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EU Arctic Footprint and Policy Assessment

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**Europe's Arctic Course
European Space Agency
Paris, 8. December 2010**





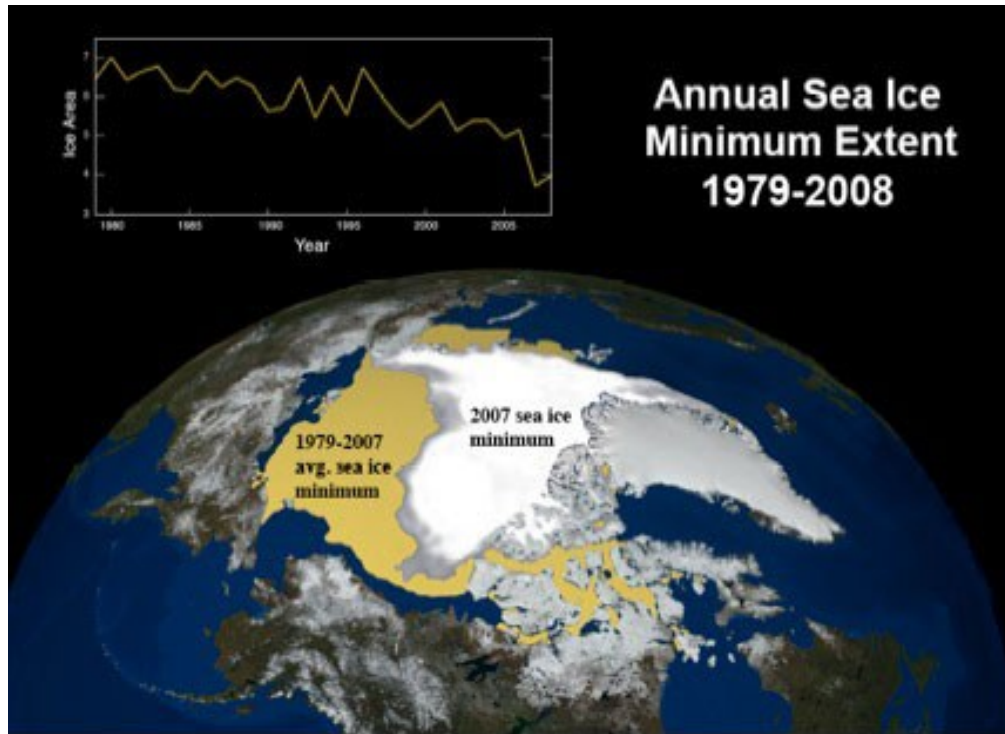
Outline

- Policy context and project overview
- Methodology
- EU's footprint in 9 policy issue areas
- Data initiatives and opportunities





Policy context

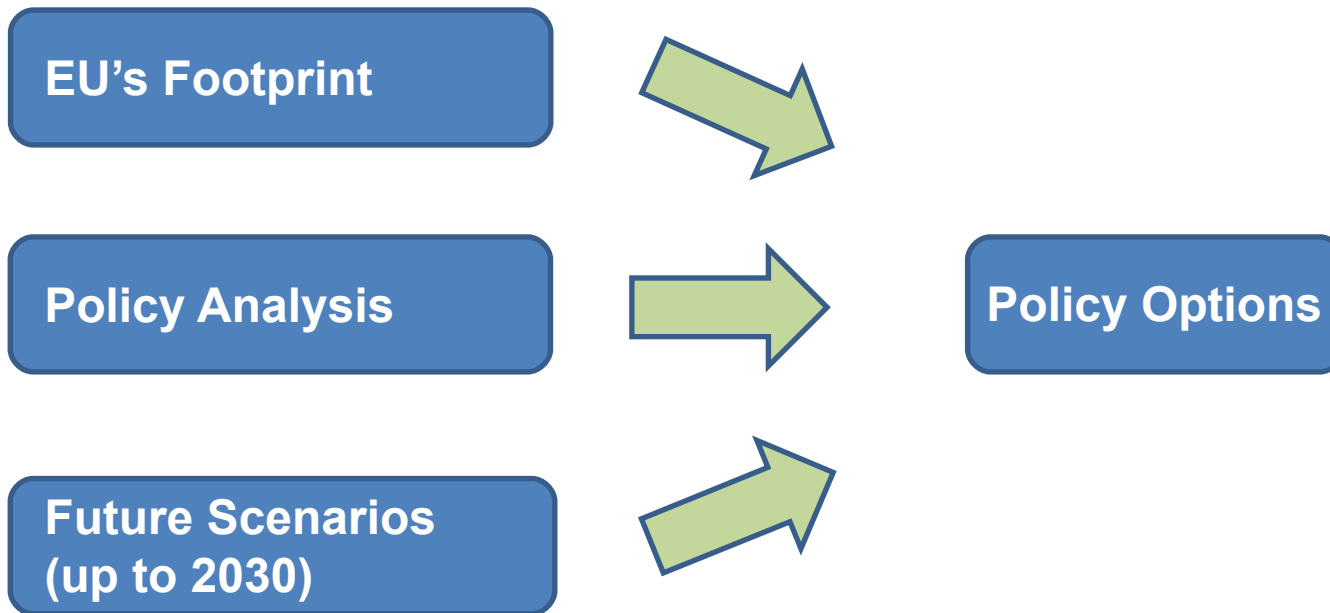


www.climate.nasa.gov





Project overview





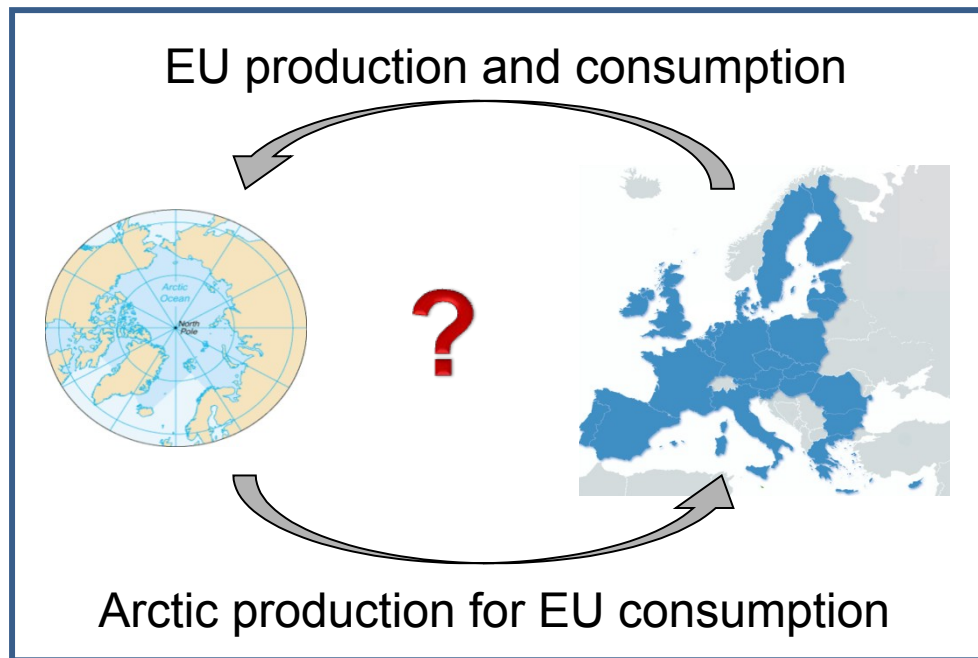
Policy issue areas

- Biodiversity
- Chemicals and transboundary pollution
- Climate change
- Energy
- Fisheries
- Forestry
- Tourism
- Transport
- Arctic indigenous and local livelihoods





Footprint methodology



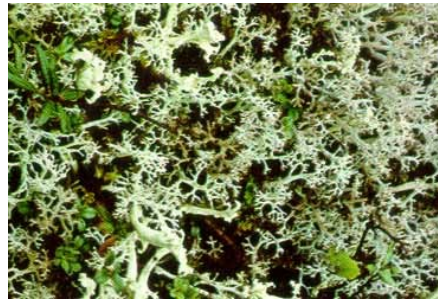


Biodiversity

n.a.



<http://photography.nationalgeographic.com>



<http://www.arcticice.org/plants.htm>



Bluhm/UAF



<http://akcenter.org>

Biodiversity loss from other impact areas:

- Tourism and shipping
- GHG emissions and transboundary pollutants
- Resource extraction





Chemicals and transboundary pollution

POPs

- PCB-153 emissions (Europe)
- BFRs market demand (Europe)

57%

17%

Heavy metals

- Mercury emissions (EU-27)
- Products from Hg-intensive Arctic industries (EU-27)

24%

36%

Acidifying gases

- SO₂ emissions (EU-27)
- Products from SO₂-intensive Arctic industries (EU-27)

42%

38%





Climate change

Greenhouse gases (EU-27)

- Production
- Consumption >20%



Black carbon (European continent)





Energy

Arctic oil and gas industry (EU-27)

- total output of the Arctic's oil and gas industry, including pipeline transportation

24%

Arctic infrastructure-intensive industries (EU-27)

- share of Arctic exports from selected industries: oil, gas, diamond and metal extraction

60%



Fisheries

Arctic fish capture production (EU-27)

Norway (33%) and Iceland (30%) make up for most of total Arctic fish capture production



Fish imports from Arctic countries (EU-27)

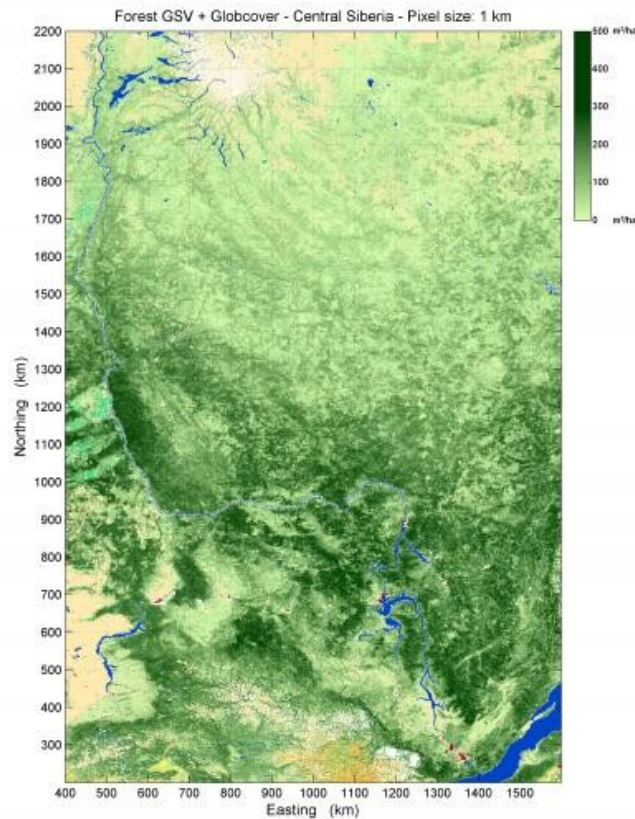
Fish imports from selected Arctic countries (Canada, Iceland, Norway, Russia, and USA) as a share of the total fish exports of these countries





Forestry

n.a.



Credit: ESA, Gamma Remote Sensing, Friedrich-Schiller University Jena





Tourism

Tourists in the Arctic (EU-27)

27%



<http://www.cruiselawnews.com>





Transport (Shipping)

n.a.





Arctic indigenous and local livelihoods

n.a.



<http://nomenugget.net/>



Data initiatives and suggested focus areas

➤ Data initiatives:

- Global Monitoring for Environment and Security (GMES) (5 Sentinel missions) + In situ observation
- ESA Earth Explorer missions ('Core' and 'Opportunity' missions)
- Sustaining Arctic Observing Networks (SAON)
- Arctic Council's Task Force on Short-Lived Climate Forcers

➤ Suggested focus areas:

- Climate variables (e.g. permafrost, sea ice, forest fires)
- Pollutants (e.g. black carbon, methane, tropospheric ozone, ship NO₂ emissions)
- Emergency services (e.g. iceberg detection, oil spill response)



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Thank you
<http://arctic-footprint.eu>

