Topic 10: GGOS contribution to GEOSS

GGOS will be an essential component of GEOS because it will provide observations of key parameters which will allow to study and better understand the different components of the Earth's system and their interactions.

Space geodetic techniques have and will contribute significantly to the solution of environmental problems which are nowadays of major concern. In particular:

a) Global warming and other aspects of climate by means observations/studies of sea-level variation and of the topography of the ice sheets;
b) Earthquake hazard mitigation, through measurement of tectonic deformations.
c) Study of the water cycle.

High accuracy observations are important to study transient phenomena in areas of relevant tectonic activity.

Different high-accuracy space and terrestrial techniques are available. Their combination should be exploited in order to take advantage of the complementary strengths and to "overcome" the limitation of the use of the single technique alone. The combined use of InSAR and GPS can provide continuous high-accuracy information in the space and time domains.

Topic 11: Step towards the internal integration process of GGOS

1) **What does the component you represent expect from GGOS?** I expect a synergetic use of the techniques available; the definition/realization of a "superior quality" observational network based on "superior quality" standards; a better insight of the reference frames.

2) **What will the component you represent contribute to GGOS in terms of products and other contributions?** As a member of the scientific community responsible of several national projects, and chair of Wegener, I (we) contribute stations to the EPN and provide time dependent spatial distribution of deformation in particular areas where tectonic activity is intense. Moreover, I (we) contribute to improve education in space geodesy which is a basic issue for the future development of GGOS.

3) **What are the critical points you see concerning GGOS implementation and goals?** The development of models at the level required by the observation will be a challenging task. A variety of expertise and interdisciplinary interaction will be required. The implementation of GGOS will require an open and effective collaboration within the entire geodetic community.