

Space Weather Proposal for the EU-FP6 GMES-Call for Proposals

H. Lappalainen, K.Kauristie and R.Pirjola

Finnish Meteorological Institute
Vuorikatu 15A, P.O.Box 503
FIN-00101 HELSINKI

The ESA Ministerial Council has stated a five-year program for the years 2001-2005, under the title "Global Monitoring for Environment and Security" (GMES) is joint EU and ESA program. The program releases the Initial Period (2002-2003) and the Implementation Period (2004-2008). The basis of the program is lying on the exploitation of Earth Observation data for the benefit of the European society. The GMES Implementation phase includes the ESA's Earth Watch GMES Service Element establishing the topical service centres and EU's Framework Programme for Research, Technological Development and Demonstration (FP6) using the GMES Integrated Projects as instruments. The aim of the program is to provide operational environmental and security services via GMES service centres for different stakeholders such as national authorities, European industry and science community.

One of the GMES topical services is related to risk management. Risk management covers risks e.g. earthquakes, floods, forest fires, landslides and other natural phenomena generating hazards such a space weather. Space weather risk is identified into two types: (1) Generic Risks to the society through disturbing satellite operations and telecommunication used, e.g., for monitoring and warning of forest fires, floods, other natural and man-made disasters or other security-related issues, and (2) Direct Risks to the functionality and reliability of man-made technological systems like avionics or power transmission lines.

In March 2003, a proposal entitled "Space Weather: Elaboration of European Tools (SWEET)" was submitted to EU-FP6 under the "Aeronautics and Space" priority in the "GMES Risk Management" area. However no proposal concerning risk assessment was retained in the first round of the FP6 GMES Call. A new space weather proposal coordinated by the Finnish Meteorological Institute will be submitted for a re-opened FP6 GMES Call end of 2003. The new proposal focuses on space weather risk indices covering the risk topics of "European capabilities in modelling and observing the space weather risk", "Impact on Earth Observation technology", "Impact on Telecommunication and Navigation" and "Impact on humans and ground-based technological systems" The proposal will be focused on only a few top-priority applications in each area and it will utilize the ESA "Space Weather Pilot Project / Development Activities"(SDAs) as a "current state of the art".