and keep it updated over time.
2. Create outreach material on adaptation and planning for the general public, providing landowners and communities with examples of Best Management Practices (BMPs) related to climate change and with comparative cost-benefit analyses of adaptive changes
3. Support development of high-resolution maps (at 5 km) in conjunction with federal, provincial, state, municipal, and private entities;
4. Help foster the sharing and coordination of data and modeling experiences, and help compile standardized and consistent land-based datasets (LIDAR, land-cover, LCC habitat classification map);
5. Gather more information on costs/benefits/tradeoffs of climate adaptation, presenting better guidelines for economic valuation of possible adaptation measures for decision-makers in the watershed.
6. Encourage more citizen monitoring of climate change impacts, possibly organizing the expansion of the [Signs of the Seasons phenology project](#) Gulf-wide.

Project Timeframe (# of years):

The projects noted here will be undertaken in the coming 3-5 years. Within that timeframe, there will be another region-wide Climate Network gathering that sets priorities for the period following that.

Project Budget or Funding Range:

Budgets have not been developed for each of the above projects. Most of these projects can be divided into related sub-projects in order to achieve the larger vision through several smaller, sequential grants.

Potential Project Partners:

In its work to reach decision-makers around the Gulf, the Climate Network may set up informational feeds from its web pages to a wide range of agencies and NGOs that can help disseminate research data and resources within their regions. Potential partners in this network include provincial climate adaptation directorates; federal/provincial/state land use/infrastructure/coastal planning staff; Sea Grant offices; Atlantic Coastal Zone Information Steering Committee; state associations of land trusts and conservation commissions; municipal associations (and specialized associations of public works directors, transportation staff and emergency management personnel); national estuary program partners; and national estuarine research reserves.