**Project Background/History**

The purpose of the GA.4.Disasters project was to address the use of satellites, sensors, models, and associated data products to support disaster response and risk assessment. The purpose of this GEOSS architecture was to provide an enterprise perspective for managing distributed systems and web services for disaster management. The intent was also to provide a common vocabulary to describe the GEOSS building blocks and how they are composed. WGISS evaluated existing and proposed disaster response and risk assessment processes as a point of departure in evolving the architecture descriptions. Key proof-of-concept prototypes were implemented to refine the architecture, to capture lessons learned, and to recommend standards for web service and system interfaces.

**Timeline/Milestones:**

* *(Nov, 2013)* The [GA.4.D Architecture for final review](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Architecture-for-Final-Review_v0.9.9_Nov2013.pdf" \t "_blank) was released for comments
* *(Sep, 2013)* The [GA.4.D Architecture document](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Architecture-Draft_v0.9.8.pdf" \t "_blank) was significantly edited and reformatted in preparation for the WGISS-36 meeting for final review and release.
* *(Jul, 2013)* The [Final Report](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_GEOSS-Future-Products-Workshop-Final-Report_Jul2013.pdf" \t "_blank) from the March [GEOSS Future Products Workshop](http://www.ogcnetwork.net/node/1872" \t "_blank) was made available online.
* *(Jul, 2013)* The abstract entitled "[Towards a Sensor Web Architecture for Disaster Management: Insights from the Namibian Flood Pilot](https://www.dropbox.com/sh/7pii8j0g73qh782/R-cv-EmTaF)," was presented by G. Percivall of the Open Geospatial Consortium (OGC) on behalf of the GA.4.D team at the 2013 IEEE International Geoscience and Remote Sensing Symposium (IGARSS) in Melbourne, Australia.
* *(Spring, 2013)* The IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (J-STARS) published a paper, "[Improving Disaster Management Using Earth Observations—GEOSS and CEOS Activities](http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=6493465" \t "_blank)," co-authored by the GA.4.D and the OGC/GEOSS Architecture Implementation Pilot (AIP-5) team.
* *(Spring, 2013)* A new draft of the architecture document was published, [GA.4.D v0.9.6](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Architecture-Draft_v0.9.6.pdf" \t "_blank), that covered disaster lifecycle phases in a more balanced way, provided a more detailed view of Processes in the Enterprise View, and discussed semantics (definition/translation) in the Information View.
* *(May, 2013)* Supported a Disaster Risk Management (DRM) Pilot and Strategy Review and a CEOS Disaster Societal Benefit Area (SBA) team meeting (Greenbelt, MD, USA).
* *(May, 2013)*Participated in the WGISS-35 meeting (São José dos Campos, Brazil) and summarized the GA.4.D architecture and sketched recommendations for DRM Pilot studies.
* *(Mar, 2013)* Participated in a [GEOSS Future Products Workshop](http://www.ogcnetwork.net/node/1872" \t "_blank) (Silver Spring, MD, USA). (Workshop [Final Report](https://portal.opengeospatial.org/files/?artifact_id=53993" \t "_blank))
* *(Jan, 2013)*Met with the CEOS Disasters SBA team to begin collaborating on a Global Earth Observation Strategy for Disaster and Risk Management (DRM), as called for in the recent CEOS DRM [Report](http://ceos.org/wp-admin/images/WGISS/WGISS/Meetings/DRM_Report_issue_2-12OCT2012.pdf).
* *(Jan, 2013)* Submitted a manuscript for publication in the IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (J-STARS), co-authored with the OGC/GEOSS AIP-5 team, describing the interactions and collaborations between GA.4.D and AIP-5.
* *(Jan, 2013)* Summarized results and insights from 2012 work with the GEOSS AIP-5 team in a pair of presentations ([1](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_AIP-5-DMWG-Accomplishments-for-OGCTC-Redlands-Meeting_Jan2013.pdf" \t "_blank), [2](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_GEOSS-AIP-and-CEOS-Coordination-on-Disaster-Management_Jan2013.pdf" \t "_blank)) to the OGC in Redlands, CA.
* *(Jan, 2013)* Presented a [poster](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Architecture-Poster-30x40_Jan2013.pdf" \t "_blank) describing the GA.4.D architecture and case studies and co-hosted a panel discussion of emergency responders on how they use information from multiple sources at the Winter Meeting of the Federation of Earth Science Information Partners (ESIP) in Washington, DC, USA.
* *(Dec, 2012)*Reviewed the GA.4.D architecture, case studies, and preliminary recommendations in a session on "Near Real Time Data Uses for Earth Science and Space Weather Applications" at the American Geophysical Union (AGU) Fall Meeting in San Francisco, CA, USA.
* *(Nov, 2012)* Joined the CEOS Disasters SBA team in Washington, DC, USA to discuss the 2012/2013 Actions and their relationship to the CEOS *ad hoc* Disaster and Risk Management team's recent report, "[Enlarged Actions Concerning Satellite EO and DRM](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Consensus-Report-of-the-CEOS-Ad-Hoc-Disaster-Team-Enlarged-Actions-Concerning-Satellite-EO-and-DRM-Oct2012.pdf" \t "_blank)." ([Presented materials](https://docs.google.com/folder/d/0B6dQXta-gxHLQVpyZzlqSXJ2NDA/edit?docId=0B6dQXta-gxHLOXlaM0pRdFZCQ0E" \t "_blank))
* *(Sep, 2012)* Discussed the GA.4.D architecture and tentative conclusions and recommendations at the WGISS-34 meting in Hyderabad, India. [Materials](http://ceos.org/index.php?option=com_content&view=article&id=372:meetings-for-ga-4-disasters&catid=195:linksinga4d&Itemid=252#wgiss-34) from this session are available in the Meeting Materials section below.
* *(Sep, 2012)* A new draft of the [GA.4.D Architecture](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Architecture-for-Final-Review_v0.9.4_Jul2012.pdf" \t "_blank)document was made available for review containing additional material on service types and new case studies in the Appendix.
* *(Jul, 2012)* [Presented](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_IGARSS-Disaster-Management-CEOS-AIP_Jul2012.pdf" \t "_blank) a paper at IGARSS (Munich, Germany) with George Percivall and Nadine Alameh, who led the AIP-5.
* *(Apr, 2012) D*iscussed the [GA.4.D architecture](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Architecture-Draft_v0.7.1_Apr2012.pdf" \t "_blank) and preliminary case study findings at the WGISS-33 meeting (Tokyo, Japan). [Materials](http://ceos.org/wp-admin/index.php?view=article&id=372#WGISS-33) from this session are available in the Meeting Materials section below.
* *(Mar, 2012)* The first draft of the [GA.4.D Enterprise Architecture](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/Ga.4.Disasters_Enterprise-Architecture-First-Draft_Feb2012.doc" \t "_blank) document was made available for review. It sketched several viewpoints for describing and understanding disaster management and risk assessment processes and their use of satellite information.
* *(Feb, 2012)* A joint WGISS GA.4.Disasters project & CEOS Disasters SBA meeting took place in Washington, DC, USA preceding the CEOS-GEO (Group on Earth Observations) Actions Workshop. [Materials](http://ceos.org/wp-admin/index.php?view=article&id=372#Feb13) from this meeting are available in the Meeting Materials section below.
* *(Dec, 2011)* Karen Moe and John Evans presented a poster at the AGU fall meeting on “[A Reference Model for Use of Remote Sensing for Disaster Management and Risk Assessment](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Poster-A-Reference-Model-for-Use-of-Remote-Sensing-for-Disaster-Management-and-Risk-Assessment_2011.pdf" \t "_blank)”.
* *(Sep, 2011)* GA.4.Disasters was the subject of in-depth discussions at the WGISS-32 meeting. [Materials](http://ceos.org/wp-admin/index.php?view=article&id=372#WGISS-32) from this session are available in the Meeting Materials section below.
* *(Jul, 2011)* The GA.4.Disasters proposal was approved as a new project at the WGISS-31 meeting. The project leads solicited WGISS member participation to collect and evaluate existing GEOSS documents related to the needs of GEOSS users and providers of satellite services for use in response to disasters and risk assessments. The project group was to be established with the goal of producing a task plan for discussion at the WGISS-32 meeting and documenting a draft enterprise architecture document by the end of 2011. Members were asked to identify potential resources and prototype developments to address the needs of the disasters and risk assessment societal benefit area and to leverage the capabilities of WGISS participating agencies.

**Further Reading**

**GEOSS Sources**

Ph. Bally Ed. (2012), [Scientific and Technical Memorandum of The International Forum on Satellite EO and Geohazards, 21-23 May 2012, Santorini Greece](http://esamultimedia.esa.int/docs/EarthObservation/Geohazards/esa-geo-hzrd-2012.pdf" \t "_blank).

[GEOSS Architecture Implementation Pilot (AIP), Phase 5 Call for Participation](http://earthobservations.org/geoss_call_aip.shtml" \t "_blank)(Mar, 2012)

[GEOSS AIP-5 Architecture](http://earthobservations.org/documents/cfp/201202_geoss_cfp_aip5_architecture.pdf" \t "_blank) (Mar, 2012)

GEO report on [Critical Earth Observations Priorities](http://sbageotask.larc.nasa.gov/Final_SBA_Report_US0901a_Apr2011.pdf" \t "_blank) (Oct, 2010)

GEOSS [10-Year Implementation Plan Reference Document](http://www.earthobservations.org/documents/10-Year%20Plan%20Reference%20Document.pdf" \t "_blank) (Feb, 2005)

GEOSS [10-year implementation plan](http://www.earthobservations.org/documents/10-Year%20Implementation%20Plan.pdf" \t "_blank) (Feb, 2005)

GEO [2012-2015 Work Plan](http://www.earthobservations.org/documents/work%20plan/GEO%202012-2015%20Work%20Plan_Rev1.pdf" \t "_blank) (Dec, 2011)

GEOSS [Strategic Targets](http://www.earthobservations.org/documents/geo_vi/12_GEOSS%20Strategic%20Targets%20Rev1.pdf" \t "_blank), GEO-VI Plenary Document 12 (Rev 1) (Nov, 2009)

**Other Sources**

CEOS Disaster SBA Team / GEO DI-06-09 Report, [Use of Satellite Data for Risk Management, Volume I - Establishing Global Requirements for Earth Observation Satellite Data to Support Multi-hazard Disaster Management throughout the Disaster Cycle](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Disaster-SBA-Team-GEO-DI-06-09-Report-Global-User-Requirements-For-Disaster-Management-Nov2008.pdf" \t "_blank) (Nov. 2008)

CEOS Ad Hoc Disaster Team, Consensus Report (Issue 2): "[Enlarged Actions Concerning Satellite EO and DRM](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Consensus-Report-of-the-CEOS-Ad-Hoc-Disaster-Team-Enlarged-Actions-Concerning-Satellite-EO-and-DRM-Oct2012.pdf" \t "_blank)" (Oct, 2012)

[Hyogo Framework for Action](http://www.unisdr.org/we/coordinate/hfa" \t "_blank) (2005-2015)

[United Nations Platform for Space-based Information for Disaster Management and Emergency Response](http://www.un-spider.org/" \t "_blank) (UN-SPIDER)

[United Nations International Strategy for Disaster Reduction](http://www.unisdr.org/who-we-are/international-strategy-for-disaster-reduction" \t "_blank) (UNISDR)

World Economic Forum, "[A vision for managing natural disaster risk: proposals for public/private stakeholder solutions](http://www3.weforum.org/docs/WEF_VisionManagingNaturalDisaster_Proposal_2011.pdf" \t "_blank)" (Apr, 2011)

**IGARSS Presentations**

July, 2013, Melbourne

* Towards a Sensor Web Architecture for Disaster Management: Insights from the Namibian Flood Pilot ([extended abstract](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Sensor-Web-Architecture-for-Disaster-Management-Insights-from-the-Namibian-Flood-Pilot_2013.pdf" \t "_blank) + [presentation slides](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Presentation-Towards-A-Sensor-Web-Architecture-For-Disaster-Management-Insights-From-The-Namibia-Flood-Pilot_2013.pdf" \t "_blank))

July, 2012, Munich

* [The GEOSS User Requirements Registry: Linking Users of GEOSS Across Disciplines and Societal Areas](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_GEOSS-User-Requirement-Registry-Presentation.pdf" \t "_blank) (Hans-Peter Plag *et al.*)
* [Key Challenges in the application of satellite Earth Observations (EO) to Disaster Risk Management](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Key-Challenges-in-the-Application-of-Satellite-Earth-Observations-to-Disaster-Risk-Management_Jul2012..pdf" \t "_blank) (Stephane Chalifoux *et al.*)
* [Namibia Early Flood Warning System – A CEOS Pilot Project](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Namibia-Pilot-Warning-System-Presentation.pdf" \t "_blank) (Dan Mandl *et al.*)
* [Caribbean Satellite Disaster Pilot - A CEOS Activity for GEO in Support of GEOSS](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Caribbean-Satellite-Disaster-Pilot_Jul2012.pdf" \t "_blank) (Stu Frye)
* [Strengthening Disaster Management using Earth Observations – GEOSS and CEOS Activities](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Strengthening-Disaster-Management-Using-Earth-Observation_Jul2012.pdf" \t "_blank) (George Percivall *et al.)*

**Points of Comparison**

* [INSPIRE](http://inspire.jrc.ec.europa.eu/reports/position_papers/inspire_ast_pp_v4_3_en.pdf" \t "_blank) Spatial Data Infrastructure
* [ORCHESTRA](http://www.eu-orchestra.org/" \t "_blank) disaster management framework
* [OGC Reference Model](http://www.opengeospatial.org/standards/orm" \t "_blank)
* The [International Charter](http://www.disasterscharter.org/home" \t "_blank) on Space and Major Disasters

**Meeting Materials**

The GA.4.Disasters development process has involved a number of meetings, in which the following materials were presented.

**IGARSS 2013 (July 2012 - Melbourne, Australia)**

* [Submitted abstract](https://www.dropbox.com/s/hmsniu9i71qqexg/Evans%2CMoe%2CMandl%2CFrye%2CPercivall-IGARSS2013.pdf)
* [Presented slides](https://www.dropbox.com/s/6kgust9aah219uu/IGARSS2013_CEOS_SensorWeb_FinalFinal.ppt)

**WGISS-35 (Sao Jose dos Campos, Brazil)**

* [GA.4.D presentation](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_Strengthening-Disaster-Management-Using-Earth-Observation_Jul2012.pdf" \t "_blank) (incl. preliminary recommendations for DRM pilots)

**GEOSS Future Products Workshop (Mar. 2013; Silver Spring, Maryland, USA**

* [Agenda + presented materials](http://www.ogcnetwork.net/node/1872)
* [Final Report](https://portal.opengeospatial.org/files/?artifact_id=53993)

### CEOS Disasters SBA (Jan. 2013; Frascati, Italy)

* [Presented materials](https://docs.google.com/folder/d/0B6dQXta-gxHLcmxuRXVHNzRLSXc/edit)

### CEOS Disasters SBA (Nov. 2012; Washington, DC, USA)

Presentation materials (collected [here](https://docs.google.com/folder/d/0B6dQXta-gxHLQVpyZzlqSXJ2NDA/edit)):

* [CEOS disaster SBA Overview](https://docs.google.com/folder/d/0B6dQXta-gxHLQVpyZzlqSXJ2NDA/edit?docId=0B6dQXta-gxHLOXlaM0pRdFZCQ0E) (Séguin)
* [Enhancement of the use of Satellite Data for Disasters](https://docs.google.com/folder/d/0B6dQXta-gxHLQVpyZzlqSXJ2NDA/edit?docId=0B6dQXta-gxHLTHNMY2dCMS12UFk) - GA.4.D (Moe)
* [Multi-Sensor Volcano Eruption Alert System](https://docs.google.com/folder/d/0B6dQXta-gxHLQVpyZzlqSXJ2NDA/edit?docId=0B6dQXta-gxHLdEFNMzA0UEFocFE) (Zehner)
* [Supersite Evaluation and Data Provision](https://docs.google.com/folder/d/0B6dQXta-gxHLQVpyZzlqSXJ2NDA/edit?docId=0B6dQXta-gxHLWVM2Zjk3QjMwZDg) (Hoffman)
* [Caribbean Satellite Disaster Pilot: Accomplishments and Program Planning Status](https://docs.google.com/folder/d/0B6dQXta-gxHLQVpyZzlqSXJ2NDA/edit?docId=0B6dQXta-gxHLS2pHLUdIalA2N1U) (Frye)
* [Status Early Flood Warning Pilot Project in Namibia](https://docs.google.com/folder/d/0B6dQXta-gxHLQVpyZzlqSXJ2NDA/edit?docId=0B6dQXta-gxHLME0xdHlIZ2VtMnc) (Katjizeu, Mandl)
* [GEO Disasters Task DI-01](https://docs.google.com/folder/d/0B6dQXta-gxHLQVpyZzlqSXJ2NDA/edit?docId=0B6dQXta-gxHLX3NQajhOdkRWWm8) (Gaetani)
* [CEOS Contribution to Disaster Risk Management - CEOS Plenary Outcomes & Way Forward](https://docs.google.com/folder/d/0B6dQXta-gxHLQVpyZzlqSXJ2NDA/edit?docId=0B6dQXta-gxHLT3ZwdkZVQ05DeXM) (Petiteville)
* [CEOS Self-Study Implementation: What have we accomplished, and what is next?](https://docs.google.com/folder/d/0B6dQXta-gxHLQVpyZzlqSXJ2NDA/edit?docId=0B6dQXta-gxHLX0ZmU3pjVGR3enM) (Jellison)
* [Meeting Wrap-up](https://docs.google.com/folder/d/0B6dQXta-gxHLQVpyZzlqSXJ2NDA/edit?docId=0B6dQXta-gxHLbTJPTzloVVptcDA) and [2013-2015 Roadmap](https://docs.google.com/folder/d/0B6dQXta-gxHLQVpyZzlqSXJ2NDA/edit?docId=0B6dQXta-gxHLY1c1bngxMzI0eWc) (Séguin)

### WGISS-34 (Sept. 2012; Hyderabad, India)

The following presentations formed the basis for a two-hour session on GA.4.Disasters:

* [GA.4.D Introduction](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-34-GA.4.Disasters-Intro.pdf" \t "_blank) (Moe)
* [AIP-5 Participation](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-34-AIP-Participation.pdf) (Evans)
* [Architecture Status](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-34-Architecture-Status.pdf) (Evans)
* [Earth Observations for Understanding Risk](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-34-Earth-Observations-for-Understanding-Risk.pdf) (Skakun)
* [Case Studies: Namibia, China, Int'l Charter](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-34-Case-Studies-Namibia-China-International-Charter.pdf) (Evans)
* [DMCii / Int'l Charter Case Study](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-34-DMCii-International-Charter-Case-Study.pdf) (Cudlip)
* [Recommendations](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-34-Recommendations.pdf) (Evans, Moe)
* [Next Steps](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-34-Next-Steps.pdf) (Moe)

### IGARSS 2012 (July 2012; Munich, Germany)

(See IGARSS 2012 under "Further Reading")

### WGISS-33 (April 2012; Tokyo, Japan)

The following presentations formed the basis for a two-hour session on GA.4.Disasters:

* [Introduction / Overview: GA.4.Disasters Project](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-33-Introduction.pdf)(Karen Moe)
* [*GA.4.D Enterprise View*](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-33-Enterprise-View.pdf)(John Evans)
* [An Integrated View of Disaster Management and Risk Assessment](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-33-Integrated-Disaster-Risk-Vision.pdf) (Serhii Skakun)
* [GA.4.D Practitioner Case Studies](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-33-Case-Studies.pdf)(John Evans)
* [Namibia Flood Pilot Status](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-33-Namibia-Flood-Pilot-Status.pdf)(Dan Mandl)
* [Next Steps for GA.4.Disasters](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-33-Next-Steps.pdf)(Karen Moe)

One presentation in the midweek Host Workshop seemed especially relevant to GA.4.Disasters:

* [JAXA's Activities on Disaster Management Field](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_WGISS-33_JAXA-Disaster-Activities.pdf)(Kengo Aizawa)

### CEOS Disasters SBA (Feb. 2012; Crystal City, Virginia, USA)

The following presentations structured a half-day conversation among members of CEOS' Disasters Societal Benefit Area and the WGISS GA.4.D project:

* [Meeting Introduction](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_2012_Disasters-SBA-Meeting-Intro.pdf)(Guy Seguin)
* [Caribbean Satellite Disaster Pilot](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_2012_Disasters-SBA-Meeting-Caribbean-Disaster-Pilot.pdf) (Stuart Frye)
* [Namibia Flood / Sensor Web Pilot](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_2012_Disasters-SBA-Meeting-Namibia-Flood-Sensor-Web-Pilot.pdf)(Dan Mandl)
* [GEOSS Architecture Implementation Pilot 2012 (AIP-5)](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_2012_Disasters-SBA-Meeting-AIP-5.pdf)(George Percivall)
* [GEOSS Architecture for Disaster Management and Risk Assessment](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_2012_Disasters-SBA-Meeting-GEOSS-Architecture-for-Disaster-Mgmt-and-Risk-Assessment.pdf)(Karen Moe / John Evans)
* [CEOS Disaster SBA](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_2012_Disasters-SBA-Meeting-CEOS-Disaster-SBA.pdf)(Ivan Petiteville)
* [Geohazard Supersites](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_2012_Disasters-SBA-Meeting-Geohazard-Supersites.pdf)(Guy Seguin)
* [Gap Analysis for Flood Measurements](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_2012_Disasters-SBA-Meeting-Gap-Analysis-for-Flood-Measurements.pdf)(Shelley Stover)
* [Summary notes](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters_2012-Disasters-SBA-Meeting-Summary-Notes.docx) (Andrew Eddy)

### WGISS-32 (Sept. 2011; Budapest, Hungary)

A half-day session on GA.4.Disasters featured extensive discussions of the project's audience, purpose, and scope.

* [GA.4.Disasters Overview](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters-WGISS-32-Overview.ppt) – Purpose and Status (Karen Moe)
* [Disasters SBA Overview](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters-WGISS-32-Disasters-SBA-Overview.ppt) (Andrew Eddy)
* [Enterprise Architecture Concepts / Overview](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters-WGISS-32-Enterprise-Architecture-Concepts-Overview.ppt) (John Evans)
* [Expected outcomes](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters-WGISS-32-Expected-Outcomes.ppt)
* [Draft Enterprise Architecture Outline](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters-WGISS-32-Enterprise-Architecture-Outline-Draft.ppt)
* [Next Steps](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters-WGISS-32-Next-Steps.ppt)

In addition, one presentation in the midweek Host Workshop had particular relevance to GA.4.Disasters:

* [Synthetic Aperture Radar Interferometry in Hungary](http://ceos.org/document_management/Working_Groups/WGISS/Projects/GA.4.Disasters/GA.4.Disasters-WGISS-32-SAR-Interferometry-Hungary.pdf) (Péter Braunmüller and Gábor Orosz)