

# Arctic Weather and Hazards Predictions Groups

**What are actions recommended for NOAA to improve Arctic weather and hazards predictions and related services between now and 2020?**

- PRIORITY: Outreach to the end users so they can receive and send data/information (Alaska native communities, emergency management, fishing fleets, fuel-resupply, aviation, public safety, oil/gas companies, tourist companies, recreation groups, etc.); develop a cooperative observer network?

# What are actions recommended for NOAA to improve Arctic weather and hazards predictions and related services between now and 2020?

- PRIORITY: Improve spatial and temporal coverage of in situ and remote observations of basic environmental parameters for lower troposphere, surface, and upper ocean for initialization and validation of models, eg. profiles of basic meteorological parameters, surface temperature, sea state, snow cover, ice thickness/concentration, etc.

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- PRIORITY: Start running a coupled slab ocean-atmosphere-ice research model now to assess sensitivity of weather prediction skill to coupling

## **Arctic Weather and Hazards Predictions Groups**

### **What are actions recommended for NOAA to improve Arctic weather and hazards predictions and related services between now and 2020? (Continued)**

- Develop an Arctic inventory/index that links to ready-to-use/accessible data from all countries for end users and modelers, and indicate its applicability, i.e., forecasting for storm surge, etc.
- Develop robust archive of data analyses and products (input data, output data and products, observations)

## **What are actions recommended for NOAA to improve Arctic weather and hazards predictions and related services between now and 2020? (Continued)**

- Improve communication between sea ice and atmospheric modelers (“need to couple the modelers before coupling the models” - P. C.-C.)
- OAR/NWS/NESDIS leaderships to IMMEDIATELY identify resources and/or ongoing activities as a contribution to support YOPP efforts
- NOAA/NWS needs to make Arctic modeling improvement a high priority and accelerate capabilities to operations in preparation for the 2017 YOPP (i.e., utilization of new Arctic Test Bed)

# How can NOAA work together with partners to achieve this progress?

- OAR/NWS/NESDIS to work closely with IARPC/CLIVAR/NOPP to IMMEDIATELY identify resources and/or ongoing activities as a contribution to support YOPP efforts
- Request that NASA and NOAA block significant time during critical periods, i.e., sea ice transition, of Global Hawk and P3 usage for Arctic surveys as well as UAS and other airborne capabilities

# How can NOAA work together with partners to achieve this progress? (contd.)

- Ask USAF to provide ABI to Canadian Space Agency (CSA) for launch of Polar Communication and Weather (PCW) Mission.
- Expand capabilities of the U.S. Interagency Arctic Buoy Program to observe atmospheric, sea ice, and oceanic parameters

# How can NOAA work together with partners to achieve this progress? (contd.)

- Expand capabilities of NOAA@NSIDC to archive and distribute Arctic observational data



# What would be metrics indicating that NOAA has made progress in these areas?

- Appropriate metrics do not exist. Therefore, we recommend:
  - Identification and use of appropriate outreach channels to end users
  - Define Arctic-specific GPRA goals and strive to have the ones that overlap with the lower-48 GPRAs to be commensurate
  - Develop measures for model verification in the Arctic

## **What are initial recommended actions? (We have 4)**

1. Initiate an Arctic Forecast Improvement Program; this would include internal NOAA procedures to commit resources to observational and modeling priorities as identified above and enhance Congressional briefings aligned with OSTP/IARPC initiatives
2. Outreach to local residential communities (to include UMIAQ, radio stations, webinars, apps) to assure bidirectional receipt/usability of weather forecasts and warnings

# What are initial recommended actions?

3. NOAA fully commit to supporting PPP/YOPP efforts through funding research opportunities, ship/aircraft time, open/online/interactive data archival, and intensive observation periods. As part of that commitment, full resolution operational model output for the Arctic should be widely distributed/available for improved operational prediction capability.
  4. Commit long-lead funding to a joint US/Canadian PCW Mission for a 2019/20 launch.
- (The end...are there any questions?)