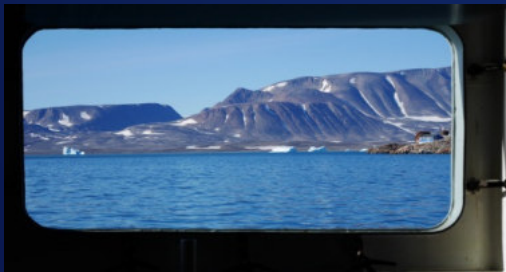


SELECTION OF FOCAL ECOSYSTEM COMPONENTS

QA OF THE COASTSCAPES *FJORDS* AND *ROCKY SHORES*
AT WORKSHOP IN TROMSØ, NORWAY, JANUARY 2018

Susse Wegeberg, Maria Pettersvik Arvnes, Tahzay Jones



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- A group of five men are seated around a white conference table in a modern meeting room. The background is dominated by a large, vibrant green living wall. The men are dressed in business casual attire. The table is equipped with several laptops, some open and displaying code or documents, along with various items like water bottles, a plate of fruit, and papers. The atmosphere appears to be a collaborative work session or a meeting.

Potential Coastal FECs	Freshwater CBMP	Marine	FEC Category		Coastal FEC from workshop/June meeting		Greenland/Denmark			
		Rocky Shores	Eroding Shores	Lagoons	River	Low	Fjords			
						FECs All Coastscapes	Attributes	Parameters		
shorebirds			waterfowl	waterfowl	wa	Waterfowl	Diversity	Community Alpha diversity		
		Seabirds: omnivores	Seabirds: omnivores					Spatial Structure		
								Species composition		
	Abundant resident	Seabirds: diving planktivore	Seabirds: diving planktivore					Phenology	Migration timing (dates)	
									Migration routes (Location)	
									Degree of Partial Migration	
									Breeding area location changes (IK)	

TROMSØ WORKSHOP; FJORDS AND ROCKY SHORES COASTSCAPES QA OF FEC LIST, PRIORIZATION, ATTRIBUTES AND PARAMETERS

Nordic workshop with:

CEMGs from Canada, Norway and Greenland (DK)

Invited experts on fjords and rocky coasts ecosystems

- Philipp Assmy, Norwegian Polar Institute
- Bodil Bluhm, Tromsø University
- David Boertmann, Aarhus University
- Ole Geertz-Hansen, Greenland Institute of Natural Resources
- Paul Renaud, Akvaplan-Niva
- Hallvard Strøm, Norwegian Polar Institute
- Beaska Niillas, Sámi Association



Session title	Suggested content	Output
Focal Ecosystem Components (FECs)	Presentation of FECs selected for the CBMP Coastal; full list and coastscape allocated. The terms <i>attributes</i> and <i>parameters</i> will be introduced	Commented excel sheet with list of coastal FECs and list of coastal FECs allocated the coastscapes <i>Rocky Shore</i> and <i>Fjord</i>
Coast scape FECs	Discussion of the FEC lists and allocation to coast scapes	Potential suggestions for changes in lists of FECs
Lists of FECs in common with other coastscapes and monitoring plans (e.g., marine)	Discussion of FECs selected for <i>Rocky Shore</i> and <i>Fjord</i> in common with the other coastscapes as well as selected FECs in common with other monitoring plans, e.g., marine	FECs in common with other monitoring plans identified and presented in a table, optimally an illustration / conceptual model will be developed
End of exercise		FECs lists; total and per coast scape agreed upon as well as those in common with other coast scapes and monitoring plans identified



Session title	Suggested content	Output
Introduction to FEC ranking, attributes and parameters	Presentation of current ranking, potential attributes and parameters as in Marine Monitoring Plan / Anchorage meeting	Preparation for quality assurance of FEC ranking and designation of attributes and parameters
Quality assurance of FEC ranking in <i>Rocky shore</i> and <i>Fjord</i> coast scapes (for a later external expert review)	Discussion of FEC ranking for <i>Rocky shore</i> and <i>Fjord</i> coast scapes	Proposed final FEC ranking and prioritized FEC list for monitoring of the <i>Rocky shore</i> and <i>Fjord</i> coastscapes; development of need and nice to have lists to be agreed upon in the coastal steering group
Listing attributes and parameters for selected FECs for <i>Rocky Shore</i> and <i>Fjord</i> coast scapes	Suggestions for attributes and parameters will be based on the other CBMP groups' lists as well as expert inputs	List of suggestions for FEC attributes and parameters for the Rocky Shore and Fjord coast scapes
End of exercise		Proposed FEC ranking and prioritized list of FECs for Rocky shore and Fjord coast scapes with suggestions for attributes and parameters



Criteria for ranking

Kopi af CEMG FEC Full list_incl ice front_01102018 - Excel

Susse Wegeberg

FileHjemIndsætSidelayoutFormlerDataGennemseVisPDF Architect 6 CreatorACROBATFortæl mig, hvad du vil gøre...

Sæt ind

Arial10

Standard

JusteringTal

Betinget formatering som tabel

Formatér

Celltypografi

IndsætSletFormatér

Celler

Σ

Vælg sag

Opdatér

Sortér og Søg og filter

Proces

Criteria for ranking

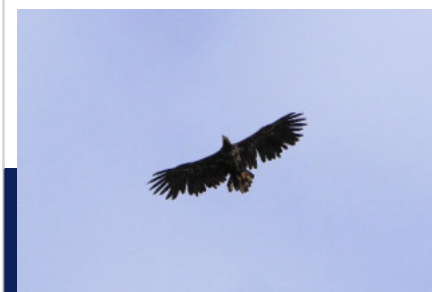
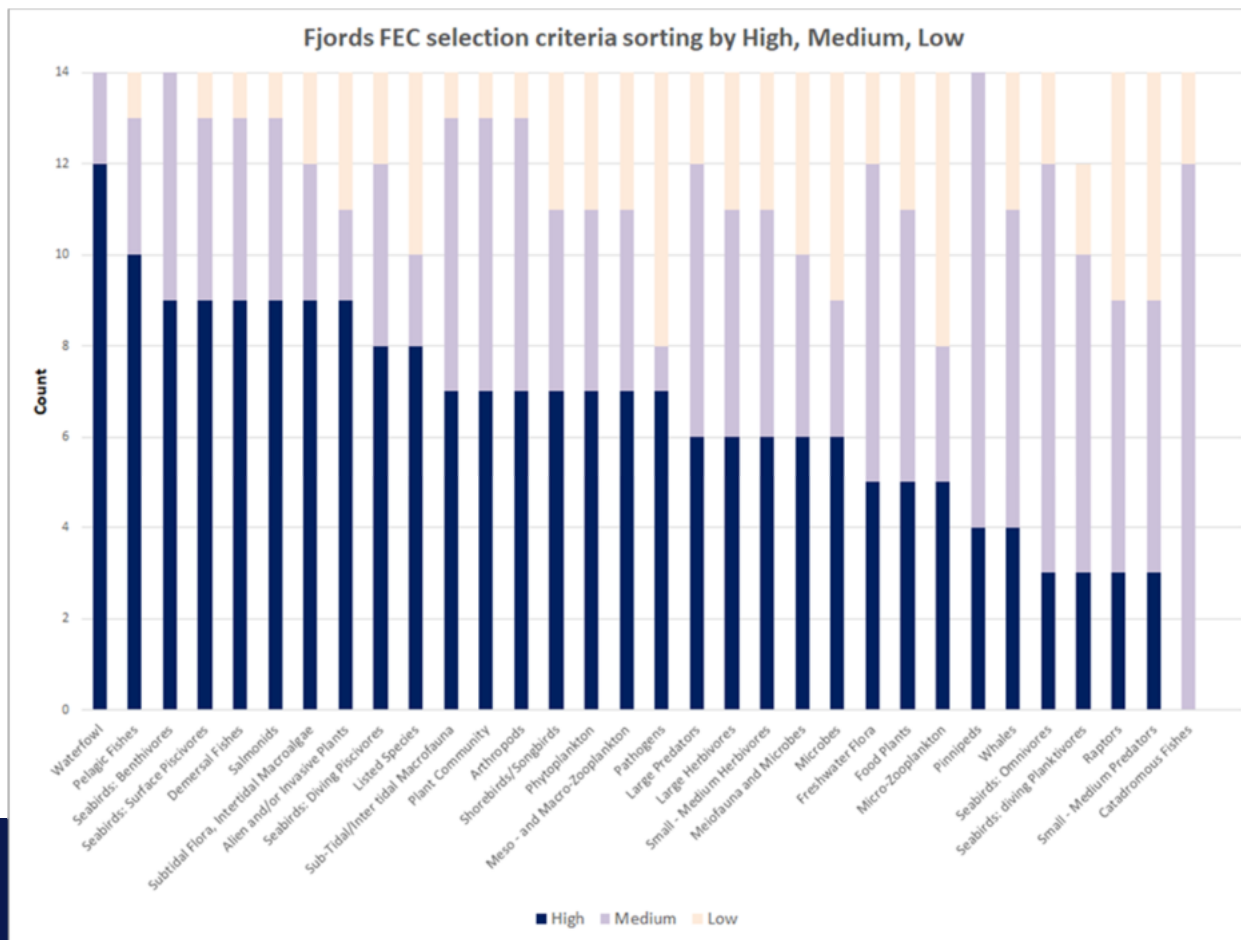
	B	C	D	E	F	G	H	I	J	K	L	M	N	O
	Ecosystems			Relevance					Monitoring Status		Geographic Status			
	Sensitive to climate-driven ecosystem drivers	potential for causing ecosystem change	sensitive to anthropogenic stressors	Relevance to management questions	Significant for supporting community food security	Relevance to legislation	Relevance to diverse audiences	Cultural or science relevance	Presently being adequately monitored	Availability and sustainability of monitoring capacity, expertise and protocols	Ability to access existing data	Pan-Arctic Distribution	Occurrence across Coastscape	Relative Importance of the Coastscape
2	Rocky Shores													
3	birds													
4	raptors (white-tailed eagle)													
5	Seabirds: benthivore (Common Eider, Black Guillemot, Pigeon Guillemot)													
6	invertebrates													
7	arthropods													
8	pathogens/parasites													
9	Pathogens													
10	plankton													
11	Phytoplankton (spore forming diatoms, harmful algal species)													
12	Micro-zooplankton													
13	Microbes (Bacteria and archaea)													
14	Zooplankton													
15	ice associated organisms													
16	Ice algae and other protists													
17	Microbes (Bacteria and archaea)													
18	meiofauna													
19	amphipods													
20	benthic organisms													
21	macrofauna													
22	macroalgae													
23	Microbes (Bacteria and archaea)													
24	microphytobenthos													
25	meiofauna													
26	mammals													
27	Pinnipeds (harbour seal, grey seal, walrus)													
28	whales													
29	polar bear													
30	fishes													
31	pelagic fish (polar cod)													
32	catadromous													
33	demersal (lumpsucker, sculpin, coastal cod)													
34	anadromous (Arctic char, salmon)													
35	Coastal Wetlands													

Rocky ShoresIce FrontEroding ShoresLagoonsRiver EstuariesLow gradientFjordsA ...

63 %

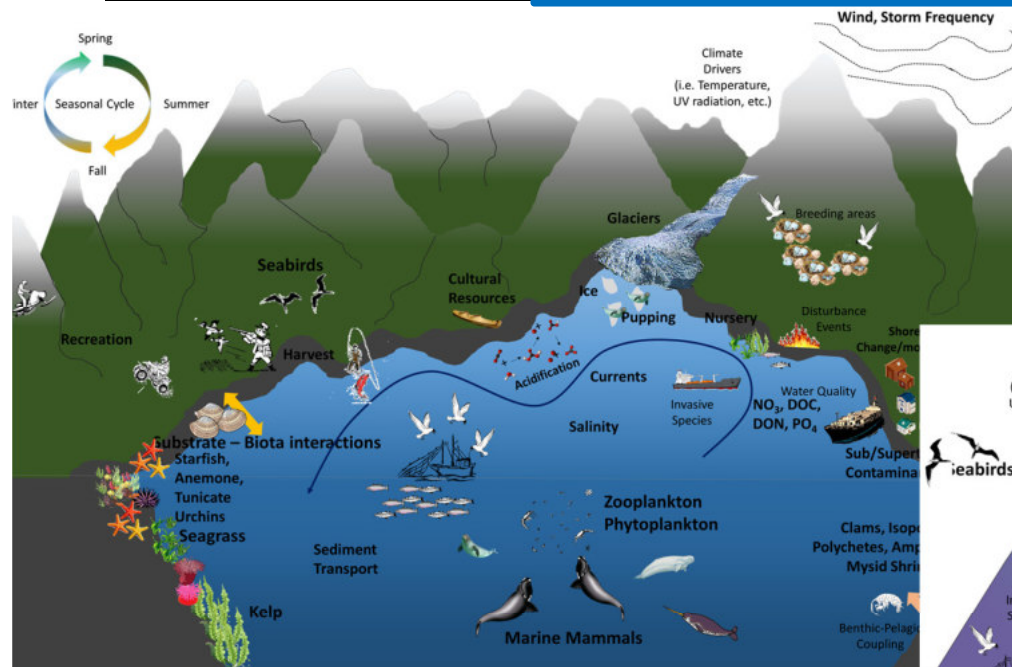
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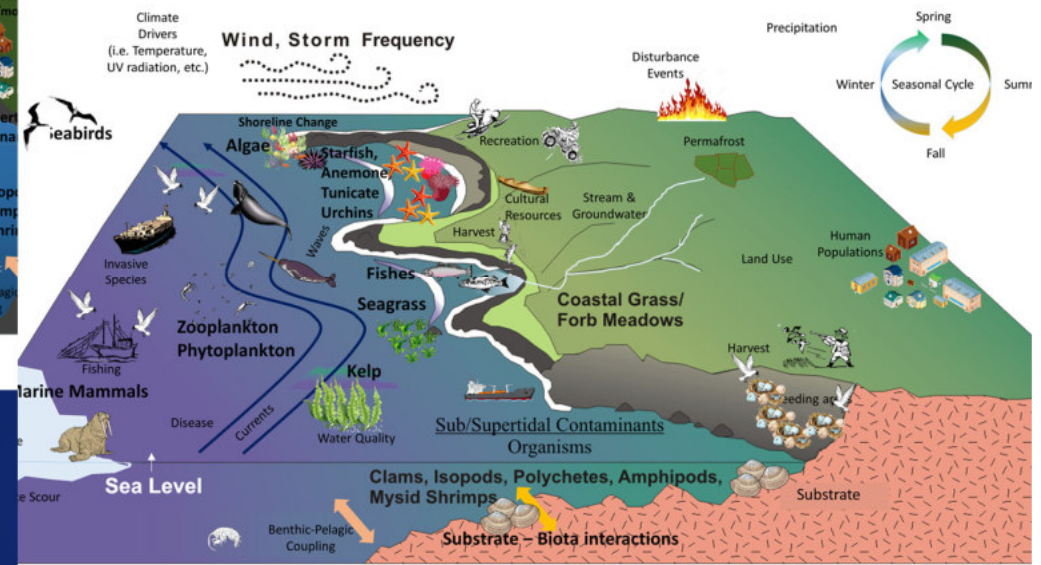


Rocky Shores	Attributes	Parameters
birds		
Raptors (white tailed eagle)	abundance	number, density,
	phenology	dates for arrival, egg laying, etc
	demography	number of eggs, hatching success etc
	health and body condition	diet composition and amount, nutritional value, feeding rate and energy budget, contaminant load
Seabirds: omnivores (Glaucous Gull)	abundance	number, density, area occupancy, harvest rate
seagrasses	abundance*	blade density per unit area
	biodiversity?	Any mix of seagrass species?
	biomass*	biomass per unit area
	production	blade growth during summer,
	phenology	seasonal shifts in abundance/biomass
	habitat value	fish/macrofaunal community present
macroalgae	abundance*	ind per unit area,
	biomass*	mass per unit area
	diversity*	species composition (traditional/genomic identification)
	productivity	blade elongation rates, biomass change across seasons
	life-history stages	presence of gametophytes and sporophytes across seasons
	habitat value	fish/macrofaunal community present

Session title	Suggested content	Output
Coast scapes	Presentation of definitions and conceptual models; expert discussion of potential gaps and overlap between coast scapes	Proposals for potential adjustments of definitions and conceptual models ready for the Coastal Monitoring Plan



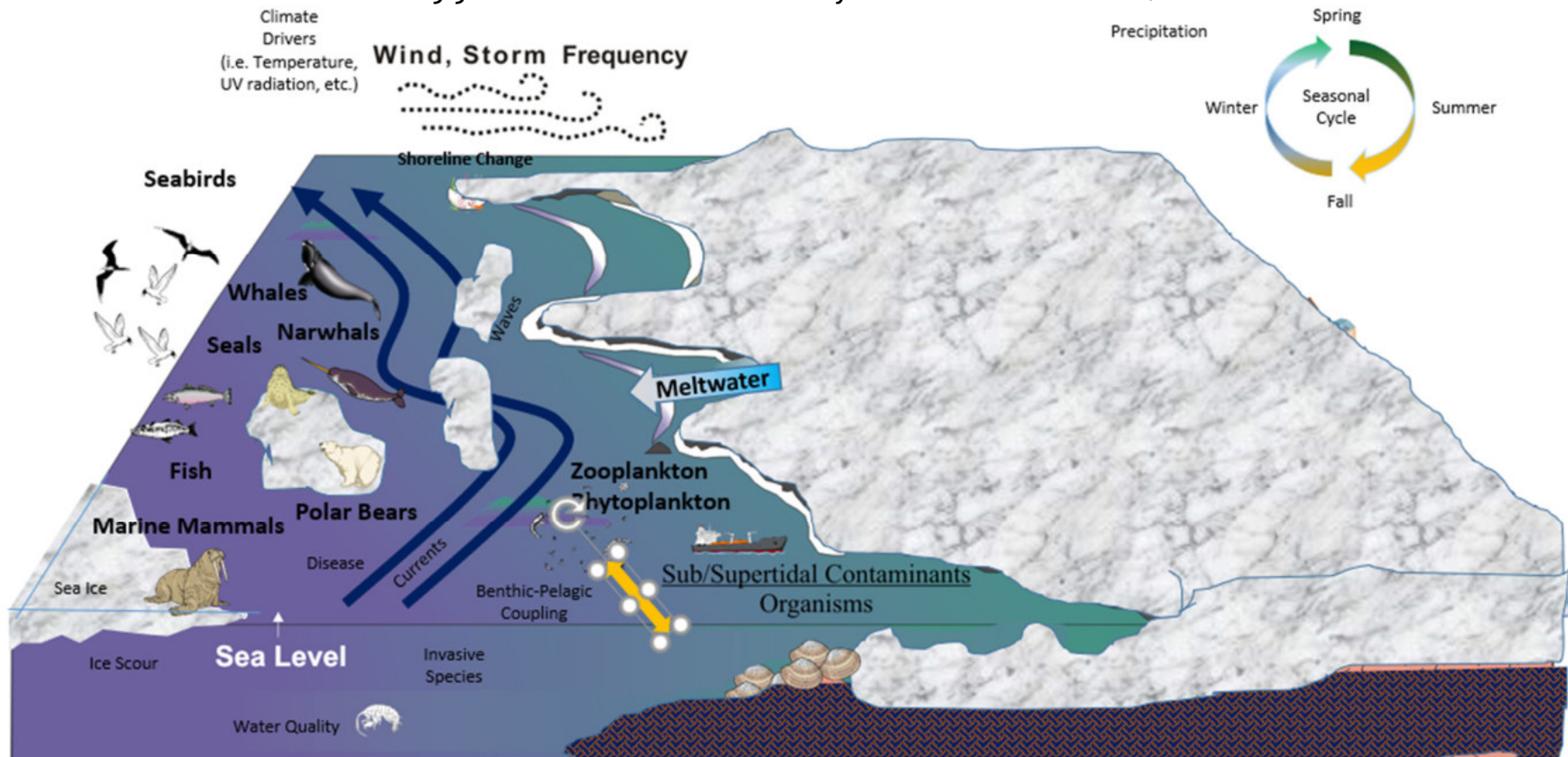
- 1) Is the information level appropriate?
- 2) Are all types of coastscapes covered?



Produced for ARCN-NPS by M. T. Jorgenson and D. M.

ICE FRONT / EDGE COASTSCAPE?

Suggested and described by David Boertmann, AU







THANK
YOU