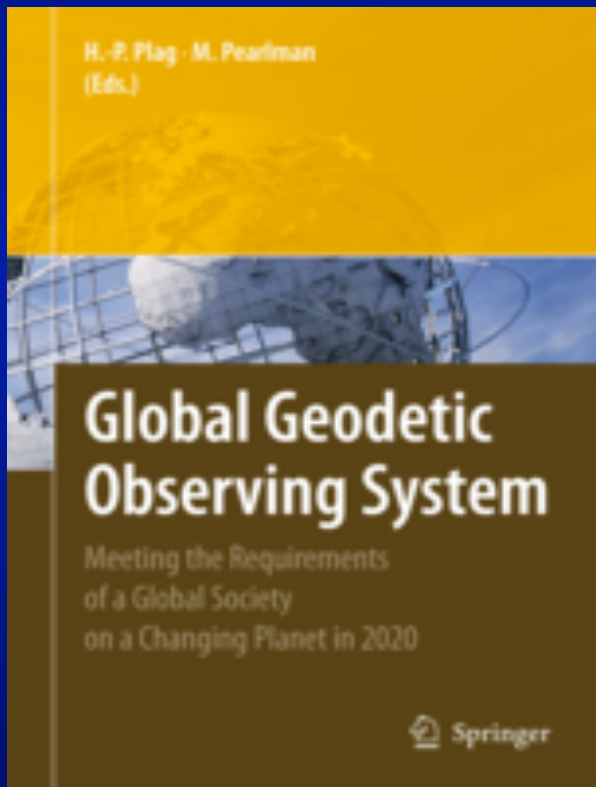




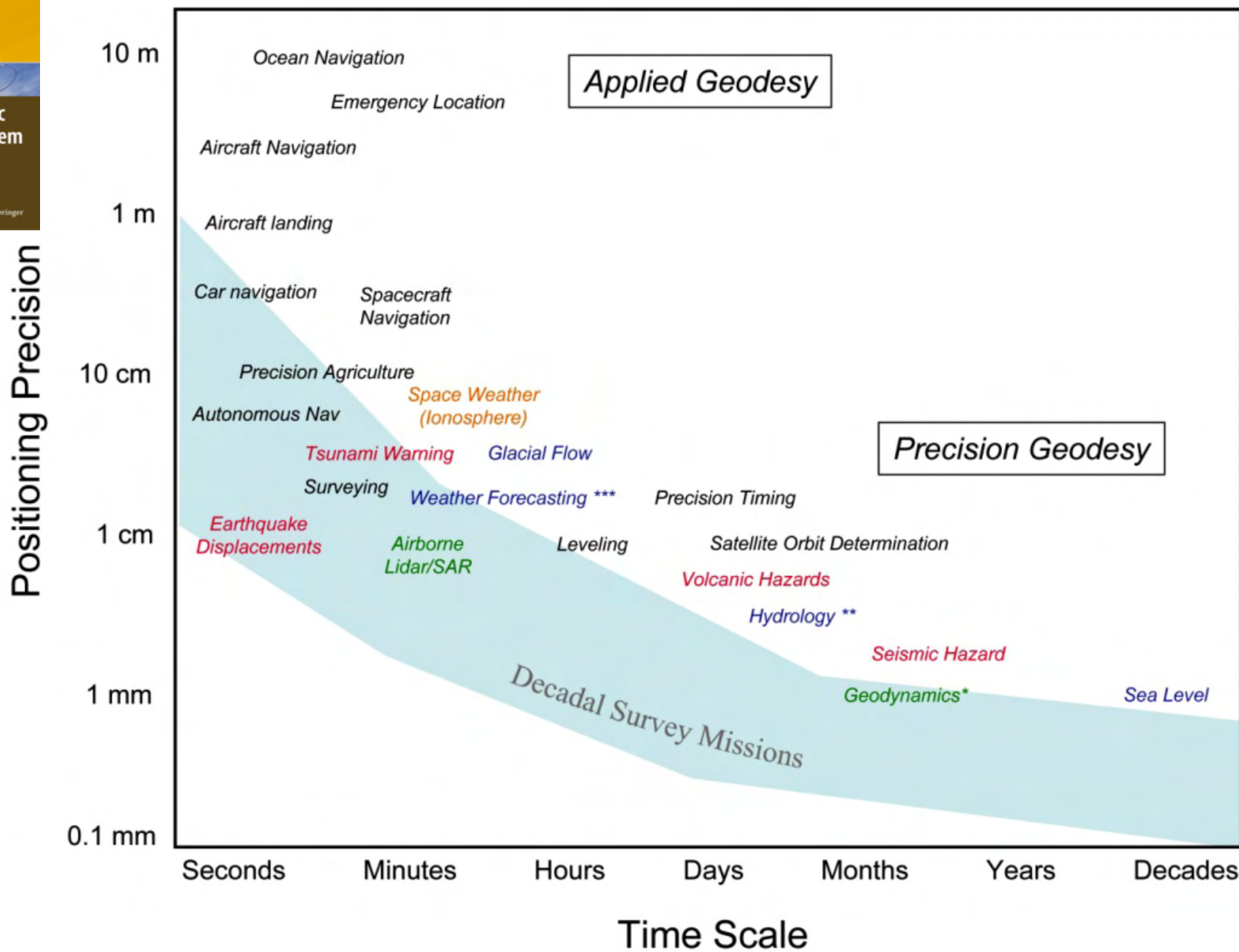
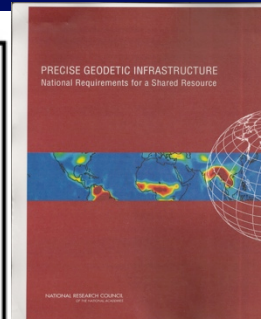
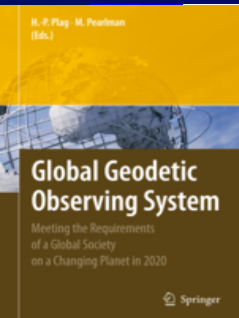
# Proposed: Decadal Initiative for the Development of the Global Geodetic Observing Network



**Dr. Hansjoerg Kutterer**  
**Chair, GGOS**

<http://www.ggos.org/>

# Societal Benefits of Precision Geodetic Infrastructure



# Global Geodetic Observing System (GGOS)

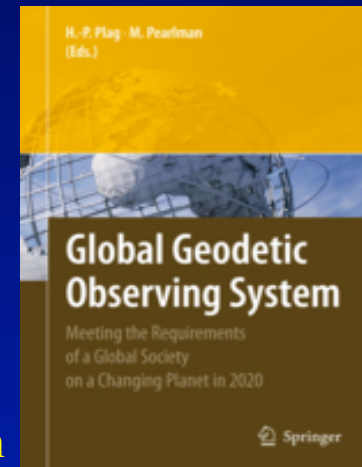
Official Component (Observing System) of the International Association of Geodesy (IAG) to:

- provide the observations needed to monitor, map and understand changes in the Earth's shape, rotation and mass distribution.
- provide the global frame of reference that is the fundamental backbone for measuring and consistently interpreting key global change processes and for many other scientific and societal applications.
- benefit science and society by providing the foundation upon which advances in Earth and planetary system science and applications are built.

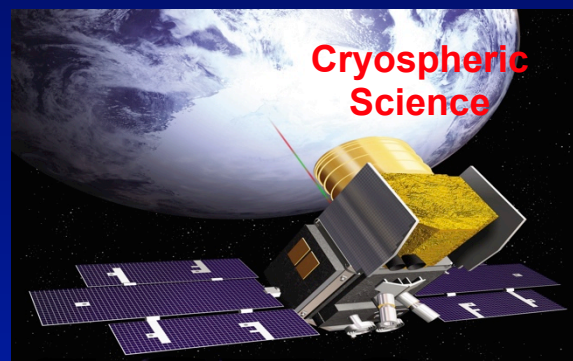
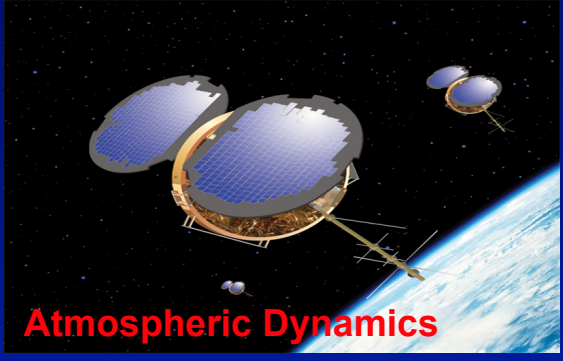
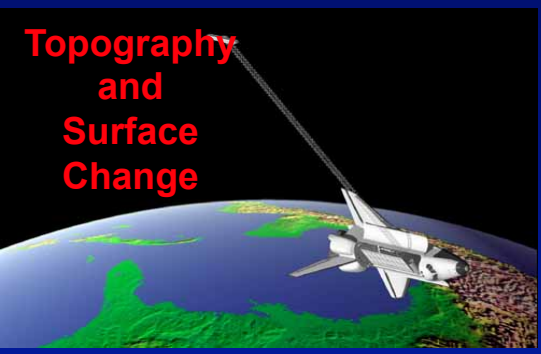
GGOS leads the GEO work plan component IN 01-C3 to “Promote geodetic reference frames and the monitoring of global change signals. The International Terrestrial Reference Frame and International Celestial Reference Frame provide foundations for most Earth observations “

International Cooperation and Support for the GGOS

- The GGOS data products are developed by the IAG Services (IGS, IVS, ILRS, and IDS) with strong international cooperation and broad international investment.
- Over 250 institutions in over 90 countries contribute to these IAG services in support of ground stations, product development, and analysis.



**GGOS contributes strongly to CEOS Constellations; LSI-Land Surface Imaging, OST-Ocean Surface Topography, PC-Precipitation, and ACC-Atmospheric Composition (Water Vapor and Temp);**



**Climate Change Research**

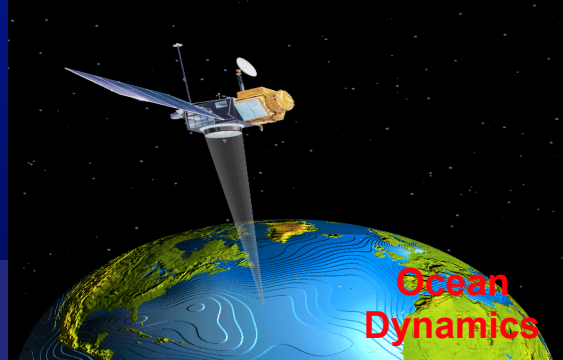
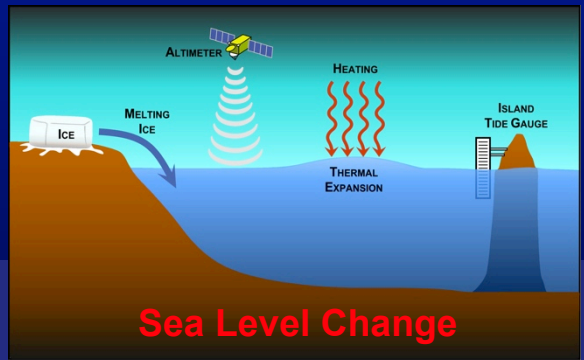
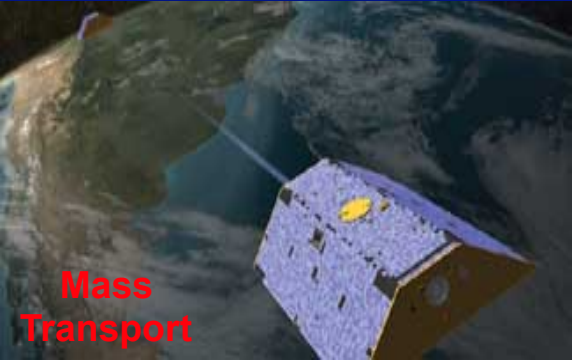
**Geohazards Research and Mitigation**



**Navigation**

**Positioning**

**Time Transfer**



# Call for Participation in Next Generation Network Initiative issued August 8, 2011

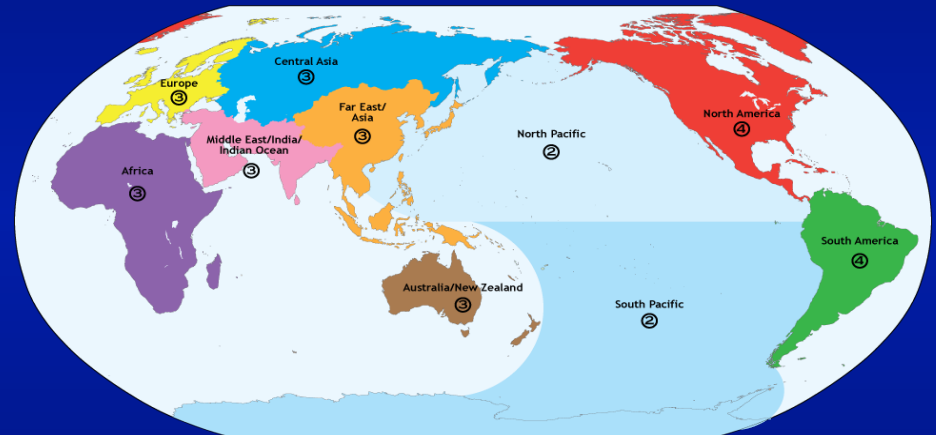
The Global Geodetic Network does not meet current accuracy requirements. Current GGOS network has few and inadequate co-location of techniques



- Old equipment
- Poor Network Distribution
- Poor co-location of techniques
- Large systematic observational errors
- Need 10-20 times improvement in measurement accuracy

## GGOS target network design initiative

- 30 globally distributed, multi-technique co-located ground stations
- 4 techniques/site



## Participants in GGOS Network Initiative

- |              |               |
|--------------|---------------|
| Norway       | Germany       |
| China        | United States |
| Australia    | Russia        |
| New Zealand  | Korea         |
| South Africa | Spain         |

Proposed: CEOS join with the GEO and the GGOS in the formulation of a decade long initiative for the development of a renewed global geodetic observing network.

Several CEOS member agencies have already pledged substantial resources in support of the GGOS call for participation. Ours is a global requirement and we hope that CEOS will see fit through this initiative to encourage and coordinate the contributions of its members in a decade long effort to develop a more accurate and stable global geodetic reference frame.

Hansjoerg Kutterer, Chair  
Global Geodetic Observing System