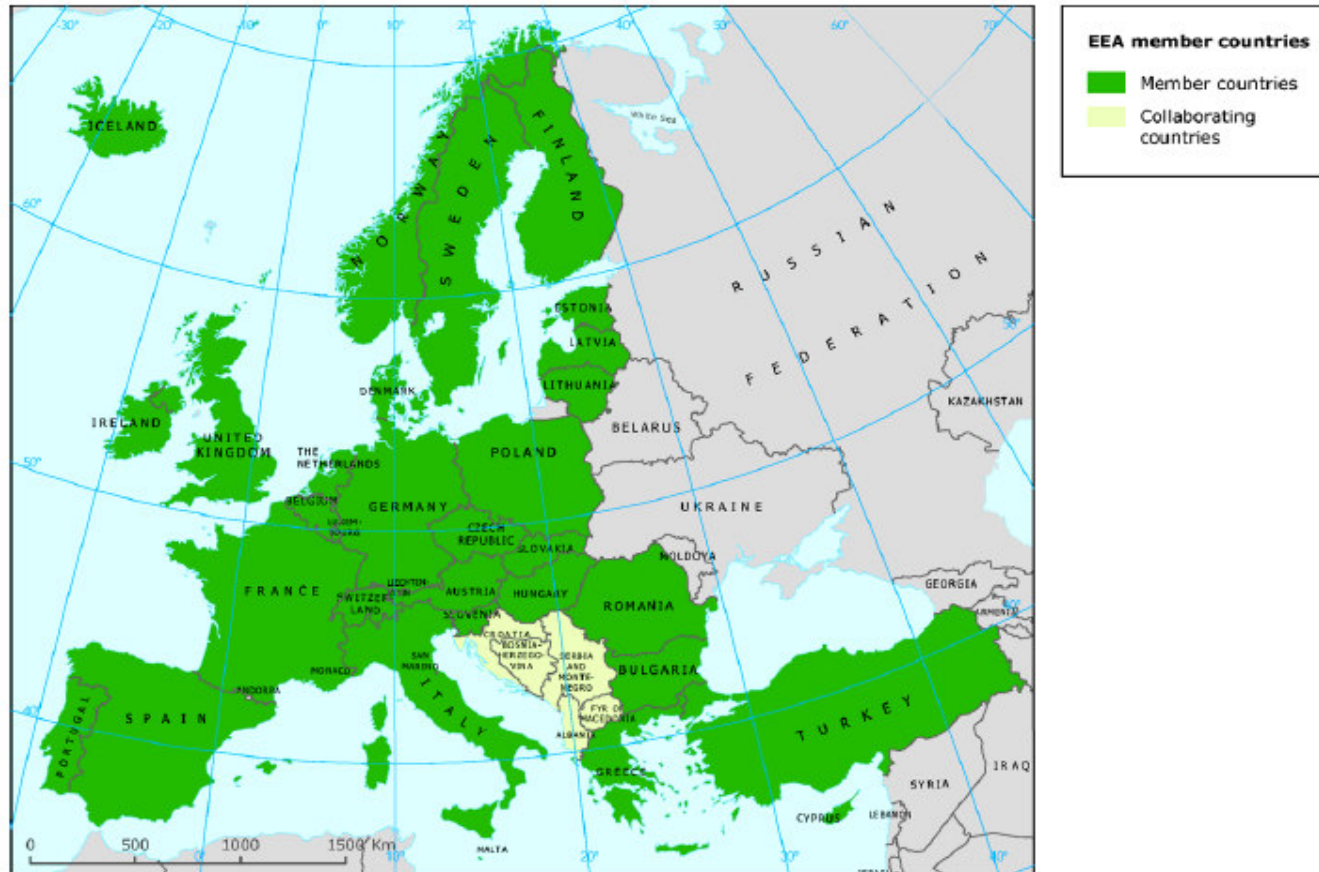


EEA requirements for global snow monitoring

Thomas Voigt
(ETC/ACC of the EEA)

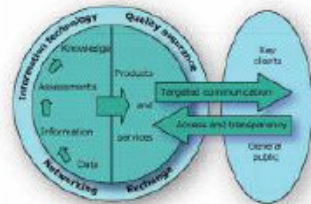
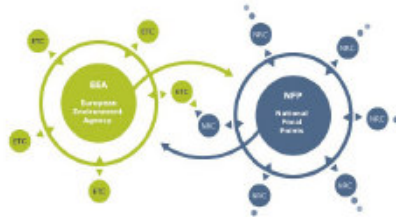
GlobSnow-(RER)-Meeting
Geneva, 03. February 2009

EEA Geographical Coverage



32 Member Countries
~300 National agencies
~900 Experts

EEA main tasks



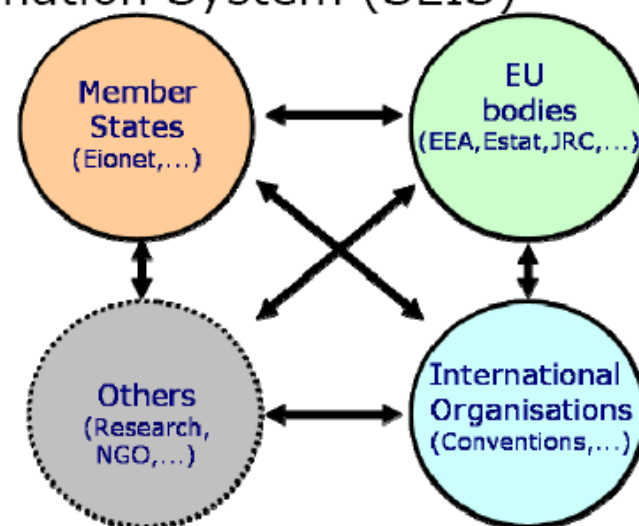
- **Networking** - Development of a European Environmental Information and Observation Network (EIONET)
www.eionet.europa.eu
- **Reporting** on the state and trends of Europe's environment
www.eionet.europa.eu/reportnet.html
- Providing **access to environmental information**
<http://dataservice.eea.europa.eu/>

SEIS concept

Towards a Shared Environmental Information System COM(2008) 46 final

From individual data bases towards
Shared Environmental Information System (SEIS)

SEIS is a collaborative initiative of European and National bodies to establish an integrated and sustained information system for sharing environmental data.



- A system where the public authorities are the providers but also the main end-users and beneficiaries
- A contribution to the Commission's commitment to better regulation and simplification

Cryosphere related themes of interest / concern

- Climate change impacts;
- Water balance, management, floods and droughts;
- Natural hazards
- Biodiversity tourism, transport

From current activities ...

- Climate change indicator reports (2004, 2008)
glaciers, arctic sea ice, snow cover, mountain permafrost, river and lake ice
- Technical reports on climate change adaptation (water balance in mountainous areas)

...towards near real time reporting and assessments (SEIS)

- Access to data for near real time assessments and reporting (current time delay >2 years)
- From qualitative indicators (areas of coverage) to quantitative information (mass balance)
- Data in a distributed information system for multiple use
 - essential climate variables
 - environmental assessments
 - indicators
 - reporting

EEA cryosphere requirements - what?

- **Snow cover** extent, duration/seasonality, depth, water content / snow water equivalent
- **Glaciers and ice caps** Mass balance, (seasonal) run-off and glaciated area
- **Ice in rivers and lakes** Duration/seasonality of ice coverage and ice thickness (spatial explicit)
- **Greenland ice sheet** Mass balance and calculated run-off measured in contribution to sea level rise or proxy-parameters e.g. melting area
- **(Arctic) sea ice** Sea ice extent, thickness, seasonal changes and trends, age (annual versus multi-year) for biodiversity
- **Permafrost** Seasonal depth of active layer ('freezing - thawing - cycles') and related indicators which help to quantify this parameter (e.g. changes in vegetation)

Detailed Requirements (general reporting issues)

- *Product/Service*: Trend analysis of parameters of the snow cover (extent, duration, thickness, SWE(?))
- *Use and benefits*: Reports to inform policy-makers/public/media
- *Geographic cov.*: Europe; Parts of Asia
- *Temporal requ.* : Data records as long as possible (30-40 years) (monthly and quartely means fully sufficient)
- *Spatial resolution*: Comparable to grid-scales of regional climate models (>1km)
- *Accuracy* : as accurate as possible in the available records
- *Data format* : No specific data format required
Need for information in terms of graphs or maps demonstrating the long-term change of snow-cover characteristics (extent, duration, thickness)

Need for long-term trend data !

European Environment Agency

Thank you for your attention!



<http://www.eea.europa.eu>