ArcGIS for Research on Marine Vessel’s Air Pollution & Fuel Use

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About ICCT
Marine Emissions

2% Global CO₂
Marine Emissions

8% Global CO$_2$ (2050)
Effect of HFO on the Environment

Photo courtesy of Sakhalin Watch and Club Boomerang.
Why we did this work?

Arctic Definitions

Why we did this work?
Opening up of new Sea Routes

Why we did this work?

The Melting Ice

2016; 1.2ºC above pre-industrial levels

Source: https://commons.wikimedia.org/wiki/File:Arctic_sea_ice_loss_animation.gif#/media/File:Arctic_sea_ice_loss_animation.gif
Why we did this work?

Projected Rise in CO₂ Emissions in the IMO Arctic

- 2015: 13.7 m t
- 2020: 19.4 m t (+42%)
- 2025: 20.1 m t (+46%)
Data Processing

Translating data into policy relevant information

RESULT SUMMARY

HOW TO CONVEY OUR MESSAGE TO POLICY MAKERS?
Aquatic Threats

HFO Use in the Arctic
Atmospheric Threats

BC Emissions in the Arctic
Threats to Endangered Species
Beluga Whales & Narwhal
Threat to Remote Locations

Fishing Intensity near Svalbard Island

Fishing Intensity Index (10=highest)

Data Sources: exactEarth, IHS, ArcGIS
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Expanding our Research on Global Scale

Global HFO Carriage

Data sources: exactEarth, IHS, IUCN, ArcGIS
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Why ArcGIS is important to our work:

- “A picture is worth a thousand words.”
- “The picture superiority effect.”
- Informing policy makers.
  - International Maritime Organization
  - Arctic Council
Thank You & Questions!

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