

The SCOSTEP VarSITI program and ROSMIC

William E. Ward¹, Franz-Josef Luebken², Annika Seppala³, and the ROSMIC team

¹*Dept. of Physics, University of New Brunswick, Canada*

²*Leibniz-Institute of Atmospheric Physics (IAP), Kuehlungsborn, Germany*

³*Finnish Meteorological Institute, Finland*

Variability of the Sun and Its Terrestrial Impact (VarSITI) is the new SCOSTEP program for the next five years (2014 to 2018). Four projects have been defined to coordinate the scientific activities of this theme. Among them ROSMIC (Role Of the Sun and the Middle atmosphere/ thermosphere/ionosphere In Climate) is the one which supports scientific investigations which contribute to our understanding of the impact of the Sun on the terrestrial middle atmosphere/lower thermosphere/ionosphere (MALTI) and Earth's climate and its importance relative to anthropogenic forcing over timescales from minutes to centuries. ROSMIC is organized into four sub-projects or themes:

- 1) Coupling through solar variability (radiative, electrodynamics, ionospheric and photochemical effects),
- 2) Coupling by dynamics,
- 3) Trends in Mesosphere and Lower Thermosphere,
- 4) Trends and solar cycle effects in the thermosphere (including technological aspects).

Each theme will develop and support scientific activity relevant to its topic and inter-theme interactions will be organized. Close collaborations between the observation and modelling communities will be encouraged. Observational activities include the analysis of existing data records, measurements from ground based, in situ and satellite instruments, the organization of coordinated observing campaigns, and the development and implementation of new instrumentation and observation techniques. Dedicated models directed toward particular phenomena as well as sophisticated whole atmosphere/ionosphere models are expected to play a vital role in this project.

Collaborations with the other VarSITI projects will be facilitated during this program. As a result of the ROSMIC project, a better understanding of the impact of solar activity on the entire atmosphere/ionosphere, relative to anthropogenic forcing and natural long term variability is anticipated. In this presentation VarSITI and ROSMIC will be introduced and proposed activities summarized.