



The OGP Arctic Oil Spill Response Technology – Joint Industry Programme

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Arctic Oil Spill Response Technology – JIP Environmental Effects of Arctic Oil Spills and Arctic Spill Response Technologies

Towards a NEBA tool

Shell, Total, ExxonMobil, Conocophilips, Chevron, BP, ENI, Statoil, North
Caspian Operating Company, GazpromNeft



Main Project coordinator



Project 2A:
Resilience and
sensitivity of Arctic
species



Project 2B:
Oil weathering
and
biodegradation



Project C
Population
consequences,
acute vs.
chronic effects



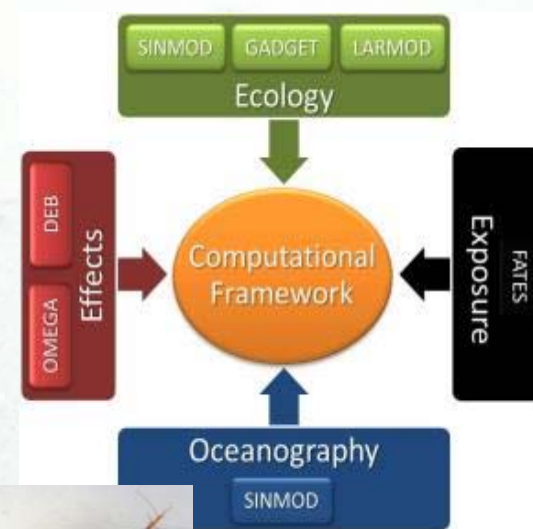
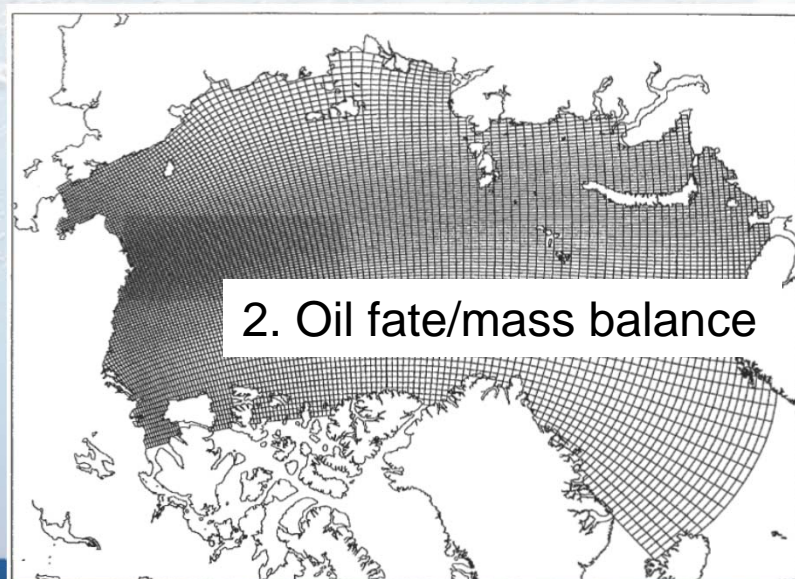
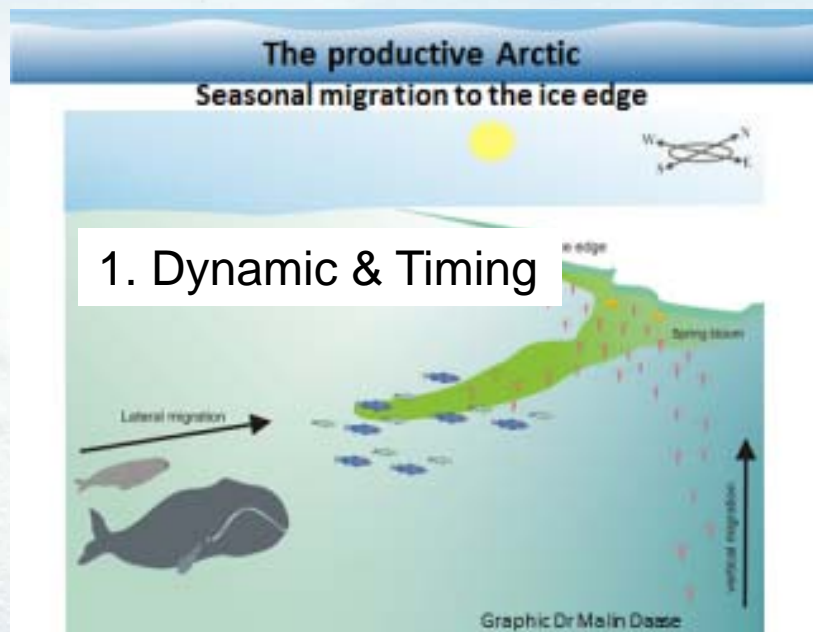
Project 1
NEBA tool

International partners

- Akvaplan-niva, IRIS, NORUT, The Norwegian Polar Institute & the University of Tromsø (**Norway**)
- CEDRE (**France**)
- IMARES, Wageningen University & Radboud University Nijmegen (**Netherlands**)
- the University of Laval (**Canada**)
- Bigelow Laboratories (**USA**)
- COWI and the Denmark Technical University (**Denmark**)
- PINRO (**Russia**)



Desk work: Arctic Ecology & modelling



3. Modelling impact



Field work: to study impact of oil and response on ice ecosystem



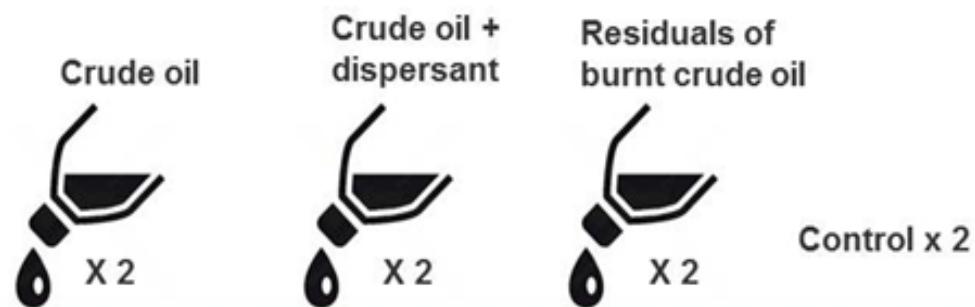
Field site



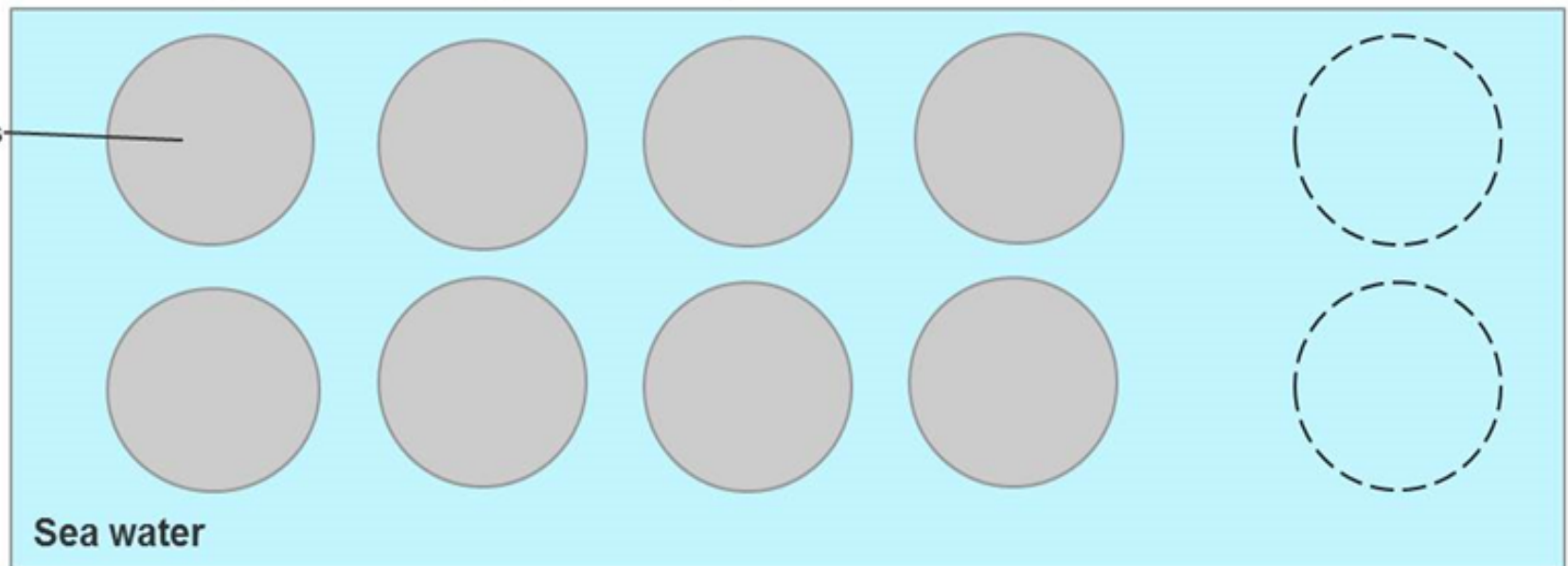
Van MijenFjorden

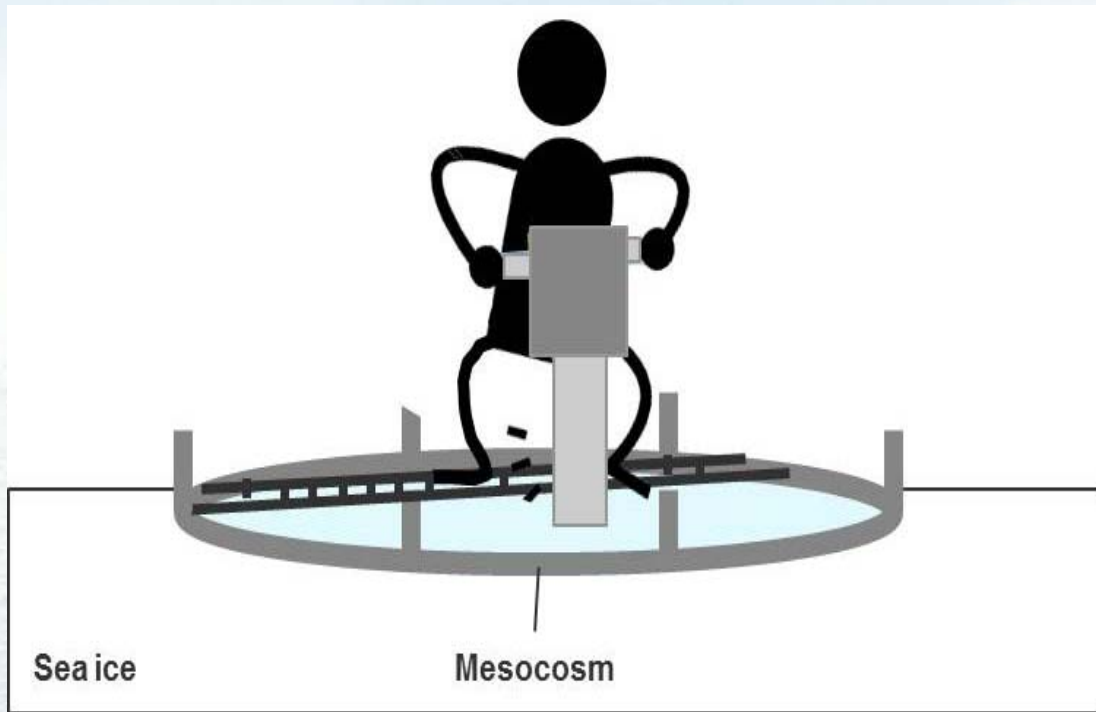


Treatments

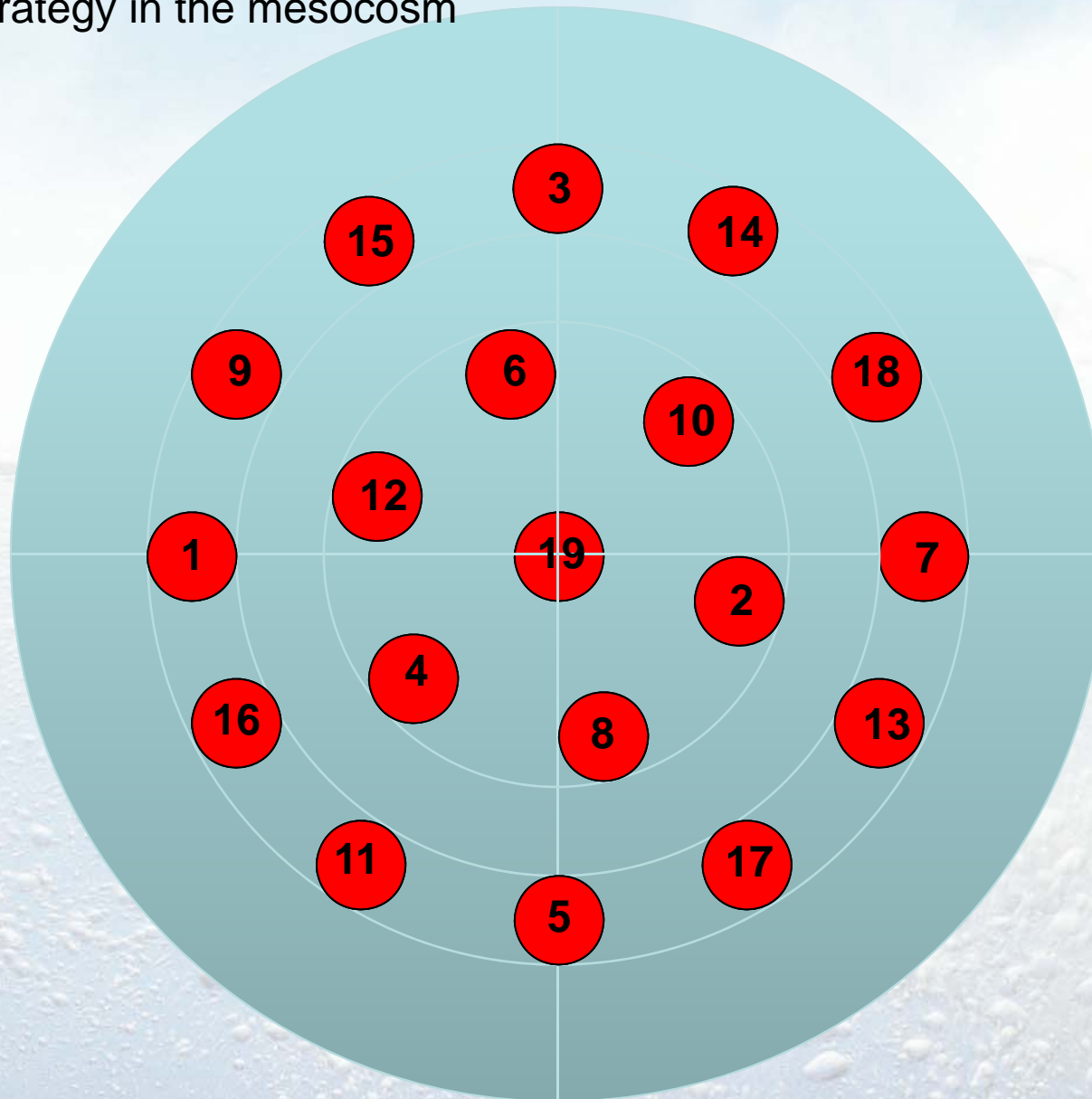


Mesocosms

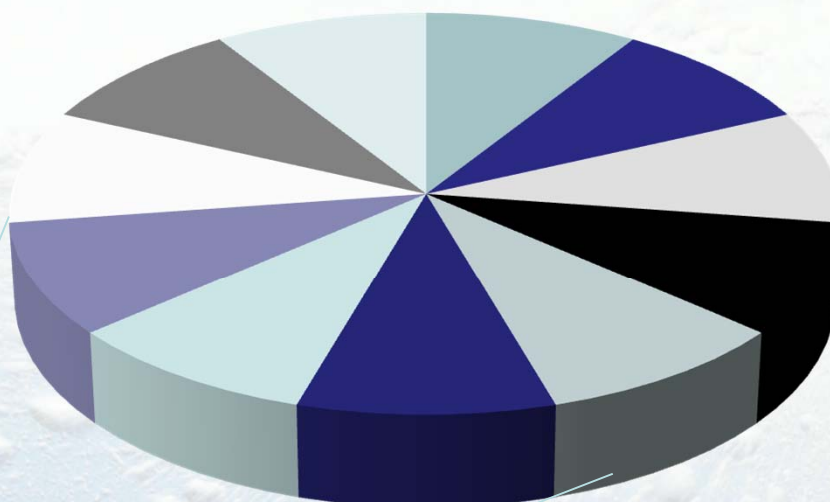
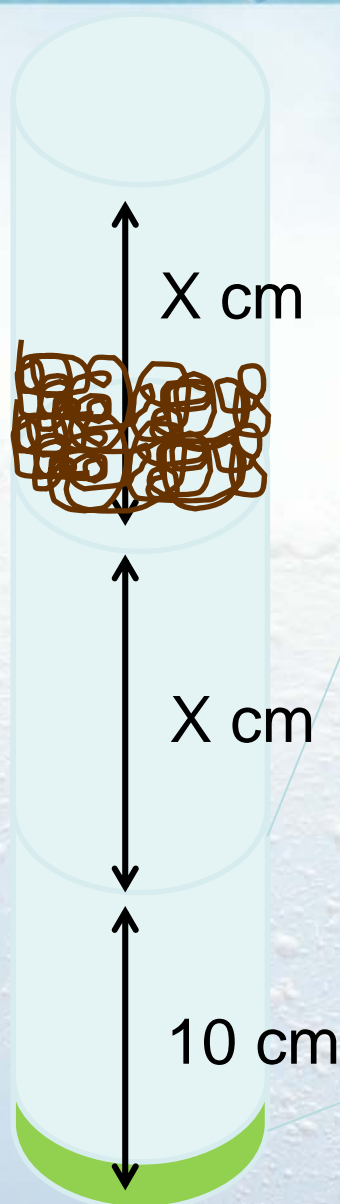




Sampling strategy in the mesocosm



Ice core sampling

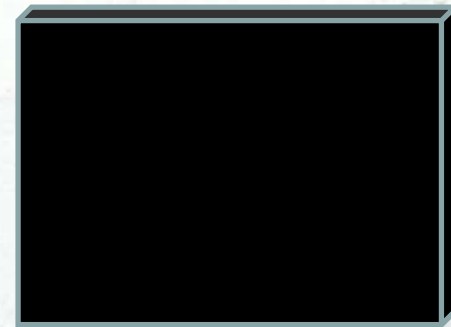
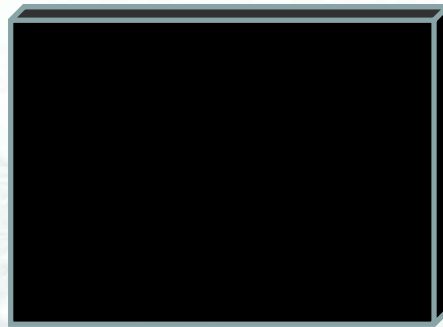


- Oil chemistry
- Conductivity
- Nutrients
- Bacterial DNA/RNA
- Bacterial production
- PAH mineralization
- Primary production
- Pigments (HPLC)
- Chlorophyll/Phaeo.
- Protist composition
- Virus abundance

- Photo
- Temperature of core sections
- Weather information

Oil weathering and biodegradation on the shore

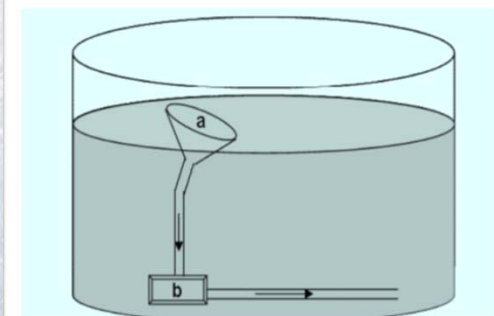
Oil smeared rock tiles



Oiled sediment bags



Laboratory: effect of chemically dispersed oil and residues of burnt oil on fish and zooplankton





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Project 3
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Thank you

Follow the project on:
www.arcticresponsetechnology.org