SEARCH Sea Ice Action Team

Strategy Task Force Workshop Summary

The SEARCH Sea Ice Action Team (SIAT), led by Jennifer Francis (Rutgers University) and Henry Huntington (Huntington Consulting), hosted its first workshop on September 9-10, 2015 in Bristol, Rhode Island to develop a strategy to support the Action Team’s primary focus on science communication. Workshop participants—the Strategy Task Force—spent two days discussing and designing a new approach for mobilizing the research community to organize, synthesize, and disseminate scientific knowledge for informing a broad range of Arctic sea ice stakeholders.

Key elements emerged as the basis for a strategy:

1. Establish and promote SEARCH and the SIAT as a trusted source of information about Arctic sea ice and impacts of its loss. Target audience: all levels of users, including the general public, media, decision-makers, and scientists;
2. Develop sustained and sophisticated dialogues (e.g., moving beyond over-simplifications, such as less sea ice directly and solely translating to more Arctic shipping) between the Arctic research community and decision-makers, thus providing tangible examples of SEARCH’s mission of “knowledge to action”;
3. Empower science’s natural allies—the science-savvy public, journalists, and non sea-ice scientists—with up-to-date summaries of relevant events, important research papers, graphics, and data sources to extend the task of Arctic science communication beyond the sea-ice research community;
4. Co-communicate the importance, process, and state-of-the-art (e.g., the unique approach of the Sea Ice Outlook) of Arctic research using a range of voices beyond those of scientists—e.g., key stakeholders, citizens, and students;
5. Systematically collect and analyze user input and feedback, and remain adaptive to ensure an evolving relevance to current events, user needs, and a changing Arctic research landscape;
6. Complement and avoid duplication of information provided by related organizations and resources, such as IARPC, NSIDC, Arctic Hub, ACCAP, and the Arctic Sea Ice Blog; and
7. Promote a framework for sea ice science communication and engagement to inform new and existing funding opportunities for scientists to engage with SEARCH, the SIAT, and partner organizations.

The core product of the Action Team’s strategy will be a website, titled *Sea Ice Matters*. The key purposes and functions of the website will be to:

1. Organize sea ice information across a series of high-level topics organized under the heading “Sea Ice and...” (e.g., Sea Ice and Marine Ecosystems, Sea Ice and Your Weather, Sea Ice and Society, Sea Ice and Oceans, Sea Ice and Land Ice, etc.) to comprehensively communicate why and how sea ice matters;
2. Provide tiered access to information (summary content, data, publications, graphics, op-ed-style perspectives, etc.) via a hierarchical, pyramid structure based on increasing levels of scientific complexity toward the base of the pyramid, therefore, ensuring efficient entry points for users of various interests, scientific knowledge bases, and “band-widths”. This resource is not intended to serve as a clearinghouse for data and information, but rather will organize information of greatest societal relevance with clear linkages to supporting scientific data and findings;

3. Offer a source of collaboratively developed, peer-reviewed, and concisely edited scientific content on “hot topics” (e.g., one-pagers) supported by links to basic information, which will serve to coordinate the scientific community, disseminate important findings to broad audiences, and provide a take-away “go-to” resource for decision-makers and the media;

4. Facilitate and host guest perspectives from across both the science and stakeholders communities—e.g., guest essays from unique sea-ice experts, such as barge captains or native hunters, and summaries from scientists about their latest research findings;

5. Provide a source of timely scientific information (via Rapid Response Teams—see details below) in response to emerging high-interest topics, such as notable weather events with potential links to the Arctic, new sea ice records, recent high-profile science publications, or man-made events (e.g., ships trapped in the ice);

6. Gauge success through strategic outreach (e.g., on social media and at high-level science meetings) and user feedback via solicited in-person expert interviews, built-in polling questions, and website analytics; and

7. Develop information and content that is multi-use and transferable so that it can be used in other formats and venues, such as synthesis reports, museum exhibits, social media outlets, power-point presentations, print material, workshops, etc.

The strategy and resulting efforts needed to maintain Sea Ice Matters as an up-to-date trusted resource will require organizing the SIAT and the broader science community appropriately. The SIAT will maintain membership at three different levels. At the top-level, the core SIAT will advise on the overall development of Sea Ice Matters and other SIAT initiatives. For each high-level sea ice topic on the website, a Topic Team will be recruited to produce, collect, and organize science content (primarily static material) to populate an information pyramid. A subset of the Topic Teams will be asked to serve on Rapid Response Teams, each with a point-of-contact/coordinator, for providing timely and up-to-date information on emerging sea ice topics.

Where possible, the SIAT will explore supplemental opportunities to build greater connections between the Arctic research and stakeholder communities, for example, by:

1. Enhancing Broader Impacts and public knowledge of sea-ice related information. Two-way interactions between scientists and decision-makers will be facilitated through development of resources for scientists to effectively engage with decision-
makers and direct feedback to the science community on the usefulness of science-based information supplied to specific stakeholders.

2. Facilitating a complementary strategy for synthesis products, which could draw on the expertise and science products from other SEARCH Actions Teams as well as the experiences of key user groups with whom we’ve been able to evaluate the usefulness of the Sea Ice Matters website.

Next Steps:

1. Continue to engage with the Strategy Task Force, which have all enthusiastically agreed to more formally join the SIAT and, therefore, to provide guidance throughout the next phase of implementing the SIAT strategy.

2. Request to present and gather feedback on the SIAT's communication strategy (1) at the upcoming SEARCH SSC in-person meeting, (2) as a topic for an IARPC Collaborations webinar, and (3) during the SEARCH Town Hall at the AGU Fall Meeting.

3. Develop a prototype website to demonstrate the full concept for the Sea Ice Matters website, and provide demos for information pyramids related to “Sea Ice and Ecosystems” and “Sea Ice and Your Weather”.

Please send comments and feedback to:
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1 [http://www.arcus.org/search-program/sea-ice](http://www.arcus.org/search-program/sea-ice)

2 Science communication is seen as an end in itself, as well as a means to drive science collaboration and coordination around the following types of questions:
   - Why sea-ice is diminishing and what processes determine the rate of change?
   - What are the linkages between a changing polar region and lower latitudes?
   - When is a seasonally ice-free or greatly ice-diminished Arctic Ocean expected?
   - What are the most important impacts of sea ice loss on social-ecological systems?

3 **Strategy Task Force:**
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   - Matthew Druckenmiller (SIAT science communicator), Rutgers University & the National Snow and Ice Data Center, Boulder, CO
   - Lawrence Hamilton, University of New Hampshire, Durham, NH
   - Bob Henson, Weather Underground, Boulder, CO
   - Marika Holland, National Center for Atmospheric Research, Boulder, CO
   - Martin Jeffries, Office of Naval Research, Arlington, VA
   - Brendan Kelly, Monterey Bay Aquarium, Monterey, CA
   - Don Perovich, Cold Regions Research and Engineering Laboratory, Hanover, NH

3 The name *Sea Ice Matters* was directly inspired by the National Academies’ Polar Research Board’s recent booklet—[Arctic Matters](http://nas-sites.org/americasclimatechoices/more-resources-on-climate-change/arctic-matters—the-global-connection-to-changes-in-the-arctic-2/)—which provides a primer on ways the Arctic affects people and societies.