**Draft MoM CEOS Working Group on Disasters Meeting # 8**

*Version 0 as of September 25th, 2017*

The CEOS Working Group on Disasters (WGDisasters) held its eighth meeting from September 4th to 8th in Buenos Aires, Argentina (in conjunction with the Disasters Risk Reduction Americas Summit), hosted by CONAE.

**Participants:** Ernesto Abril, Victor Angel, Susana Adamo (Columbia University), Fabian Ballestrero, Anna Bars (Duke University), Shawn Boyce (CIMH), Ricardo Camacho, Stephane Chalifoux (CSA – WG Outgoing Chair), Lources Ciccini, Paula Contreras (UNGRD/Columbia), Laura Coristine, Pilar Cornejo (ESPOL/CIP-RRD), Jens Danzeglocke (DLR), Helene de Boissezon (CNES), Fernando Echavarria (US State), Andrew Eddy (Athena Global), Laura Frulla (CONAE), Stuart Frye (NASA), Osvaldo Gonzalez (University of Paraguay), Michael Goodman (NASA), David Green (NASA), Angelica Gutierrez (NOAA/AmeriGEOSS), Raha Hakimdavar (NASA), Isabel James (Princeton University), Gumais Jean-Jacques, Bob Kuligowski (NOAA), Luis Miguel Laguna, Ziyang Li (AOE/CAS), Javier Lopez (Telespazio), Ana Medico (CONAE), Fernando Munozc (CIRDICAN), Massimo Musacchio (INGV), Batuhan Osmanoglu (NASA), Jorge Paez, Arie Pals (US State), Dorella Papadopoulou (Argans), Jorge Pierini (IADO), Fritz Pollicelli (NASA), Renata Quevedo, Jose Molina Quitral, Steven Ramage (GEO Sec), Pable Risteri (CITEDEF), Romiro Ronaldo, Maria Salando, Mauricio Saldivar, Stefano Salvi (INGV), Alberto Setzer (INPE), Nate Smith (HOT), Alvaro Soldano (CONAE), Deodato Tapete (ASI), Marc Thibeault (CONAE), Martin Torres, Lautero Vazquez, Prof Wang (AOE/CAS), Pablo Zader, Simona Zoffoli (ASI) – WG Incoming Chair), Zhou Zeng-Guang (AOE). By telephone: Philippe Bally (ESA), Dalia Kirschbaum (NASA), Ivan Petiteville (ESA), Mike Poland (USGS). As the meeting was part of a broader conference and people came in and out of the room, it is possible that some participants are not mentioned in this list.

The times indicated in the agenda correspond to the local times in Buenos Aires.

# DAY 1 (Monday, September 4th) – Miro Room

|  |  |  |
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|  | **Opening Session (open to all) – Overview of CONAE Disasters Work and the Pilots of the CEOS Working Group on Disasters** |  |
| 14:45 | **01 – Opening and welcome** | Stéphane Chalifoux, CSA  Laura Frulla, CONAE |
| 15:00 | **02 – Tour de table of participants** | All |
| 15:15 | **03 – CONAE Recent Projects and Presentation of Disaster-related activities in the context of future collaboration with the CEOS WG Disasters** | Laura Frulla |
| 15:45 | **04 – CEOS Pilots showcase (15 min each):**  **Flood Pilot**  **Volcano Pilot**  **Seismic Hazards Pilot**  **Landslide Pilot**  **Haiti Recovery Observatory** | Pilot leads |
| 16:00 | *Group Photo followed by break* |  |
| 16:30 | **04 – CEOS Pilots showcase (continued):**  **Flood Pilot**  **Volcano Pilot**  **Seismic Hazards Pilot**  **Landslide Pilot**  **Haiti Recovery Observatory** | Pilot leads |
| 17:30 | **05 – Panel and general discussion on the use of EO for improved Disaster Risk Management** | Pilot leads are panel participants; moderators Stephane Chalifoux, Andrew Eddy |
| 18:30 | *ADJOURN* |  |

# DAY 2 (Tuesday, September 5th) – Miro Room

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|  | **Working Session (working meeting of the CEOS WG Disasters open to all CEOS Members and anyone involved in CEOS Disaster pilots or associated activities, or interested in joining these activities)** |  |
| 09:30 | **06 – Outstanding WG business :**  **MoM from teleconference #19: Review of open actions** | Andrew Eddy, Stéphane Chalifoux |
| 09:45 | **07 – Meeting objectives**  **Discussion on final reporting on pilots –reports for volcanoes, floods and seismic hazards**  **Moving forward with ongoing activities – GEO-DARMA, Haiti RO, Landslide Pilot, Geohazards Lab** | Stéphane Chalifoux, Andrew Eddy |
| 10:00 | **08 – GEO-DARMA – status and next steps** | Ivan Petiteville |
| 10:45 | *Coffee break* |  |
| 11:00 | **09 – Haiti RO – status, issues and next steps**  **Brief report on results of pilot work to date**  **Data use: presentation of projects from users (showcase key users and their results)**  **Overview of data consumption by pilot team** | Frederic Moll  Helene de Boissezon |
| 12:00 | **10 – Geohazards Lab – status and next steps** | Philippe Bally  Dorella Papadopoulou |
| 12:45 | *Lunch* |  |
| 14:00 | **12 – GSNL Report**  **Status & New initiatives** | Stefano Salvi |
| 14:45 | **11 – Landslide Pilot – status, issues and next steps**  **Brief report on results of pilot work to date**  **Data use: presentation of projects from users (showcase key users and their results)**  **Overview of data consumption by pilot team** | Dalia Kirschbaum, Jonathan Godt, Sigrid Roessner, Philippe Malet |
| 15:45 | **New item – DCT discussion on supersites** | Jens Danzeglocke, Stefano Salvi |
| 16:15 | *Coffee break* |  |
| 16:30 | **15 – Joint Session with AmeriGEOSS Disasters WG** | Stu Frye, David Green |
| 19:00 | *ADJOURN* |  |

# DAY 3 (Wednesday, September 6th) – Miro Room

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|  | **Working Session – Pilots wrap-up** |  |
| 9:30 | **16 – Final reporting for flood, seismic and volcano pilots (35 min presentation and 20 min discussion for each pilot)** **(Plenary 2017)**  **Results (outputs and outcomes)**  **Final data tracking from each pilot**  **Success stories**  **Way forward** |  |
| 10:45 | *Coffee Break* |  |
| 11:00 | **16 – continued** |  |
| 12:00 | **13 – WG Communications**  **Website review presentation**  **Glossy Presentation**  **Activities for 2018** | Stephane Chalifoux |
| 12:30 | *END of MEETING* |  |

DAY 4 & 5 (September 7th and 8th)

Meetings and networking, operational DRM exercise, at the Summit (cf DRR Summit Agenda)

# DAY 1 (Monday, September 4th) – Miro Room

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| 14:45 | **01 – Opening and welcome** | Stéphane Chalifoux, CSA  Laura Frulla, CONAE |
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| 15:15 | **03 – CONAE Recent Projects and Presentation of Disaster-related activities in the context of future collaboration with the CEOS WG Disasters** | Laura Frulla |

Stephane Chalifoux and Laura Frulla welcomed the participants to Buenos Aires. This was the first meeting of the WG in South America and the group is happy to see many new participants in the room. The people in the room presented themselves. Laura Frulla of CONAE gave a short overview of CONAE disaster-related activities (see PPT) and indicated the willingness of CONAE to play an active role in future work of the WG.

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| 15:45 | **04 – CEOS Pilots showcase (15 min each):**  **Flood Pilot**  **Volcano Pilot**  **Seismic Hazards Pilot**  **Landslide Pilot**  **Haiti Recovery Observatory** | Pilot leads |
| 17:30 | **05 – Panel and general discussion on the use of EO for improved Disaster Risk Management** | Pilot leads are panel participants; moderators Stephane Chalifoux, Andrew Eddy |

Each of the CEOS thematic pilots and the Recovery Observatory presented an overview of their activities to date. For many participants, this was the first time they were introduced to the activities. The overview presentations are available on the CEOS website. A panel discussion followed, moderated by Andrew Eddy and Stephane Chalifoux. The main questions addressed during the panel discussion were:

# Data uptake: there’s clearly a lot of new data coming online, and a lot of potential users. What is the biggest hurdle to bringing data to users and seeing greater uptake?

# Pilot success: we’ve seen a lot of great things from the pilot reports – what is the single most important outcome you see from your pilot, and how do you see this being carried forward beyond 2017?

# Flooding: floods are the world’s most prevalent hazard – how can we do a better job to address regular flooding, especially in regions where disaster strikes year after year? What lessons learned from the Flood Pilot will carry forward, and through which mechanisms?

# Beyond pilots: the pilots were all about bringing satellite data to the DRR community, ensuring satellites can effectively monitor and support prevention; three of the four thematic pilots are closing out at the end of 2017; what are some of the successes, and what challenges remain?

# Haiti RO: addressing recovery head on is a new approach; what have the main challenges been? Is there a strong role for EO in recovery? Has implementing the project in Haiti been a challenge from a capacity building point of view?

# Multi-hazard approach: there is a strong emphasis in the Sendai Framework on multi-hazard DRR; how will CEOS address this moving forward?

# DAY 2 (Tuesday, September 5th) – Miro Room

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|  | **Working Session (working meeting of the CEOS WG Disasters open to all CEOS Members and anyone involved in CEOS Disaster pilots or associated activities, or interested in joining these activities)** |  |
| 09:30 | **06 – Outstanding WG business :**  **MoM from teleconference #19: Review of open actions** | Andrew Eddy, Stéphane Chalifoux |

The Minutes of Meeting (MoM) from telcon #19 were adopted without any changes.

The table below summarizes the open actions at the end of the meeting. A table at the end of these MoM documents closed actions.

| # | Action | Actionee | Due | Status/ Comments |
| --- | --- | --- | --- | --- |
| M8/1 | Read objectives and criteria put forward for each pilot four years ago and compare to outputs for final report. | Andrew Eddy | End of September | Open |
| M8/2 | Assess for each pilot the impact of a six-month interval between the close-out of the pilots and the beginning of demonstrator phases after next SIT meeting in April 2018, and send to DCT. | Each thematic pilot lead (Floods, Seismic Hazards, Volcanoes) | Telcon #20 | Open. Each agency present indicated a willingness to work on data continuity issues informally through the DCT to not cause an interruption in work. |
| M8/3 | Prepare updated version of ROOP to be presented within next two weeks and include in annex to this version the SRF request to Copernicus Risk and Recovery. Include list of contributions by agency. | Agwilh Collet | September 22 | Open |
| M8/4 | Confirm the approach Copernicus will use with regard to data for R&R activation for Haiti. Will the data be obtained through commercial channels or through CEOS? | Helene de Boissezon | Telcon #20 | Open |
| M8/5 | Webstory on GSNL in March 2018 | Stefano Salvi | End of February | Open |
| M8/6 | DCT and SAC Chair to work together to come up with vision for improved working relationship between CEOS and GSNL. | Stefano Salvi and Jens Danzeglocke | Telcon #20 | Open |
| M8/7 | The WG Disasters and AmeriGEOSS should work together to identify synergies. | Stephane Chalifoux, Simona Zoffoli, Angelica Gutierrez, Stu Frye, Andrew Eddy | Telcon #20 | Open |
| M8/8 | Contact Pilar for civil protection contacts in Ecuador to obtain feedback on how satellite data was used after the earthquake | Dorella Papadopoulou | Telcon #20 | Open |
| M8/9 | Develop RO webstory | Agwilh Collet | End of September | Open. Link to M6/24 (same action) |
| M8/10 |  |  |  |  |
| M8/11 |  |  |  |  |
| M7/1 | Update data table. | Jens Danzeglocke | End of September (final update) | Open. AE to send reminder to Jens. |
| M7/2 | Document need for on-going RSAT-2 data use beyond pilot end (for a period of 12-18 mthsfor publications for example, or for maintaining a time series for volcano monitoring) and send to Stephane Chalifoux | All pilot leads | Telcon #20 | Open |
| M7/3 | Make a case to MDA about extension of data license beyond end of pilots. | Stephane Chalifoux | After M7/2 | Open |
| M7/8 | ESA Graphic bureau to produce a digital version of “glossy” report | Ivan Petiteville | End of October | Open. New material required. AE to collate and coordinate with Ivan Petiteville. |
| M7/10 | Ensure all pilots have PoC on website | Andrew Eddy | Telcon #20 | Open. Combine with website update planned for September. |
| M7/15 | Validate with DCT/agencies the number of images actually used by pilots so that there is a single set of final accounts | Pilot leads | End of September 2017 | Open. Tied to M7/1 |
| M7/16 | A concept note should be drafted by each pilot lead on data access issues; submit note to Stephane and Andrew who will review and send to DCT for any follow-up action | Pilot leads; Andrew Eddy, Stephane Chalifoux | Telcon #20 | Open |
| M7/17 | Articulate a lessons learned document on sensors (e.g. turn on Sentinel-2 at night) that could be shared with the DCT | Mike Poland | Telcon #20 | Open |
| M7/25 | Detail future plans for satellites, especially new planned radar satellites. Julia will also see if data can be contributed to the pilots and will report back at the next telcon. | Julia Fedorkova | Telcon #20 | Open |
| M6/24 | Prepare web story on RO | Helene de Boissezon and A. Eddy | 1st week of October 2017 | Open |
| M5/19 | Inform WGD Chair of publications and outreach activities | Each pilot lead | Once a month | Open |

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| 09:45 | **07 – Meeting objectives**  **Discussion on final reporting on pilots –reports for volcanoes, floods and seismic hazards**  **Moving forward with ongoing activities – GEO-DARMA, Haiti RO, Landslide Pilot, Geohazards Lab** | Stéphane Chalifoux, Andrew Eddy |

Stephane Chalifoux reminded participants of the objectives of the meeting.

**Objectives:**

* Reporting on pilots :
  + Final reports for volcanoes, floods and seismic hazards;
  + Review of sustainability strategies for each thematic area.
* Moving forward with new activities – GEO-DARMA, Haiti RO, Landslide Pilot, New Proposal: Geohazards Lab

**Plan of action:**

* Establish action plan to address outstanding elements and complete pilots on schedule and issues to be addressed and discussed related the landslide pilot, RO and GEO-DARMA
* Prepare material for CEOS Plenary:
  + Floods, Volcanoes and Seismic Hazards Reporting (based on the evaluation report and open discussion)
  + New GSNL and biennial reports for approval
  + Update on RO, GEO-DARMA and Landslide Pilot

**Action M8/1** Read what was proposed for each pilot 4 years a go and compare to report

Stephane indicated that the pilot teams had the next two weeks to finalize the sustainability plans in the updated PPTs and documents for the plenary. At the end of September, all the materials must be completed.

**Action M8/2** Each pilot to determine what issues arise from a six-month suspension of the activities, i.e. the time between the end of the pilots and the formal approval of the demonstrators. Can some needs be addressed through background missions? Each agency present identified their flexibility and willingness to work on finding solutions through the DCT.

**Action M8/3** Prepare updated version of ROOP to be presented within next two weeks and include in annex to this version the SRF request to Copernicus Risk and Recovery.

There was discussion regarding the biannual report feedback fro GSNL supersites. Little feedback was received on NZ and Ecuador reports and this should be raised during the GSNL discussion.

The new vice chair of the WG will be presented at the Plenary. It will be NASA’s David Green.

This is part of a series of six items to be presented for decision by the Plenary, including:

1. WGDisasters: Disaster Risk Management pilot initiative final reports. Approval needed
2. WGDisasters: Report on follow-on actions to DRM Pilots Approval needed for Volcano and Seismic (Flood pilot is seeking a six month study period to look at linkages with GEO-DARMA and to plan out next demonstrator activities)
3. WGDisasters: the Recovery Observatory Operational Plan. Approval needed
4. WGDisasters: Geohazards Lab Implementation Plan. Approval needed
5. WGDisasters: GEO GSNL Proposal (Southern Andes Supersite) and Biennial Reports (Ecuador and New-Zealand Supersites).
6. WGDisasters: a new Vice-Chair: NASA.

Four items will be presented to the plenary for reference. They need to send by end of September. They are:

1. Landslide Pilot status update.
2. Recovery Observatory Malawi and Nepal demonstrators final report
3. Recovery Observatory status update.
4. GEO-DARMA concept phase summary.

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| 10:00 | **08 – GEO-DARMA – status and next steps** | Ivan Petiteville |

Andrew Eddy presented the GEO-DARMA project (see PPT).

GEO-DARMA is currently completing its regional assessments, after a first SC meeting in May. These will be compiled in October and a second Steering Committee meeting in November will review them and conclude the Concept Phase. There is still a need for broadened participation in the Steering Committee for Latin America, as well as more regional institutions, but these can join as the process goes forward. In some cases, global organisations with regional offices will work on this.

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| 11:00 | **09 – Haiti RO – status, issues and next steps**  **Brief report on results of pilot work to date**  **Data use: presentation of projects from users (showcase key users and their results)**  **Overview of data consumption by pilot team** | Frederic Moll  Helene de Boissezon |

Helene de Boissezon presented the RO activity. The team has made significant progress since the triggering last December. The User Workshop in May was a significant milestone, and was the opportunity to take stock of the strong commitment by local partners in Haiti, especially the CNIGS, the CIAT and ONEV.

Helene indicated that there will be strong capacity building activities in the RO, and she indicated a willingness to work more closely with WGCapD, which could assist in the development of a capacity building plan. Helene will circulate the ROOP to WGCapD.

One past question raised by the group was the data contributed by local partners. A slide in the PPT addresses data sets contributed by Haiti to the RO.

There is a need to update data use table for the ROOP, as it has evolved in the last week with new activities being added by ASI.

Stephane Chalifoux requested that when the products are validated in late 2017/early 2018, the validation protocol be shared with him.

ASI indicated its willingness and commitment to participate in the RO, including CSK data as needed – final numbers being established a s function of user need; research products with ASI researchers – ground displacement using CSK and other data like TSX or RSAT; ASI has activities with CIMA related to change detection products at VHR merging Pleiades and CSK; presence of CIMA at RO meetings with ASI support – perhaps Haiti could be a test site for ASI-SAOCOM commissioning phase? Maybe in a year or so? This could be a CONAE contribution.

NOAA is still defining its contribution. The two main elements will deal with vector borne disease in Haiti; and coral reef watch – health of the coastal zone.

DLR is acquiring data through the background mission – strip map in 3 m in asc and desc mode… takes three or four months because of the east-west orientation of the AOI; INSAR data would require denser time series; covering only a sub AOI… less flexible than CSK with this approach…possible value-adding from Airbus must still be analysed. DLR would like its contribution to cover the whole RO area, rather than to focus on only a small portion of the RO AOI.

ASI suggested that DLR data (TSX change detection) could be a screening tool at stripmap resolution and followed up with CSK. These data will be sued through the GEP as an ESA contributrion.

ESA indicated that the GEP will be available for the RO activity, as well as Sentinel collections, data delivery, etc

**Action M8/4** Helene to clarify with Copernicus the approach to be used for data access for the Copernicus R&R activation for Haiti – will the data be acquired through standard commercial channels?

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| 12:00 | **10 – Geohazards Lab – status and next steps** | Philippe Bally  Dorella Papadopoulou |

Dorella Papadopoulou made a presentation on the Geohazards Lab initiative (see PPT). The contributions listed in PPT are confirmed.

No data request is associated with the Geohazards Lab. Users must go through DCT for data access, not through labs. Data is allocated in Consolidation Phase of the Seismic Demonstrator.

Ziyang Li made a point about the possible architecture of the Geohazards Lab. Since the lab will develop an IT system, the system will offer the end users or researchers data, models, and even the products produced by the system directly. So the system architecture can be designed in two ways:

1. Independent system: The system running by itself. Data and models will be pre placed in the system. Users use the portal to send the requests.

2. Distributed system: The system is not only running by itself, also connected to the systems like ESA, DLR etc.

In the first way, the problem is to pre place the data and models. Especially when the hazard occurs, it must be done very quickly. So that end users will be willing to use the system.

In the second way, the problem is the protocol to connect other systems and also the authorities to communication. Because it will face to systems in different frameworks, it will be more hard to develop different protocols and also very hard to get the authorities to access the different systems in the background.

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| 14:00 | **12 – GSNL Report**  **Status & New initiatives** | Stefano Salvi |

Stefano Salvi presented on the status of the GSNL initiative.

Sinabung supersite – ASI indicated its availability to provide data but none has been requested.

Discussion on event supersite procedure – request made to SAC chair, forwarded to DCT and each agency decides individually.

Science results were presented, as a result of a request made at the previous meeting. It was agreed that future presentations on GSNL should focus on the science elements and less on procedure. A lot of good work is being conducted within the GSNL and the science presentation is a means of sharing these results with the agencies contributing data. Stefano indicated he has more illustrations for showcasing if requested.

There are two proposals for new supersites: southern andes and virunga volcanic area

South Andes – DLR says proposal looks good but cannot yet confirm. ASI says yes but has not given numbers. TSX for DEMs. ASI for interferometry… RSAT says ok. Coordinate ASI/DLR? We need to know which data are being acquired by which satellite.

Virunga objectives – see PPT

Reply from DLR (no); CSA still under evaluation; ASI preliminary positive but need to check security issues – answer by end of September (ultimately the answer was yes); CNES says yes.

The new GSNL website is almost finished! (provide link)

Some issues with data access – DLR portal is best tool so far; GEP is offering to host all CSK data sets – with permission from other agencies, we could use GEP for all the data – tracking of data download will be provided and blocks are in place.

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| 14:45 | **11 – Landslide Pilot – status, issues and next steps**  **Brief report on results of pilot work to date**  **Data use: presentation of projects from users (showcase key users and their results)**  **Overview of data consumption by pilot team** | Dalia Kirschbaum, Jonathan Godt, Sigrid Roessner, Philippe Malet |

Dalia provided a remote briefing on the status of the landslide pilot.

The pilot activity has begun, but data has not yet started flowing. This is expected to occur very soon. RSAT data will be available over Nepal – 30 new and 30 archived scenes.

For landslide rapid response, there was a request to link this to what Copernicus does already rather than propose a new service.

A participant suggested that if the Charter knows pilot PIs are available, they could be used as a resource during Charter activations on landslides.

There are linkages with the RO, which is one of the test areas for the pilot.

A participant asked what the data quota covers – the two main regions or also the five experimental regions… each region has a quota. Confirmation of the specific quotas will be provided by Dalia in a separate document.

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| 15:45 | **New item – DCT discussion on supersites** | Jens Danzeglocke, Stefano Salvi |

Jens posed the problem to the group, an item tabled for discussion at our last meeting: do supersites continue forever? Should some cease to allow new supersites to be opened? Is there a finite limit to the number of supersites we should be working on?

There are many GEO hazard supersites, and in recent years they have greatly increased in number. There is a process to review their existence but we don’t always review in detail… the quotas seem to just continue… the processes for review are not always clear… is there a limit to the number of supersites that can be realistically supported? Should we question some of the older ones? The relation between volcano supersites in Latin America and the volcano demonstrator should be examined and optimized.

Stefano Salvi insisted we focus not on the number of supersites but on the total number of images. Some supersites not successful in terms of sharing data (eg Marmara site); we are working to solve this. At the end of the three years, we will evaluate the entire initiative. Mandate from SAC to review governance. One possibility is to ask CEOS to be more involved. There is some oversight but only DCT is really involved. Falk Amalung suggested CEOS be more proactive, but others insisted this is PI responsibility. ASI shares some worries expressed by DLR. The number of sites has gone up a lot. Not clear that CEOS inclusion in governance is the right step.

**Action M8/5** Webstory on GSNL in March 2018

DLR felt for its part that no CEOS representation was necessary within the SAC. However, GSNL should be higher on the agenda of the WG, and more emphasis should be put on the science results from the supersites. The WG agreed that in future agendas, more time would be allotted to the GSNL presentations.

**Action M8/6** DCT and SAC Chair to work together to come up with vision for improved working relationship between CEOS and GSNL.

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| 16:30 | **15 – Joint Session with AmeriGEOSS Disasters WG** | Stu Frye, David Green |

A number of participants from the AmeriGEOSS team joined the meeting, and a short presentation on AmeriGEOSS was made by Stuart Frye. The AmeriGEOOS WG was created about 18 months ago. The members are still exploring their relationships to each other. The work of the group goes far beyond satellites and involves in situ and ocean and air measurements. It has taken some time to understand these elements and come up with a focus for future activities. A dialogue on these systems and the organisations in each country needs to be pursued further. Transborder issues are of high interest. It is also critical to look at moving beyond hazard into real risk reduction, which means better understanding the risk, which includes hazard but also exposure, and vulnerability. Satellite data can help a lot to document these last two elements, and the CEOS WG should consider working in this with AmeriGEOSS. There is also a big effort in AmeriGEOSS on Capacity Building. Perhaps CEOS can benefit from this. CEOS is perhaps more advanced from a risk point of view, at least in terms of working on specific projects, like the Volcano Pilot, and AmeriGEOSS may benefit from this…

Angelica Gutierrez is Chair of AmeriGEOSS Coordination Working Group, and she provided (offline) a list of possible areas of common interest for the two groups. These include:

Capacity building activities undertaken in collaboration with universities in the region (e.g. Summer school 2018 with UNIGIS). A meeting is being planned in Ecuador to establish/develop a strategy to include, within current academic programs, classes in the use of EO (CEOS help welcome). Contacts: [mariadelpilarcorneio@gmail.com](mailto:mariadelpilarcorneio@gmail.com); [angelica.gutierrez@noaa.gov](mailto:angelica.gutierrez@noaa.gov) .

Flood activities under GEOGLOCUS, specifically “Flood Forecasting as a service” through pilots in Nepal, Bangladesh, Thailand, Brazil and the Dominican Republic. Angelica and Bob are working together to develop a short write-up on potential AmeriGEOSS/Flood Pilot collaboration. Contacts: [jimn@byu.edu](mailto:jimn@byu.edu) (Jim Nelson); [angelica.gutierrez@noaa.gov](mailto:angelica.gutierrez@noaa.gov)

The group expressed a strong interest in using L-band SAR data for projects and asked if the CEOS WG disasters was in a position to facilitate access to such data.

The group indicated that as things currently stand, they have several active participants in their activities, including: Chile, Columbia, Ecuador, Brazil, Argentina, Costa Rica, and the US… Guyana and Mexico are also joining. There are strong political drivers for supporting the use of EO for disasters and risk management. A participant asked who might help put UNISDR in touch with models and other tools for better risk assessment. The Sendai framework data readiness review has language relevant to EO and GEO-DARMA is included in the report. AmeriGEOSS is creating an inventory of the observations systems being used. AmeriGEOSS is interested in conducting a regional assessment of DRR priorities, and this is directly relevant to GEO-DARMA work. GEO-DARMA proposes to share… The region is highly exposed with the eastern component of the ring of fire, hurricane/coastal storm risks, high population growth and commercial interest, and other factors. Some studies have gone forward on regional risks – UNESCO ocean/coastal risks, met risks (WMO), etc. There is a new GSNL Southern Andes supersite. Argentina should join in this activity.

**Action M8/7** The two groups should work together to identify synergies.

# DAY 3 (Wednesday, September 6th) – Miro Room

|  |  |  |
| --- | --- | --- |
|  | **Working Session – Pilots wrap-up** |  |
| 9:30 | **16 – Final reporting for flood, seismic and volcano pilots (35 min presentation and 20 min discussion for each pilot)** **(Plenary 2017)**  **Results (outputs and outcomes)**  **Final data tracking from each pilot**  **Success stories**  **Way forward** |  |

The flood pilot final report was presented by Bob Kuligowski (see PPT). The delegate from Costa Rica indicated that while in some cases working with regional organizations might work well, in Central and South America, the national organizations play a critical role that cannot be usurped by regional organizations. In this region, it is absolutely critical to have partnerships with the mandated national authorities in each country.

CIMH thanked the flood pilot for the great support received over the last four years, both in terms of access to data and training. One success story is the demonstrated capacity at CIMH to process SAR data, which is a direct outcome of the pilot. They will now host a training course through Caribbean Development Bank support. CIMH expressed concern that the next phase of the flood pilot was not yet articulated and offered CIMH support to help articulate how we could move to a demonstrator phase to build on what was previously achieved in the region.

A participant expressed the important of placing emphasis on full cycle. Future demonstration activities should address DRR, but also DRM. Other sectors should be consulted and included in particular development partners, the cultural sector, the mining sector, and other communities.

There is a need for better-documented user feedback, particularly after the earthquake in Ecuador. Rapid response in Ecuador using EO-based products, but what feedback is there on their use? The same is true for flood work. People use these products and their responses should be captured.

The seismic pilot final report was presented by Dorella Theodopoulou (see PPT).

**Action M8/8** Dorella to contact Pilar for Ecuador contacts after earthquake.

China and Iran are not included in the final report – can preliminary analysis be included in the report? Without this, some agencies cannot continue the acquisitions.

Falk suggested we move goal to probabalisitic hazard assessment, not simply measuring strain.

The former Director of the Columbian Geological Survey says it’s a great project. But it’s not reliable to say you can reach end users through the geological science centres. These centres struggle to pass on information. In many cases, the information does not flow.

The GEP has 65 active users. This is a great sign of early success.

The volcano pilot final report was presented by Mike Poland (see PPT).

Success demonstrated in first three criteria. In the fourth, interest is easy but getting them to contribute actively is challenging – not their mandates, not enough resources.

Elizabeth Rovere, Argentina Geological Survey – there is no observatory in Argentina. There are some volcanoes to the west which cause problems in Argentina. Can there be a project to look at Copawe Changes in topography, yellow alert since two years; tourism locally. A paper has been published on this. The satellite data shows a complex plumbing system. Need for partnerships with local scientists because external help can be useful, but we need to be sure that there is no misunderstanding, and relay of info should go through coal partners. Part of the Southern Andes supersites. There are some Argentines as well for the SASS.

Beyond the DRR people we need to speak with development people, economic interests… there is not a lot of communication between the two. In southern Peru a Canadian company was working and every year they have a cold wave when thousand of animals and as many as 300 people died. It’s cold but ground is so hot you cannot walk.

IAVCEI hosts working groups and commissions of specialists to work on bridging this… Formal group formed on volcano geodesy…

Association of Latin American Volcano Observatories (ALVO) is another partner.

We cannot just multiply the data to scale the pilot activity to a demonstrator. We need to study each arc. Powell project has looked at this and this work will lead to a full-fledged demonstrator proposal. The Powell project has made a list of every volcano in the world and is identifying the volcanoes that need to be supported.

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| 12:00 | **13 – WG Communications**  **Website review presentation**  **Glossy Presentation**  **Activities for 2018** | Stephane Chalifoux |

It is important to spend some time in the coming weeks thinking about communicating the success of the pilots. We need the RO webstory as soon as possible – end of September 2017

**Action M8/9 RO** webstory

The March webstory will be on GSNL.

Stephane requested that Steve Ramage tweet the next webstory.

Stefano Salvi will be at GEO Plenary. No one else indicated they were attending. There are other upcoming events of importnance to ensure CEOS presence at, including especially UR2018 in may in Mexico City.

Stephane indicated that GP-STAR activity was moving forward but that there was no clear role here for the CEOS WG, beyond promoting existing success of the pilots.

The meeting was adjourned at 12:15.

Actions closed during WGD meeting # 8:

| # | Action | Actionee | Due | Status/ Comments |
| --- | --- | --- | --- | --- |
| 19/1 | Send information about the PPTs required for the September meeting – one high-level PPT for a general audience with little knowledge of the pilots, one more detailed PPT for the Wednesday session recalling objectives and indicating what has been achieved and what the next steps are. | Andrew Eddy | July 21 | Closed |
| 19/2 | Send an e-mail to Stephane explaining why there is no follow-on for the flood pilot and what the philosophy behind this is. | Bob Kuligowski | July 21 | Closed |
| T18/5 | Provide preliminary final pilot reports to Stephane Chalifoux | Flood, seismic and volcano pilots | Mid-August | Closed |
| T18/6 | Prepare an article for the CEOS website on the fall meeting | Stu Frye, David Green, Andrew Eddy, Stephane Chalifoux | July 15th | Closed |
| M7/8 | ESA Graphic bureau to produce a digital version of “glossy” report | Ivan Petiteville | End of October | Open. New material required. AE to collate and coordinate with Ivan Petiteville. |
| M7/9 | Share whatever video material has been developed describing the pilots; if none has been developed, to consider whether it is possible to make material or not by the fall. | Pilot leads | Report to telcon #19 with material and possibility or not of further development | Closed |
| M7/12 | Share minutes of GEOSS Communication Infrastructure for Disasters virtual seminar (and other similar water seminar). | Vanessa Aellen | Telcon #19 | Closed |
| M7/19 | Capture the user experience in the flood pilot, listing the key users and indicating for each user what the benefits were and how things have changed for them. | Stu Frye | WGD #8 | Closed |
| M7/22 | DCT should schedule a telcon on the topic of the supersites to discuss inter alia whether at one point supersites should “retire” | Jens Danzeglocke in coordination with Stefano Salvi | After SIT-32 | Closed |
| M7/23 | Document use of existing data streams at CNIGS and track during RO. | Agwilh Collet | End of September | Closed – in RO presentation to meeting |
| M6/1 | Provide list of megacities (KMZ file) and request input from agencies through DCT on whether these cities are being imaged through background missions. | Jens Danzeglocke (as incoming DCT co-chair) | WGD#8 | Closed. Activity integrated in Consolidation Phase of Seismic Demonstrator |
| M6/18 | Detail relations of Objective C with Charter – how do these two fit together, now and in the future | Steven Hosford, Jens Danzeglocke, Kerry Sawyer, Philippe Bally, Francoise Villette, Brenda Jones | Telcon#20 after next Charter Board | Closed |