

Overview of CEOS-GEO Actions

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Plan

- Introduction
- CEOS GEO Actions Description
- CEOS GEO Actions Progress Status
- Way Forward

Introduction

CEOS actions in 2008

- **Continue the execution of actions initiated in 2007 in support to GEO** (*see CEOS IP v1*) e.g.:
 - Virtual Constellations
 - CEOS Response to GCOS (59 GCOS actions incl. 21 high priority ones)
- **Following update of GEO 2007-2009 WP, define new 2008 CEOS "GEO" Actions**
 - 147 actions incl. 60 high priority ones (= **Category 1 actions**)
 - 92 % of the Cat. 1 actions should be completed by Oct 1, 2008
 - Each Cat. 1 action includes a list of milestones & deliverables
 - All 2007 actions except GCOS ones are addressed through new 2008 actions. GCOS actions are treated separately.
- **Execute all those 60+21 high priority actions**

Additional CEOS activities in 2008

- **Virtual Constellations:**
 - Consolidation of Virtual Constellation White Paper
 - Assessment of 2 new candidates for Virtual Constellations in addition to the 4 current ones.
- **Propose new tasks for GEO 2009-2011 WP**
- **Update CEOS Implementation Plan V1**
- **SEO activities e.g.**
 - **CEOS Information System for the management of CEOS GEO Actions**
 - **Comparison between space-based measurement requirements and space-based measurement capabilities → identify measurement gaps.**
- **CEOS Documentation System (documents, calendar)**
- **Other activities e.g. Data Democracy, EO Handbook,..**

CEOS Members Human Resources to support GEO

- **CEOS Side:**
 - staff to manage & execute the CEOS actions (*see slides # 13 & 14*)
- **GEO side:**
 - Staff seconded at GEO Secretariat
 - Support to GEO Committees (Task Teams, Committees Co-Chairs)
 - Staff to support the revision of GEO targets (GEO T3 team)

CEOS GEO Actions Description

CEOS-GEO Actions Categories

Category-1: Highest CEOS priority
Category-2: Medium CEOS priority to be completed
Category-3: Lower CEOS priority
Category-4: Lower CEOS priority to be completed

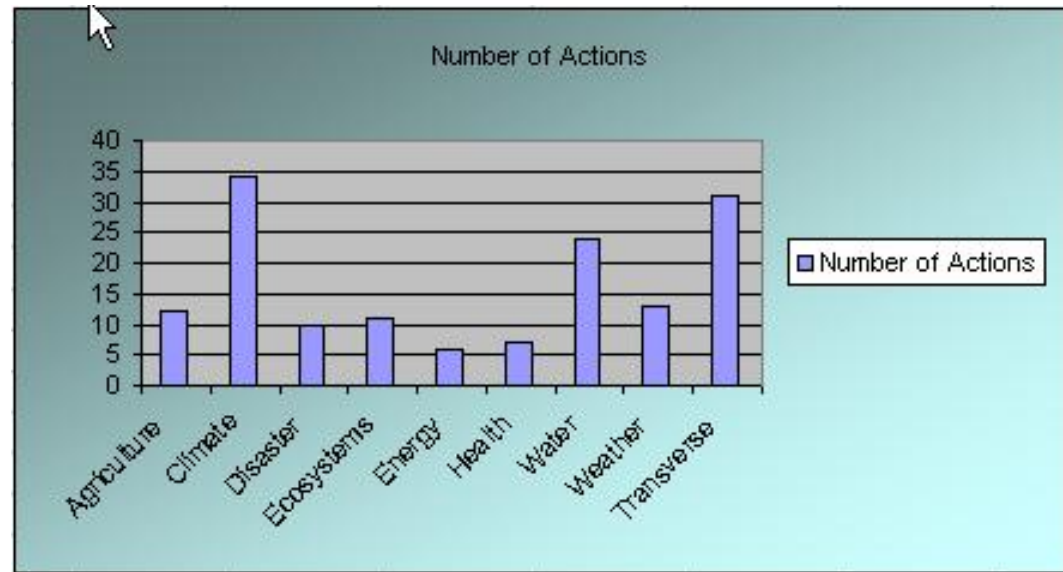
Important contribution of CEOS to GEO

- **Exception to above rules:** 4 actions have been promoted to Cat 1 because of both their importance and the intermediate time frame expected already before Oct 1, 2008
- **147 actions all categories address CEOS Agencies.**
 - 60 in Cat 1 addressing 22 GEO
 - 56 in Cat 2.
 - 18 in Cat 3
 - 13 in Cat 4
- **CEOS WGs and Constellations inv...**

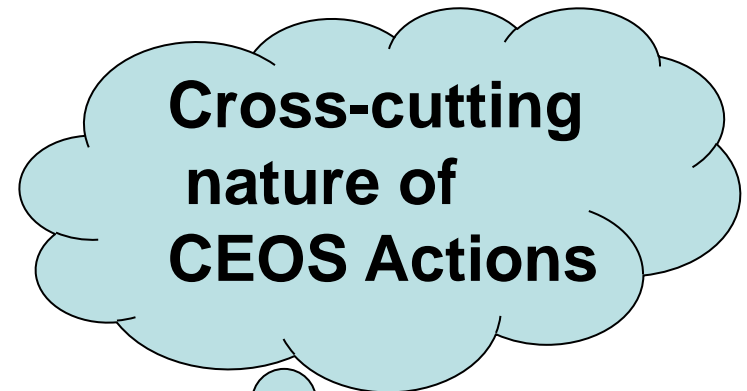
Full support of CEOS Agencies to the WGs and Constellations is needed

CEOS-GEO Actions per SBA

SBA	Number of Actions
Agriculture	12
Climate	34
Disaster	10
Ecosystems	11
Energy	6
Health	7
Water	24
Weather	13
Transverse	31



- 1/3 of CEOS actions address more than one SBA



CEOS Actions per Constellations

ACC: 13 actions incl. 6 cat. 1
– supporting 6 SBAs (8 GEO Tasks)

LSI: 17 actions incl. 6 cat. 1
– supporting 4 SBAs (8 GEO Tasks)

OST: 7 actions incl. 4 cat. 1
– supporting 5 SBAs (6 GEO Tasks)

PC: 15 actions incl. 7 cat. 1
– supporting 5 SBAs (6 GEO Tasks)

**Cross-cutting
nature of
constellations**

**Important
contribution of
constellations**

Families of Cat 1 CEOS "GEO" Actions

3 families of actions may be distinguished:

1. **Data provision** (incl. data reprocessing), **data access** (incl. data interoperability, user portal)
2. **Scientific and Calibration/Validation**
3. **Programmatic** (planning of future missions/sensors, requirements/gaps analysis, funding, promotion)

Characteristics of CEOS Cat 1 Actions

- Most of actions to be completed before Oct 1, 2008, rely on activities either on-going or already planned by the CEOS Agencies.
 - However the **level of efforts** (financial, human, ..) overall is **considerable**
- **Actions are heterogeneous** in terms of financial implications, nature (*e.g. political, technical, scientific, ..*), status (*on-going or future activities*)
- Cat 1 actions List of milestones & deliverables have been provided for all Cat 1 actions.

Human Resources to support the CEOS GEO actions (1/2)

- **Significant level of CEOS resources allocated to support the CEOS “GEO” Actions related to GEO Tasks:**
 - In 2008, about **50 Points of Contact (POC)** manage the 60 top priority CEOS “GEO” actions addressing 22 GEO Tasks (out of 73). **13 CEOS Agencies as Lead.**
 - About **80 POC** coordinate the execution of the 147 CEOS actions to be completed before end 2009.

Human Resources to support the CEOS GEO actions (2/2)

- **Several other supporting entities:**
 - Virtual Constellation Teams
 - CEOS SBA Teams
 - CEOS Working Groups
 - SIT Team
 - System Engineering Office
 - CEOS Executive Officer
 - Several staff at CEOS Members premises.

CEOS SBA – WG - Constellation Leads

CEOS SBA

SBA	NAME	AGENCY
DISASTER	Guy Seguin	CSA
HEALTH	Antonio Guell Murielle Lafaye	CNES
CLIMATE	Mitch Goldberg	NOAA
WATER	Chu Ishida	JAXA
WEATHER	Paul Counet Rob Husband	EUMETSAT
ECOSYSTEMS	Alex Fortescue	CSIR
AGRICULTURE	Brad Reed	USGS
ENERGY	Richard Eckman	NASA
TRANSVERSE	Ivan Petiteville	CEOS

VIRTUAL CONSTELLATIONS

CONSTEL	NAME	AGENCY
Atmospheric Composition	Ernest Hilsenrath Claus Zehner	NASA ESA
Land Surface Imaging	Bryan G Bailey V. Jayaraman	USGS ISRO
Ocean Surface Topography	Stan Wilson Francois Parisot	NOAA EUMETSAT
Precipitation	Steven Neeck Riko Ohi	NASA JAXA

WORKING GROUPS

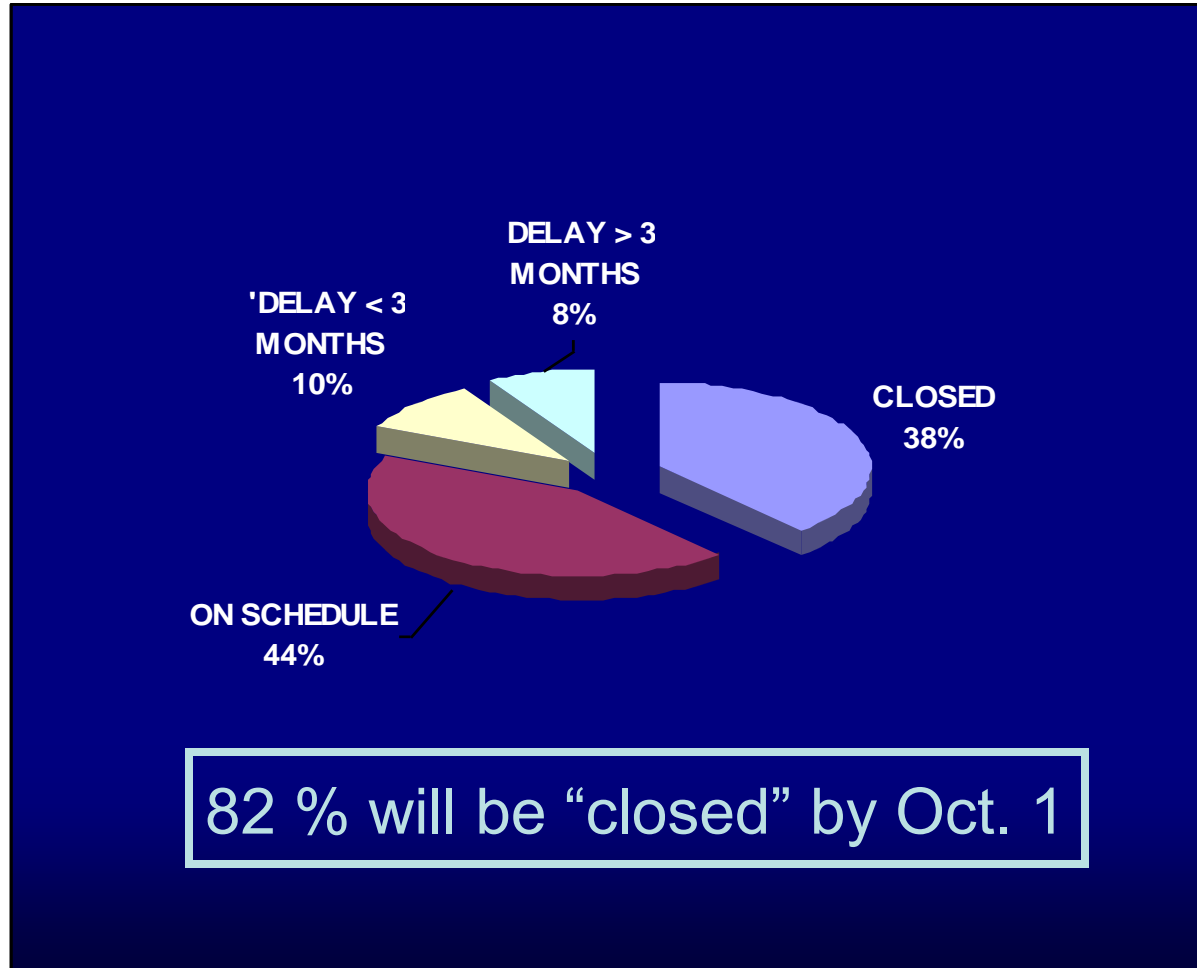
WG	NAME	AGENCY
WGCY	Changyong Cao	NOAA
WGEdu	Gordon Bridge	EUMETSAT
WGISS	Martha Maiden	NASA

CEOS GEO Actions Progress Status

Overview for Cat 1 actions

- Progress of each action is measured against its planned milestones & deliverables.
- Status reports have been provided regularly for 58 Category 1 actions during CEOS-GEO monthly telecons and e-mails (*getting reports may be difficult sometimes !!*)
- **Actions status (Sep. 16):**
 - 23 actions are “closed”
 - 32 actions show “good progress”:
 - 26 on-schedule, 6 with delays lower than 3 months (2 - 2 - 2 - 2.5 - 3 - 3)
 - 27 actions still to be “closed” between Sep.1 and Oct. 1 (30 actions before Dec. 31) in addition to the 23 already “closed”
 - 5 actions are significantly delayed (3.5 - 5 - 5 - 15 - 24 months)

Overall Cat 1 Actions Status



Overview for Cat 2-to-4 actions

- 2 “Category 2 ” actions related to “Precipitation Constellation” have been reported as CLOSED (Sep. 13)
- 4 “Category 3 ” actions have been reported as CLOSED (Sep. 13)
- 1 “Category 4 ” action has been reported as CLOSED (Sep. 13)
- Majority of actions lacks information (*e.g. no clear description; no lead Agency, no due date, no milestones & deliverables, ..*).
- Consolidation phase has started in August 08.

Most Significant Delays

- Most significant delays observed are due to:
 1. The **unavailability of non-CEOS resources** (e.g. LSI Constellation "Working Group on Regional Data Set Compilation (WGRDSC)" or RAL (contractor) for ACC)
 2. **Large volume of work without having a prior identification and thus commitment of CEOS Agencies** (e.g. contribution to UN FAO Forest)
 3. **Actions including several large activities** that may be affected by problems listed in 1 & 2 above.

Overall Status (CEOS IP v2)

Status	Delay (month)	CEOS-GEO Action Number	Action Status (OPEN / CLOSED)	Action Description	Due Date	POC	Proposed Lead Agency
DEL	24	AG-06-04_2	OPEN	Provide the UN FAO Forest Resource Assessment 2010 (FRA2010) with the land surface image data, filling the holes in the primary Landsat data set needed to complete this assessment, or at least to establish the interagency agreements to do so.	31/12/2009	Bryan Bailey	USGS
CLO	0	AG-06-04_3	CLOSED	Generate and make accessible to global scale forest mapping data sets	30/09/2008	M. Shimada	JAXA
PRG	2.5	AG-06-04_4	OPEN	Compile mid-resolution LSI data sets over selected (TBD) area.	31/12/2009	Bryan Bailey	USGS
CLO	0	CL-06-01_1	CLOSED	Characterize historical HIRS instrument spectral response effects on HIRS intersatellite bias using IASI and AIRS	30/09/2008	Changyong Cao	NOAA
CLO	0	CL-06-01_2	CLOSED	Provide a four-year extension of the total ozone and ozone profile Climate Data Records for the SBUV(2) measurement retrievals by reprocessing NOAA-16 and NOAA-17 SBUV/2 records through 2007 with latest characteristics.	30/09/2008	Flynn	NOAA
CLO	0	CL-06-01_3	CLOSED	Extend long-term time series of AVHRR (clouds, aerosols, surface temperature, vegetation index) and SSM/I (total precipitable water and rain rates) to June 2008.	30/09/2008	Goldberg, Heidinger, Ferraro	NOAA
UNK		CL-06-01_7	OPEN	Reanalyzed global sea ice data (1987/1995-2005)	30/09/2008	Schueler	EUMETSAT
CLO	0	CL-06-01_8	CLOSED	Develop SSU radiative transfer model for reanalysis.	30/09/2008	Zou	NOAA
PRG	0	CL-06-01_9	OPEN	Reprocess SCIAMACHY products	30/09/2008	Thomas Trautmann	DLR
PRG	0	CL-06-02_1	OPEN	Measurement consistency for 1.5 km sensors: 1) Complete Phase 1 of the project assessing the measurement consistency of MODIS, ATSR, and AVHRR and provide recommendations for recalibration. 2) Initiate Phase 2 of the project to generate FCDRs from 1KM AVHRR at a continental scale for North America and Asia.	01/10/2008	J. Xiong, C. Cao, A. Tishchenko	NOAA
CLO	0	CL-06-02_2	CLOSED	Conversion of TRMM Product into GIS format	30/04/2008	Steve Neek	NASA
PRG	0	CL-06-02_3	OPEN	Proceed with planning both in the U.S. and Europe for the development and use of a wide-swath altimetry demonstration mission – e.g., the Surface Water Ocean Topography (SWOT) mission – with a target launch in 2016; ensure the availability of adequate ground data system capabilities to take advantage of these new technologies	30/09/2008	Eric Lindstrom	NASA
PRG	3	CL-06-02_4	OPEN	Greenhouse Gas products (CO ₂ , CO, CH ₄) from AIRS and IASI. Products are currently available from AIRS via request and operational IASI products will be available from NOAA no later than September 2008	30/09/2008	Barnet	NOAA
DEL	3.5	CL-06-02_5	OPEN	SIT discussion with NPOESS Program Scientist to mitigate CrIS degraded CO products	30/09/2008	Barnet	NOAA
PRG	0	CL-06-02_6	OPEN	Report on Phase 0 studies on potential future climate sensors	30/09/2008	Renaut	CNES
PRG	0	CL-06-02_7	OPEN	Report on current and future JAXA space-based climate observation missions	30/09/2008	K. Imaoka	JAXA

Action Detailed Reporting

CEOS-GEO Action Number	Action Status (OPEN / CLOSED)	CEOS Action Category: (1 to 4)	Action Description	Due Date	POC	Planned Deliverables & Milestones	Summary of Accomplishments & Issues
DA-06-02_1	OPEN	1	Dome C Experiment: 1) Conduct a joint experiment using the Dome C site for cross-comparison and <u>evaluate</u> its uncertainty and suitability for climate quality calibration. 2) Develop the theoretical basis and standard procedure for cross-comparison. 3) Present results at the IGARSS and put on the calVal portal	01/10/2008	C. Cao/P. Henry/J. Xiong	<ol style="list-style-type: none"> February 2008 Presentation at WGCV 28 April 1, 2008 Collect and retrieve Dome C observations from historical NOAA satellites from NOAA-6 to MetOP-a. May 1, 2008 Collaborate with NASA to retrieve the MODIS observations over Dome C and develop a <u>intercomparison</u> procedure. June 15, 2008 Collaborate with CNES to retrieve the SPOT observations over Dome C for comparison July 15, 2008 Present the preliminary results at the IGARSS 2008 August 15, 2008 Include preliminary results on the CEOS calVal portal September 30, 2008 Report to CEOS if required 	<ol style="list-style-type: none"> 1- COMPLETED. <i>Presentation is available at http://www.ceos-sit21.com/pdf/Agenda%20Item_20%20Appendix_DA0602c.pdf</i> 2. COMPLETED 3. COMPLETED: comparison using the dome C site has been made with MODIS, AVHRR, Hyperion, and AMSR-E. 4. COMPLETED cooperation with CNES using SPOT data (step 4) in developing the calibration procedure and atmospheric correction. 5- COMPLETED Present results at the IGARSS08 in July 2008 (slides on CEOSDOC "WGCV_IGARSS2008_slides.pdf" (http://docs.google.com/fileview?id=F7452756-7d75-44dc-9180-4bcb78e936b2&hl=en)). Paper for IGARSS ("WGCV_IGARSS2008_paper.pdf" on CEOSDOC http://docs.google.com/fileview?id=F86296786-21c3-4837-8f69-b2acd4a43c5a&hl=en) <p><i>the action is progressing very well as a new Contractor joined the team. The current action has been extended to Seaw@IES. Preliminary results on the Dome C experiment are available on the CalVal Portal. The final report will be presented at WGCV-29 (1st week of October 2008).</i></p>
DA-06-02_2	OPEN	1	Data QA framework and Guidelines: 1) Develop and deliver a consensus documentary framework and <u>guidelines</u> on calVal for data quality control/assurance and best practices; 2) Develop a consolidated worldwide calVal site database to be included in the CEOS calVal portal. 3) Further expand the calVal portal in both content and functionality	01/10/2008	P. Lecomte	<ol style="list-style-type: none"> July 30, 2008: Draft guideline paper for internal review. September 30, 2008: issue Version 1.0 paper 	<ol style="list-style-type: none"> 1. COMPLETED. The draft document is under review by WGCV members
DA-06-02_3	CLOSED	1	Hold the 2nd GEO-CEOS Workshop on calVal to continue developing the framework and <u>guidelines</u> for data quality assurance.	01/10/2008	P. Lecomte	May 2008: Organize the 2nd CEOS-GEO Workshop	<p>COMPLETED. 2nd CEOS-GEO Workshop held successfully (NIST, Gathersburg, USA, May 6-8, 2008) Documentation available at http://calvalportal.ceos.org/CalValPortal/showWorkshops.do</p>

Working View

Action Detailed Reporting

DA-07-03: "Virtual Constellations"

CEOS Role : Lead

DA-07-03_6	<i>Description</i>	TRMM data processing will be assumed by the Precipitation Processing System (PPS) effective 1 June 2008. This action allows an early build of the data processing system that will be used for GPM processing to be used to establish key aspects of a system required for multiple satellite data merging: flexibility, extensibility, and maintainability. In addition the action improves the access to the user community of all TRMM based data including the production merged satellite product.		
	<i>Due Date</i>	01/06/2008	<i>Category</i>	1
	<i>PCP</i>	Steven Neeck; NASA	<i>E-mail</i>	steven.neeck@nasa.gov
	<i>Milestones & deliverables</i>	<p>1• March 31, 2008: System testing completed</p> <p>2• May 31, 2008: Operational Acceptance Testing (OAT) completed.</p> <p>3• June 1, 2008: Precipitation Processing System (PPS) assumes Tropical Rainfall Measuring Mission (TRMM) data processing</p>		
	<i>Status</i>	CLOSED		
<i>Main achievements</i>	<p>1. COMPLETED. System testing ended on 31 March 2008. System testing was very successful.</p> <p>2. COMPLETED. Operational Acceptance Testing (OAT) began on 1 April 2008 and will continue through 31 May 2008. System testing was very successful and early OAT indicates the same.</p> <p>3. COMPLETED. TRMM data processing will be assumed by the Precipitation Processing System (PPS) that has been successfully completed in June 2008. This action allows an early build of the data processing system that will be used for GPM processing.</p>			

CEOS IP v2 View

CEOS Actions Deliverables

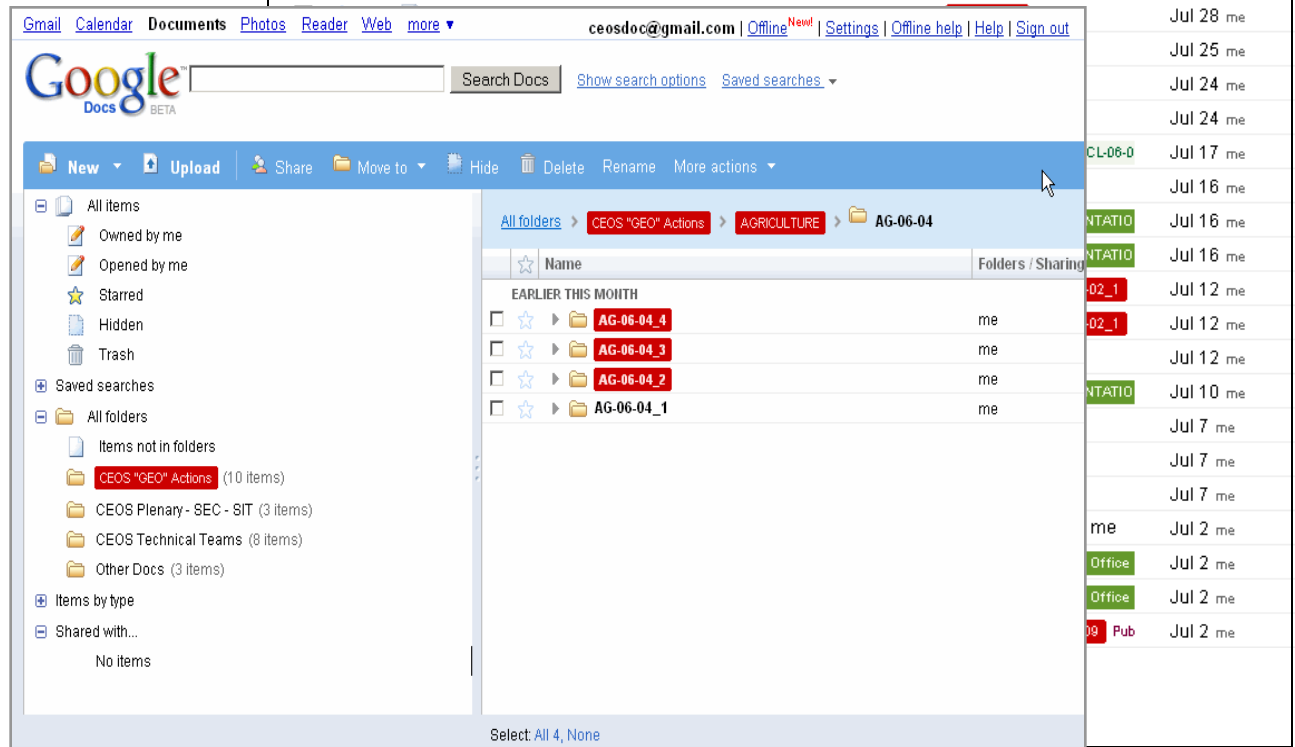
- Various types of deliverables e.g.:
 - Generation of Documents,
 - Production of Data Sets,
 - Organization of workshops,
 - Implementation of Web Portals opened to public, etc...

CEOS Actions Documents

- Documents produced archived on **CEOS Documentation Server** as much as possible.

- Full list in CEOS IP v2

TODAY					
<input type="checkbox"/>		NOAA-ISRO_Workshop_Summary_Mar2008	DA-07-01_1	me	10:59 am me
<input type="checkbox"/>		ceos-geo actions table 25 july 2008		me	6:15 am me
EARLIER THIS MONTH					
<input type="checkbox"/>		DI-06-09 User Report PPT 07DEC05	DI-06-09_1	DI-06-09	r Aug 3 me
EARLIER THIS YEAR					
<input type="checkbox"/>		Teleconference-July22-minutes	DISASTERS	me	Jul 28 me
<input type="checkbox"/>		DM Caribbean Pilot-presentation	DI-06-09_3	me	Jul 28 me
<input type="checkbox"/>		DM Caribbean Pilot-report	DI-06-09_3	me	Jul 28 me
<input type="checkbox"/>		Mr Takashi Moriyama.pdf	DI-06-09_2	me	Jul 28 me



The screenshot shows the Google Docs interface. The top navigation bar includes links for Gmail, Calendar, Documents, Photos, Reader, Web, and more. The user is logged in as ceosdoc@gmail.com. The main content area shows a folder structure: All folders > CEOS "GEO" Actions > AGRICULTURE > AG-06-04. Below this, a list of folders is shown under the heading "EARLIER THIS MONTH":

Name	Folders / Sharing
AG-06-04_4	me
AG-06-04_3	me
AG-06-04_2	me
AG-06-04_1	me

The left sidebar shows a navigation pane with categories like "All items", "Owned by me", "Starred", "Hidden", "Trash", "Saved searches", "All folders", and "Items by type". The "All folders" section is expanded to show "CEOS 'GEO' Actions (10 items)", "CEOS Plenary - SEC - SIT (3 items)", "CEOS Technical Teams (8 items)", and "Other Docs (3 items)".

Data Sets

- As results of the 2008 CEOS Actions, 17 web sites offer an access to several new data sets e.g.:
 - PALSAR 50m Orthorectified Mosaic Product.
 - Daily ice concentration products (*based on SSM/I and SSMR data ; period 1987-2007*)
 - GlobCarbon: 9 years of data (*faPAR, LAI, vegetation growth cycle, fire*)
 - Three-month prediction of precipitation and temperature anomalies (*South America and Southern Hemisphere*)

Data Sets

Extracted from
CEOS IP v2

Action Id	Data Sets Descriptions
	in operation since 20 March 2008. Data is available on an anonymous ftp server for regular pickup. Historical merged data products are also available but not yet on an anonymous server: ftp://trmmopen.gsfc.nasa.gov/pub/gis/
CL-06-02_7	<p>TRMM satellite is functioning properly and providing valuable precipitation dataset for more than 10-years. JAXA released the new Latent Heat Research product on May 2008 and the TRMM Near-Real-Time Images HP are available since June 2008. Detailed information and data can be accessed at:</p> <p>http://www.eorc.jaxa.jp/TRMM/index_e.htm]</p> <p>AMSR-E instrument onboard Aqua is also continuing healthy observations and providing water related parameters for more than 6-years. Detailed information and data can be accessed via the following website:</p> <p>http://www.eorc.jaxa.jp/AMSR/</p>
CL-06-02_11	<p>Global datasets and their accessibility for GlobCarbon, GlobCoulour, GlobGlacier (glacier monitoring), Medspiration (European contribution to GODAE SST) Long-term sea surface elevation records from ERS-1/2 and Envisat.</p> <p>Glob Colour: ten years available at available data (ten year global ocean colour dataset) can be accessed through the web-site http://www.globcolour.info/ .</p> <p>Glob Carbon: 9 years available of data (faPAR↓ LAI, vegetation growth cycle, fire) may be accessed on line at http://www.globcarbon.info/ . 10 years of data will be available by the end of 2008.</p> <p>Medspiration (European contribution to GODAE SST): Long-term sea surface elevation data records from ERS-1/2 and Envisat, can be accessed at http://www.medspiration.org/ .</p>

Workshops, Conferences, ...

- In the scope of the CEOS actions, **CEOS Members** have organized or supported more than 18 workshops, symposiums, conferences, courses, ...
- For several of those events, the information needed to access the related presentations and articles may be found in the CEOS IP v2

Workshops, Conferences, ...

Extracted from
CEOS IP v2

Action Id	Workshops, Symposiums, Conferences Descriptions
	CEOS contribution to the Core GEO Task AR-07-02
DA-06-02_3	The 2nd CEOS-GEO Cal / Val Workshop held successfully (NIST, Gaithersburg, USA, May 6-8, 2008). Workshop Objective: to continue developing the framework and guidelines for data quality assurance. Documentation available at http://calvalportal.ceos.org/CalValPortal/showWorkshops.do
DA-07-01_1	ISRO-NOAA-SSEC Workshop on "Atmospheric Remote Sensing from Space Platforms" was held during April 7-12, 2008 in Space Applications Centre, Ahmedabad
DA-07-01_3	The workshop on "Global DEM interoperability" be held on July 2 in Beijing. A report is being prepared for the WGCV-26 meeting
DA-07-03_2	The 3rd International GPM GV Planning Workshop hosted by AEB/INPE was held in Buzios, Brazil, 4-6 March 2008, to develop joint research projects for investigators from the international community to collaborate with the U.S. Precipitation Measurement Mission (PMM) Science Team on GPM GV. The workshop concluded with plans for 24 joint projects from 19 nations. Of these 24 proposed activities, one has already been accepted by the PMM Program, one is in review, 11 are various stages of preparation, and 11 have been identified as potential opportunities. The workshop presentations are available online at http://pindara.cptec.inpe.br/gpm/workshop/index.html A report summarizing the workshop activities and describing the general framework for international collaboration on GPM GV is in preparation for release in the summer of 2008.

Way Forward

Next Steps (1/4)

- Complete the execution of Cat 1 actions (*as scheduled*)
- Mitigation actions should be proposed to SIT by the POCs of the most delayed actions. (*2008 Q4*)
- Consolidate the definitions of the Cat 2-to-4 actions and get resources from CEOS Principals (*2008 Q4*)
- Revise the CEOS actions w.r.t. new GEO 2009-2011 WP (*2009 Q1*)

Next Steps (2/4)

- **Improve the management of the CEOS Actions e.g.:**
 - Complete the implementation of the CEOS Information System (2008 Q4)
 - Rationalize the management for all actions e.g. integrate CEOS “GCOS” actions with other CEOS Actions.
 - More regular participation to CEOS GEO monthly telecons (e.g. CEOS SBA Coordinators backup)

Next Steps (3/4)

Improve the management of the CEOS Actions (cont'):

– Improve reporting to GEO (2008 Q4):

- Reporting on CEOS actions to relevant GEO Task Teams
- Reporting on GEO Tasks for the tasks led and POC'ed by CEOS.

Current CEOS POCs

CL-06-02	Mitch Goldberg
DA-06-02	Stephen Ungar
DA-07-01	Jan-Peter Muller
DA-07-03	Stephen Briggs

Next Steps (4/4)

- Advertise more the achievements of the CEOS Actions e.g.
 - News on CEOS Web Site (e.g. Main Achievements of the month)
 - Add some web pages with information on how to access the various data sets offered by CEOS Members, access conditions, contact names, ..
 - Register all data sets in GEOSS Registries
 - Make public the documents, presentations, ... generated in the scope of the CEOS actions whenever possible.
 - **Eventually, the most interesting information could be also transmitted to the GEO Web Portal providers**

THANK YOU

QUESTIONS ?