


# Science and Technology Roadmap

- Status -



11th Meeting of the  
Science and Technology Meeting  
Melbourne, Australia, September 15<sup>th</sup>, 2009



**The two lines of activity of the STC Roadmap:**

- 1. Actively engaging and incorporating science and technology participants in the development of GEOSS**
- 2. Creating incentives and promoting GEO in the S&T communities**



## Objective

- STC must regularly review the Activities of the Roadmap
- STC must ensure that all Roadmap activities are
  - implemented, or
  - the Roadmap is modified



# Engaging S&T participants in GEOSS

- **Revolving scientific review of each Work Plan**, starting with the current work plan for 2009-2011 on grounds of scientific and technological soundness and completeness against the outstanding questions and challenges in each of the SBAs
- **Implement review indicators in the M&E Framework** to ensure that activities in individual GEO Tasks and Sub-Tasks meet the applicable scientific and technological standards
- **Assess the requirement for continuity and long-term monitoring** by Earth observation systems of essential data from GEOSS components
- **Ensuring state-of-the-art technology in the GEOSS Common Infrastructure (GCI) and Observation Infrastructures.**
- **Responding to S&T needs and priorities** in Earth observation for GEOSS.



## Incentives and Promotion

- **Getting GEO/GEOSS better acknowledged** in the scientific community.
- **Establishing a “GEO label”** to recognise the scientific relevance, quality, acceptance and societal needs for activities in support of GEOSS.
- **Building awareness of GEO and GEOSS** in the different S&T communities, within the scope of the GEOSS development.
- **Showing GEOSS at work** with a set of compelling examples showing how GEOSS serves the S&T communities in their work.
- **Enhancing registration of scientific data sets** as an important indicator for potential contributors from the science communities in assessing the relevance of GEOSS for their work.
- **Identify key commercial partners**, which could contribute to GEOSS and also benefit from improved observational means, products and services and might therefore support certain S&T development.
- **Catalyze research and developing funding** to help engaging the S&T communities in the implementation of the GEOSS.



# Engaging and incorporating science and technology participants in the development of GEOSS

Activity	Action	Short description	Needs attention?
1a - Revolving scientific review of each Work Plan	1	Review Process	Yes
	2	Raise funding	Yes
	3	Future reviews	No
1b - Implement review indicators in the M&E Framework	1	Implement review indicators in task sheets	Yes
	2	Track review indicators	No
	3	Implement user feedback option in portals	Yes
1c - Assess the requirement for continuity and long-term monitoring	1	Develop continuity indicators	Yes
	2	Propose process to evaluate criticality	Yes
	3	Framework to coordinate responses	Yes
1d - Ensuring state-of-the-art technology in the GEOSS Common Infrastructure (GCI) and Observation Infrastructures	1	Review GCI technology	No
	2	Review technology and relevance of Component systems	No
1e - Responding to S&T needs and priorities	1	Propose a process to communicate S&T priorities to effect responses	No



# Creating incentives and promoting GEO in the S&T communities

Activity	Action	Short description	Needs attention?
2a - Getting GEO/GEOSS better acknowledged	1	Propose a GEOSS citation standard	No
	2	Promote citation standard	No
2b – Establishing a “GEO label”	1	Propose GEO Label	No
	2	Discuss it in STC	No
2c - Building awareness of GEO and GEOSS	1	Sessions at conferences	No
2d – Showing GEOSS at work	1	Document case examples	Yes
2e - Enhancing registration of scientific data sets	1	List key data sets	No
	2	Pursue their registration	No
2f - Identify key commercial partners	1	List key companies	No
	2	Pursue opportunities	Yes
2g - Catalyze research and developing funding	1	Identify programmes	No
	2	Convene forum/network	No



## 1a – Revolving scientific review of each Work Plan

<b>Activity</b>	<b>1a</b>	<b>Revolving scientific review of each Work Plan</b> , starting with the current work plan for 2009-2011 on grounds of scientific and technological soundness and completeness against the outstanding questions and challenges in each of the SBAs
<b>Specific Action</b>	<b>1</b>	Initiate Review Process for GEO Work Plan 2009-11 -Identify Responsible team of experts -Identify main challenges/open questions within the SBAs that should be addressed by the S&T component of GEOSS -Conduct review
<b>Timing</b>		Starts mid-2009; Assessment report for Work Plan 2009-11 by Ministerial 2010

➤ STC Telecon Meeting held on June 18th, 2009



# Proposal to set up Review Panels – Objectives

Conduct scientific review of GEO Work Plan 2009-2011 with respect to

- scientific and technological soundness
- completeness against outstanding science challenges

Prepare report to

1. State key scientific questions and challenges
2. Evaluate how current GEO Work Plan Tasks will serve progress in S&T
3. Indicate where Task objectives should be modified or extended to improve their relevance for S&T progress
4. Compile the main S&T challenges of each Task
5. Evaluate if Task objectives are achievable with available S&T resources (e.g., know-how, possibly R&D funding, infrastructure)
6. Identify Tasks where coordination between Tasks could better address key scientific and technical challenges



# Proposal to set up Review Panels – How to

- Thematic scope
  - 1 panel for each SBA
- Composition
  - Eminent experts in the field (min. 6 per Panel)
- Funding
  - Should provide some travel resources
  - M&E WG confronts the same challenge; expects funds from Members
- Number and Timing
  - 9 Panels, staggered?
  - 6 months for each report
  - First reports by Ministerial 2010
- tbd:
  - Links with ST-09-01
  - Link with M&E
  - Who takes responsibility?



## 1b – Implementing review indicators

<b>Activity</b>	<b>1b</b>	<b>Implement review indicators in the M&amp;E Framework</b> to ensure that activities in individual GEO Tasks and Sub-Tasks meet the applicable scientific and technological standards
<b>Specific Action</b>	<b>1</b>	Propose review-level indicator element for Task Sheets
	<b>3</b>	- Request Task-Leads to suggest appropriate review-indicators for their Task and review those - Implement a Component User Feedback Mechanism using ratings and indicators into the GEO Portal(s)
<b>Timing</b>		End of 2009
<b>Comment</b>		Specific Action 1 might be done as part of a cross-cutting ST-Task. ST-09-02 might be suitable, as this would "make GEOSS more attractive" to the S&T Communities. Specific Action 3 should be implemented in the GCI – to be raised with ADC.

➤ **STC should agree on concrete next steps to move these forward**



## 1c – Assess continuity requirements

<b>Activity</b>	<b>1c</b>	<b>Assess the requirement for continuity and long-term monitoring</b> by Earth observation systems of essential data from GEOSS components
<b>Specific Action</b>	<b>1</b>	Develop a continuity indicator for all registered GEOSS components - Set up data base of epochs of scheduled discontinuations of Systems and data set provisions - Develop automated test of availability of Components at GCI-level - Propose appropriate reporting and options for reactions
	<b>2</b>	Propose process to evaluate the relevance/criticality of components for GEO
	<b>3</b>	Set up framework for coordinating activities towards ensuring continued operations of essential components
<b>Timing</b>		by end of 2009 suggested
<b>Comment</b>		Specific Action 1 is not merely a S&T issue, but more generally a GEO issue. This could be taken up by AR-09-03 ("Advocating for Sustained Observing Systems")

➤ **STC should agree on concrete next steps to implement this activity**



## 2f – Identify key commercial partners

<b>Activity</b>	<b>2f</b>	<b>Identify key commercial partners</b> , which could contribute to GEOSS and also benefit from improved observational means, products and services and might therefore support certain S&T development.
<b>Specific Action</b>	<b>2</b>	Pursue opportunities of making company resources available for developing the GEOSS S&T content
<b>Timing</b>		2011 suggested
<b>Comment</b>		<b>Proposed Action:</b> Should be included in Task ST-09-01

➤ STC to decide what to do with this



## Implementing the STC Roadmap

- STC has taken responsibility for seeing the S&T Roadmap implemented
- Most of the action is placed in the Tasks and GEO Working Groups
- STC must maintain close contact with these to
  - review progress
  - respond to high-level issues

### Proposal:

- STC to discuss status of implementation at each full Committee meeting
- These discussions should be prepared by a sub-group of the Committee in a Telecon preceding the meeting. Specifically to
  - identify need for STC action
  - propose what STC should do

### To be decided now:

- Agreement on general approach
- Who does what

