



## *US National Ice Center Arctic Icebreaker Coordinating Committee 2018*



USN



USCG



NOAA

*MST2 Aaron Bisig, USCG  
U.S. National Ice Center  
10 January, 2018*



# Environmental Domain Awareness

## Characterization: Observation, Analysis, and Prediction



Satellites



Buoys



Ship Observations



Aircraft



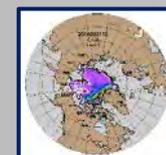
Webcam



Radar

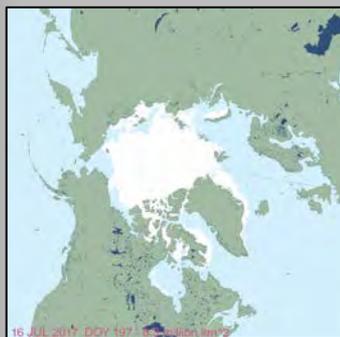


Surface Observations



Models

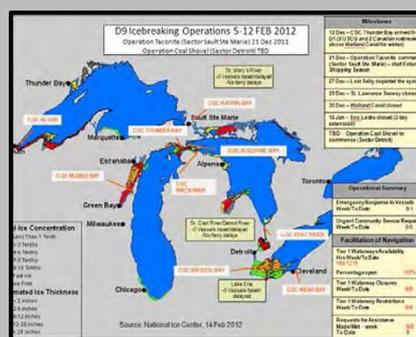
## Exploitation: Tailoring and Integration



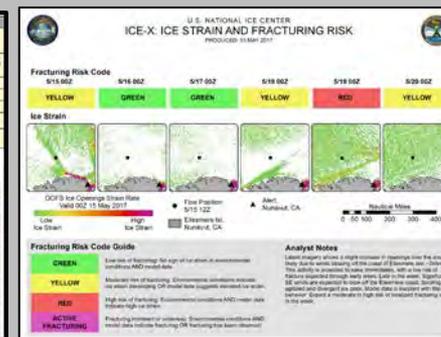
Multisensor Analyzed Sea Ice Extent (NSIDC)



Annotated Imagery



Asset Management



Risk Assessment

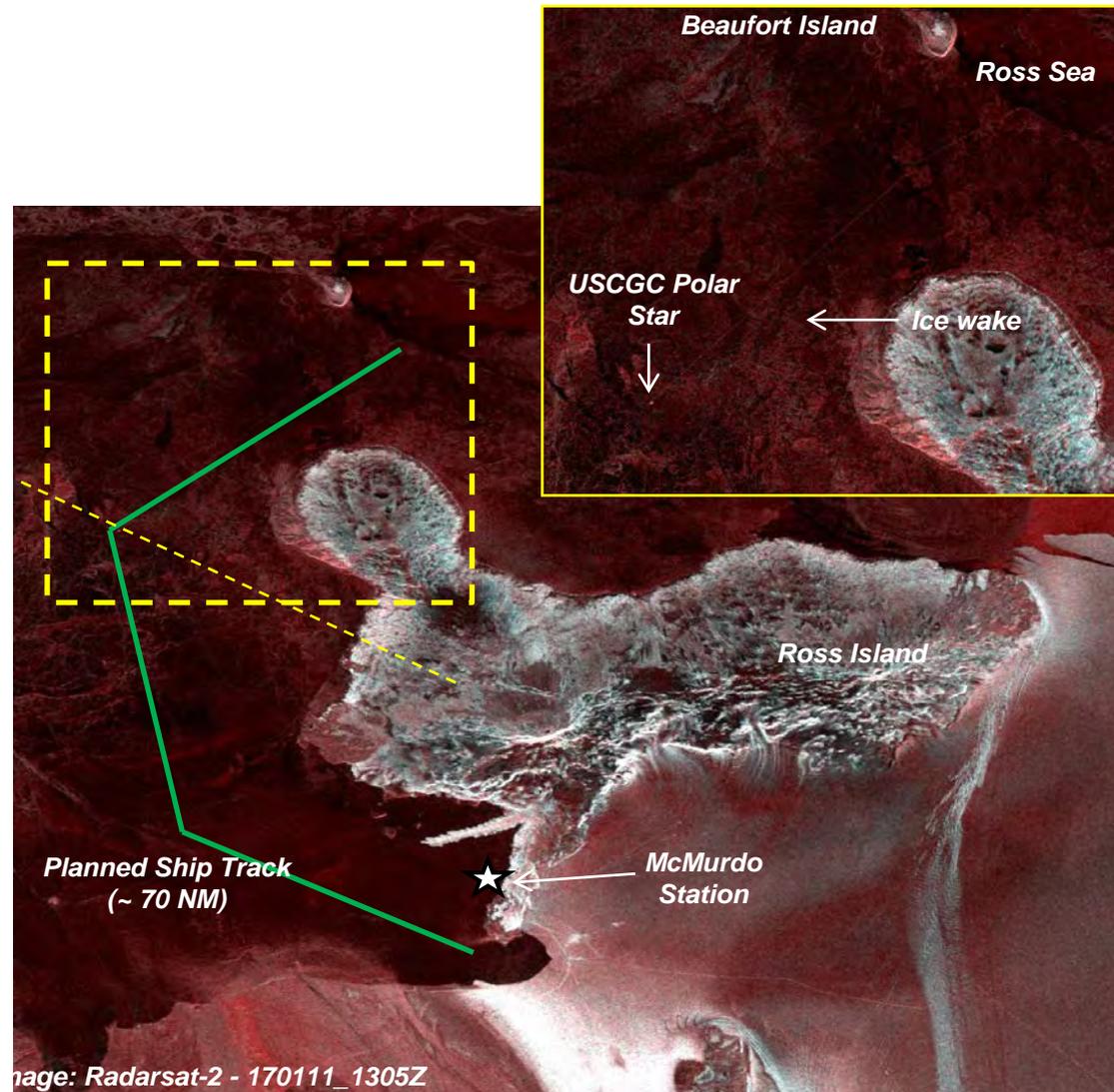


# Operation DEEP FREEZE 2017



## USCGC POLAR STAR Operations Officer:

*“Ms. Tavernier integrated well with the crew and has been an asset in cutting a path through 70nm of ice. We were able to use the imagery to redraw our track line towards thinner ice, and shave off about 8nm in the process. We made 6nm the first 1.5 days and made more than 20nm over the next 2 days since moving the track line. That's results!”*





# Operation PACER GOOSE 2017

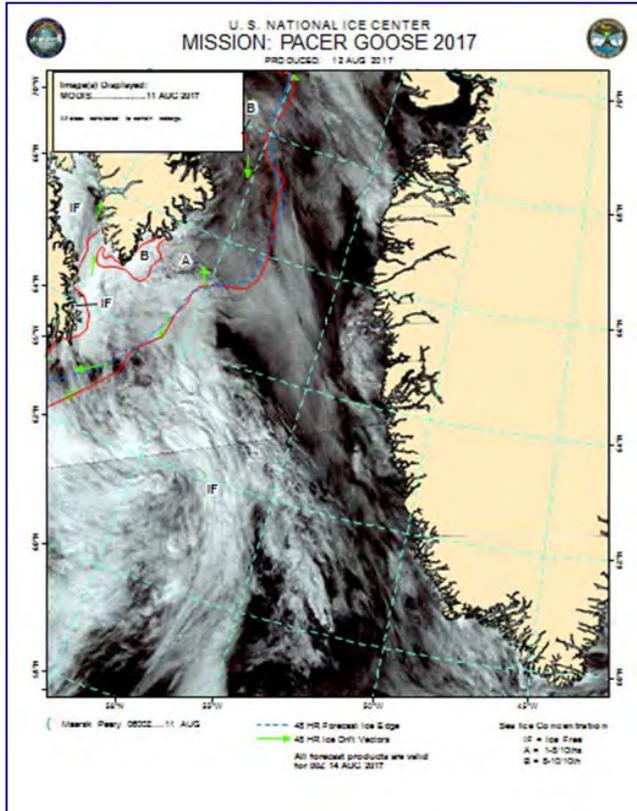
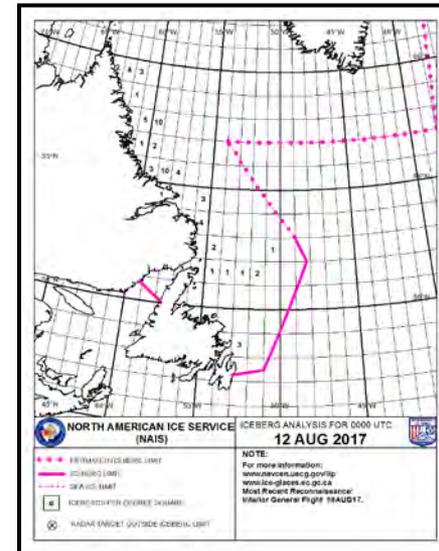


“For all the folks at Naval Ice Center, Thanks for your tremendous support for the annual operation, PACER GOOSE. This mission could not be done without you. We look forward to working with you again next year. Thanks again for all your support and tailored products.”

- N3A, MSCLANT

• **Daily Collaboration:**

- US National Ice Center (USN, USCG, NOAA)
- International Ice Patrol (USCG)

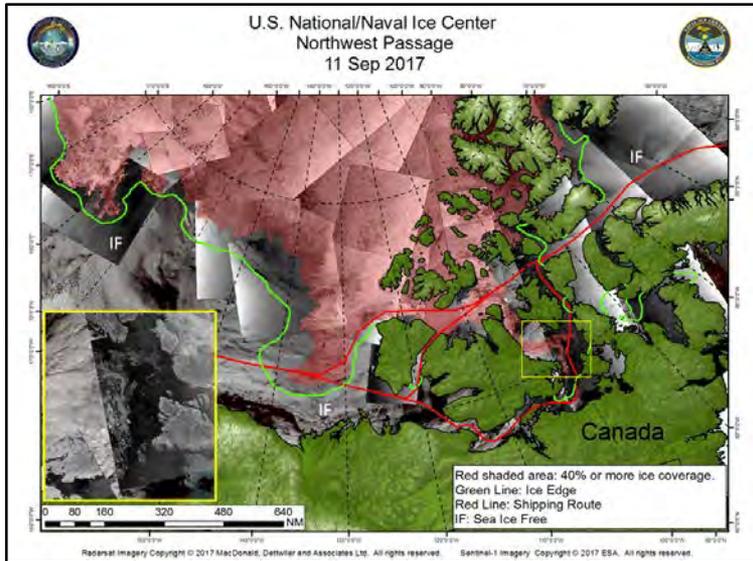


*Accurate... Timely... Relevant... Consistent*



# UCGC MAPLE

## Northwest Passage Transit 2017



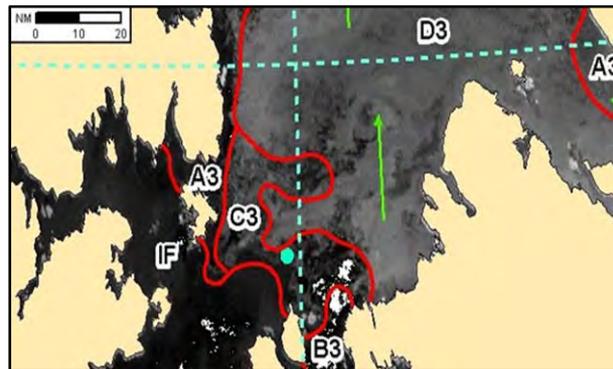
“The product was used to support decisions regarding route planning. There was more than one occasion that we deviated from our original route due to new information gathered from NIC products...”

- Commanding Officer, USCGC Maple



- **Daily Collaboration:**
  - Canadian Ice Service (ECCC)
  - District 17 (USCG)
  - Fleet Weather Center Norfolk (USN)
  - Fleet Weather Center San Diego (USN)
  - International Ice Patrol (USCG)
  - NWS Alaska Region (NOAA)
  - US National Ice Center (USN, USCG, NOAA)

July 12, 2017 → July 17, 2017 → July 26, 2017 → August 18, 2017 → August 23, 2017



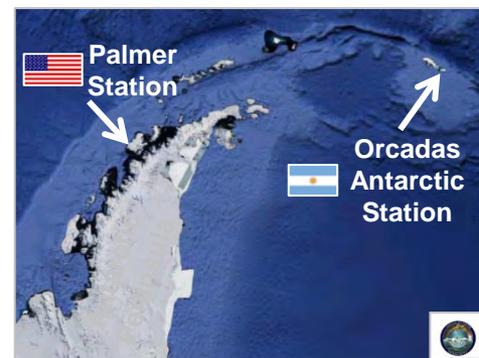
**Accurate... Timely... Relevant... Consistent**



# Medical Evacuation from Laurie Island

## Background

- RV LAURENCE M GOULD, an ice-strengthened research vessel of the National Science Foundation, regularly operates in the vicinity of Palmer Station, and receives annotated ice imagery from the US National Ice Center (USNIC)
- USNIC and Argentina's Servicio Hidrografia Naval (SHN) are members of the International Ice Charting Working Group



## Timeline of Events

- 25JUL. GOULD requested annotated imagery of ice conditions enroute possible medevac from the Orcadas Antarctic Station on Laurie Island.
- 25, 27JUL. USNIC provided GOULD analysis of ice concentrations and iceberg locations between Palmer Station and Laurie Island.
- 27JUL. SHN requested tactical scale analysis of ice conditions in Scotia Bay, on the south side of Laurie Island.
- 28-29JUL. USNIC provided detailed analysis of ice conditions surrounding Laurie Island to SHN.

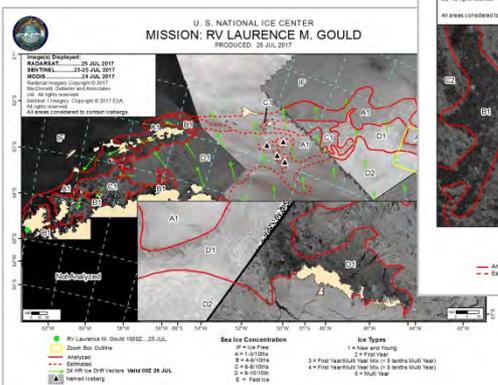
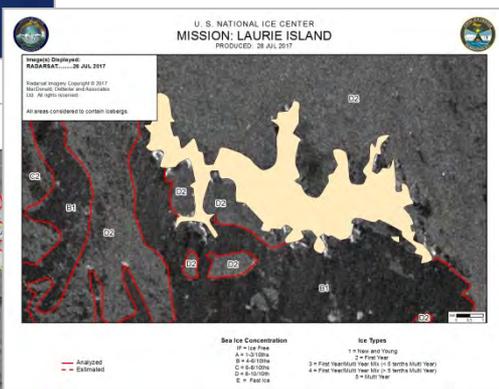
Imagery utilized: RADARSAT, SENTINEL, MODIS, OLS

## Operational Impact

- 30JUL. Injured personnel successfully evacuated to Ushuaia, Argentina via Twin Otter. This event was briefed to RADM Luis Lopez Mazzeo, Commander of Training and Operations of the Armada de Argentina.

*"I would like to thank you, in the name of the Naval Hydrographic Service and Captain Pablo Luis FAL, for all the support with imagery and analysis that you provided to us, helping with the success of the mission."*

LT CDR Alvaro Scardilli  
Chief of Meteorology Department  
Naval Hydrographic Service – Ministry of Defense Argentina





# Questions & Comments



**Command Duty Officer**

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