

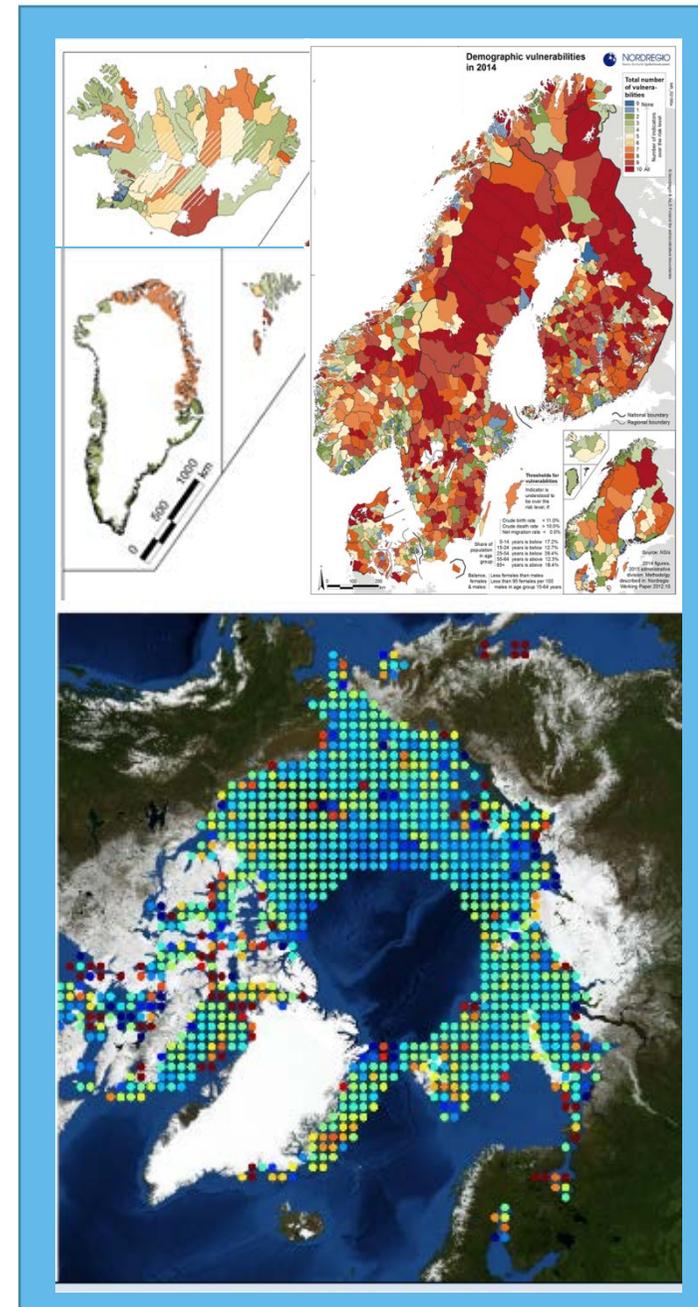
# Mapping of how the Nordic countries are thinking of organizing themselves for PRCC

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WORLD METEOROLOGICAL ORGANIZATION

Scoping Workshop on Climate Services for Polar Regions:  
Establishing Polar Regional Climate Centres Towards  
Implementing an Arctic PRCC-Network

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# PRCC Nordic vision

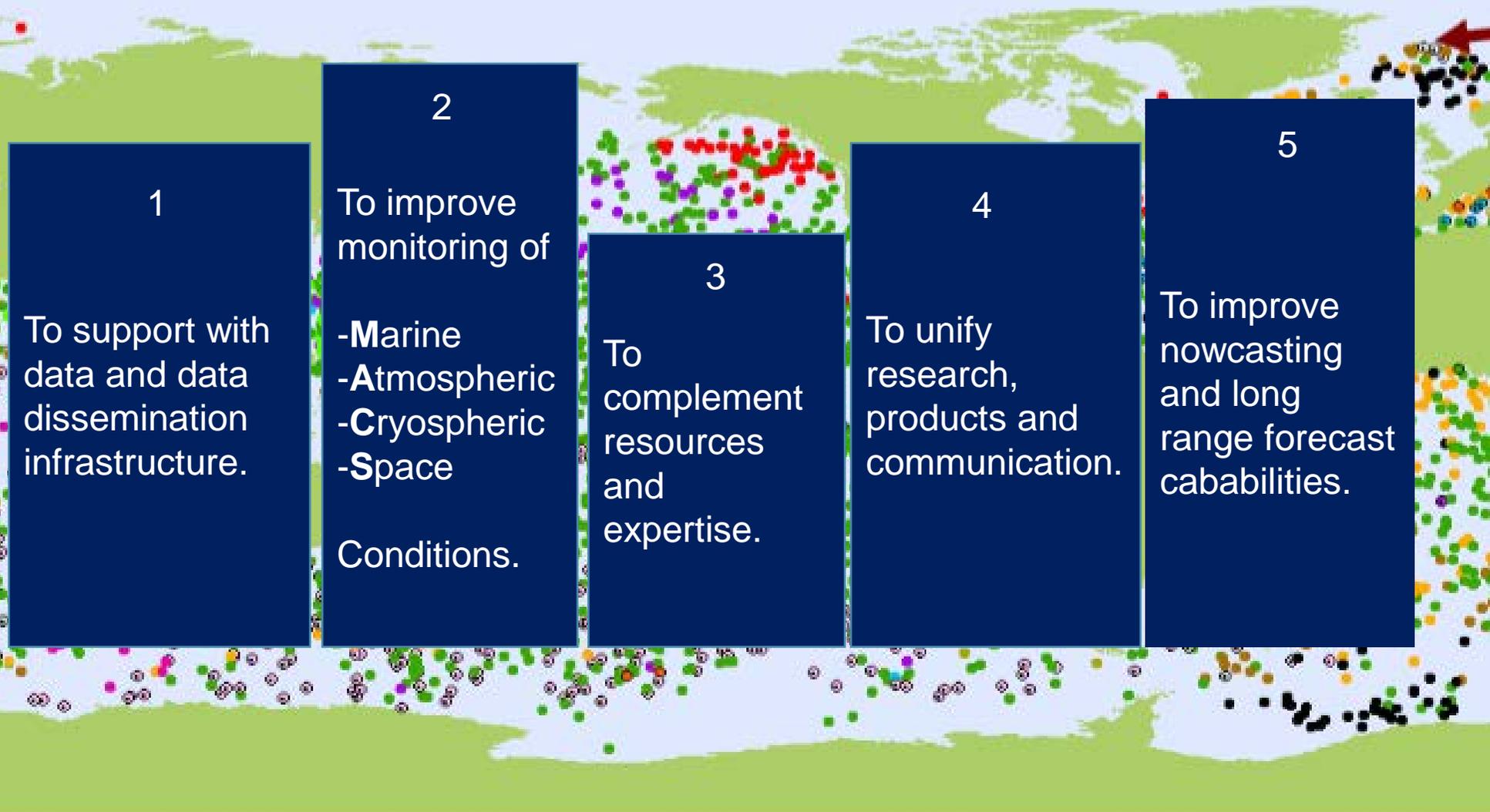
*PRCC will unify marine, atmospheric, cryospheric and space(MACS)-services to make the Arctic area a safe and secure place for living*

*PRCC Nordic goals could be to:*

- 1) Participate in sharing of essential MACS-information*
- 2) Reduce overlap of efforts*
- 3) Unify the Arctic MACS-service provision*
- 4) Communicate with common tools and languages*
- 5) Make data easily available and free of charge*



# PRCC Nordic mission could be



-observations  
-reanalyses  
-modelling

Create joint projects  
with Arctic focus

-waves  
-sea ice  
-high impact weather

# Function: Operational forecasting activities

Function	FMI	IMO	SMHI	METNO	DMI	Arctic needs
<b>Ocean / Sea Ice forecasting</b>	Baltic Sea, Kara Sea, Arctic areas, Antarctic areas	Near shore Iceland	Baltic Sea	Arcic Sea-Ice Conc. (1978-2015); Ocean-Sea-ice prediction system	Baltic Sea, North Sea Kara Sea, Arctic areas, North Atlantic Areas	<b>Division of areas to be reported</b>
<b>Atmospheric forecasting</b>	High.res. NWP system, LRF product design and piloting		High.res. NWP model system	High.res. NWP model system	High.res. NWP model system	<b>LRF forecast products</b>
<b>Hazard forecasting</b>	<b>Hazard forecasting and communication</b> through LUOVA-portal also including <b>space-weather-hazards impacting on radio signals</b>	Hazard warning	Hazard warning and forecasting service	Polar Low Tracking / Wave forecasting	Hazard forecasting including also cryospheric conditions	<b>Hazard monitoring and reporting</b>

# Function: Climate Scenarios

Function	FMI	IMO	SMHI	METNO	DMI	Arctic needs
<b>Climate projections</b>	Using model outputs (GCM, RCM) and building ensembles, uncertainty estimates and doing EQC on data, downscaling	Regional downscaling climate scenarios	Regional downscaling climate scenarios for Sweden	NorESM development (aerosols in particular) CMIP, Regional Climate Modelling	Regional downscaled climate scenarios for Greenland+ic e cap modelling	<b>Regionally downscaled scenarios</b>

# Function: Operational monitoring activities

Function	FMI	IMO	SMHI	METNO	DMI	Arctic needs
<b>Hist. reference climatology</b>	FMI Argo floats, weather stations north of 65°N, Radar	Weather stations, glacier, rivers	Weather, ocean, ice and river stations	Weather stations, Glacier, snow, sea-ice, permafrost	Climate and weather stations, Glacier, snow, sea-ice, permafrost Waves	<b>Extending time-series</b>
<b>Climate change impact monitoring</b>	Permafrost, Snow, Vegetation zones,	Glaciers, rivers, snow, weather	Climate indicators of weather, ocean and ice	Permafrost Svalbard	Surface mass balance + product from coll. institutions	<b>Coastal areas, sea areas, land and ice</b>
<b>GHG /SLCF monitoring</b>	ICOS, ACTRIS, GAW, EMEP, Tiksi, Cape Baranov				Ozone	<b>PPM-news</b>
<b>Statistics</b>	Climate and impact statistics and automatic update generation	Climate statistics	Climate statistics	Climate statistics, Statist. down-scaling	Climate statistics, Statist. down-scaling	<b>Updating Arctic data records</b>
<b>Digitizing/ QC</b>	Snow records, Baltic Sea ice records, Precipitation records			Snow	*special case Greenland	<b>Gap filling: securing essential time-series</b>
<b>Fewer stations</b>	COSMO-SkyMed satellite data reception & product delivery. Sentinel-1 SAR operational soon. Intercomparison of timeseries to in situ and reanalysis			Remote sensing (radars and radio soundings)	*special case Greenland	<b>Promoting solutions</b>

# Function: Operational data service activities

Function	FMI	IMO	SMHI	METNO	DMI	Arctic needs
<b>Re-analysis</b>	Global ocean reanalyses, Synoptic climatologies and cyclone climatologies for the Arctic	Atmospheric for Iceland	Baltic Sea ocean reanalysis, Arctic ocean drainage basin hydrological reanalysis (Arctic-HYPE)	Ocean-Sealce; Atmospher e-Wave	HIRHAM products for Greenland	<b>Improved gridded oceanic and atmospheric datasets</b>
<b>Gridded local data sets</b>	For Finland, Baltic Sea	For Iceland	For Sweden, Baltic Sea	For Norway	For land, sea and ice	<b>Sharing of methodologies and harmonizing local climate datasets</b>
<b>Data dissemination infrastructure</b>	LUOVA, Sodankylä Satellite Data Centre		Copernicus BAL MFC and In-situ TAC dissemination unit, Hypeweb.smhi.se, Open access to data	GCW-WIS, MOSJ, eklima	*special case Greenland	<b>Timely dissemination and outreach of MACS trends and hazard monitoring and LRF forecast products</b>

# Function: Training and communication

Function	FMI	IMO	SMHI	METNO	DMI	Arctic needs
<b>Watches, Portals, Courses, Guidelines</b>	Climateguide portal – three languages, training for journalists, adaptation guidelines for Finland ( <a href="http://en.ilmatieteenlaitos.fi/ela-stinen">http://en.ilmatieteenlaitos.fi/ela-stinen</a> )			Barents Watch	Polar Portal, ArcticWeb (e-navigation), ISAAFFIK	<b>Unified communication and relevant languages</b>

# Concerns, gaps, to be discussed

What do we wish to be discussed/solved at the workshop?

1. Clarification on the added value of a PRCC
2. Should we have agreements of the data sharing responsibilities?
3. Who is the main customer of PRCC?
4. What is the expected and most important outcome?

