

# **Global Geodetic Core Network: Foundation for the Monitoring of the Earth System**

*A Project of the Global Geodetic Observing System (GGOS)  
as a contribution to the  
Global Earth Observation System of Systems (GEOSS)*

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# How does this Project Relate to GEO?

GEO Task AR-07-03 (now sub task DA-09-02c):  
“Global Geodetic Reference Frames”

**Community Report:** *“The Global Geodetic Observing System: Meeting the Requirements of a Global Society on a Changing Planet in 2020” (GGOS2020):*

- user need assessment,
- observational requirements, and
- system design.

**Recommendation 9.1: ...**

# How does this Project Relate to GEO?

**Recommendation 9.1** recommends

“that

*the global geodetic infrastructure not only be maintained at the current level but also be augmented, in order to close major spatial and technological gaps, with: (1) a global network of core sites on all continents, (2) absolute and superconducting gravimeters at a global network of reference sites, in particular the core sites, and (3) two additional dedicated SLR satellites, that an operational core system be built up and maintained with the necessary infrastructure for an operational geodetic Earth system service providing quantitative information on changes in ice sheets, sea level, water cycle, and climate, as well as for hazards, disasters, and resource management application, and that*

*the operational core include at least: (i) the global geodetic networks for the determination and monitoring of the geodetic reference frames, including Earth rotation, (ii) continuous gravity satellites missions for the monitoring of mass transport, (iii) continuous satellite missions for the monitoring of ice sheets, sea surface height, and lake level variations, and (iv) continuous satellite missions for the imaging of the solid Earth’s surface.”*

# Project Goals

## **Project Goal:**

Implement the first part of Recommendation 9.1:  
Global Network of Geodetic Core Sites

## **Definition of Geodetic Core Site:**

Co-location of the four space-geodetic techniques GNSS, SLR, VLBI, and DORIS

## **Importance of Core Sites:**

Crucial for reference frame stability, satellite orbits, global change monitoring, ...

# Implementation

## **Mode of Project Implementation:**

- Global Call for Participation
- CfP distributed through GEO Member States
- Contributions on different levels: network design, research, technology development, sites, infrastructure, operational of sites

## **Time Schedule:**

August 2009: CfP finalized

September 2009: Publish CfP

November 2009: Deadline for Proposals

December 2009: Selection of Contributions

# Relation to ST-09-02

## **Pilot project for:**

*Activity “4. Specific efforts will be made to contact universities and research laboratories with the goal to involve them in GEOSS activities.*

*Steps towards this goal include:*

*...*

*Establish proactive collaboration between S&T activities at universities and labs identified under (1) and relevant GEO tasks.”*

## **Actions:**

- Statement from STC concerning Pilot Project idea.
- Distribution of CfP to GEO principals