MSC Forecast Support for STARS

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What is the planned STAR research with respect to MSC Forecast Operations ?

STAR project will give us scientific feedback in real time on our forecasts AND on our guidance material for southern Baffin Island, its communities, and Hudson Strait.

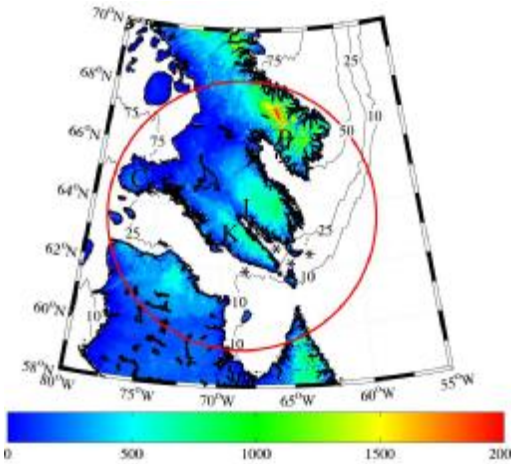
STAR project will give us insight on the impacts of various weather events on the people of the communities.

STAR project will put us in Iqaluit for direct contact with a host of forecast users including Nav Canada personnel, aviation operators, Canadian Coast Guard personnel, and ship people.

STAR project will serve as a key prototype for weather operations to support of arctic (IPY) science.

IPY is the catalyst that we have been waiting for to make improvements to what is “out there” for science and the people of the north.

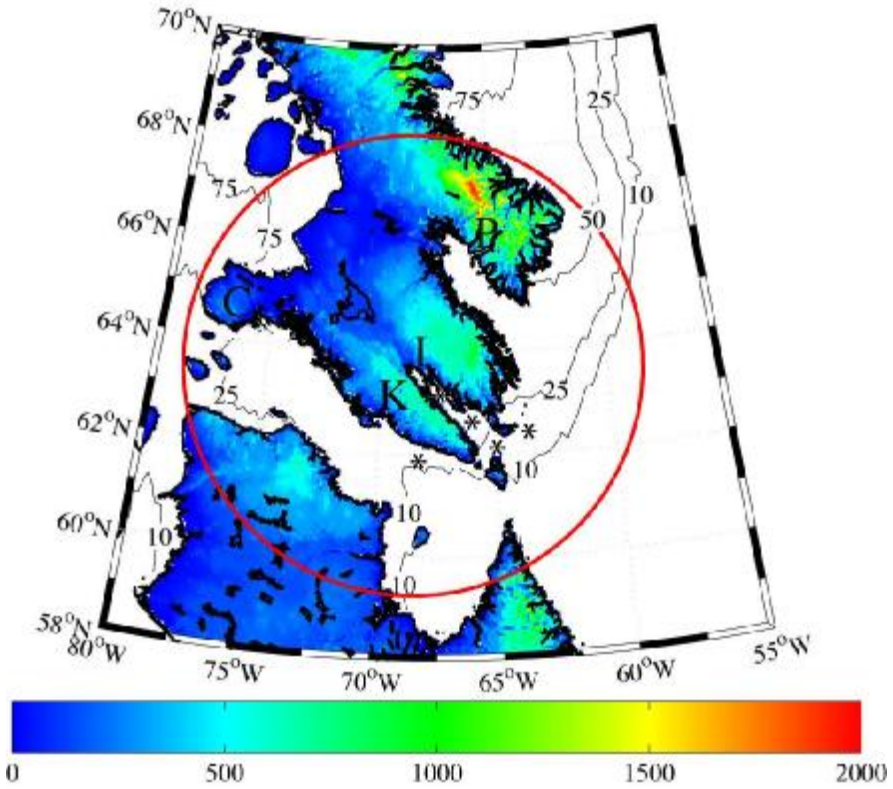
Legacy is expected to be a suite of products for those living, working, and doing science in the north.



Why is this important ?

We want to improve our forecasts.

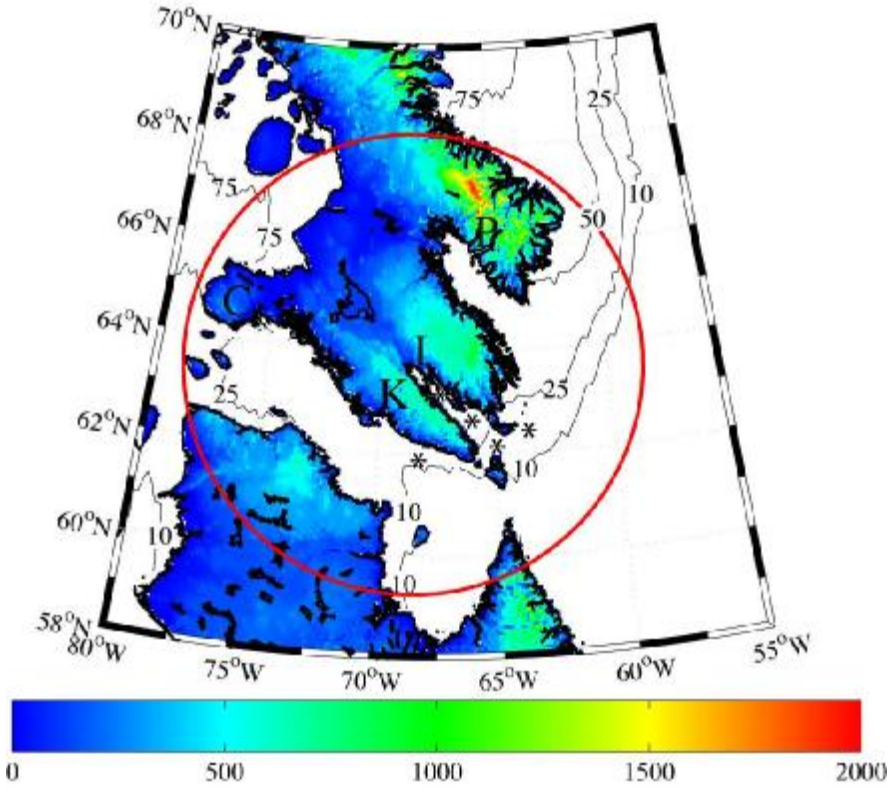
We want to go the next steps in understanding the “science” of the storms that we see so that we can do this.



How will it be conducted ?

By being part of the team by:

- Providing products and forecasts to STARS researchers
- Participating in two way discussions and feedback
- By receiving real time and post event data from STARS researchers



Support for the STARS project has already started

FOCN45 CWWG - Discussion of High Impact Weather for PASPC's Prairie and Arctic realm can be accessed on various web sites.
http://asp1.sbs.ohio-state.edu/text/canada/FOCN45.CWWG
http://twister.sbs.ohio-state.edu/text/canada/FOCN45.CWWG

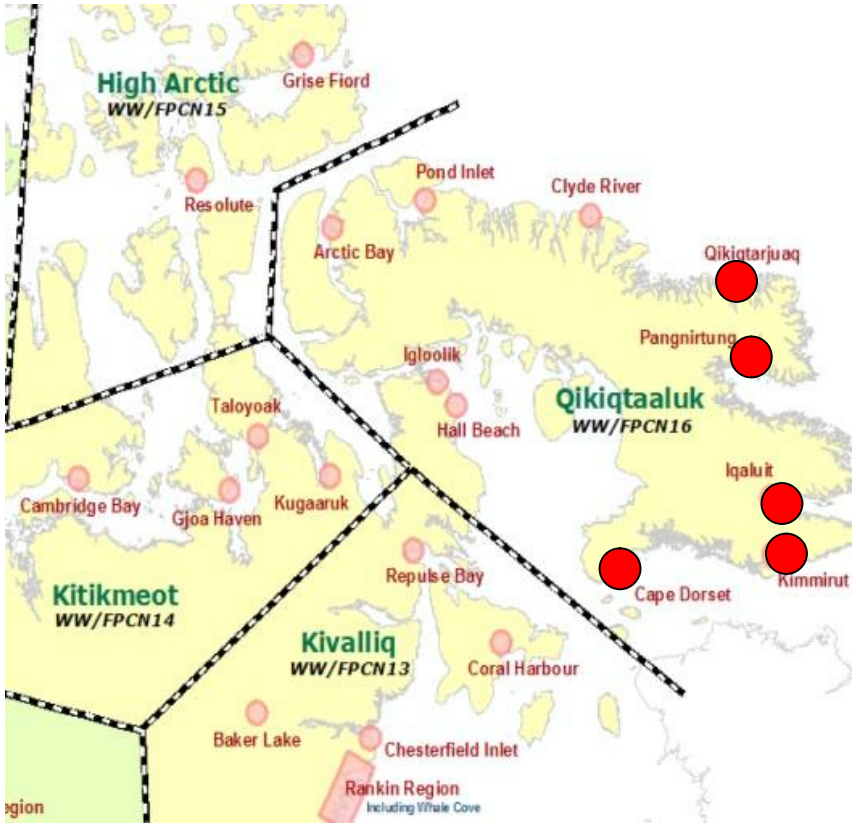
e.g. ARCTIC DISCUSSION...LOW MOVING ACROSS HUDSON STRAIT WILL MAINTAIN BLIZZARD CONDITIONS AND STRONG WINDS OVER CAPE DORSET INTO THIS AFTERNOON. WINTER STROM WARNING HAS BEEN ISSUED FOR IQALUIT AS STRONG WINDS (SELY 60 KM/S) AND NEAR BLIZZARD CONDITIONS ARE EXPECTED TO DEVELOP.

http:weatheroffice.ec.gc.ca - The MSC public web site provides, for example, prognostic charts, surface and upper air analyses, satellite photos, public and marine forecasts, aviation forecasts (TAFS and graphical depictions), and wind visualizations for marine areas.

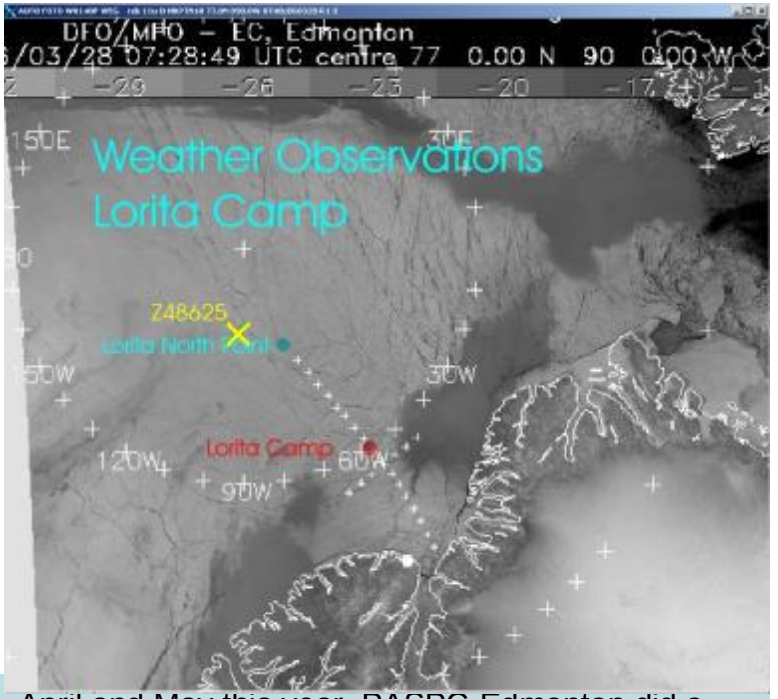
Access to the forecasters - STARS researchers have been given access to the forecasters who write the marine and public forecasts for the STARS realm.

Public forecasts for STAR sites are in place

Public forecasts for fixed IPY science sites may be possible but only for sites that provide us real time feedback (observations)



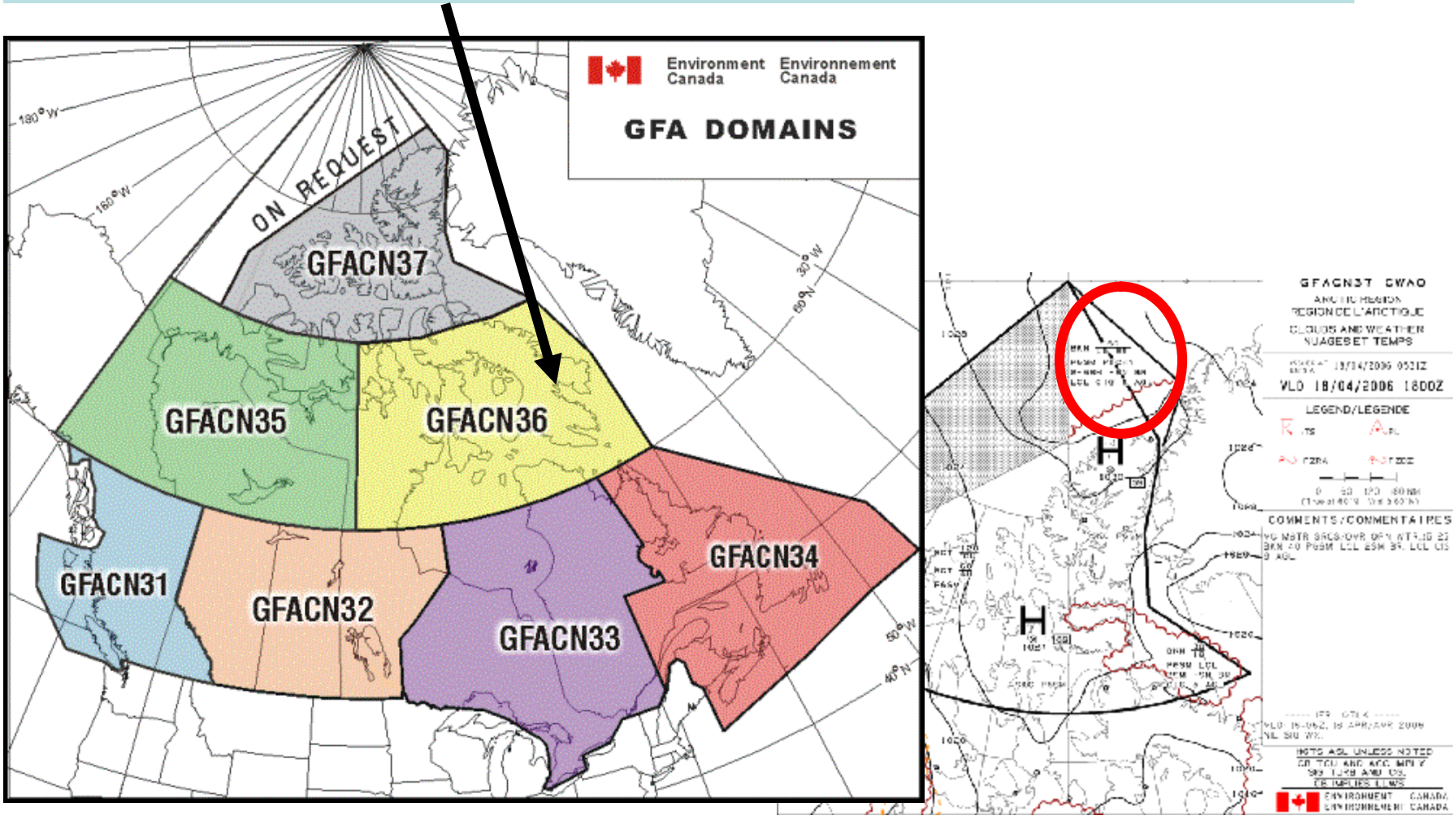
The Prairie and Arctic Storm Prediction Centre (PASPC) is located in Edmonton and Winnipeg. Effective 18 December the Baffin area public and marine forecasts will be done in Winnipeg.



April and May this year, PASPC-Edmonton did a public forecast for a Lorita ice camp site north of Ellesmere Island.

There was a buoy there so we got continuous temperature information and we got the occasional "person" observation. Both the human forecasters and the numerical models need to see a site for a period of time to have a chance to do a decent job of predicting the weather at that site.

Graphical aviation forecasts for the STAR area are in place (0, 6, and 12 hour depictions). TAFs are done for CYFB, CYTE, and CYVM

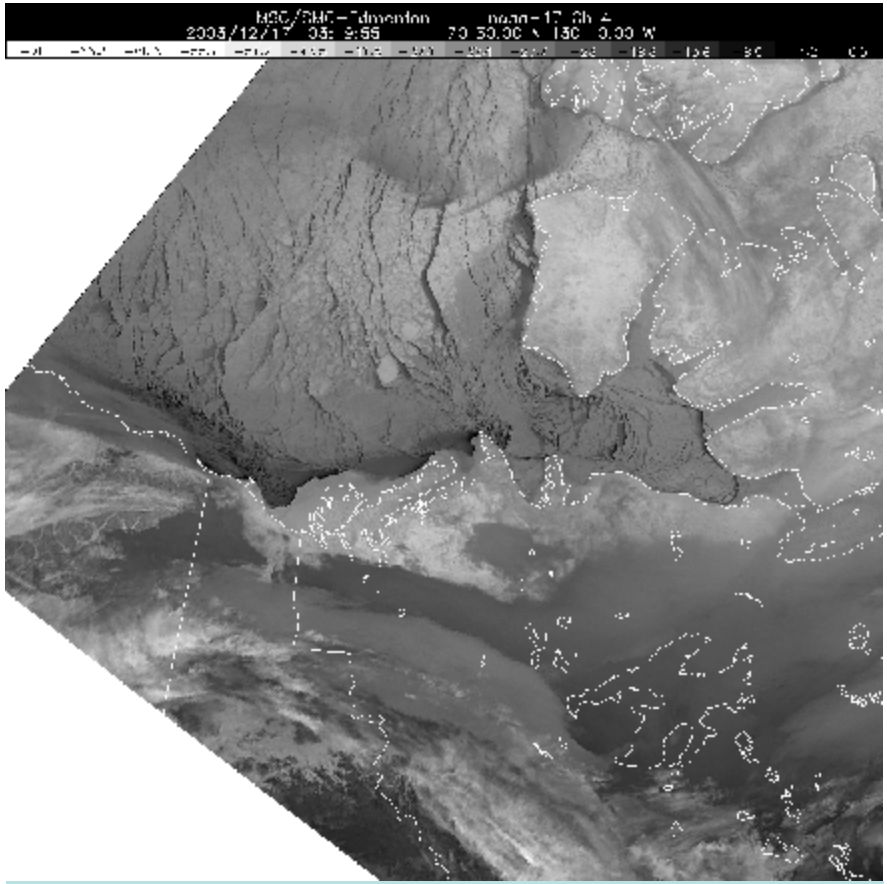


Aviation forecast realm, Canadian Meteorological Aviation Centre located in Edmonton and Montreal

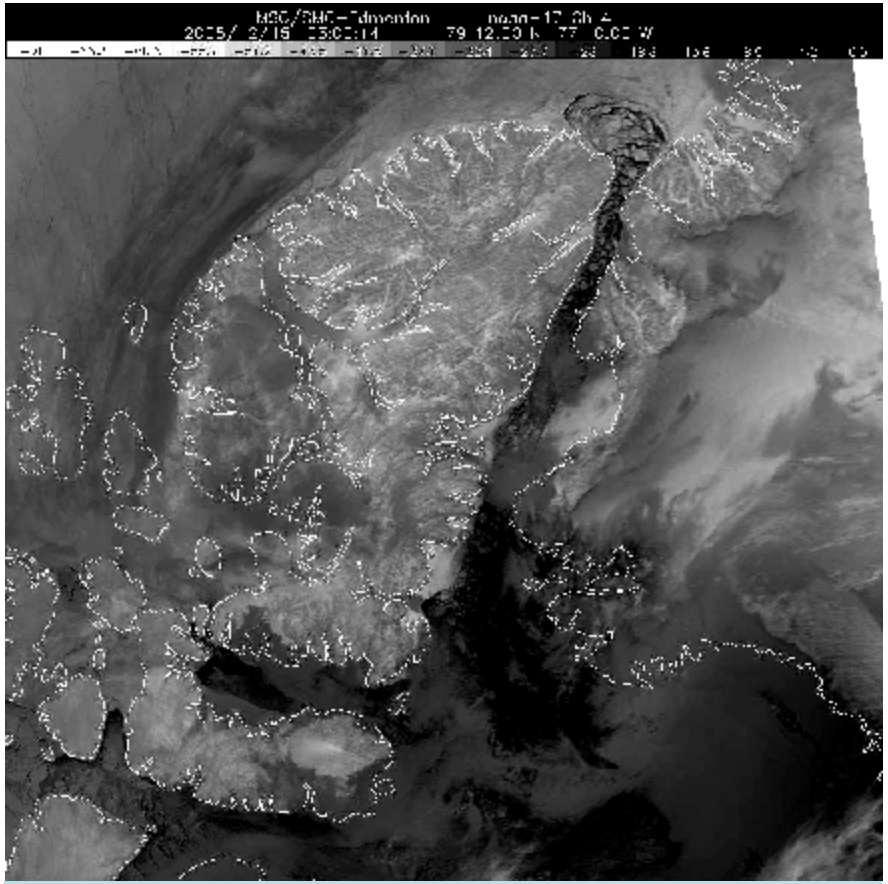
April and May this year we extended the GFA realm to accommodate the Danish and Canadian scientists working the **Lorita area**.

Marine Forecasts: As long as there is marine activity in the STAR marine areas, there will be marine forecasts.

Custom Baffin satellite mappings are being developed for the STARS project.



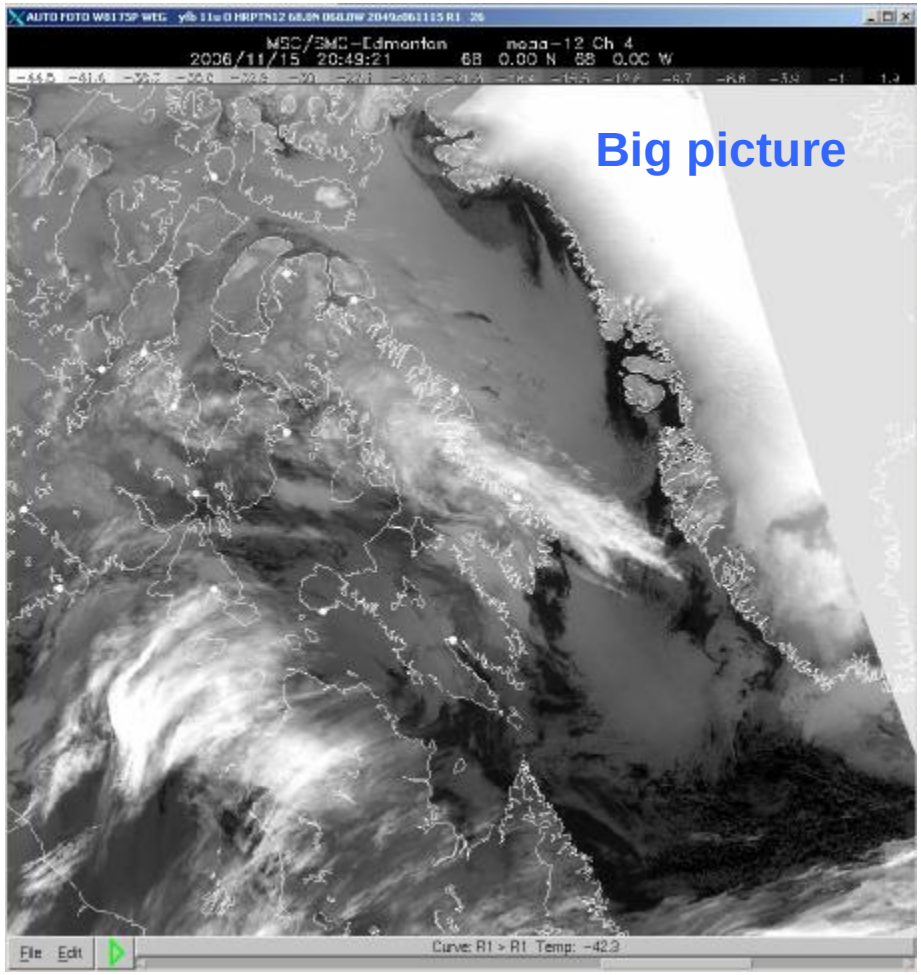
During the CASES field period, a “Beaufort mapping was ftp’d to Dr John Hanesiak, University of Manitoba

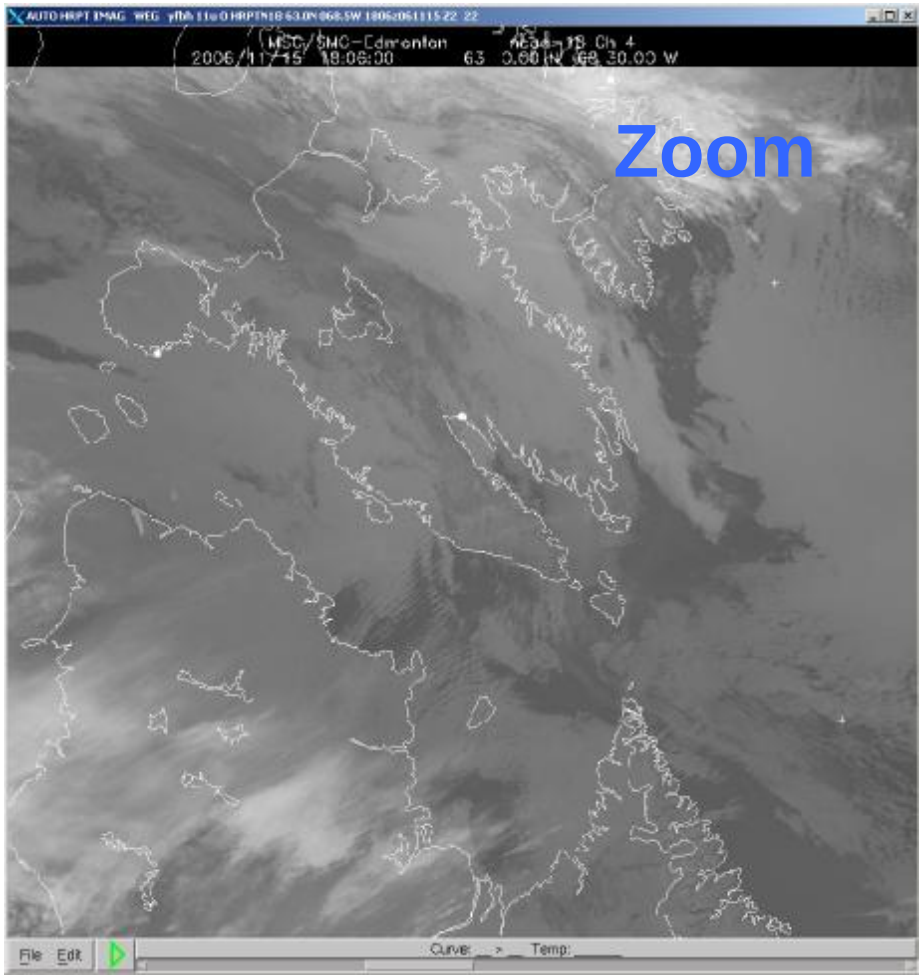


Ongoing - For the past few years, a “Nares” mapping has been ftp’d to a site at the Institute of Ocean Sciences for Dr. Humfrey Melling (CATS, ASOF-West) and et al.

Satellite Imagery: POES facility in Edmonton and we share a facility in Resolute with Fisheries and Oceans

Sample Baffin Mappings

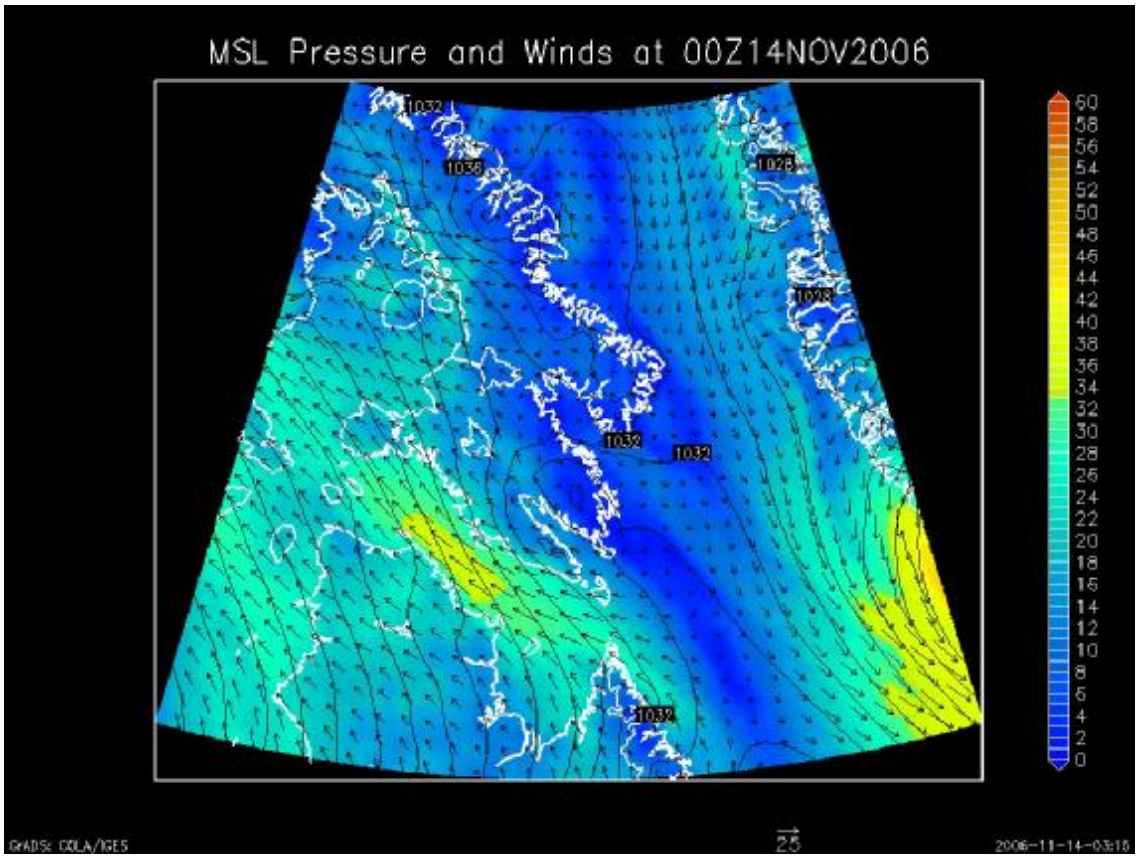




Monthly CD/DVD archives can be provided

Archive could include, for example:
- DjVu map archive
- POES satellite imagery passes (not mappings)
- GEM loops depicting wind and MSL pressure

Dr. John Hanesiak was provided this service for CASES.



"Operations" for IPY and STARS

Hope to expand what is on the Environment Canada web site http://weatheroffice.ec.gc.ca/canada_e.html

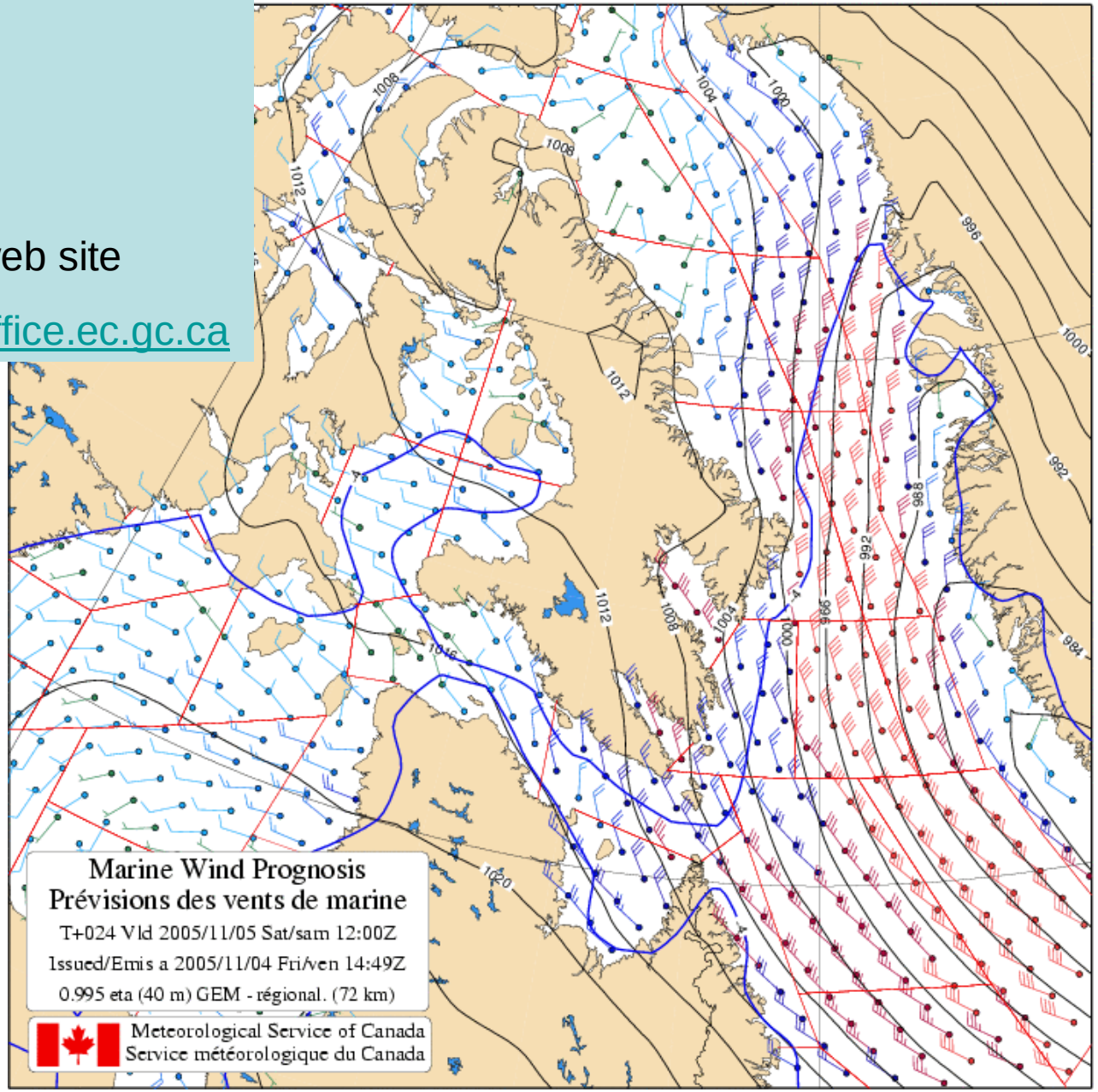
e.g:

- POES satellite imagery of higher resolution, new area mappings, ensure full suite of ir, vis and combo (3u) imagery
- Wind visualizations in color, more areas
- Weather" visualizations such as precipitation type and precipitation amount mappings, outgoing flux

Plan to have "science" web site hosted at Canadian Ice Centre for "products"

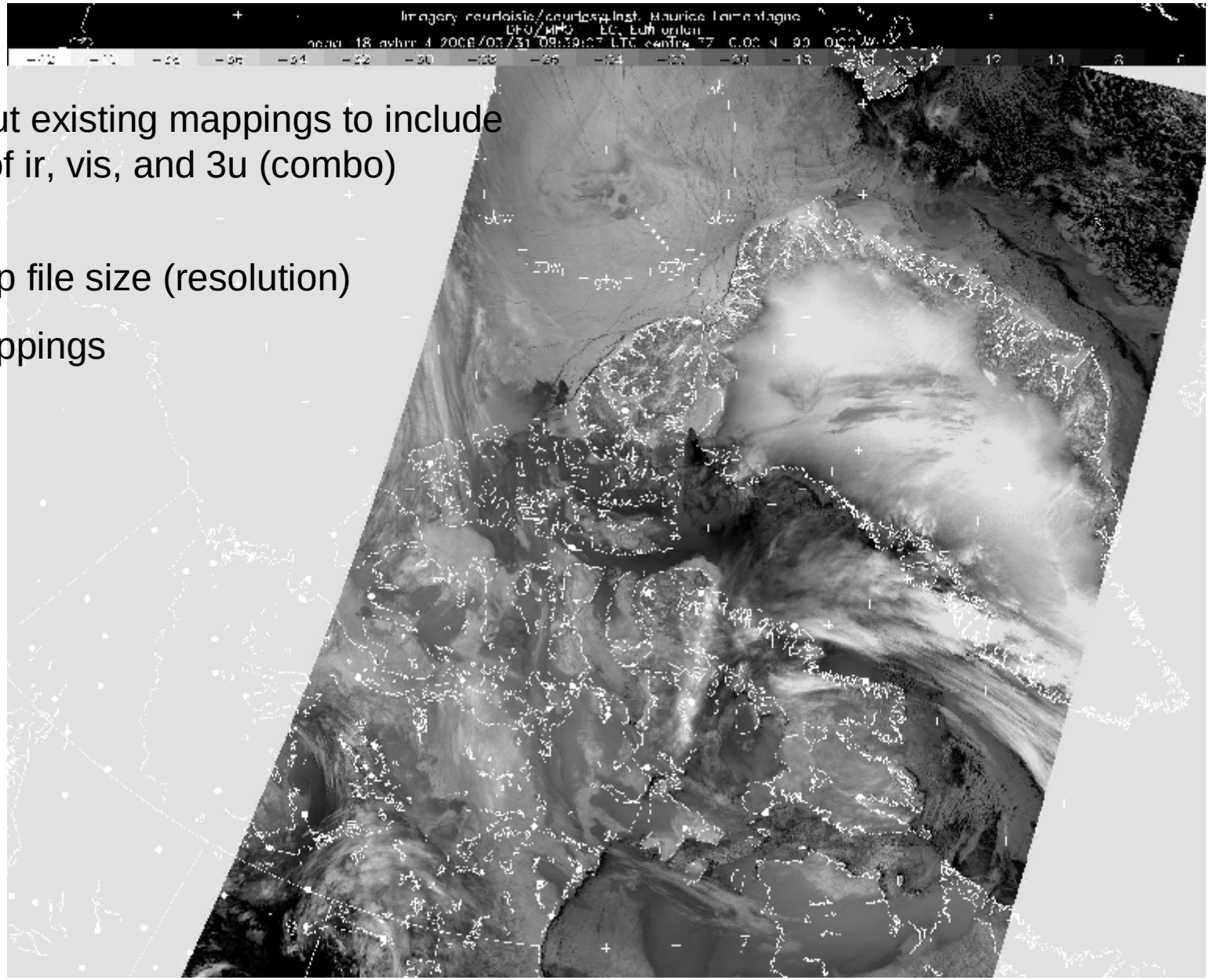
Plan to “update” wind visualizations

- adjust areas
- add new areas
- more color
- get more onto the CIS web site
- get onto http://weatheroffice.ec.gc.ca

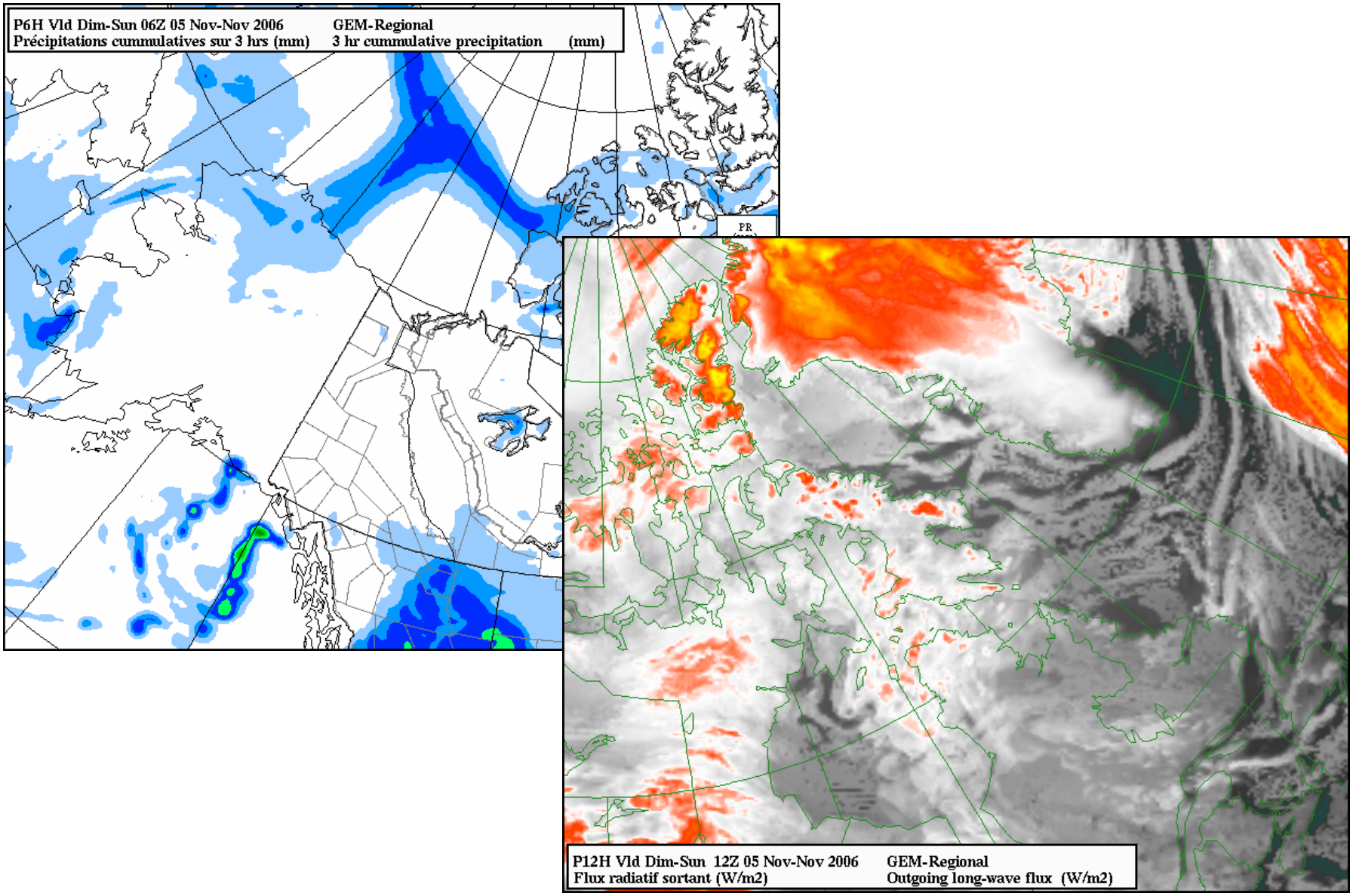


“Endeavoring” to improve the POES imagery on http://weatheroffice.ec.gc.ca

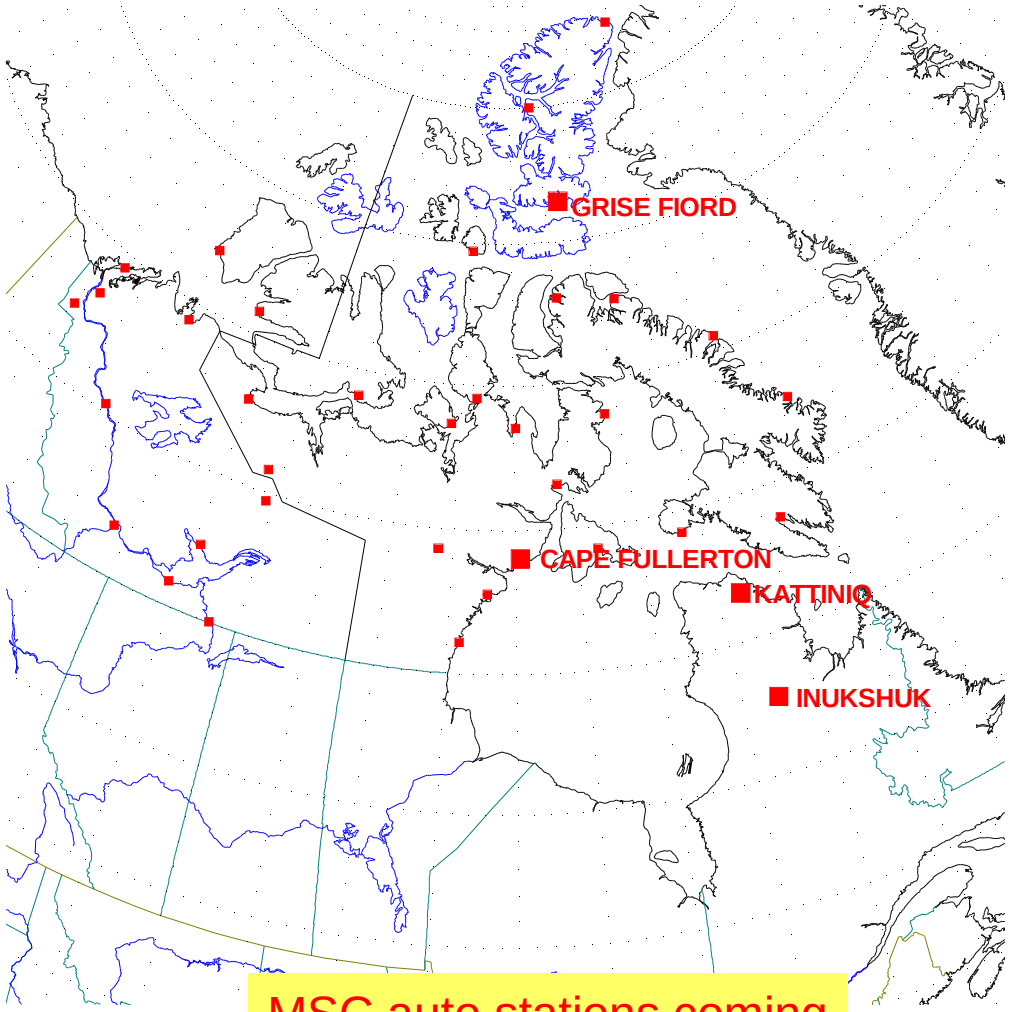
- Flush out existing mappings to include full suite of ir, vis, and 3u (combo) imagery
- Bump up file size (resolution)
- Add mappings



Want to get the right (meaningful) “weather” products (analysis and forecast) and the right mappings to science



Not giving up on joint weather sites.



MSC auto stations coming

Canadian Ice Service also plans new products and services to serve IPY science activities.

Specialized ice products to support IPY marine activities and test capabilities to support on-ice science investigations, including development of new ice forecasting expertise.

Specialized ice products designed to assess and mitigate the risk to on-ice research parties and increase the likelihood of success of research projects and include:

- detailed maps of the ice motion in particular research areas over short timeframes (days)
- detailed maps of ice openings and ice ridges / rubble fields
- annotated satellite images
- forecasts of ice conditions in particular research areas for several days into the future

Acquire a baseline of winter Radarsat images to assist with determination of ice conditions and provide improved ice climatology of Canadian waters where investigators will likely work.

Ice Centre will be interested in buoy motion mappings