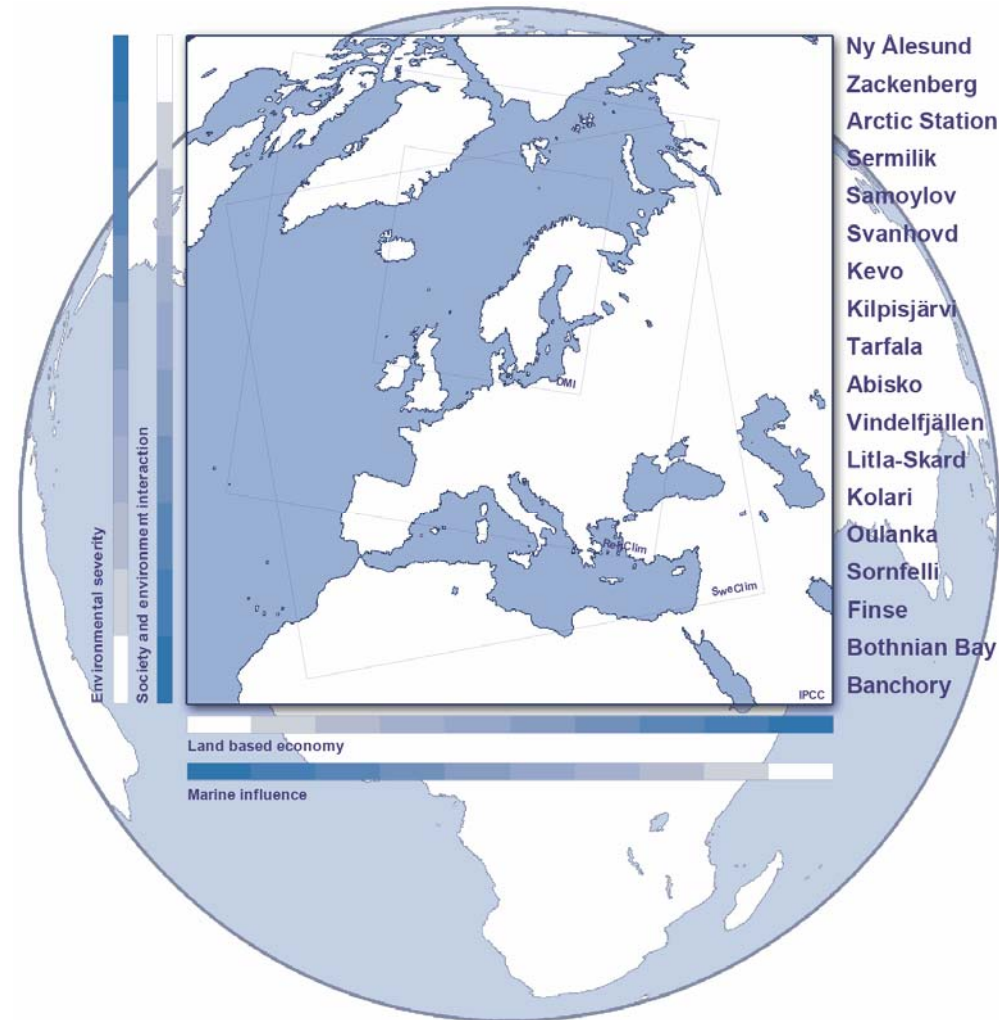


Scandinavian/North European Network of Terrestrial Field Bases



Margareta Johansson on behalf of the SCANNET group

SCANNET

SCANNET is a network of Terrestrial Field bases, Research Stations Managers and user groups that are collaborating to improve comparative observations and access to information on Environmental Change in the North

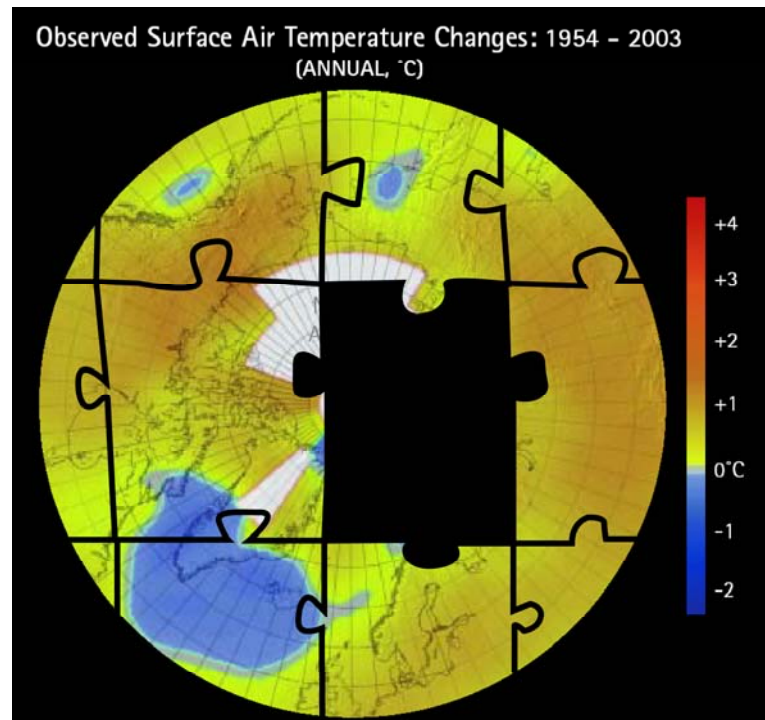
SCANNET was established 1st of February 2001 within the EU 5th Framework



Background - The need for Coordinated Action

The Arctic has been subject to recent large climate change and climate scenarios predicted most prominent changes at high latitudes

Valuable long term information from observations and experiments based at research facilities within the region are underused and are sometimes inaccessible



A suggested way to solve the puzzle is via **sustained** and **coordinated monitoring**



Specific objectives from the outset (2000)



Establish a network of field sites, covering the main environmental conditions in northern Europe



Compile and compare existing data and information from field sites



Improve comparability and coverage of long-term observations and experiments within the network



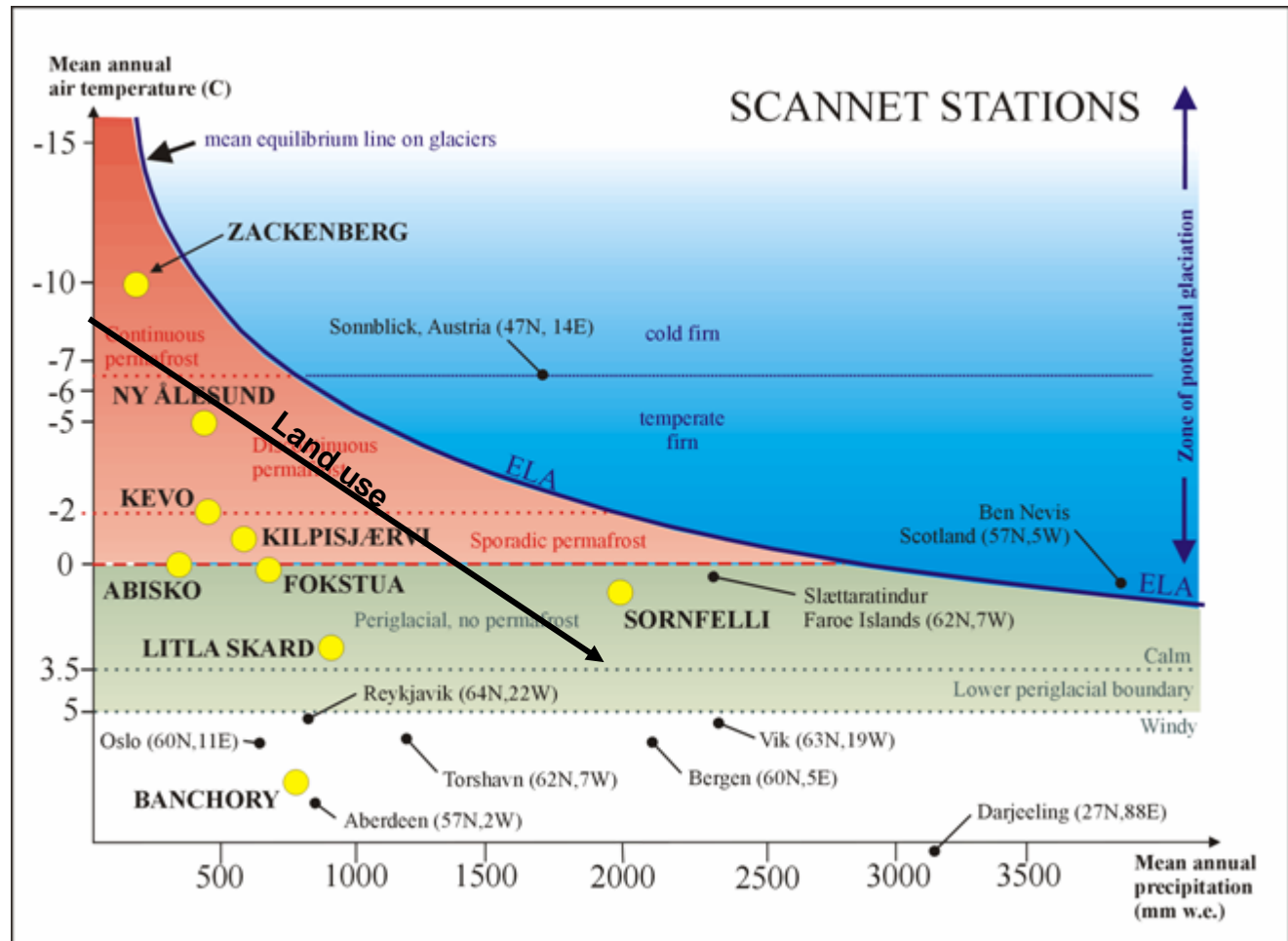
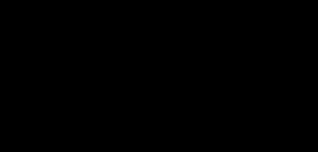
Improve access and relevance of data to researchers and to international organisations such as GTOS, AMAP, CAFF, EEA and ACIA



SCANNET 2001 – 9 sites



SCANNET - Cover a wide range of climate, environmental and land use envelopes



Ole Humlum

Administration, co-ordination, Station Managers' Forum



Identified 5 themes

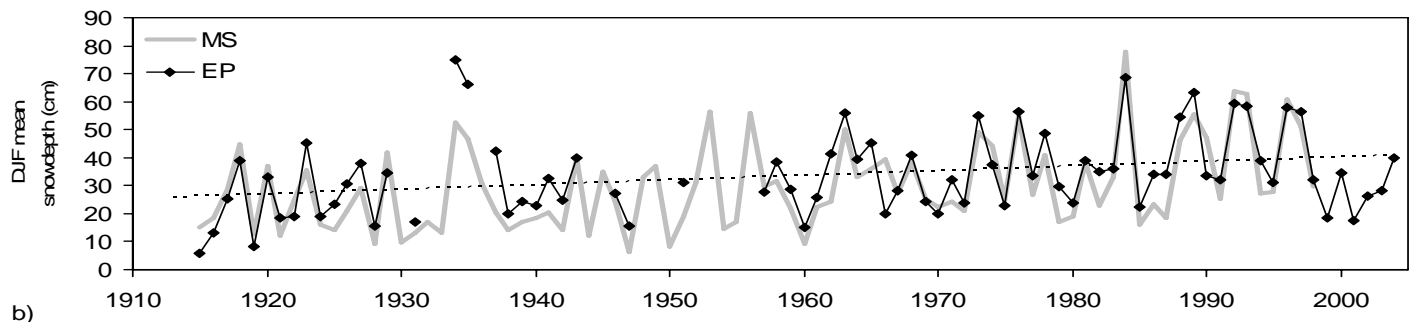


Presentation of more accessible data on climatic variability



Temperature, precipitation, wind speed and direction, humidity, and pressure are presented on monthly and annual time scales.

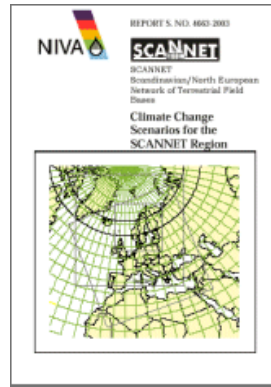
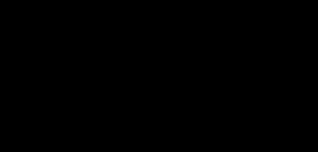
Earlier non-digitised data were digitised and made available



Kohler et al., 2006



| Scenarios | Regional Climate Change Scenarios (2100)



Air temperature changes of approximately 0.35-0.4 °C per decade

About twice the temperature increase in winter as in summer

Precipitation increase of 1.5-2% per decade

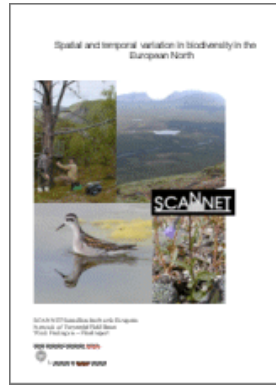
Twice as much precipitation increase in winter/autumn as in summer



Standardisation of protocols on variation of biodiversity

A database has been compiled on species richness at the SCANNET sites.

Some groups of organisms are recorded at all sites, for example birds, mammals and vascular plants, but information for some other groups such as saw flies and many soil organisms is poor.



Species richness related to environmental harshness and isolation

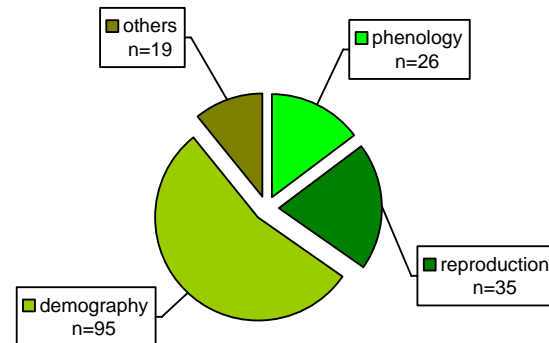
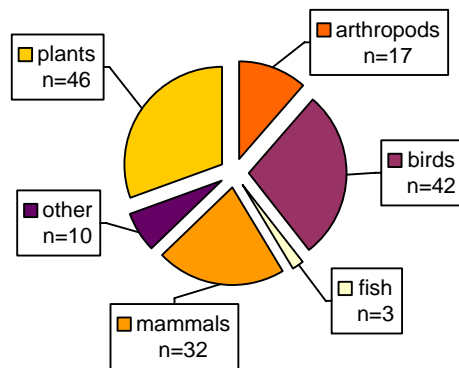


| Species Performance |

Reviewing Species Performance and Phenology



A meta-database has been compiled on biological long term monitoring (150 species, 175 variables) in northern Europe, and particularly at the SCANNET sites.

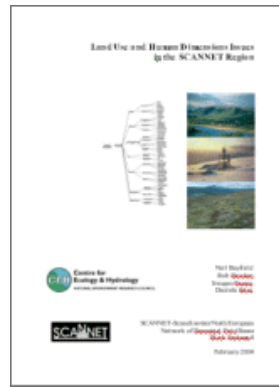


Sample sizes of species groups and variables in the SCANNET meta database



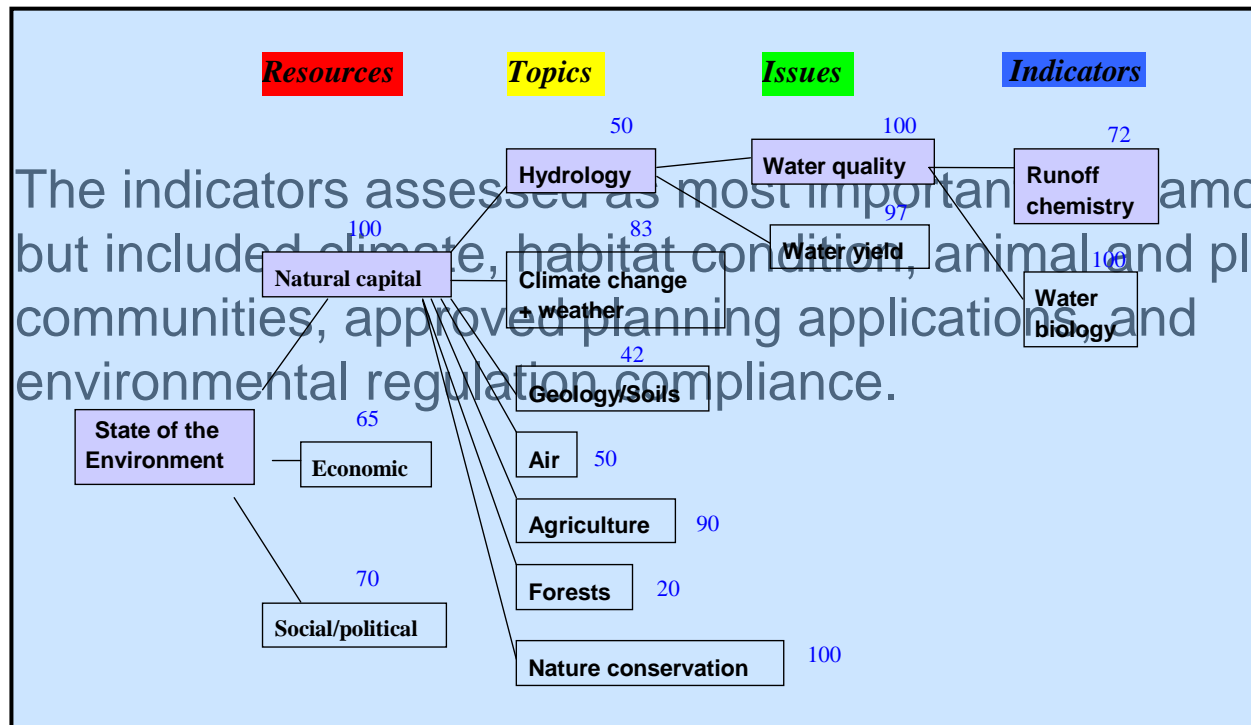
| Human Dimensions |

Reviewing Land Use and Society Interaction



Decision making workshops were held with local interest groups

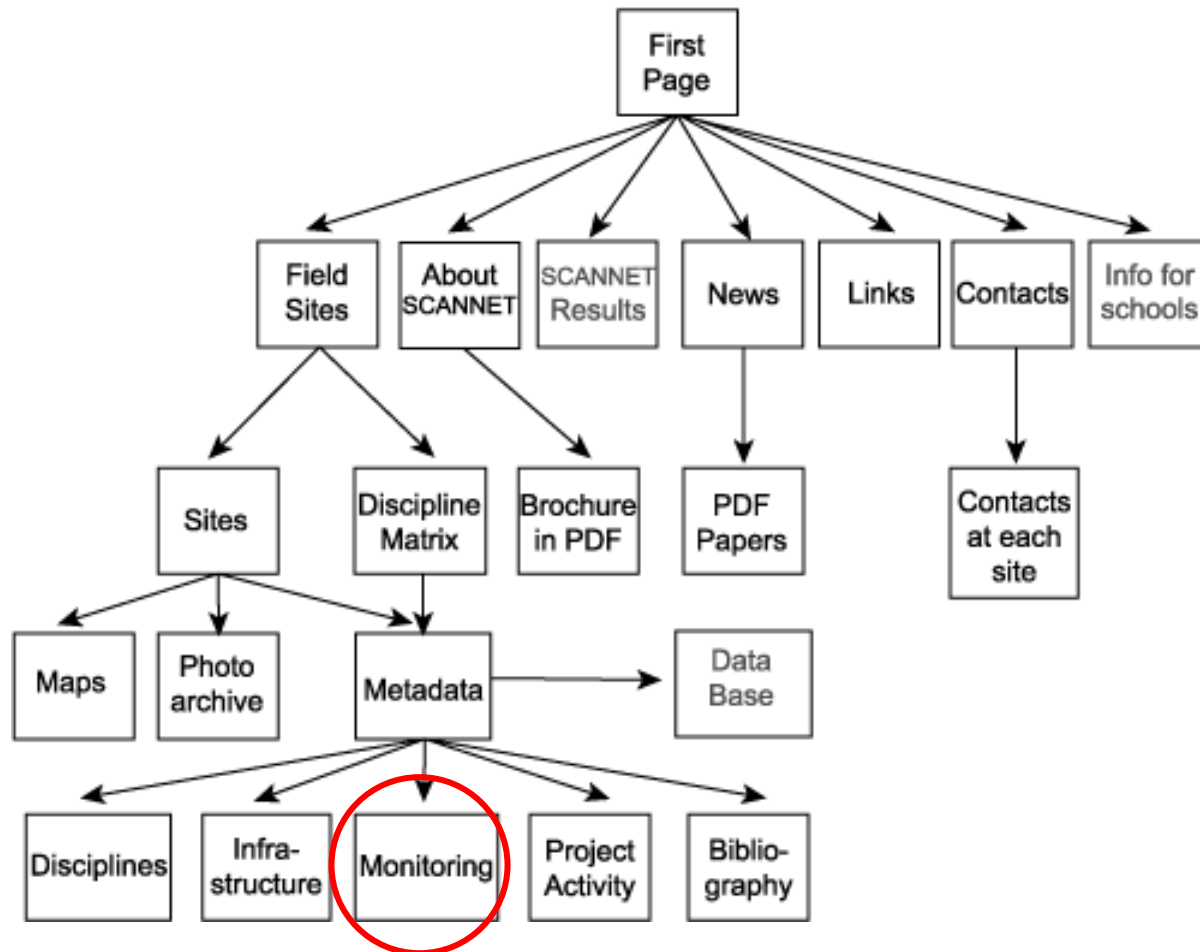
The local residents identified the most important indicators of change that could be used subsequently for environmental monitoring.



The indicators assessed as most important among sites but included climate, habitat condition, animal and plant communities, approved planning applications and environmental regulation compliance.

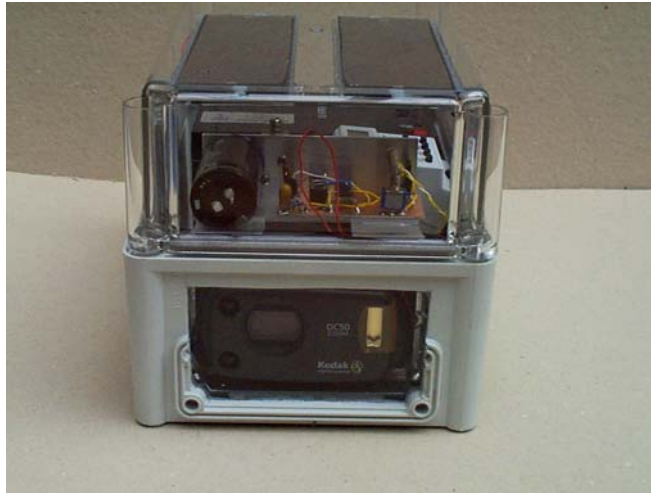


Field sites baseline information

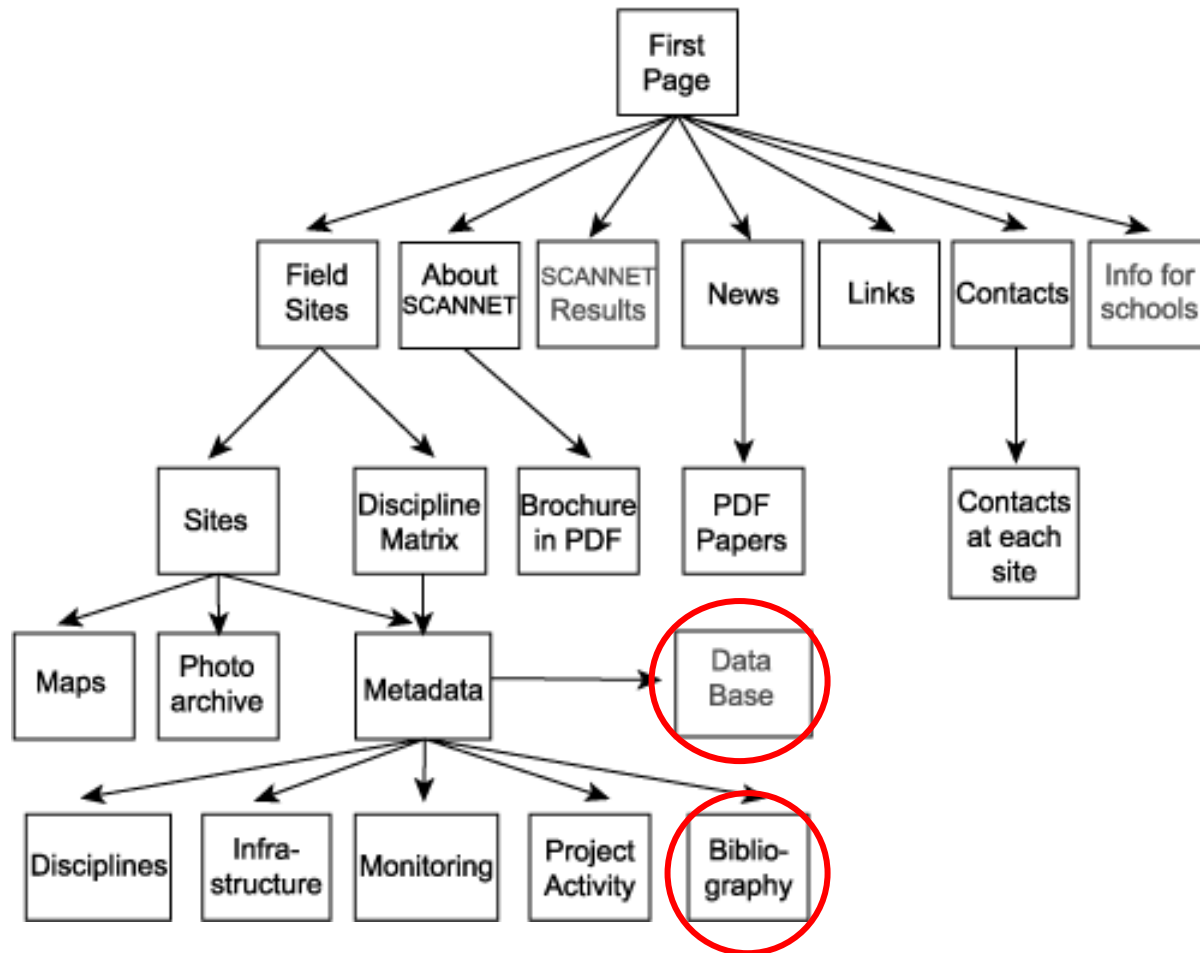




| Database | New monitoring initiatives at sites



Field sites baseline information



| Database | Bibliography



Bibliography is available at the SCANNET web site and contains over 4000 references.

The references are available in EndNote-format and word format and is being transferred into an online searchable bibliography.

Author	Year	Title
Aerts	1992	Growth-limiting nutrients in Sphagnum-dominated bogs subject to low and high at
Aerts	2001	Nutritional constraints on Sphagnum-growth and potential decay in northern peatla
Alatalo		ession an
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Aldeniu		algaris L. i
Aletsee		Stellung.
Aletsee		
Alm		
Anders		med särs
Anders		ordskandi
Anders		population
Andersson	1980	vad säger pollenregnet om skogen?.
Anton	1993	Plant distribution along a snow-cover gradient with special reference to microclim
Arft	1999	Responses of tundra plants to experimental warming: meta-analysis of the Intern
Arnborg	1950	Phytogeographical Forest Excursion to North Sweden, July 21 - August 6, 1950.
Arrhenius	1918	Der osmotische Druck der Hochgebirgspflanzen.
Arrhenius	1919	Ståndort och osmotiskt tryck.
Baddeley	1991	Effects of atmospheric nitrogen deposition on the ecophysiology of Racomitrium
Barkman	1951	Impressions of the North Swedish forest excursion.
Barnekow	1996	Holocene forest dynamics and climate changes recorded in lake se



Total cost for SCANNET 2001-2004



Total budget = 900 000 €

All members had a share of the funding
(relatively little for coordination)



After EU funding

The 9 sites signed a Memorandum of Understanding – we wanted to continue to work together

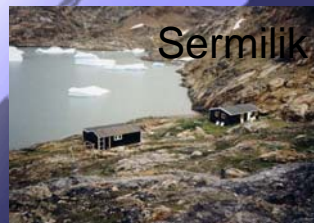
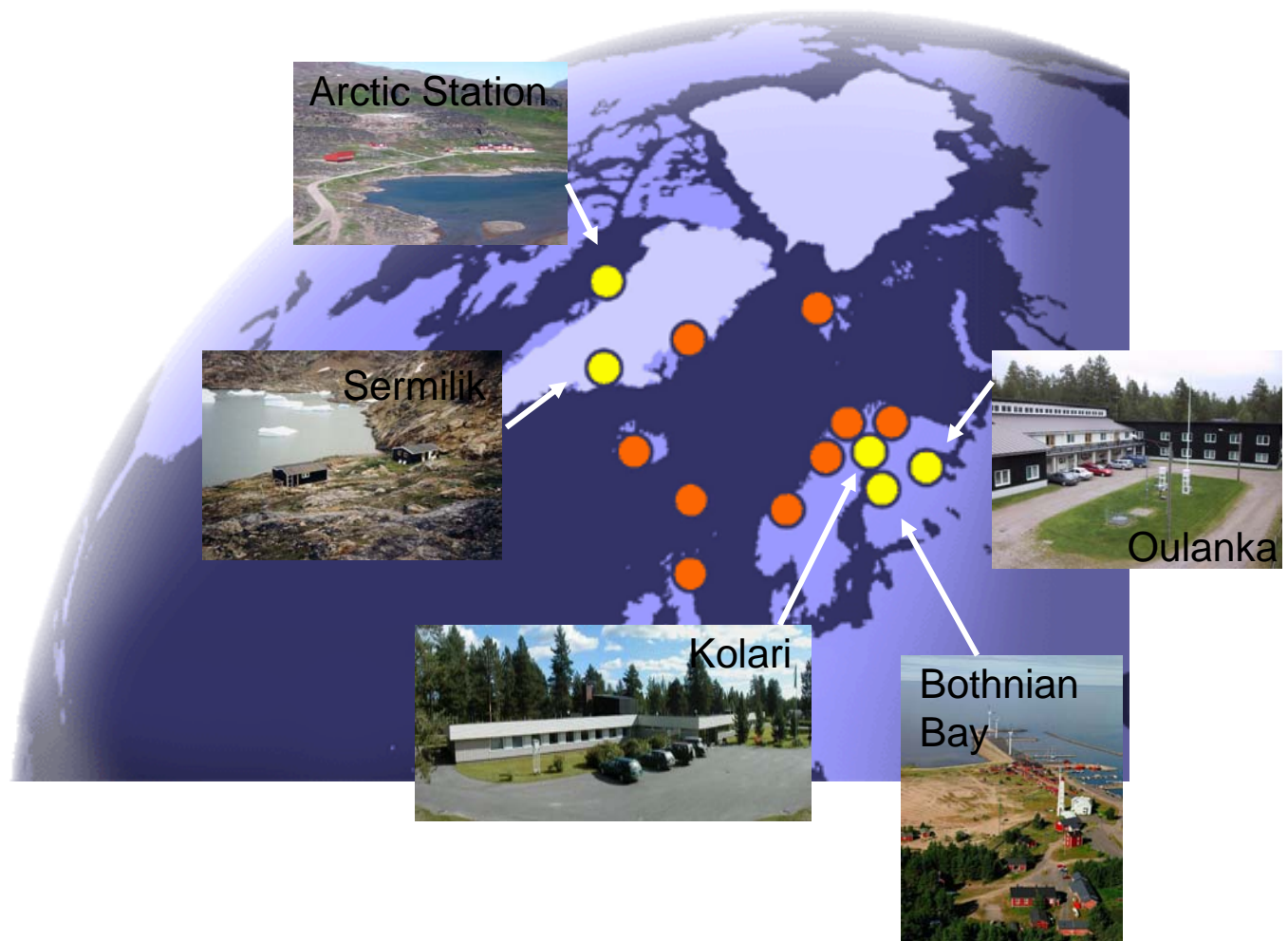
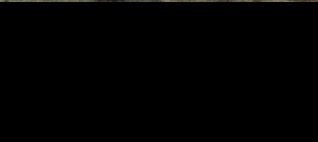
We are an established Network, which is facilitating monitoring around the North Atlantic

The SCANNET Secretariat operates at the Abisko Scientific Research Station and our web site is continually updated

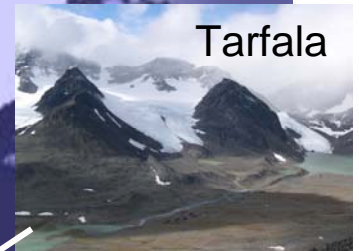
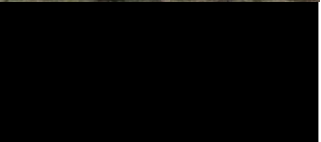
We have a partnership with CEON and obtained some funding within CEON



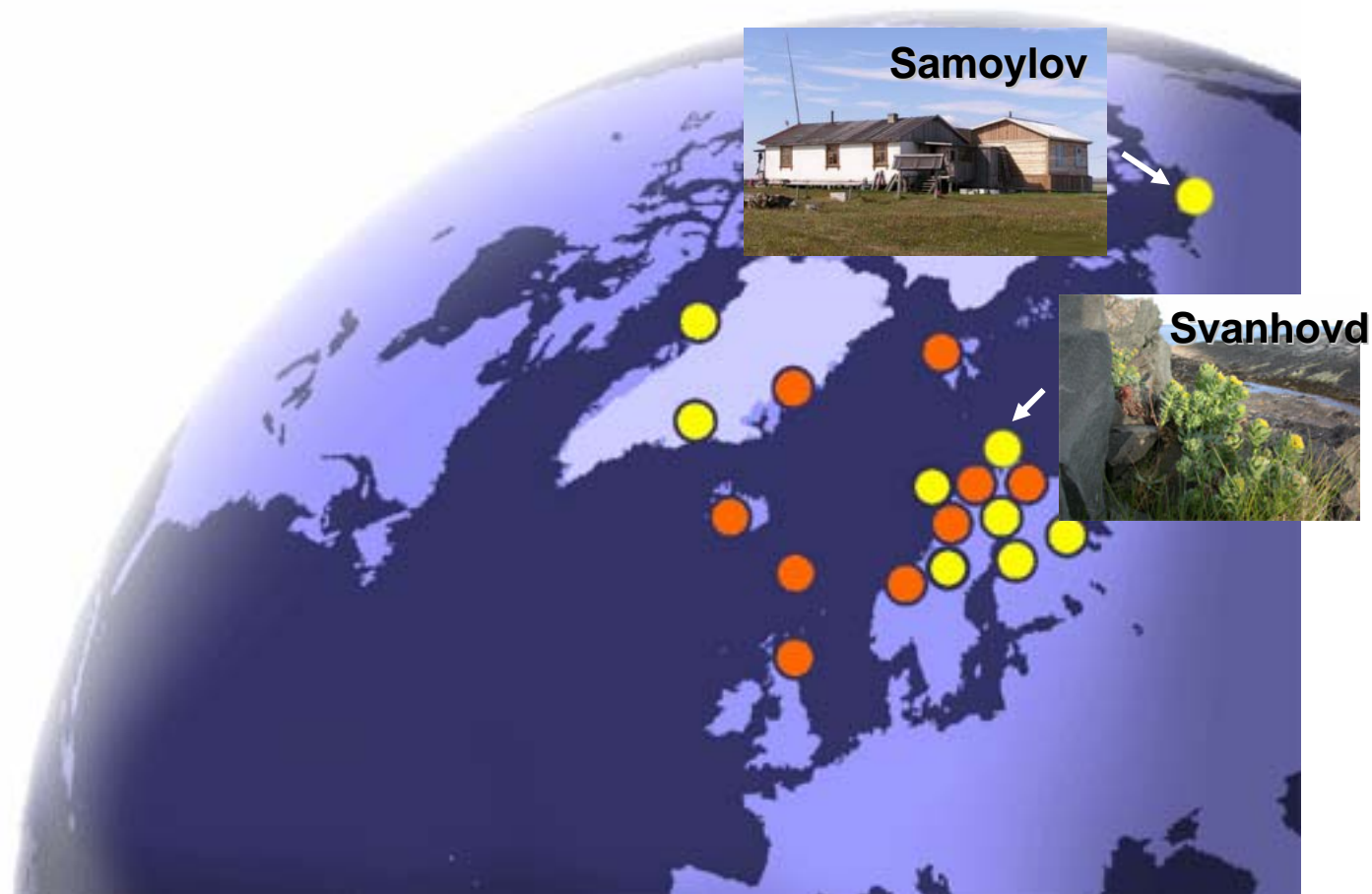
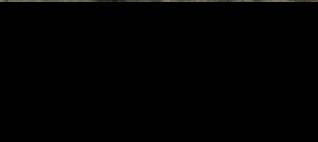
SCANNET 2004 – 14 sites



SCANNET 2006 – 16 sites



SCANNET 2007 – 18 sites



Where are we now in 2007?

18 sites have signed a Memorandum of Understanding and more stations have shown interest in joining SCANNET!

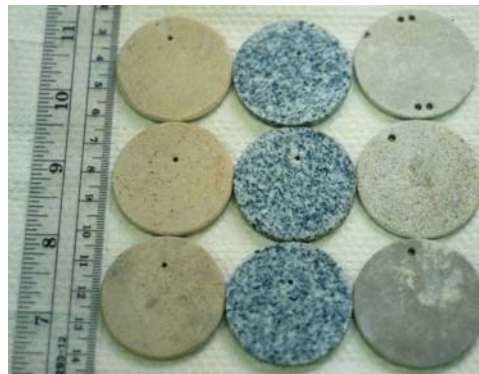
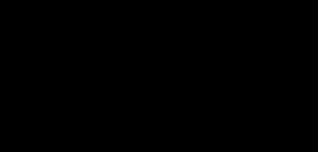
Regular newsletters are widely distributed



SCANNET – A one stop shop

Compiling information on monitoring and baseline information, data archives, research facilitation, ground truthing, stakeholder interaction and outreach from 18 sites around the North Atlantic, West Greenland and Siberia.

SCANNET can facilitate experiments throughout a wide environmental envelope, but its potential is still underused.



Further information can be obtained at:

www.scannet.nu

T. V. Callaghan, M. Johansson, O. W. Heal, N. R. Saelthun, L. Barkved, N. Bayfield, O. Brandt, R. Brooker, H. H. Christiansen, T. T. Høye, O. Humlum, A. Järvinen, C. Jonasson, J. Kohler, B. Magnusson, H. Meltofte, L. Mortensen, S. Neuvonen, I. Pearce, M. Rasch, L. Turner, B. Hasholt, E. Huhta, E. Leskinen, N. Nielsen and P. Siikamäki, 2004. Environmental Changes in the North Atlantic Region: SCANNET as a collaborative approach for documenting, understanding and predicting changes. ***Ambio Special Report 13, 39-50.***

Thank you

