

Space weather and the Earth's weather and climate (SPECIAL II)

an ESF Scientific Network

The SPECIAL II Network (extension of the former ESF Network *Space Processes and Electrical Changes Influencing Atmospheric Layers*) explores the physical mechanisms by which space weather and space climate are causally linked to the Earth's weather and climate by solar effects and aerosols, the two largest uncertainties in the Intergovernmental Panel on Climate Change (IPCC) 2001 report.

In this research area, electrodynamic and electromagnetic processes in the atmosphere are investigated to determine possible links between solar activity, magnetospheric variability, clouds, thunderstorms, and lightning.

In the first phase of SPECIAL, scientists from Europe and the US met to form a network of specialists with common interests. During the continuation of SPECIAL, several network meetings have engendered interdisciplinary discussion and research, and seven working groups with particular interests have been identified, which are pictured as natural processes in the Figure and summarised in more detail in the list below.

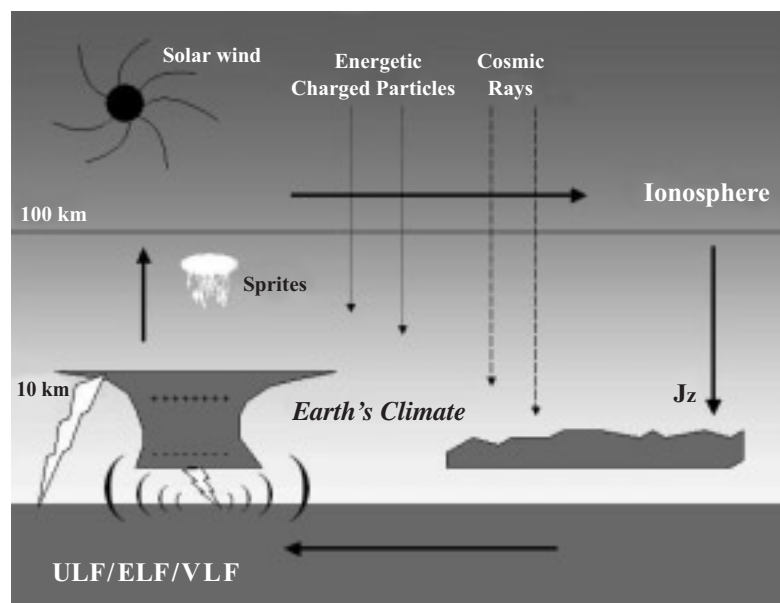
The Network is a continuously evolving consortium of scientists which encourages further contributions from the scientific communities active in research on space weather and the Earth's weather.

If you would like to join in, please approach:

- the coordinator
(contact M. Füllekrug at fuellekr@geophysik.uni-frankfurt.de);
- the Coordination Committee (contact special-cc@sgo.fi).

The following research interests have been identified and will be developed in the course of the Network:

- **Thunderstorms, global lightning, and ULF/ELF/VLF radiation, associated with climate**
Contact C. Price at cprice@flash.tau.ac.il
- **Intense tropospheric lightning and mesospheric transient luminous events such as sprites, elves, and blue jets**
Contact T. Neubert at neubert@dsri.dk
- **Solar wind variability associated with tropospheric dynamics**
Contact O. Troshichev at olegtr@aaari.nw.ru
- **Ionospheric variability effects on the global atmospheric circuit**
Contact Th. Ulich at thu@sgo.fi
- **Energetic charged particles and cosmic rays, and their relation to cloud microphysics**
Contact M. Pudovkin at pudovkin@geo.phys.spbu.ru
- **Electrical microphysics of ions and aerosols and their significance for clouds**
Contact G. Harrison at r.g.harrison@rdg.ac.uk
- **Global atmospheric electric circuit and current density variability affecting cloud microphysics**
Contact B. Tinsley at tinsley@utdallas.edu



For up-to-date information, see:
<http://www.sgo.fi/special>

This Network was approved by the ESF Network Group in May 2001 for a two-year period



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The European Science Foundation acts as a catalyst for the development of science by bringing together leading scientists and funding agencies to debate, plan and implement pan-European initiatives.

The ESF Network scheme is coordinated from the Foundation's Strasbourg headquarters. For further information and application procedures contact:

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