



ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

GLOBSNOW RER-Meeting Introduction

J. Pulliainen, 3 February 2009

Finnish Meteorological Institute (FMI)

ENVEO IT GmbH

GAMMA Remote Sensing Research
and Consulting AG

Norwegian Computing Center (NR)

Finnish Environment Institute (SYKE)

Environment Canada (EC)



GAMMA REMOTE SENSING S Y K E





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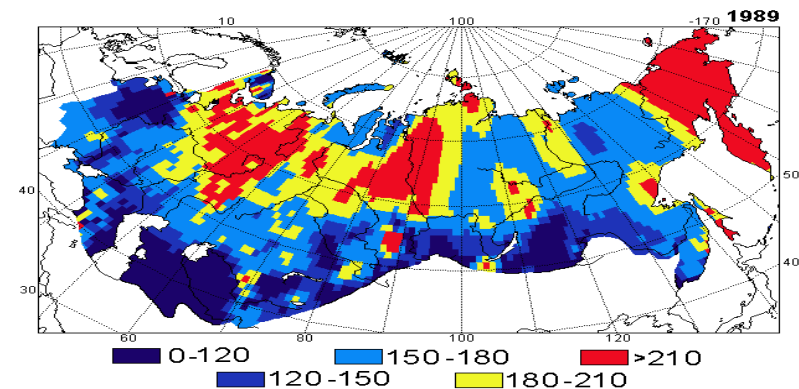
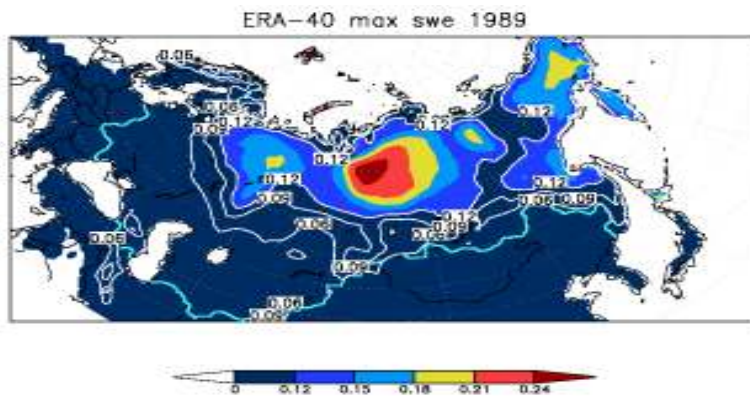
GlobSnow Project (FMI, ENVEO, GAMMA, NR, SYKE, EC)

- Prime: Finnish Meteorological Institute
- Sub-contractors:
 - ENVEO IT GmbH
 - GAMMA Remote Sensing Research and Consulting AG
 - Norwegian Computing Center
 - Finnish Environment Institute
 - Environment Canada (small consultancy for validation activities in North America)

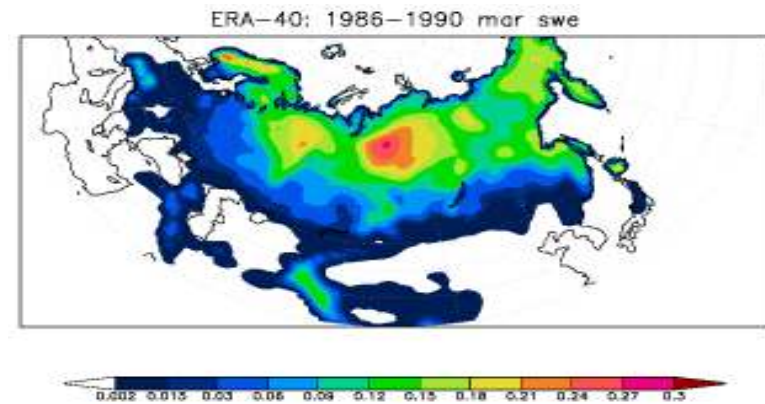
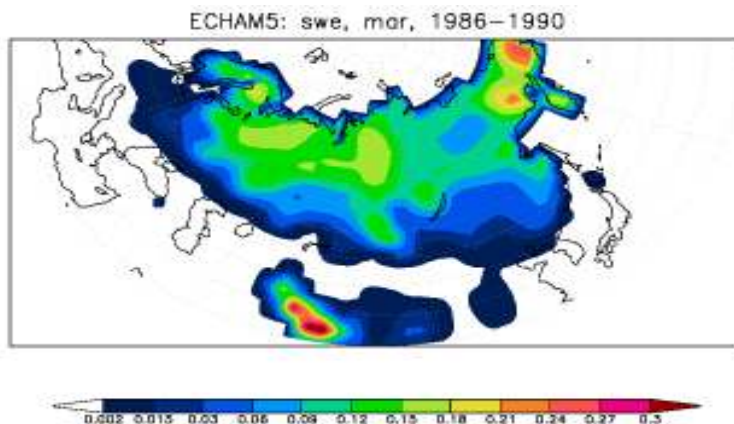


Background on GlobSnow objective

What is wrong with meteorological re-analyses data?



What is wrong with climate model simulations?





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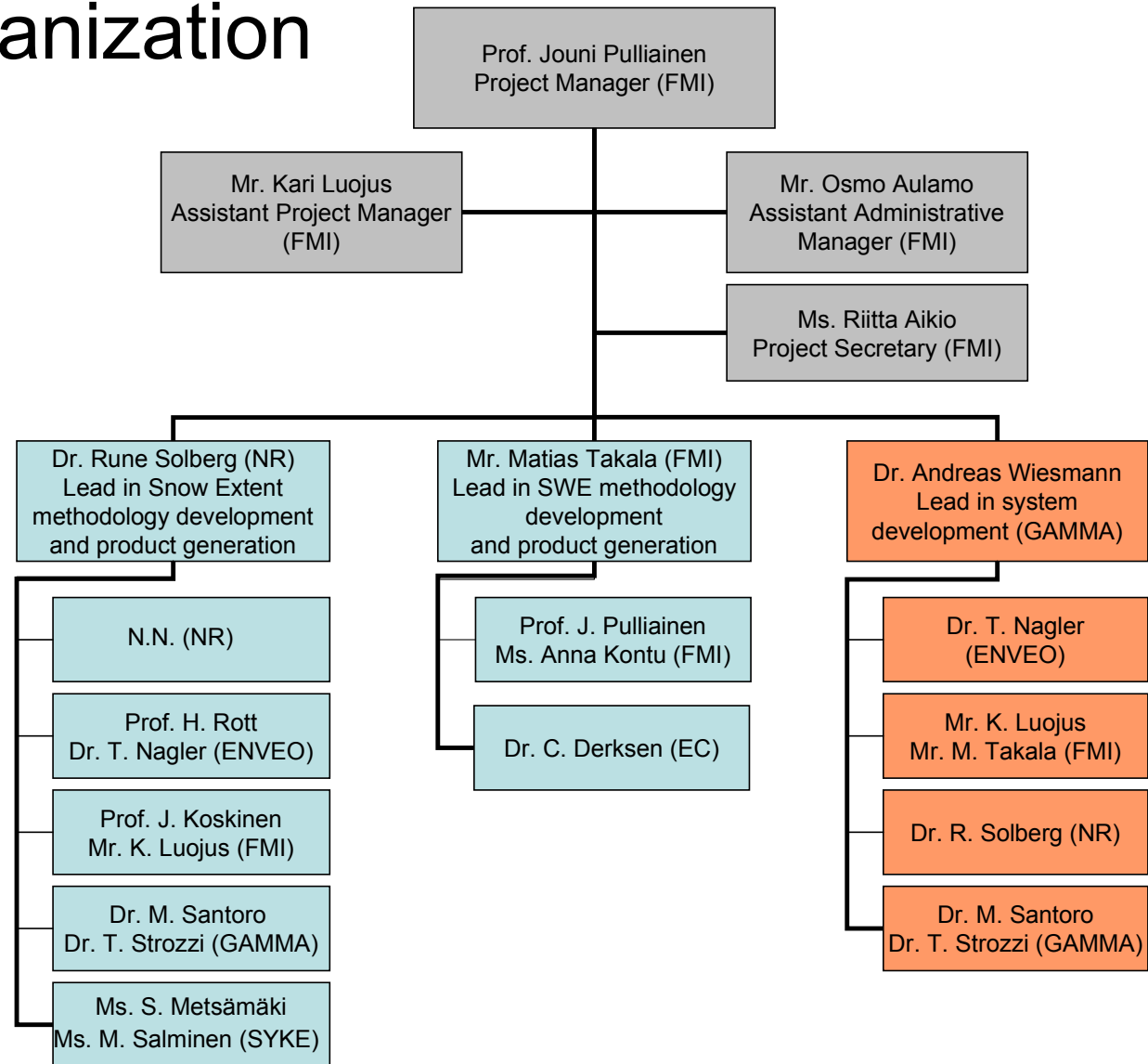


GlobSnow: Main responsibilities

- Management and lead development of SWE product by FMI
- Lead development of SE product by NR
- Data processing system design and implementation by GAMMA
- Development and validation for SE product (SAR-based) ENVEO
- Validation activities for SE product by SYKE
- Validation activities for SWE product by EC (North America)



Thematic organization





GlobSnow: Main objectives

- SWE products
 1. FCDR and SWE-end product spanning 15 years
 2. Operational near-real time product
 - Non-mountainous areas, Northern Hemisphere
- Snow Extent (SE) products
 1. FCDR and SE end-product spanning 15 years
 - Global coverage, Northern Hemisphere
 2. Demonstration of near-real time products

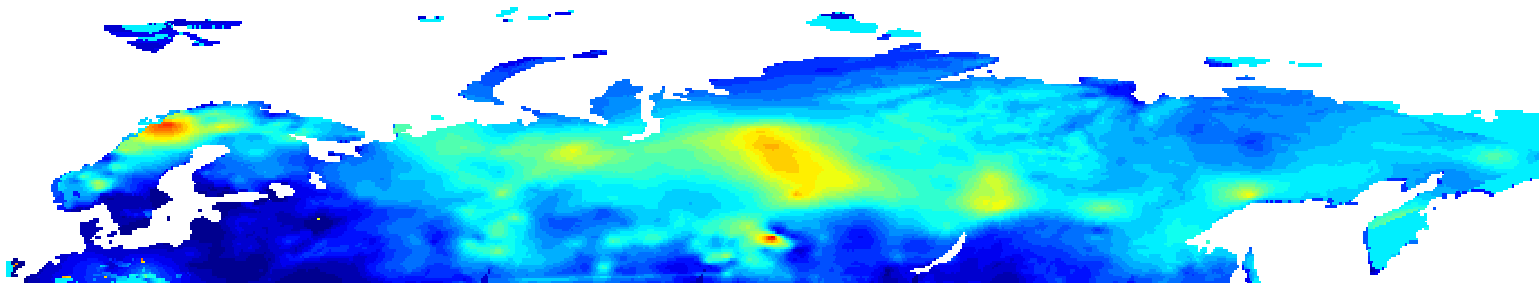


GlobSnow: SWE product

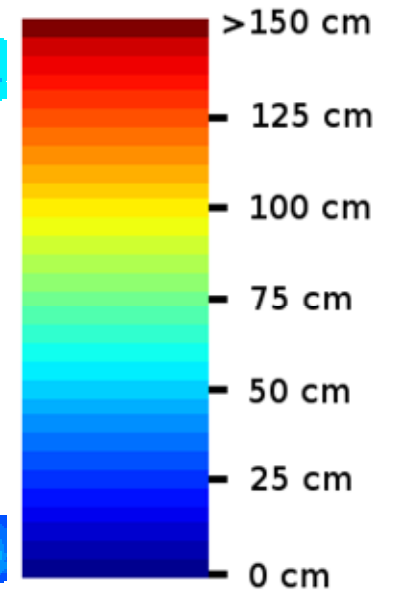
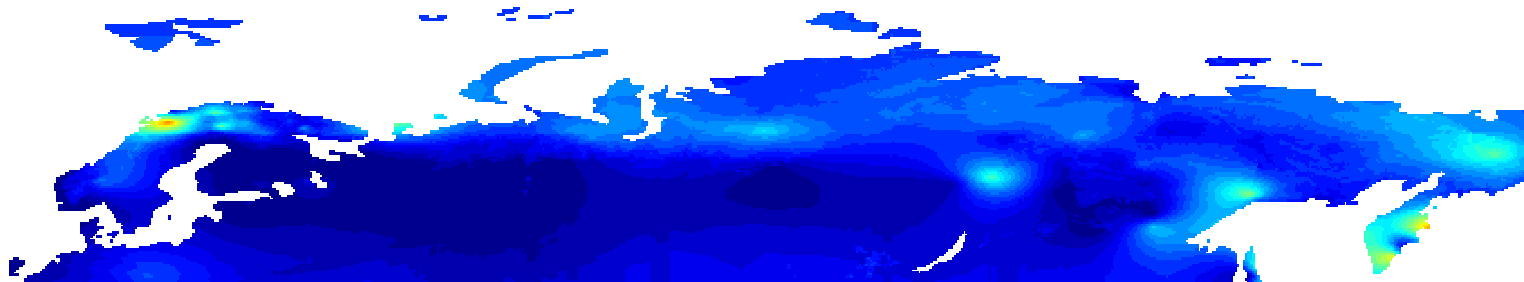
- SWE products (+ FCDR & Oper.NRT product)
 - Based on
 - 1) AMSR-E data (2002 – present)
 - 2) SSM/I data (1987 – present)
 - 3) SSMR data (1978 – 1987); not relevant for the 15-year time series
 - 4) Global weather station data
 - Potential algorithms:
 - Empirical formulae (probably not adequate)
 - Analytical model-based assimilation with synoptic snow depth data
 - SE mapping as by-product



8.3.2007



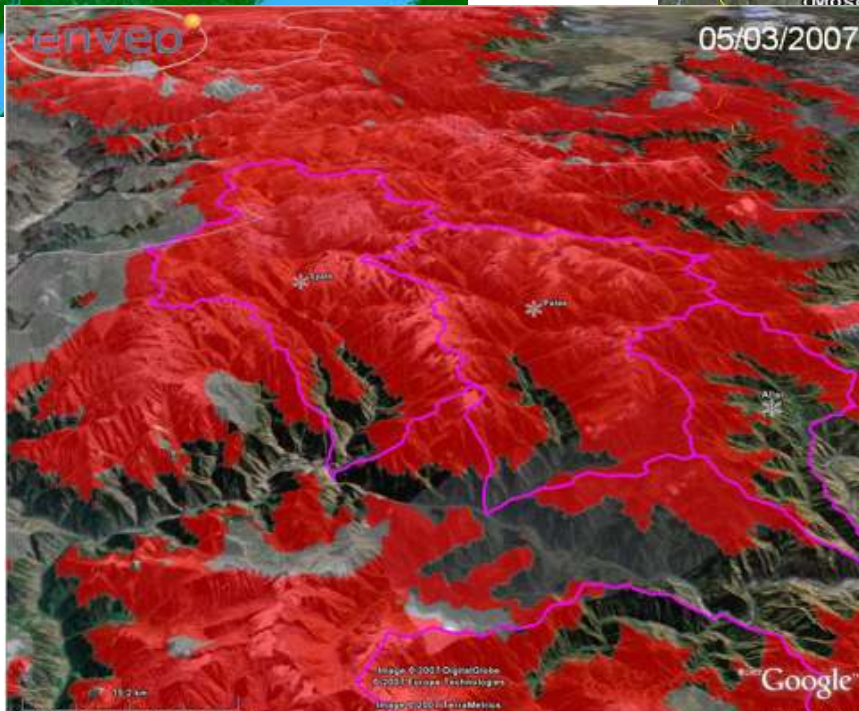
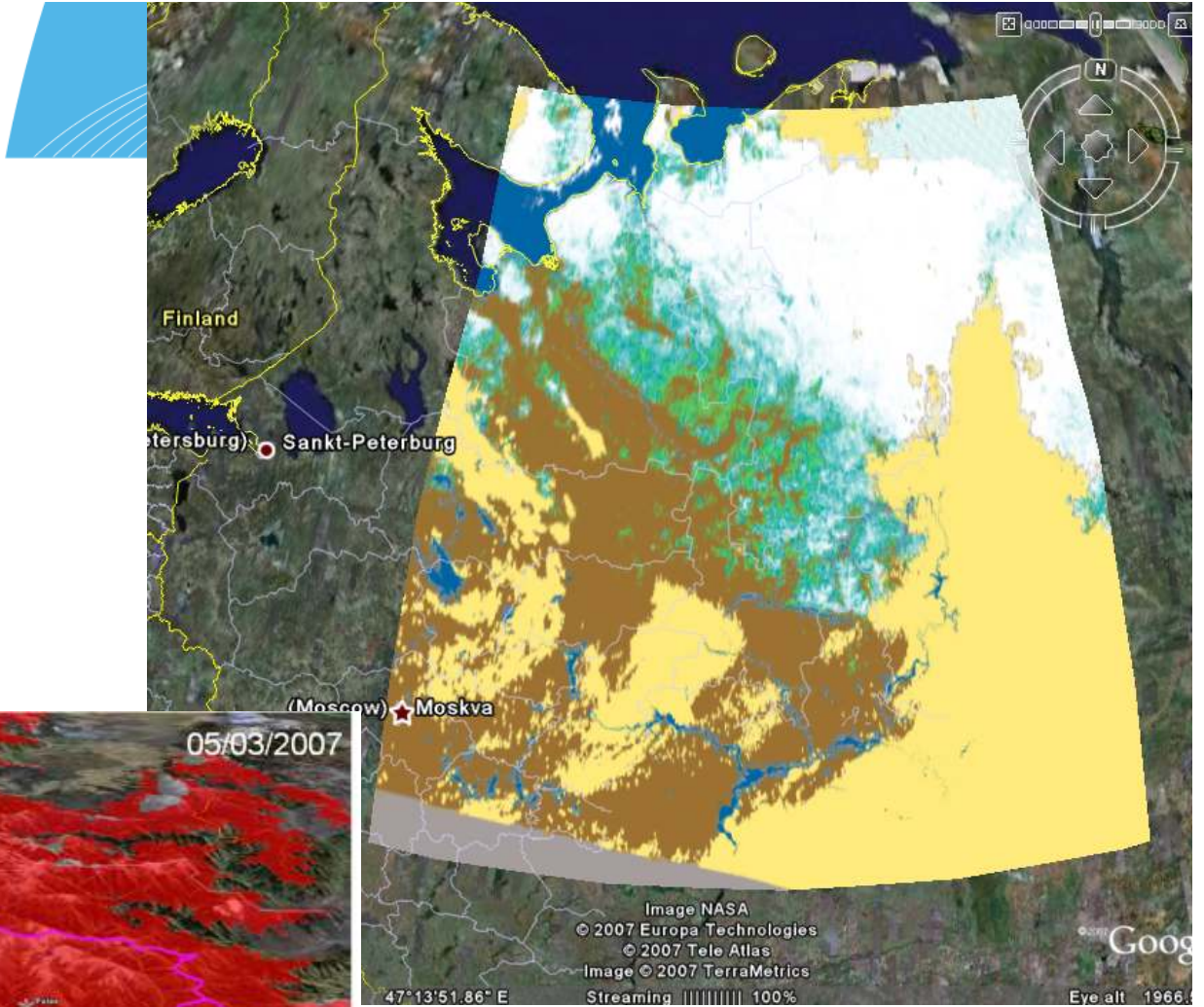
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GlobSnow: SE product

- SE products (+ FCDR & Oper.NRT product)
 - Synergistic use of SWE and SE product:
 - MWR-based SE as "coarse background estimate" on dry snow cover
 - Based on (to be selected in Phase I):
 - 1) MERIS+AATSR+ASAR (2002-)
 - 2) MODIS+ASAR/ERS-2 (2001-)
 - 3) ATSR-2 + ERS-2 (1995-2004)
 - 4) AVHRR ?
 - (No vis. Band: ATSR-1 + ERS-1 1992-2000)





Work Packages and timetable

