ARCTIC MONITORING AND ASSESSMENT PROGRAMME

Atlantic-Arctic trans-boundary issues; European perspectives

The Atlantic – A Shared Resource
Galway, Ireland 23-24 May 2013

Lars-Otto Reiersen
AMAP Executive Secretary

www.amap.no

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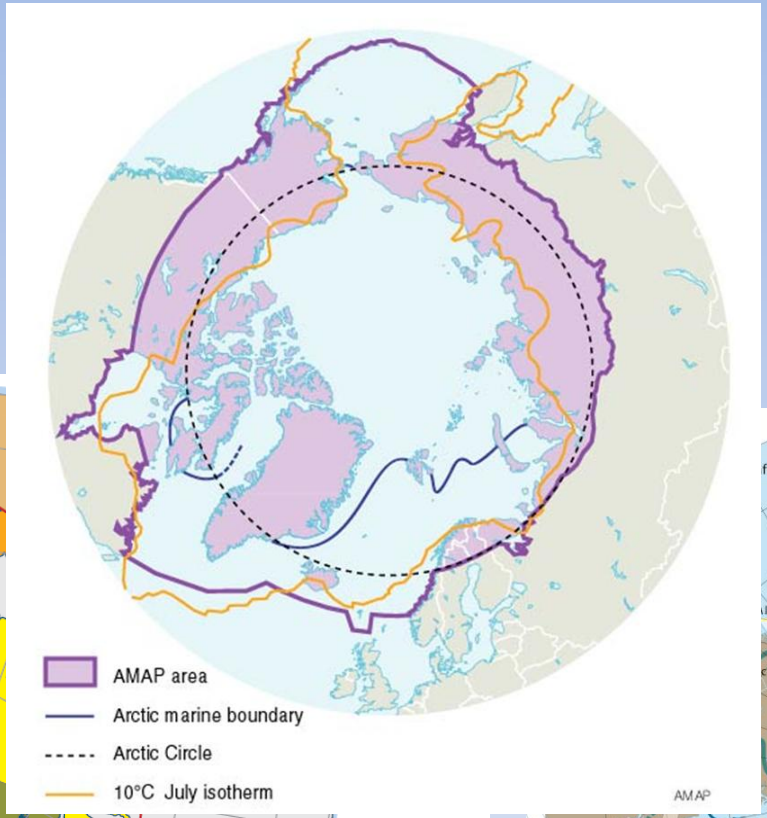
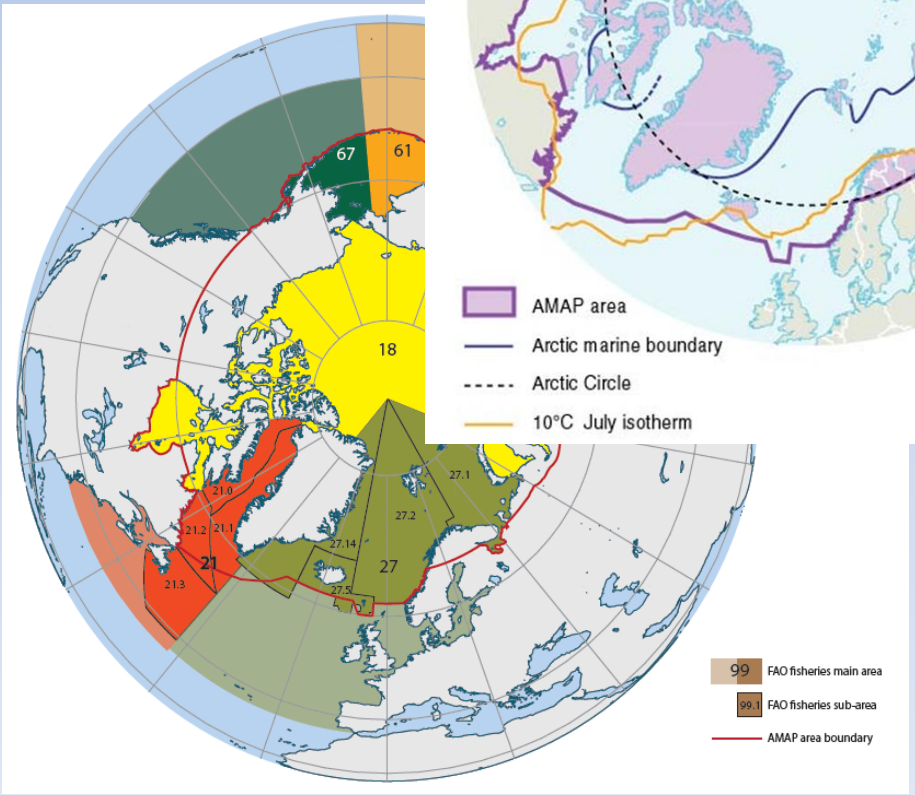
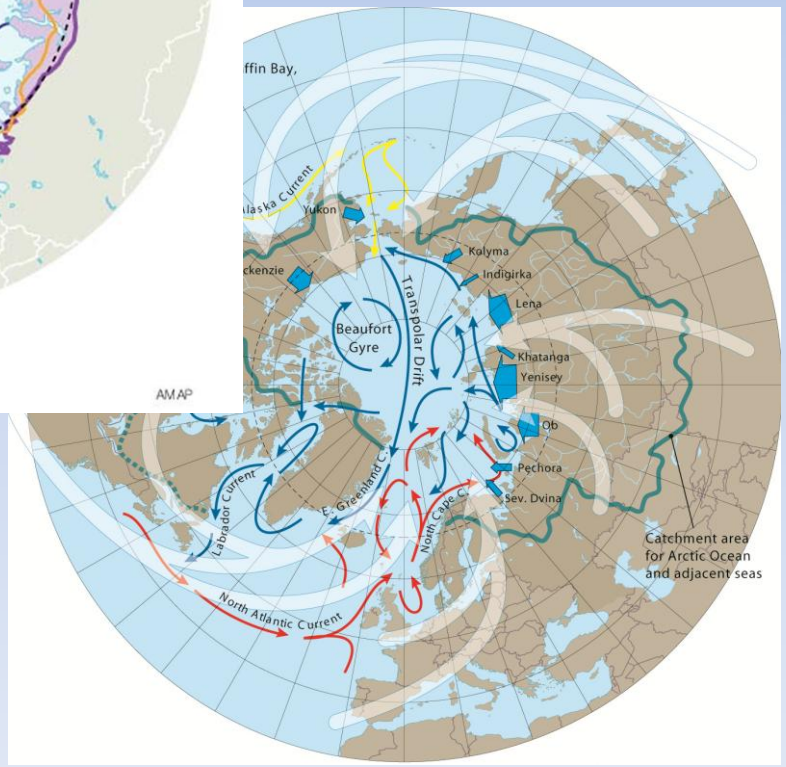
The Arctic-Atlantic Connection







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Combined effects of multiple stressors

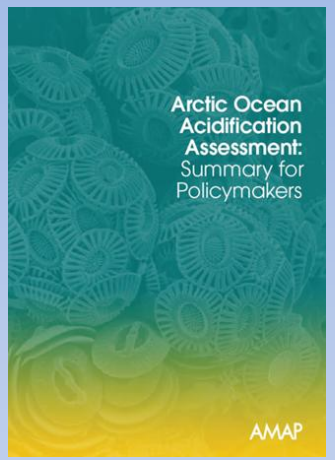
Arctic Ocean Acidification: Some Key Findings

Key finding 1
Arctic marine waters are experiencing widespread and rapid ocean acidification

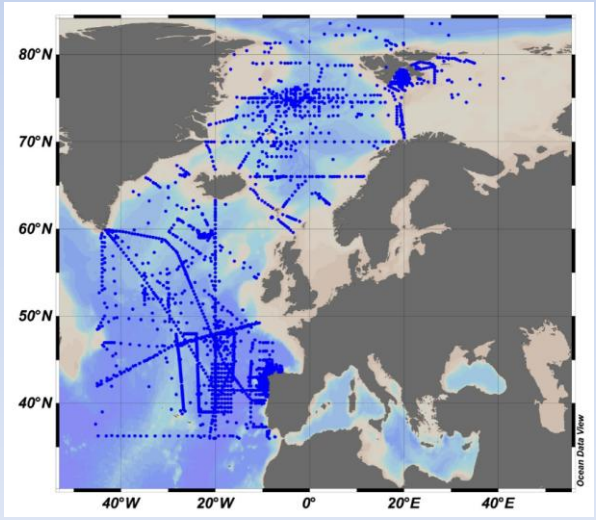
Key finding 2
The primary driver of ocean acidification is uptake of carbon dioxide emitted to the atmosphere by human activities

Key finding 3
The Arctic Ocean is especially vulnerable to ocean acidification

Key finding 4
Acidification is not uniform across the Arctic Ocean

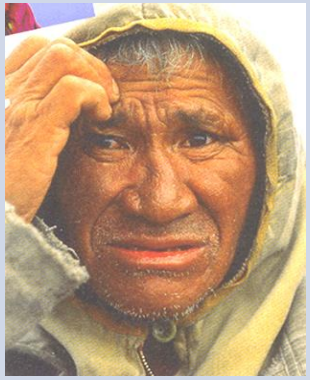


Average global surface ocean pH has fallen from a pre-industrial value of 8.21 to 8.10, (a 28.8% increase in acidity). Values of 7.8–7.9 are expected by 2100.



CARINA ocean carbon data

Challenges and Opportunities: Winners and Losers

	Challenges	Opportunities
Arctic residents *Losers?*	Diminishing traditional food resources, insecure travel on ice 	Employments
The global community/ multi-national industry *Winners?*	Sea level rise; amplified warming; ocean acidification 	Better access (to oil and gas, mining, fisheries); new shipping routes

Recommendations

Gaps:

- *Interactions between the Atlantic and the Arctic - the biological & chemical interaction with the physical processes*
- *Feedbacks from the Arctic on the Atlantic, & on the hydrological and climate system*

Filling gaps:

- *Joint integrated programmes between Europe and North America – research, monitoring & assessments*
- *More stations/platforms within the Arctic (SAON)*
- *Stimulate free access to data and information (SAON)*

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The Arctic – a barometer for the globe