Updated Final Workshop Plan and Agenda

“Arctic Crisis Wx...Finding Better Meteorological Planner and Forecaster coordination”

23 May 2019
University of Alaska Anchorage

Plan Overview

The following is the updated draft agenda for a follow-on “Arctic Crisis Wx...Finding Better Meteorological Planner and Forecaster coordination” focused workshop that provides an opportunity for participants to join following a prior ADAC Arctic-related Incidents of National Significance (Arctic IoNS) workshop.

The preceding Arctic IoNS workshop is oriented to a sequential/two phase “marine response effort, then littoral region disaster response” scenario. The title of the associated Arctic IoNS workshop is entitled “Stressing the system...managing a complex Arctic crisis response.” ADAC Arctic IoNS workshops are oriented to a specified methodology of soliciting and assessing current capability areas identified by U.S. Coast Guard to identify shortfalls in science, technology and knowledge products in order to solicit proposals and fund projects to conduct research addressing workshop identified shortfalls. Details and agenda of the ADAC Arctic IoNS plan can be obtained by emailing ADAC Executive Director, Randy “Church” Kee at rakee@alaska.edu

The Arctic Crisis Wx...Finding Better Meteorological Planner and Forecaster coordination workshop is currently planned as a “next day” 1-day focused workshop, specifically timed to provide an opportunity for professionals from the meteorological community participating in the Arctic IoNS
event, to pause and examine ways to improve communication and coordination within the community through focusing on several Arctic scenarios. The initial catalyst for having such discussions among the meteorological community generated from the August 2018 Arctic Maritime Symposium hosted by Alaskan Command (a sub-unified command to the United States Northern Command) at Joint Base Elmendorf-Richardson in Anchorage, where participants considered that severe meteorological events in the changing Arctic are rising and likely more impactful to a growing number of national interests. Additionally, having such a workshop is was a somewhat natural follow-on the mid-April 2019 Meteorological Services Interagency meetings hosted by the National Oceanic and Atmospheric Administration Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM).

**Planned outcomes:** Improved understanding of how the community of meteorological planners and forecasters prepare and respond to a variety of Arctic-oriented crisis. In keeping with ADAC hosted venues, this workshop seeks international participation, in particular, from our Canadian allies, who often are addressing similar problem sets across the Canadian High North.

**Planned format:** a series of scenarios, presented in roundtable format, providing each community of participants to relay how they prepare and respond to the scenario under current policies and guidelines, and potentially how they would prefer to respond. Each scenario will also relay approaches for improved coordination among responding communities. If needed to improve coordination and frankness of discussion, Chatham House protocols of non-attribution can be declared by workshop hosts.

The workshop provides an opportunity to examine presented scenarios in terms of shortfalls in respective agencies, and opportunities to address improved coordination in response, from among those departments and agencies who normally are tasked in providing support of meteorological conditions forecast of the response.

As the preceding Arctic IoNS workshop uses fictitious (but intended as realistic) scenarios, the Arctic Crisis Wx...Finding Better Meteorological Planner and Forecaster coordination workshop plans to utilize approximately 5 Arctic scenario “use cases” to principally focus on the following areas:

1. Assess current baseline of meteorological operational models effectiveness in precision forecast of parameters essential for operational decision making, oriented to Arctic Alaska.
2. Investigate meteorological models associated from non-U.S. federal systems from Federal affiliates, academic/institutional, commercial and/or international, that would be used in an Arctic regional response.
3. Assess current baselines and limitations in ocean and atmospheric observations in remote regions of Arctic (and Arctic Alaska).
4. Assess baselines and limitations in satellite derived imagery to ascertain crisis area meteorological conditions in an Arctic regional response.
5. Determine areas for improved collaboration between response agencies in addressing the scenario.
7. Design an initial framework/road-map, which would result in an overall better response by the community of response agencies (partnered by the volunteering “non-response” organizations.

Through a guided seminar plenary session, participants will consider and discuss understandings and identified areas of concern aligned with the identified *Elements of focus* associated with each workshop scenario.

Following the plenary session, workshop participants plan to address the address *Elements of focus* via a roundtable format, sequentially oriented each workshop scenario.

Associated with these roundtable session, participants are asked to consider the following aspects:

1. Warranted improvements (if any) in existing organizational approaches to with ocean and atmospheric monitoring & forecast in responding to a maritime response operation or wide-scale regional disaster?
2. Recommended needs and potential solutions to science and technology in support of meteorological planners & forecaster.
3. New partnering and collaboration relationships which would improve response operations or wide-scale regional disasters.

The output of this “workshop will be a stand-alone “Rapporteurs report” which contain workshop proceedings, and relevant research recommendations.

A collateral outcome is to establish a new network of subject experts likely to understand the scope of challenges posed by this particular “crisis coordination meteorological response”, which could prove invaluable in identifying in the near term, better response collaboration, and over the longer term, new and innovative solutions.

On 23 May 2019, ADAC warmly welcomes “Arctic Crisis Wx...Finding Better Meteorological Planner and Forecaster coordination,” at the Lucy Cuddy Center at UAA. The following provides the initial details of the agenda

**Planned Agenda (all times Alaska Daylight Time)**

**Thursday, 23 May 2019**

0730- 0800  Registration, and workshop logistics payment.  Lucy Cuddy Center, UAA main campus.  *Note, continental breakfast, coffee, tea and snacks served throughout the workshop, with lunch provided.*

0805-0815  **Welcome and Introductions:**  ADAC Executive Director Church Kee and Principal Investigator, Dr. Doug Causey and Dr. Holly Dockery, Sandia National Labs

0815-0825  **Welcome by UAA Chancellor:**  Dr. Cathy Sandeen
0825-0845 Why it matters: Reflections on the strategic and the long-term potential for the workshop outcomes by Mr. Carven Scott, National Weather Service, Alaska.

0845-0905 Review of Arctic Environmental Services Meeting and implications to “Arctic Crisis Wx...Finding Better Meteorological Planner and Forecaster coordination” by Michael Bonadonna, Acting Federal Coordinator, Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM), NOAA.

0905-0915 Background and Workshop Goals/Outcomes: ADAC ED Kee outlines workshop approach to seeks to advance an array of factors to improve crisis coordination among the community of weather related planners and forecasters who support operational decision-making, principally in disaster response and humanitarian assistance mission-sets.

Strategic Overview of the proceeding events: Note each participant is assigned to a breakout group for the morning and a different group for the after lunch sessions.

Each scenario will be presented to the workshop in whole, then each breakout group will discuss in detail. ADAC is planning approximately 4 breakout groups of 5-8 people to discuss each scenario. Each breakout group will have both a recorder and moderator.

Currently planned moderators:
- Dr. Doug Causey, ADAC
- Dr. Holly Dockery, Sandia National Labs
- Ellee Matthews, ADAC
- Jason Roe, ADAC

Recorders: ADAC Fellows.

0915-0930 Introductions in respective breakout groups.

0930-0940 Scenario #1: Overview. Significant Bering Sea Storm during the height of crab fishing, resulting in a number of Search and Rescue for foundering vessels. The severity of the storm causes complications in responding and exceptional low pressure, heavy winds and high seas creates complications to aircrew, which include their having to conduct adjustments to aircraft instruments which cause elevated safety concerns to the pilots and dispatching leadership.
Specific concerns associated with Scenario #1 (discuss within Breakout Groups):

1. Ability to forecast regions with increased probabilities/risks ocean waves
   - Roundtable discussions
2. Ability to use ocean current modelling in the U.S. Arctic region to determine rate and direction of drift for unpowered vessels.
   - Roundtable discussions
3. Addressing response forces meteorological needs, in order to allow improved decision in decision maker “go/no-go” determination in dispatching response vessels/vehicles.
   - Roundtable discussions
4. Assessing “what data is needed” and associated quantity of such data to improve forecasts.
   - Roundtable discussions
5. What communications and domain awareness/domain understanding needs (and decision management tools) are needed by the ocean and atmospheric monitoring and forecast community to improve support associated the scenario?
   - Roundtable discussions

1025-1040 Break

Scenario #2: Overview. A severe late July fire in Interior Alaska threatens Eielson Air Force Base and the community of North Pole, necessitating a large rescue effort and maximum effort to preserve property. Due to unusually dry spring, natural water sources in the local area are greatly diminished. Strong winds whip flames, which create fast advance of the fire lines and outpace responding personnel. Heavy smoke and dangerous air quality, force evacuation of base dependents away from the base, complicated by the fact the greater Fairbanks tourist season creates limited options for evacuated personnel.
Specific concerns associated with Scenario #2 (discuss within Breakout Groups):

1. Addressing response forces meteorological needs, in order to allow improved decision in decision maker “go/no-go” determination in dispatching response vessels/vehicles.
   - Roundtable discussions

2. Assessing “what data is needed” and associated quantity of such data to improve forecasts.
   - Roundtable discussions

3. What communications and domain awareness/domain understanding needs (and decision management tools) are needed by the forecast community to improve support associated the scenario?
   - Roundtable discussions

Session #3: Overview. A new “adventure class” cruise vessel with 500 souls aboard in the eastern Beaufort Sea headed for the NW Passage encounters unexpected mechanical failure just after encountering more severe than expected storm. A number of passengers, unprepared for the difficulties of the storm and effects on the transit, become ill beyond the ability for the crew to cope, necessitating a response and rescue from USCG and Canadian Coast Guard. Due to infirmities of these passengers, transiting them from the ship to alternative conveyance becomes nearly impossible, complicated by the difficulties of the weather. Responders are trying to determine, how to best position slow the vessel’s drift and secure lines to effect a rescue of the patients in greatest need of medical care.
Specific concerns associated with Scenario #3 (discuss within Breakout Groups):

1. Addressing response forces meteorological needs, in order to allow improved decision in decision maker “go/no-go” determination in dispatching response vessels/vehicles.
   - Roundtable discussions
2. Assessing “what data is needed” and associated quantity of such data to improve forecasts.
   - Roundtable discussions
3. How to leverage weather information to effect securing of the drifting vessel.
   - Roundtable discussions
4. What communications and domain awareness/domain understanding needs (and decision management tools) are needed by the forecast community to improve support associated the scenario?
   - Roundtable discussions

Lunch is served

Return to new breakout groups...make new introductions

Session #4 Overview. Due to a severe storm across Southwestern Alaska the Yukon-Kuskokwim Delta receives significant flooding, necessitating a wide area rescue of people across a geographically dispersed area. Complicating matters is river flooding, as the storm moves inland and causes the rescue needs to become more acute. Village elders and children compromised by accumulative effects weather and stress of loss of home and belongings are in particular need of medical care.
Specific concerns associated with Scenario #4 (discuss within Breakout Groups):

1. Addressing response forces meteorological needs, in order to allow improved decision in decision maker “go/no-go” determination in dispatching response vessels/vehicles.
   - Roundtable discussions

2. Assessing “what data is needed” and associated quantity of such data to improve forecasts.
   - Roundtable discussions

3. Assessing how to advise medical responder’s cumulative effects of weather stresses affecting local community.

4. What communications and domain awareness/domain understanding needs (and decision management tools) are needed by the forecast community to improve support associated the scenario?
   - Roundtable discussions

1420-1430 Break

1430-1440 Session #5 Overview. A new flu strain hits the community of drillers and operators in the vicinity of Prudhoe Bay, which becomes alarmingly acute. Similar to the Spanish Flu Epidemic in 1918, the most fit and capable people (which categorizes the bulk of the population) become the most severely affected. However, due to a perpetual cycle of winter storms, visibility to evacuate personnel from the airport is becoming problematic to and increasingly difficult.
1440-1525 Specific concerns associated with Scenario #5 (discuss within Breakout Groups):

1. Addressing response forces meteorological needs, in order to allow improved decision in decision maker “go/no-go” determination in dispatching response vessels/vehicles.
   - Roundtable discussions

2. Assessing “what data is needed” and associated quantity of such data to improve forecasts.
   - Roundtable discussions

3. What communications and domain awareness/domain understanding needs (and decision management tools) are needed by the forecast community to improve support associated the scenario?
   - Roundtable discussions

1525-1540 Break

1540-1620 Roundtable to address Elements of focus via a roundtable format, sequentially oriented to previous scenarios.

- Warranted improvements (if any) in existing organizational approaches to meteorological planners and forecasters in responding to scenarios?

- Recommended needs and potential solutions to science and technology in support of ocean and atmospheric monitoring & forecast responders?
• New partnering and collaboration relationships which would improve response to the scenarios?

1620-1630 Recap and conclusions ADAC Executive Director Church Kee and Principal Investigator, Dr. Doug Causey and Dr. Holly Dockery, Sandia National Labs

1630-1645 Recommendations and way ahead ADAC Executive Director Church Kee and Principal Investigator, Dr. Doug Causey and Dr. Holly Dockery, Sandia National Labs

**Workshop Logistics Information**

• **Hotel Accommodations:**
  - Springhill Suites (on campus at UAA) Primary room block

  **Arctic IoNS**

  **Start date:** 5/19/19  
  **End date:** 5/24/19
  **Last day to book:** 4/30/19
  Marriott hotel(s) offering your special group rate:
  - **SpringHill Suites Anchorage University Lake** for 209.00 USD per night

    - **Book your group rate for IONS**

  - Billeting: Joint-Base Elmendorf-Richardson (for U.S. military members as desired)
  - Numerous Anchorage area hotels (including downtown Sheraton, Hilton, Captain Cook, and name brand Hotels in Anchorage “mid-town”)

  **ADAC: Research for the Arctic Operator...For Today and For the Future**
• **Meals and beverages:**
  - ADAC is providing reception, meals, snacks and beverages for the workshop as a courtesy and a way to facilitate onward collaboration. These meals are optional; however, if you have specific dietary needs please let us know so that we can try to accommodate. All of the common dietary restrictions (vegan, vegetarian, gluten free, no dairy), we are already working to accommodate.

• **Registration:**
  - ADAC will have a registration site forthcoming and will provide a link for attendees to register.
  - In order to defray costs, the Center is requesting a workshop donation of $30 per person.

• **Transportation:**
  - **Air:** Ted Stevens International Airport. Major Airlines with international connections to Continental United States in late October: Alaska and Delta Airlines. Flights from Europe: Icelandic Airlines (via Seattle). Flights from Washington DC normally connect via Minneapolis, Seattle or Portland, OR.
  - **Ground:** UAA Shuttle, rental cars (via Ted Stevens airport), Taxi and now Uber (although limited).

• **Weather:** May is early spring season in Anchorage.
  - **Temperature:** Average high of about 58 degrees F, Average low of about 41 degrees F, overall average is about 50 degrees F
  - **Sunrise** at approximately 5 a.m. and sunset at about 10:55 p.m.
  - **Cloud cover:** Weather is very likely to be cloudy to some degree, but also likely to be sunny. It is extremely unlikely that it will snow.
Conclusion

Following the Arctic IoNS workshop, ADAC will prepare and coordinate the release of the Rapporteur’s report as a stand-alone knowledge product and stands ready to support follow-on requests.