

## → SPACE AND THE ARCTIC

Building on regional examples

# Session Report

## Space and the Arctic Climate Change



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# Programme

1. Sea Surface Temperature measurements over the Arctic based on Metop Data - Pierre Le Borgne
2. The IPY Contributions by Space Agencies and Expected Observational Legacies - Tillmann Mohr
3. Monitoring the Cryosphere from Space : research and operationalisation - Ian Brown
4. Circumpolar permafrost Monitoring - Annett Bartsch
5. Sustaining Arctic Observing Networks – SAON – Volker Rachold
6. Recent accelerating changes in sub-Arctic environment and ecosystems Terry Callaghan
7. Regional Modelling of Arctic Climate in recent and possible future climates – Ralf Döscher et.al.
8. ICESat's Observations of Arctic Sea Ice freeboard/thickness and NASA's plans for ICESat-2 – Jay Zwally
9. Sea Ice Change and Climate IPY and ESA – Henri Laur



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# Content

- Research & Development
  - Data processing / algorithm development,
  - Modelling/assimilation – global <-> regional
  - Answering ‘policy’ questions
  - Input in operational activities (meteo, ocean, navigation, etc.)
- Status and outlook of the Arctic
  - geo-physical parameter ‘portofolios’ – ECV’s !!
  - indicators (trends)
  - from space and non-space
- Governance and policies
- Status and outlook of Space-based infrastructures and ground segment



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# Statements 1

- Invest in non-space observation infrastructure & surveys
- Foster international and inter-institutional collaboration as the key to success
- Guarantee 'obstacle free' access to data and archives
- Improve dialogue scientists – operational users
- Ensure long-term continuity (gap-free) of observation from space





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# Statements 2

- Shorten the time needed to bring 'research' space-borne sensors to operational status
- Strengthen governance among Arctic countries and involve non-Arctic ones
- Improve co-ordination of initiatives
- Accelerate the development of operational decision support and early warning systems
- Produce information tailored to the needs (for CC adaptation) of local to global users
- Develop further the Ecosystem approach

