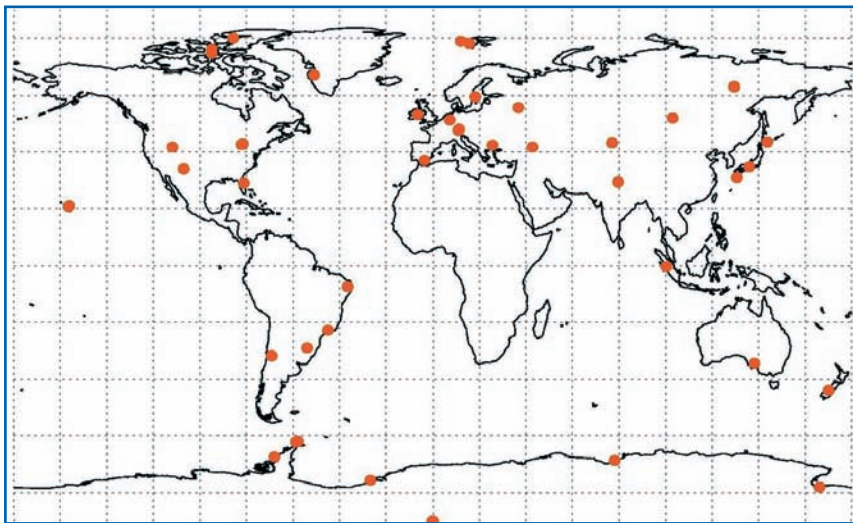


Network for the Detection of Mesopause Change (NDMC) <http://wdc.dlr.de/ndmc/pags/ndmc-1-home.html>

Description

NDMC is a global program started in 2007 with the mission to promote international cooperation among research groups active in studying the mesopause region (80-100km) of the atmosphere with the goal of early identification of changing climate signals. At this time, the 46 stations, whose geographical distribution is represented in the map below, have registered participation in NDMC.



This program involves the coordinated study of atmospheric variability at all time scales (seasonal as well as known solar cycles), the exchange of existing know-how, and the coordinated development of improved observation and analysis techniques and modeling, with initial emphasis is on airglow techniques utilizing existing ground-based and satellite measurement capabilities.

The formation of NDMC in itself is a significant result as it helps to close the gap between existing ground-based networks, namely those of the Global Atmosphere Watch (GAW) program of the World Meteorological Organization (WMO) and the Network for the Detection of Atmospheric Composition Change (NDACC), by addressing different altitude regimes of the atmosphere.

Added Value

The GEO initiative is expected to aid in the success of NDMC through the focusing of attention on the international cooperation required to answer the large questions facing the global community. NDMC, with its strong start, will impact GEO by ensuring that all important regimes of the atmosphere, including the mesopause, are addressed.

Relevance to GEO

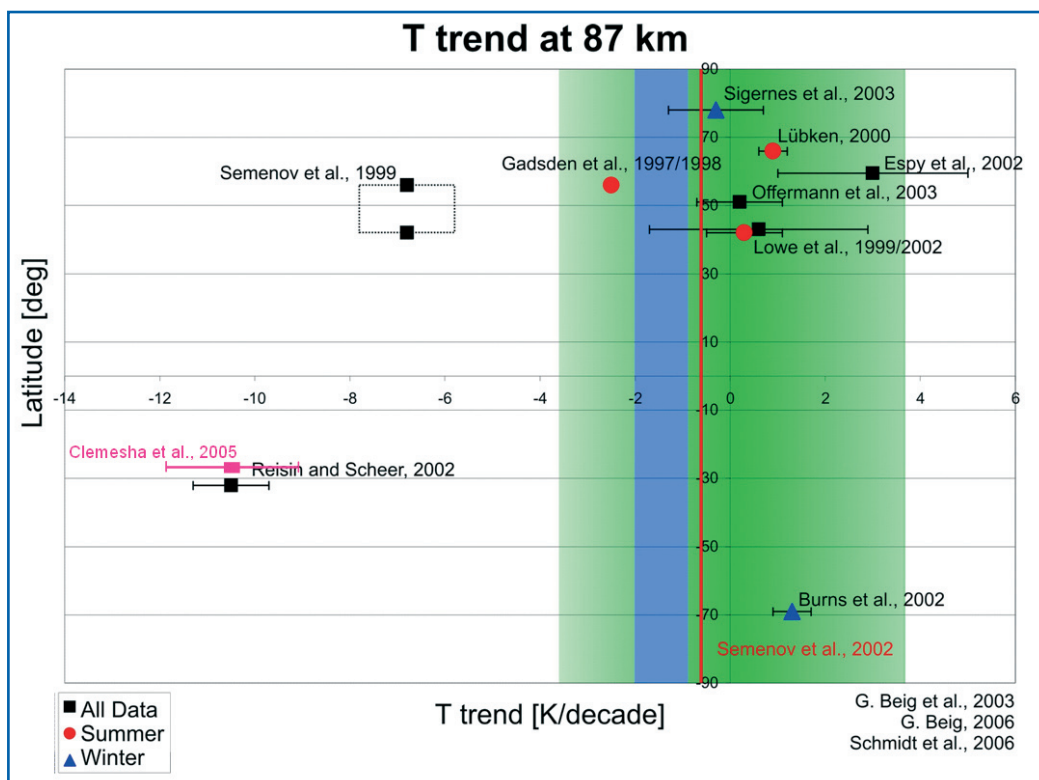
NDMC has clear relevance to the Climate SBA and will contribute to social-economic benefits gained from early detection of climate change. NDMC can play a significant role in Task CL-06-03 as it will coordinate a large number of researchers working on terrestrial observations contributing to the study of climate change.

Participants

- Argentina
- Australia
- Brazil
- Bulgaria
- Canada
- Georgia
- Germany
- India
- Indonesia
- Ireland
- Japan
- Kazakhstan
- New Zealand
- Norway
- Russian Federation
- Spain
- Sweden
- United Kingdom
- United States
- WMO

Current Status and Next Steps

The funding for the management of NDMC, which comes from the Bavarian State Ministry of the Environment, Public Health and Consumer Protection, Germany, is assured through 2010, while the funding of measurements is the responsibility of each of the NDMC participants. Now that NDMC has been established, work will be initiated to study differences in trends related to the regional differences detected in the temperature of the mesopause, illustrated in the figure below.



The major gap seen is a complementary satellite-based measurement capability which would allow for establishment of an ideal transfer standard for the cross-validation of different ground-based sensors.