

DEVELOPMENT OF RESOLUTE BAY

Colonel (Retired) Pierre Leblanc

Ottawa 5 February 2020

Northern Lights 2020 Ottawa

AGENDA

- Background
- Why
- Climate change
- Maritime and air traffic
- Concept
- Opportunities
- Conclusion



BACKGROUND

- First patrol 1972 Prince Patrick Island
 - 1985 Canadian Forces Station Alert
 - 1994 Director General Reserves and Cadets
 - 1995 Commander Canadian Forces in the Arctic
 - 2000 Arctic Security Working Group
 - 2000 Vice President of Diavik Diamond Mines Ltd
 - 2014 Program Manager North Warning System
 - Advocate for the Arctic since 1998 to date
-

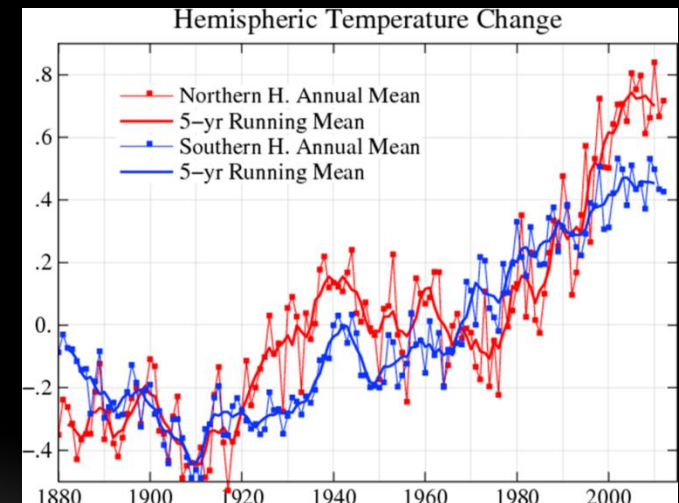
WHY RESOLUTE BAY

- Location
 - Central to the archipelago
 - Most maritime routes go by
 - Significant infrastructure
 - Airport, tank farm, federal assets
- Sovereignty challenges
- International responsibilities
 - Arctic Council Agreements
 - International criticism
- HFO ban coming

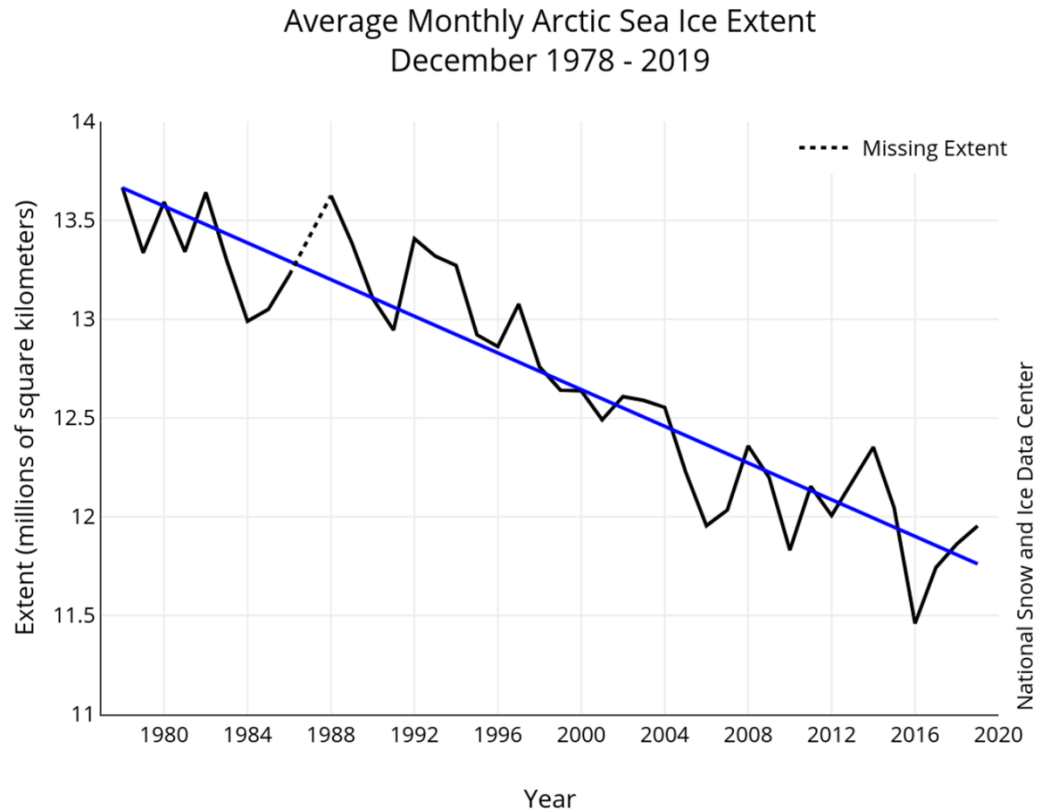


CLIMATE CHANGE

- Opening the Arctic
 - Loss of sea ice
- No need to convince people who live in the Arctic
 - People have died as a direct result
- A few graphics to highlight the change
- New access and opportunities

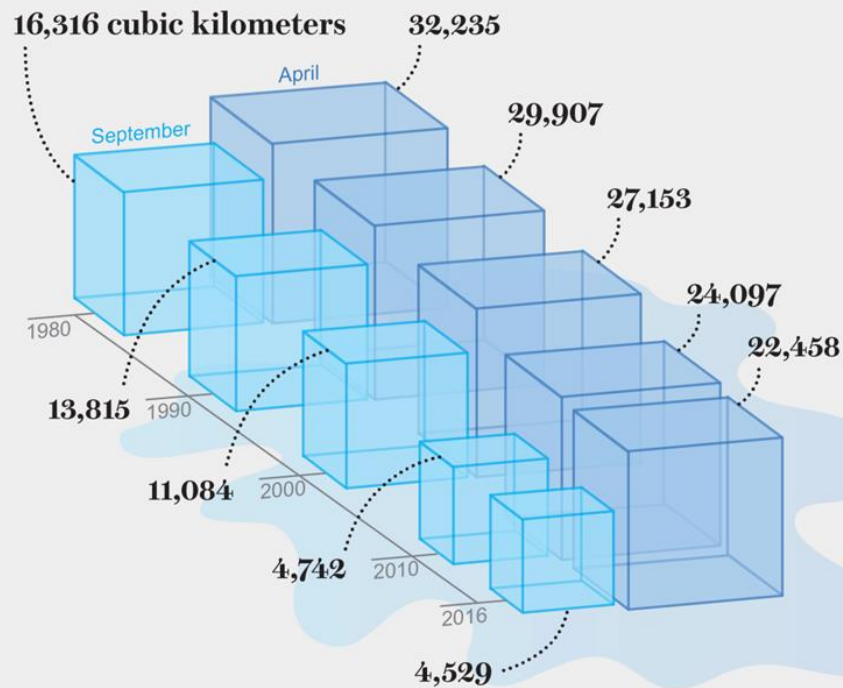


ICE EXTENT IS SHRINKING

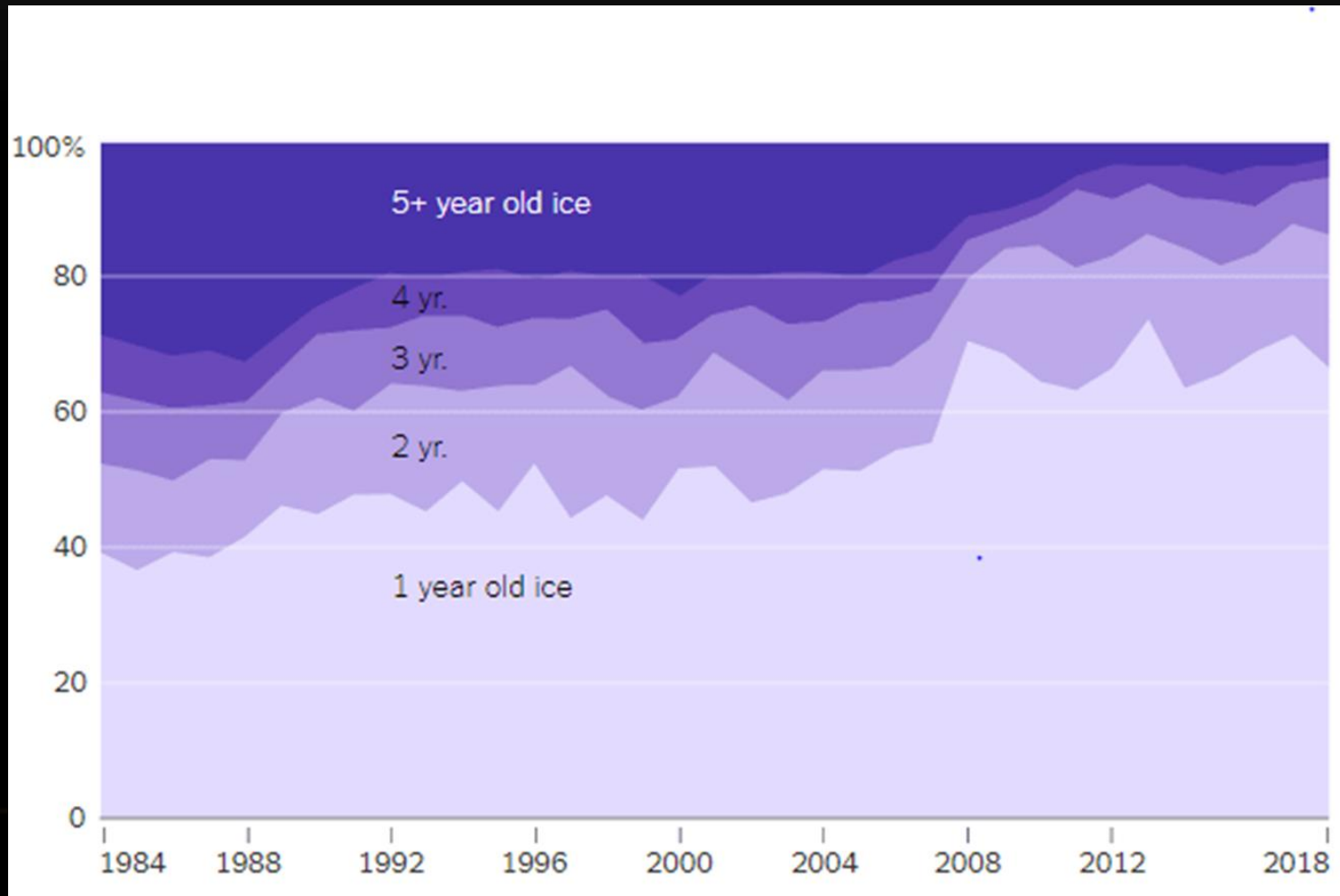


ARCTIC ICE VOLUME LOSS

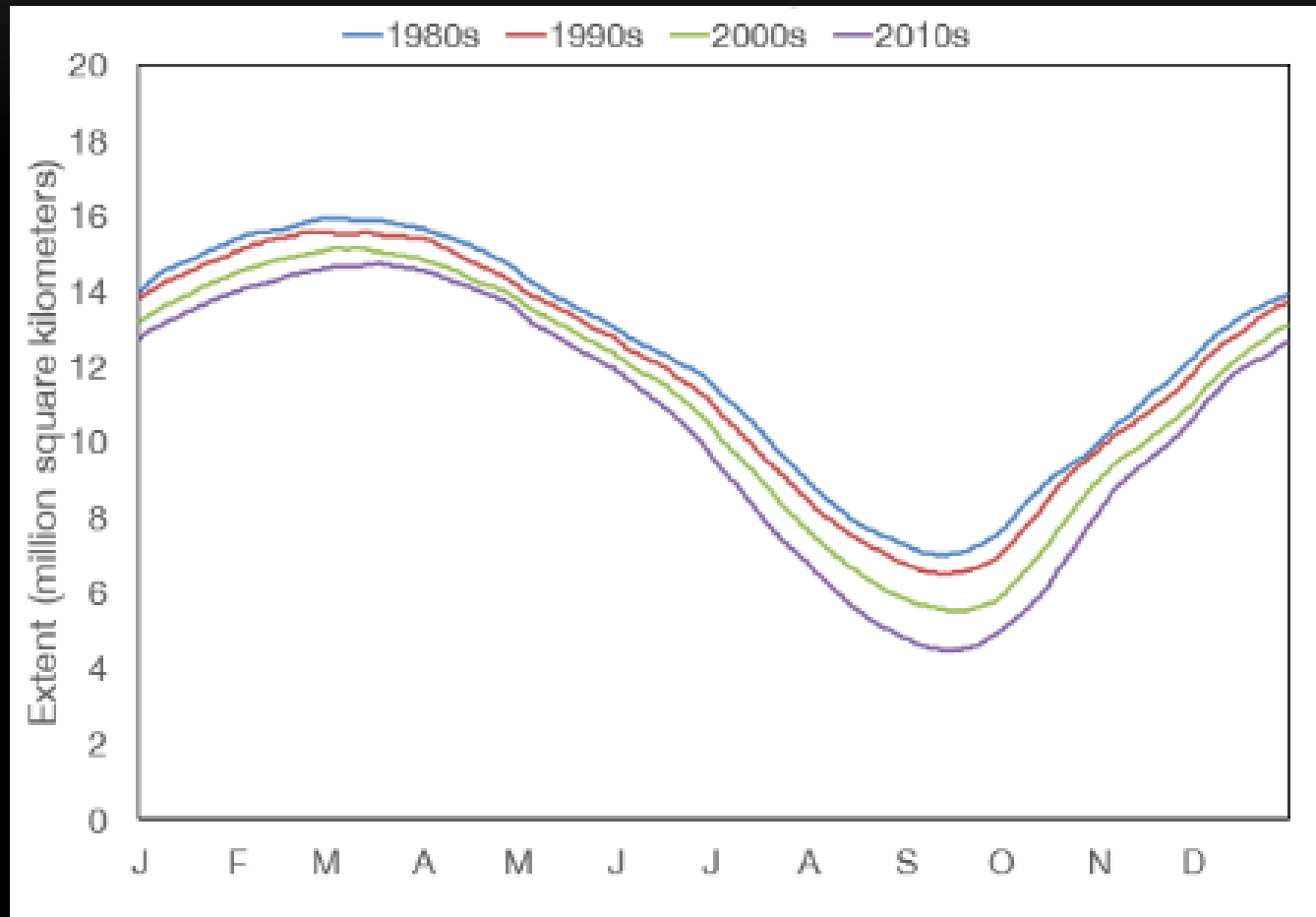
By the Numbers



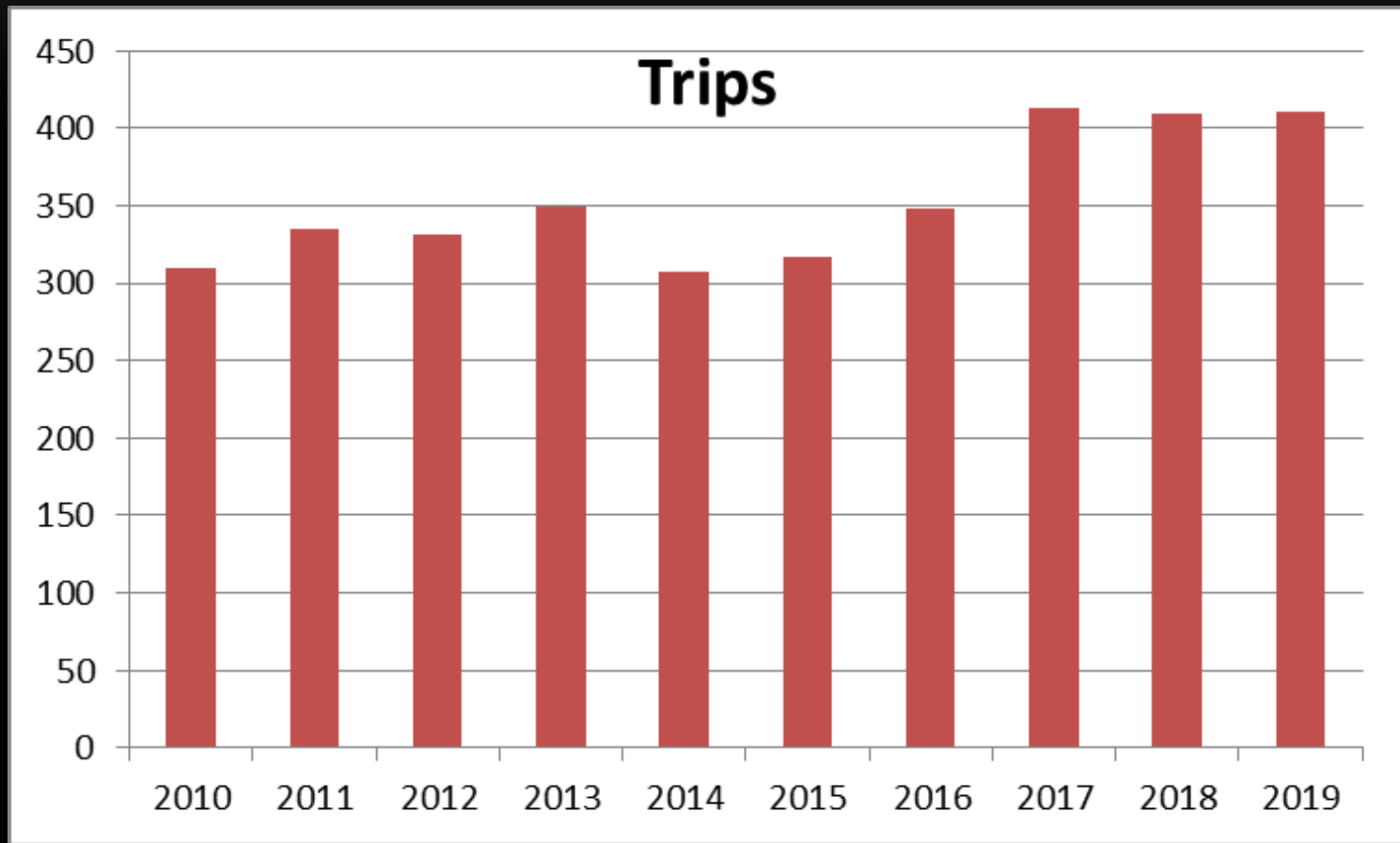
MULTI-YEAR ICE LOSS



ARCTIC SEA ICE LOSS BY DECADES

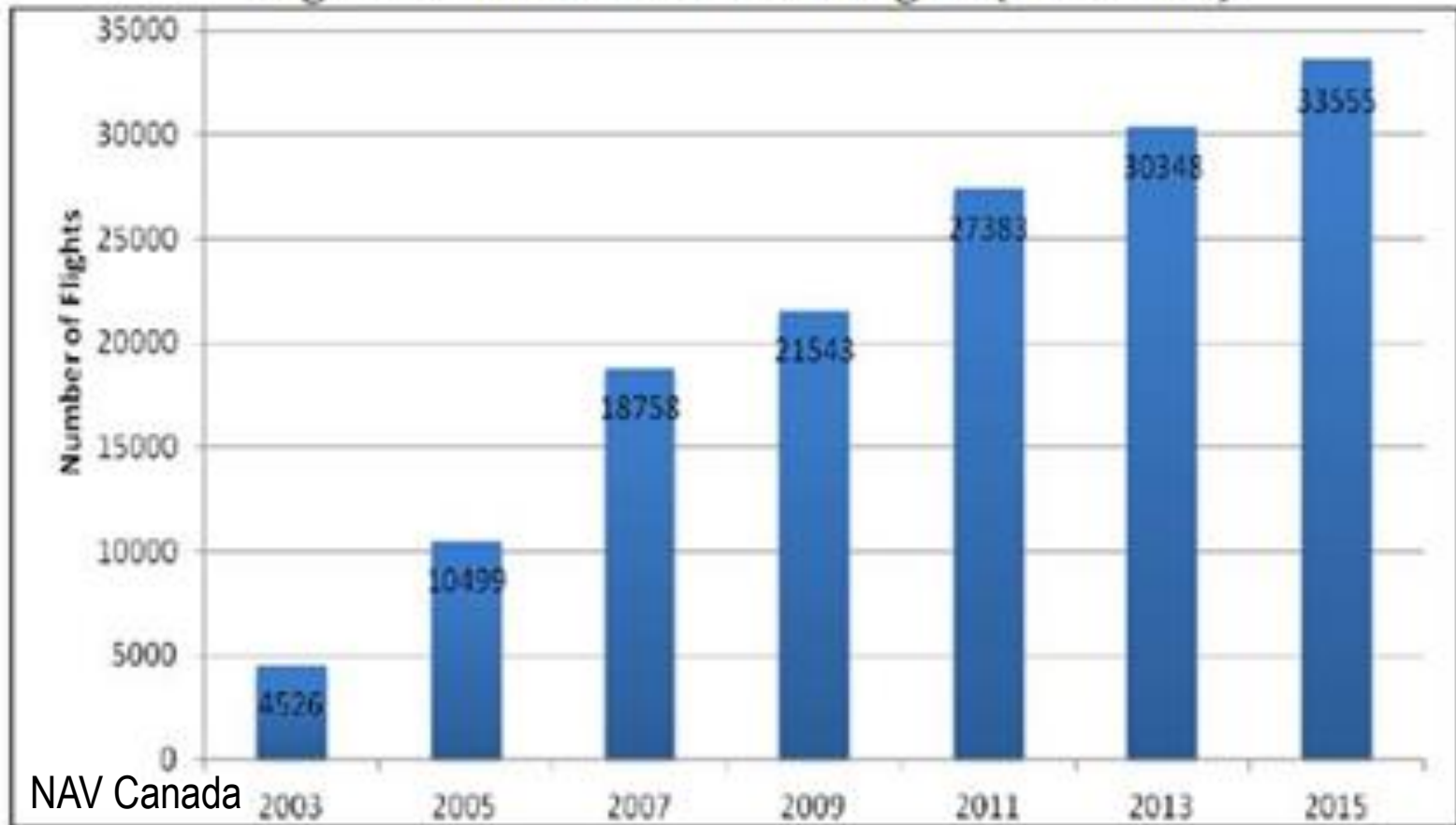


MARITIME ARCTIC TRAFFIC



POLAR FLIGHTS

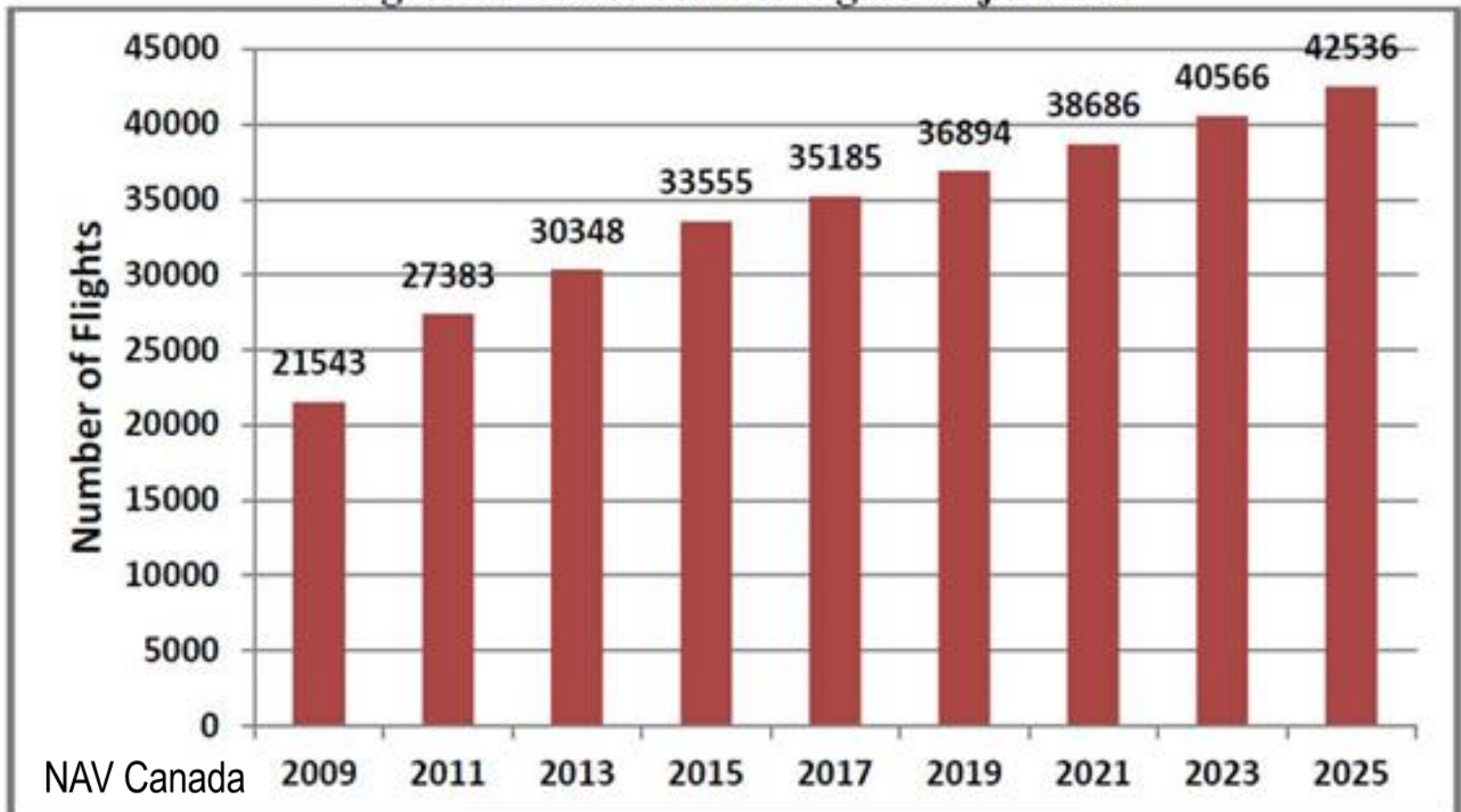
Figure 7: Total Cross-Polar Flights (2003–2015)



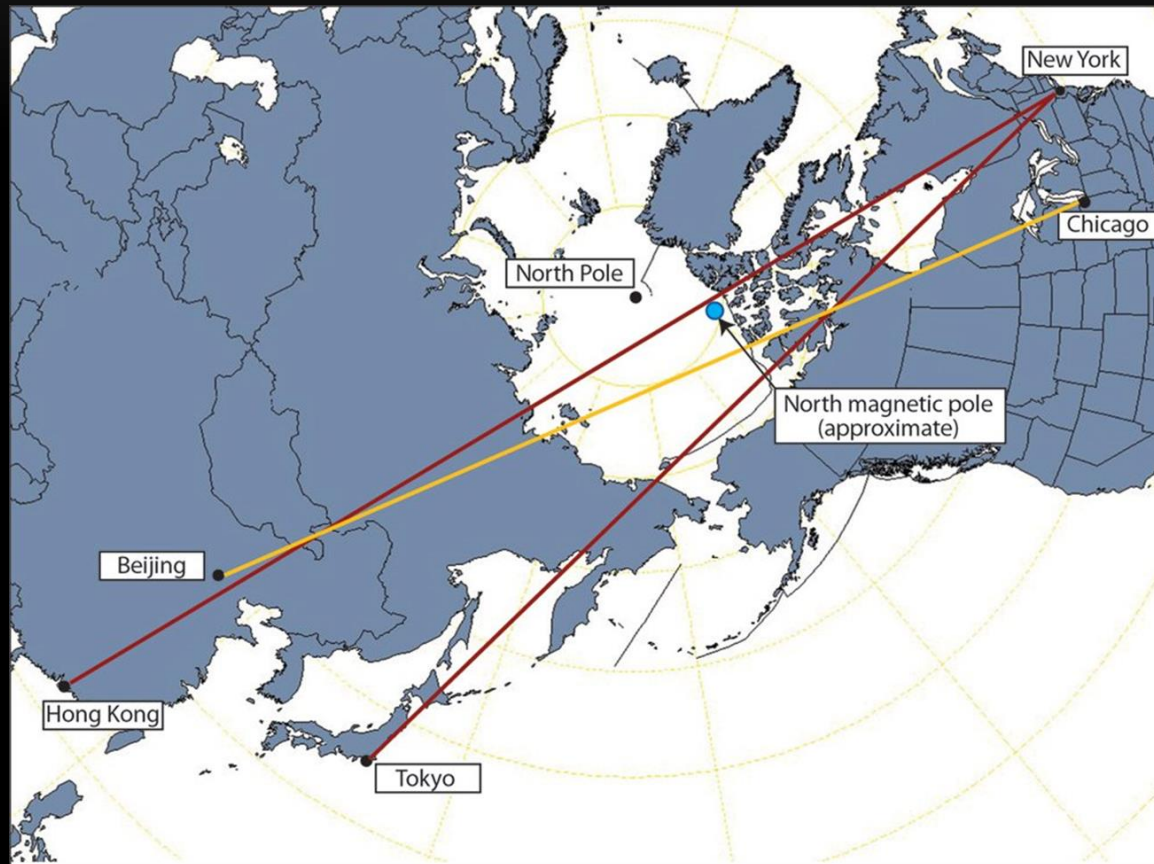
NAV Canada

POLAR FLIGHTS PROJECTIONS

Figure 8: Cross-Polar Flight Projections



POLAR FLIGHTS



CURRENT PRESENCE

- Canadian Forces
 - Arctic Warfare Center
- Natural Resources Canada
 - Polar Continental Shelf Program
- Environment Canada
 - Weather station
- Royal Canadian Mounted Police
 - Community policing under territorial contract
 - Support customs and immigration



DEVELOPMENT CONCEPT

- Build on existing infrastructure
- Build a jetty
- Pave the runway
- Modern airport approach instruments
- Expand the fuel farm to include LNG
- Air traffic/air defence radar (NORAD modernization)
- Satellite download station similar to Inuvik



JETTY BENEFITS

- Reduced cost of the community resupply
- Proper port of refuge
- Secure ship for repair
- Reduced risk of fuel spill
- Reduced helicopter use



Resolute Bay
Airport (YRB)



Resolute

Resolute Lake



Google

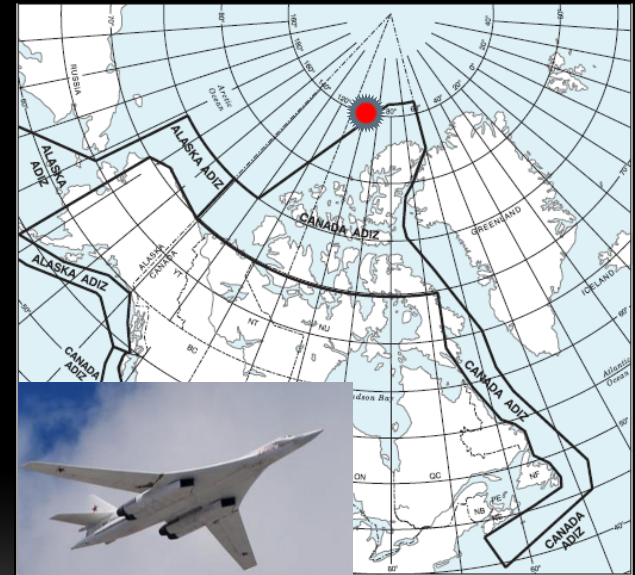
PAVED RUNWAY

- Support National Defence
 - Fighter operations
 - Drones
 - Long Range Maritime Patrol Aircraft
- Larger aircraft are more efficient
 - Environment impact
 - Cost
- Alternate airport for polar flights
 - Cost savings (carry less fuel)



SUPPORT SOVEREIGNTY OPERATIONS

- Northwest Passage Challenge
- Canadian Forces
 - Forward Operating Location for fighters, tankers, CP-140 and drones
 - NORAD 2.0
 - Supply and repair for AOPS
 - Arctic Training Center
 - Air defence radar (POHR)
 - Sub surface surveillance



OTHER DEPARTMENTS

- Naturel Resources Canada
- Canada Border Services
- Transport Canada
- Coast Guard
 - Resupply, repairs, crew changes
 - Environmental response storage

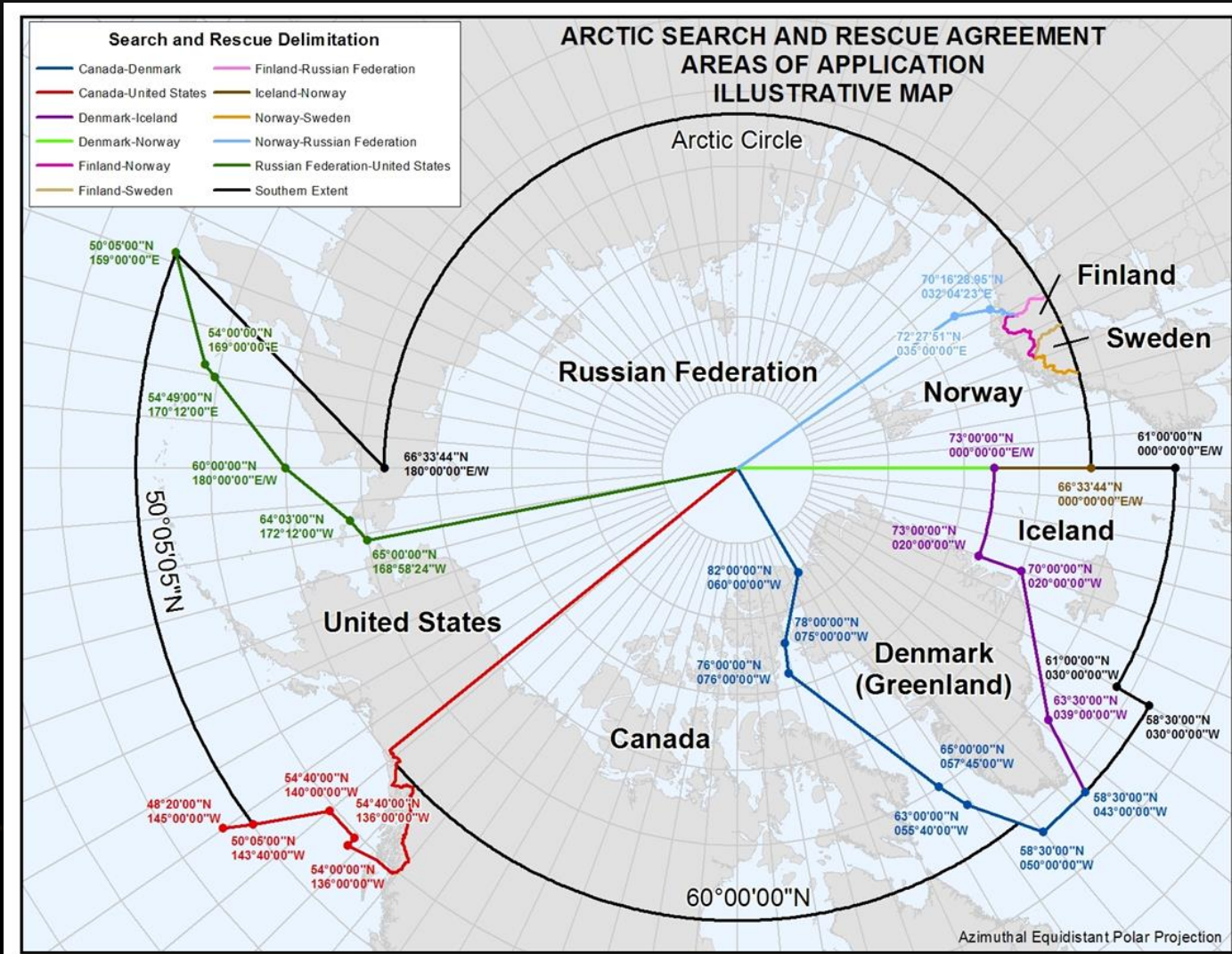


SUPPORT SAR

- Increased maritime and air traffic
- Large passenger ships
 - Extraction of 6,000 people
- Changing conditions
 - Larger storms
- Use as a search base



ARCTIC COUNCIL ARCTIC SAR AGREEMENT



SUPPORT ENVIRONMENTAL RESPONSE

- Exxon Valdez
 - 11,000 people
 - Near Anchorage, Alaska
 - \$2 Billion to clean 10% of the spill
- Three cruise ships have grounded
 - Hanseatic
 - Clipper Adventurer
 - Akademik Ioffe
- One tanker
- Need to strategically store equipment
- Use as a support base being centrally located



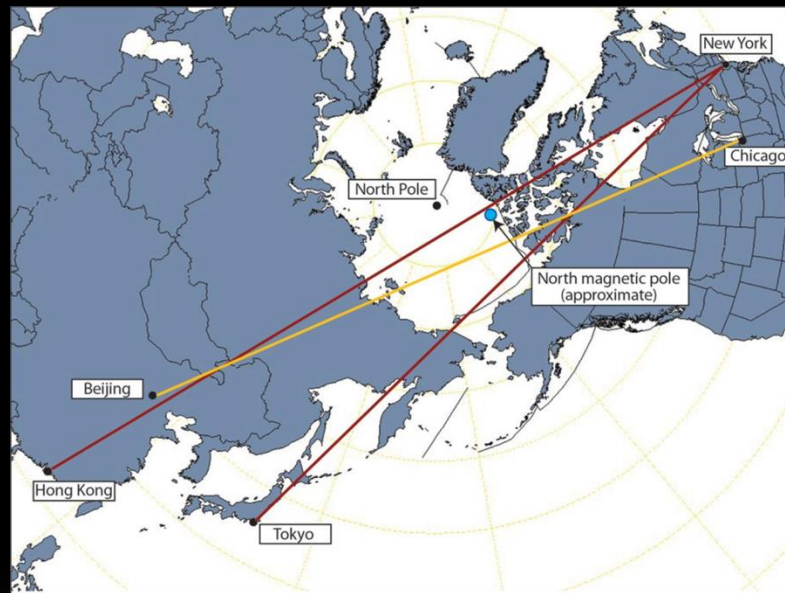
SUPPORT SCIENCE

- Polar Continental Shelf Project
- Easier access for scientists
- Larger aircraft are more efficient
- Ship resupply



SUPPORT CIVIL AVIATION

- Paved alternate runway for polar flights
 - Fuel savings
- More economical airframes to support resupply of the community



COMMERCIAL OPPORTUNITIES

- Cold Weather Testing
 - Liquid natural gas supply
 - Grey waters storage and disposal
 - Garbage storage and disposal
 - Ship repairs
 - Tourism
 - Data Center
-

COLD WEATHER TESTING

- Airbus 380
 - Tested in Iqaluit
 - Certainty of cold weather in the development schedule
 - Paved runway
- Vehicles
 - Porsche
 - Testing cars in Yukon
- Other equipment
 - Ratings



NATURAL GAS

- HFO Ban in the Arctic
- Chicken and egg situation
- New ships to transport LNG
- New ship power plants
- Potential to power federal and territorial facilities
- Reduced pollution



GREY WATERS STORAGE AND HANDLING

- Cruise ships
- Super yachts
 - Limited capacity
- Regular commercial vessels
- Store and treat
- Store and ship south in bulk



GARBAGE STORAGE AND HANDLING

- Arctic Offshore Patrol Ships
- Cruise ships
- Super yachts
 - Limited capacity
- Regular commercial vessels
- Store and/or treat
- Store and ship south in bulk
- Community benefit



SHIP REPAIRS

- Minor repairs alongside the jetty
- Small adventurers ships
- Super yachts



SUPPORT TOURISM

- Lower airfare costs
- Crew changes for cruise ships
- Eco-tourism
- Fishing
- Hunting



DATA CENTER

- Satellite download center similar to Inuvik's
- Data storage and handling
 - Free cooling
 - Significant savings
- Requires high bandwidth to the south
 - Quintillion Networks



TRIPLE P PROJECT

- Public Private Partnership
- Federal government
 - Several departments would benefit
- Territorial Government
- Aboriginal entities
- Private companies



NEED FOR A CHAMPION

- Many departments benefit
 - Federal
 - Territorial
- None have the funds
- Private sector could lead
 - Inuit Development Corporations
 - Inuit Development Corporation Association
 - Nunavut Tunngavik Incorporated



CONCLUSION

- Climate change is opening the Arctic
- More maritime and air traffic
- Increased international responsibilities
- Commercial opportunities
- Potential synergies between government and private sector
- Need for a champion to take the lead



Questions





Image Landsat
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image IBCAO
Image U.S. Geological Survey

Go

Imagery Date: 4/9/2013 68°50'13.10" N 89°17'31.42" W elev 0 m

LEGEND

— COMMERCIAL SHIPPING



Nanisivik Naval Facility

