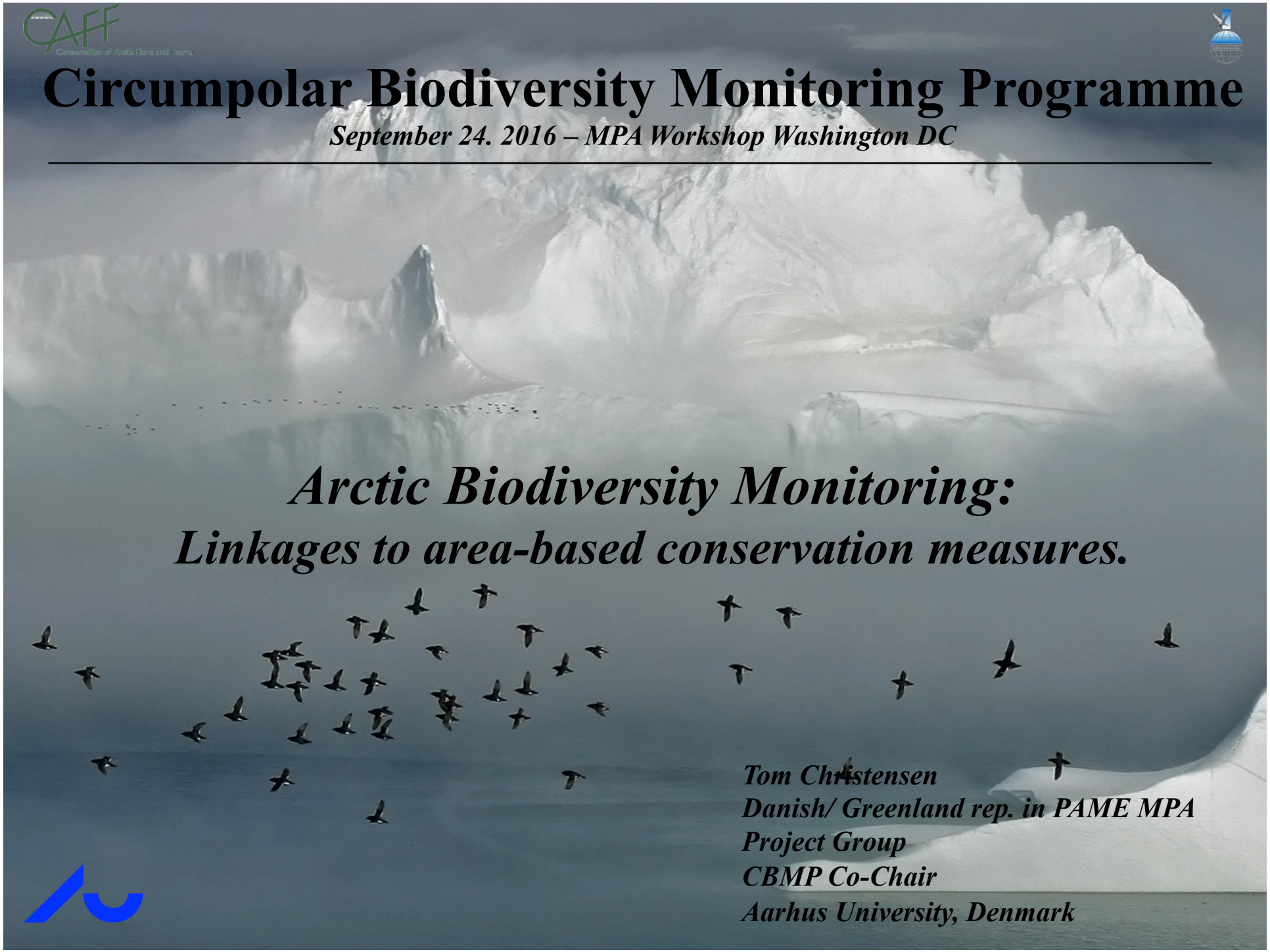
Circumpolar Biodiversity Monitoring Programme

September 24. 2016 – MPA Workshop Washington DC



Arctic Biodiversity Monitoring:

Linkages to area-based conservation measures.

Tom Christensen
Danish/ Greenland rep. in PAME MPA Project Group
CBMP Co-Chair
Aarhus University, Denmark

CAFF Working Group

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- Biodiversity Working Group of the Arctic Council
- Board members from eight Arctic countries and six Indigenous organizations
- Observers from non Arctic countries, international organizations
- Mandate:
  - to address the conservation of Arctic biodiversity, and to communicate its findings to the governments and residents of the Arctic, helping to ensure the sustainability of the Arctic's living resources

CBMP – in CAFF

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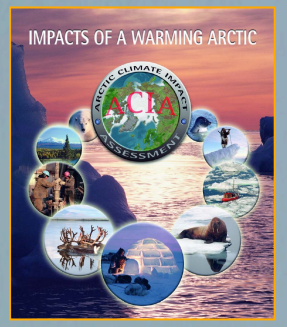
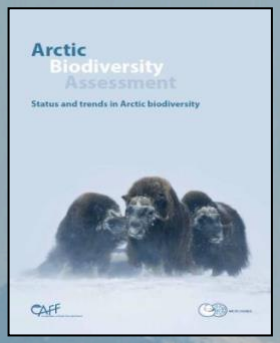
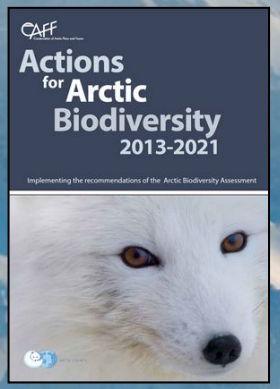
- Arctic Councils Biodiversity Monitoring Programme (under CAFF) and response to ACIA's recommendation to expand and enhance Arctic biodiversity monitoring and bridge the information
- Now also follow up on ABA through ABA action plan.
- Bridging the information-policy gap; including reporting
- CBMP contains of expert Monitoring Groups (EMGs)/ Steering Groups (SG):
  - Builds an Ecosystem-based approach and consist on network of networks
  - Forum for scientists and community experts (more than 250 international experts involved)
  - Coordinate, standardize and harmonize monitoring activites and data and deliver targeted assessments







MPA and CBMP; Part of ABA actions

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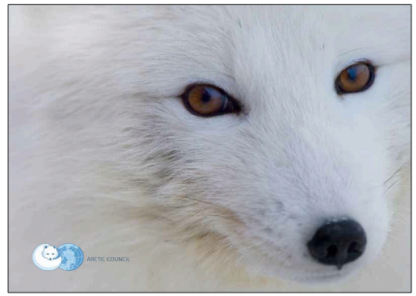
Least 30 actions in ABA tracking tool regard CBMP and/ or MPA. Including:

- Continue implementation of CBMP and its ecosystem-based biodiversity monitoring plans and develop reports on FEC´s
- Report on changes in Arctic ecosystems, and the effects of stressors through CBMP SABR (... including protected areas)
- Provide input to international processes to identify ecologically and biologically important areas and promote measures for conservation
- Develop and follow-up on a framework for a *Pan-Arctic Network of MPAs*; set out common vision for MPA network development and management



CBMP Strategic plan and monitoring plans

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– **Four year Strategic Plan** guides the CBMP until 2017
  - Focus: CBMP as s tool for ABA implementation
  - Focus: Making CAFF an international Focal Point for data on Arctic Biodiversity through various products
  - Focus: Increased harmonization and standardization of monitoring disciplines within CAFF

– **Three CBMP Ecosystem Based Monitoring Plans** developed. Steering Groups Established;

1. Marine
2. Freshwater
3. Terrestrial
4. Coastal Plan on its way (Steering Group established and backgroundpaper developed)

– ***Headline Indicators*** has been developed and are still developed

CAFF/ CBMP/ PAME Headline Indicateor: Protected Areas

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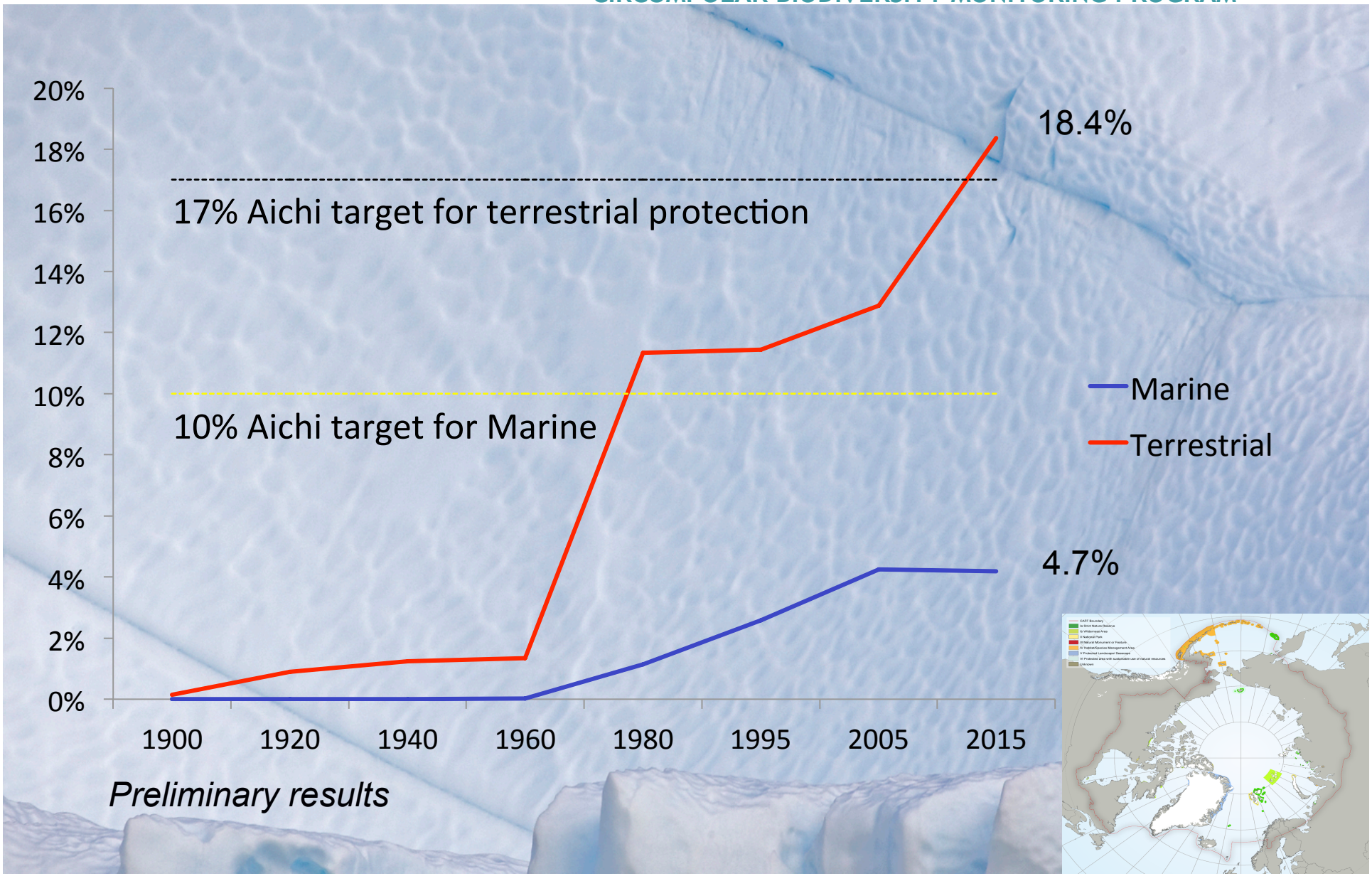


Long term ecosystembased adaptive monitoring

(Lindenmayer & Likens)

Conceptual Model
- Identify FEC and key monitoring targets

Management questions

Monitering design
- Sampling methods
- Scale to use

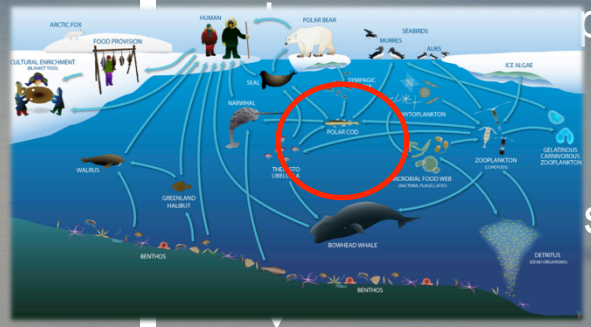
Science
Experiments
Exsisting Networks.

Collect data

Data: analyse

Communication of data
(dependent of target group)

wledge



ptual

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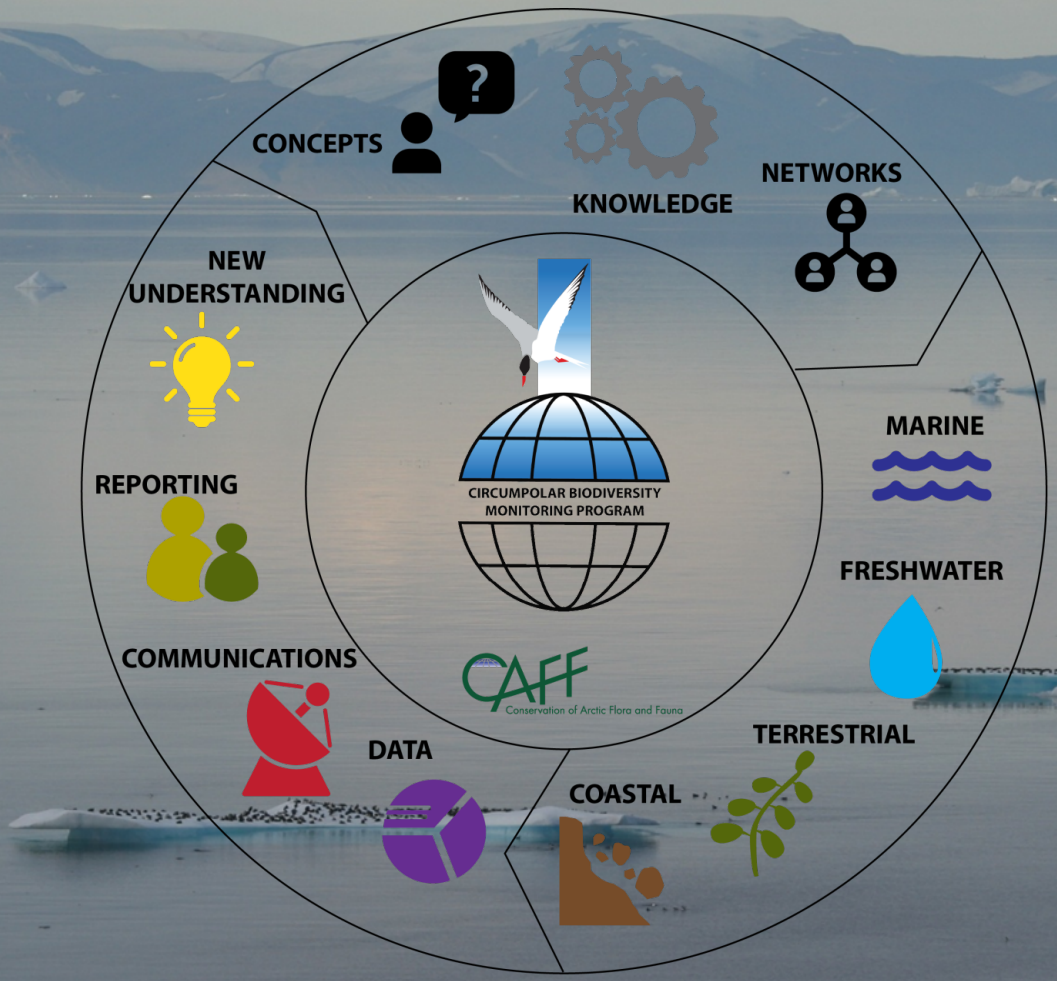
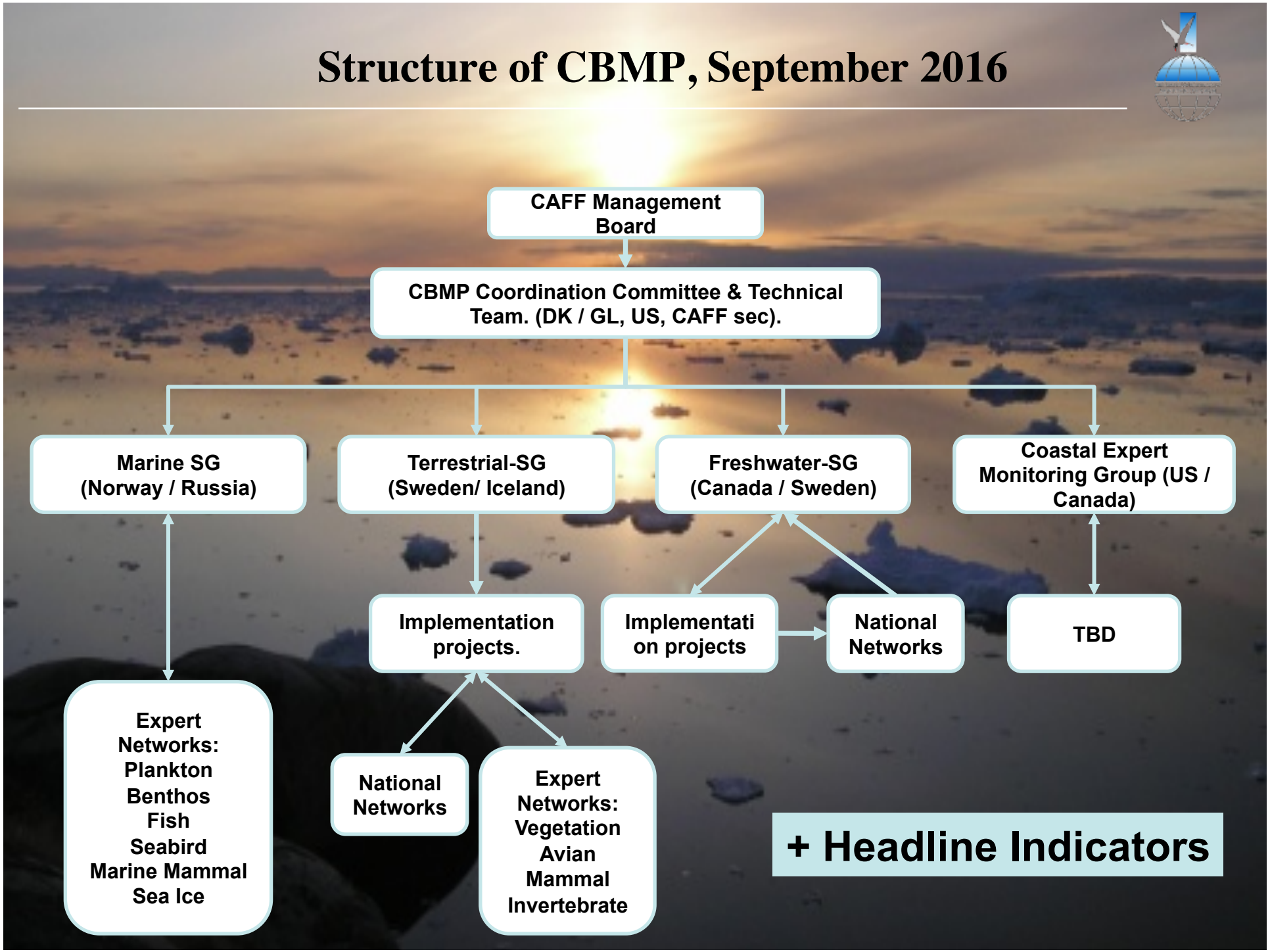
Adjust design

hnology
s, analysis

CBMP Workflow



Structure of CBMP, September 2016



Future outputs from CBMP

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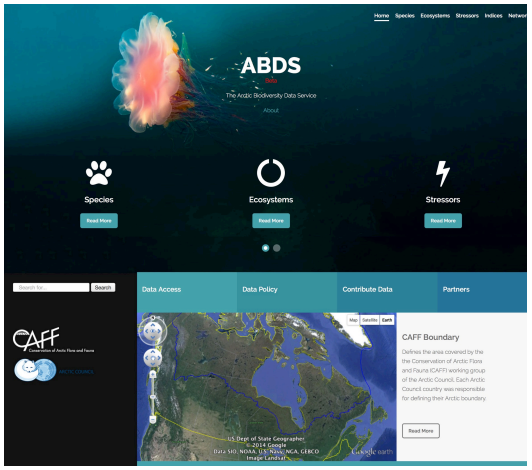
- Regular assessments: *State of Arctic Biodiversity* report, including status reports (Scientific and TK information). Marine report in 2017.
- Outputs as scientific publications, either by discipline or multidisciplinary
- Various summaries and other communications material
- Input to the ABDS (www.abds.is) that will be an important tool for faster and timely reporting



State of the Arctic Marine Biodiversity Report

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- Is a 140 page peer reviewed report based on CBMP monitoring on Marine Focal Ecosystem Components (FEC´s)
- Describe the baseline conditions for FEC`s identified for; Seabirds, Marine Mammals, Benthos, Sea Ice Biota, Plankton and Fish.
- Describe the status of the monitoring and monitoring gaps on these FEC´s
- Make spatial comparisons, where possible, within the Arctic region
- Include key findings and scientific recommendations, including recommendations related to future monitoring priorities
- Products include the report it self in CAFF series, Website /ABDS, Press releases and pre-prepared news stories, Short summary report

FEC´s include

Sea Ice Biota:

- Microbes
- Ice algae
- Ice meiofauna
- Ice macrofauna

Plankton:

- Phytoplankton and larger protists
- Microbial Eukaryotes
- Bacteria and Archaea
- Zooplankton

Benthos:

- Macrofauna (organisms larger than 1 mm)
- Megafauna (organisms that can be identified on photo/or caught by trawl)

Fish:

- Capelin
- Polar Cod
- Greenland halibut

Birds:

- Black-legged kittiwake
- Common murre
- Thick-billed murre
- Ivory gull
- Common eider
- Glaucous gull
- Least auklet
- Dovekie

Marine mammals:

- Walrus
- Ringed seal
- Bearded seal
- Ribbon seal
- Harp seal
- Spotted seal
- Narwhal
- Bowhead whales
- Beluga
- Polar bear
- Hooded seal

Findings on FEC´s and monitoring

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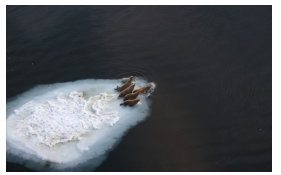
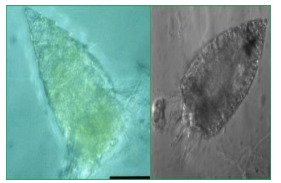
- Overall key findings based on findings from status of FEC´s within the groups :
  - Higher temperatures are disrupting the Arctic marine food web.
  - Some Arctic species are shifting their ranges northwards.
  - Earlier sea ice retreat resulting in longer open water seasons removes a key habitat…....
- For some FEC´s monitoring is going on, data are available and comparable
- For many other FEC´s the current monitoring is fragmented or (in regions) lacking.
- SAMBR contain advises for future monitoring, including how to strengthen coordination and TK involvement





CBMP/ SAMBR;
Potentials to use in MPA development

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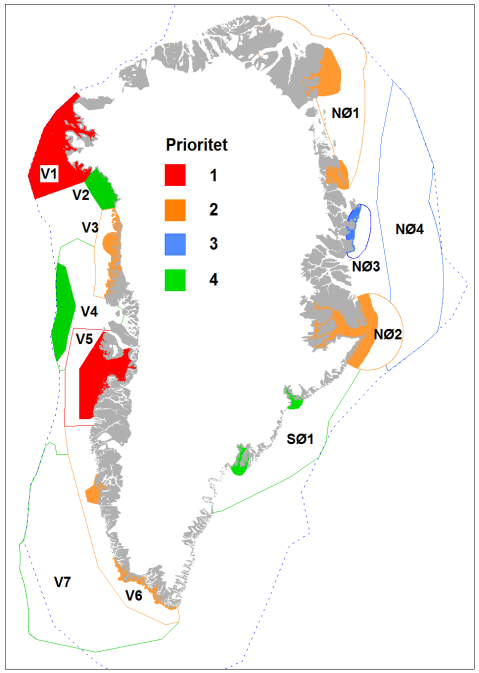
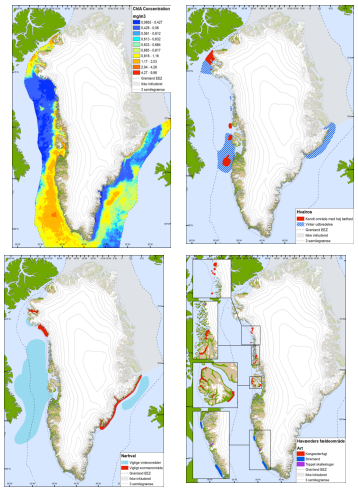
- Report does not as such include spatial data on important areas, but information about FEC´s and monitoring can be used in a wider context
- Potential to use CBMP network in MPA work.
- SAMBR include description on various stressors and also national examples/ box texts on processes related to identification of important areas for biodiversity and Ecosystem Approach to Management
- One example from Greenland:
  - 12 areas identified and prioritized according to PSSA criteria
  - Two areas – V1, the *North Water Polynya* and V5, *Disko Bay and Store Hellefiskebanke* – stand out; ranked priority 1

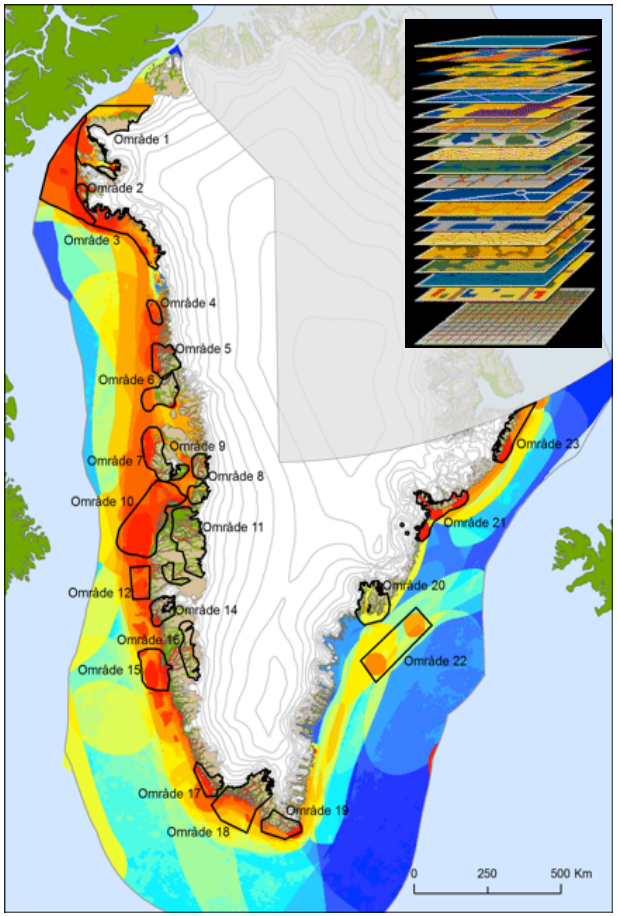


CBMP / SAMBR: Example from Greenland

CIRCUMPOLAR BIODIVERSITY MONITORING PROGRAM

- Small expert workshops (Expert judgement) and GIS analysis
- - 107 biological themes/ layers
  - Each theme/ layer are ranked
- Ranking based on national priorities and international criteria incl. EBSA.
- More detailed studies made or initiated for *North Water Polynya* and V5, *Disko Bay and Store Hellefiskebanke*
- The studies can be used as steps to EBM and improved ecological connectivity in MPA planning





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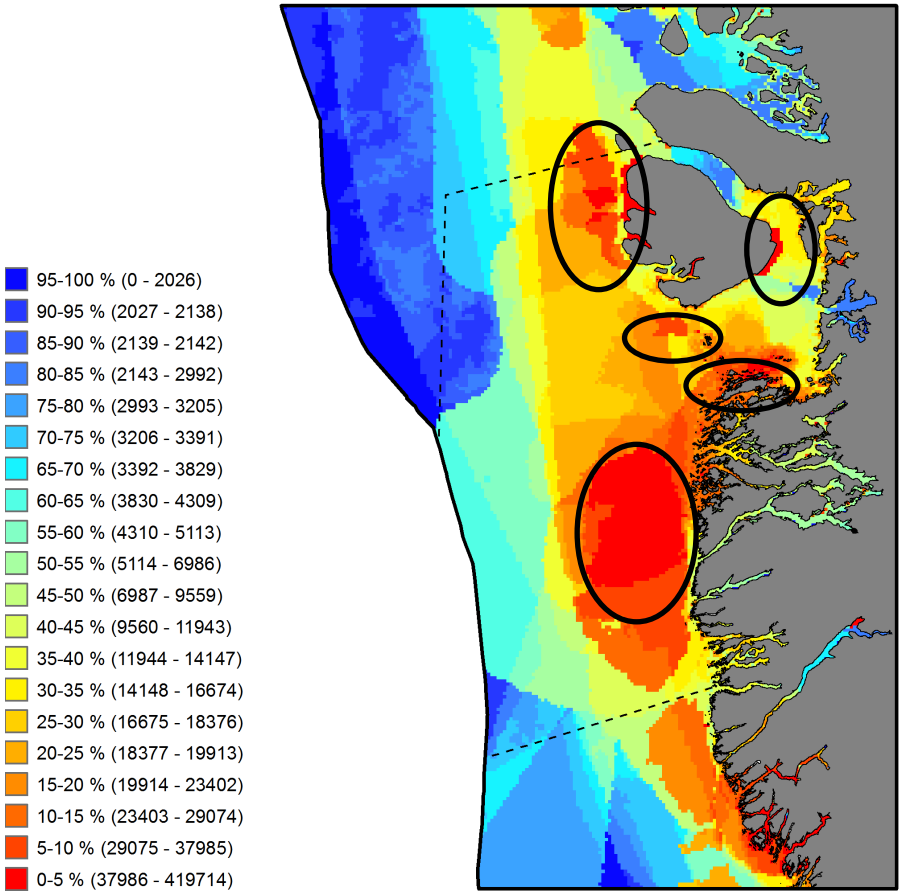

Looking Ahead

- SAMBR is a major step to identify ongoing Arctic Biodiversity Monitoring efforts, data and gaps.
- Can be used to target and guide future CAFF/ Marine CBMP work (also in relation to MPA).
- Programme will need guidance/ input to make it as relevant as possible (also in relation to MPA).
  - input on relevant management questions (user needs):
  - ABA recommendations, including those on MPA´s
  - link to other / AC efforts (eg. PAME, MPA work, PAME EA-work, AMSA, AMAP, AC Task force)?
  - input from government on national priorities?
- Improve monitoring gaps (e.g. better inclusion of TK, better use of vessels etc.)


Thank you