

# CEOS WG Disasters Meeting 19

## Córdoba, Argentina – CONAE Ground Station Facility

18, 19, 20 April (site visit 21 April)

---

ALL TIMES LOCAL Córdoba TIME

The CEOS WG Disasters held its 19<sup>th</sup> meeting at the invitation of CONAE, the Argentine space agency, from 18 to 20 April. On April 21<sup>st</sup>, follow-on site visit was organised with the local government of Córdoba, and local hydro-meteorological authorities, to discuss GIS applications relating to risk being used in the province.

A registry of open actions following the meeting is available separately.

Participants, including WGISS joint session (in person WG Disasters in bold): Bob Adler (Univ of Maryland), Mirko Albani (ESA), Roberto Alaceric, Arif Albayrak (NASA), Martin Alvarez, Stefania Amici (INGV), Philippe Bally (ESA), Claude Boniface (CNES), Dave Borges (NASA), Emilie Bronner (CNES), Helene de Boissezon (CNES), Kesniel Bravo (AEM), Ken Casey (NASA), Julio Castello (AEM), Yves Coehe (ESA), Diane Davies, Anatole Deligant, Jorge DelRioVera (UNOOSA, WGCapD), Valerie Dixon, Nitar Dube (ISRO), **Denis Dufour (CSA)**, **Mark de Jong (NRCan)** **Andrew Eddy (AG Europe for CNES)**, Zach Foltz (ARGANS for ESA), **Laura Frulla (CONAE)**, **Marie-Claire Greening (CEOS EO)**, Attilio Gambardella (EC), Thanassis Ganas (NOA), Damiano Guerrucci, Adrian Guzman (AEM), Dave Hodgson (UKSA), Esther Holloway (UKSA), Yousuke Ikehata (JAXA), **Rui Kotani (GEO Sec)**, **Andrei Kuklin (Roskosmos)**, **Mario Lanci (CONAE)**, Xuesong Li, Dawn Lowe, Homero Lozza (CONAE), Filippo Mayhew, **Colin McFadden (NRCan)**, **Ana Medico (CONAE)**, David Moffat, Antonio Montuori (ASI), Michael Moorhan (NASA), Makoto Natsuisaka (JAXA, WGISS), Doug Neimann (NASA), Patricia O?, Iolanta Orluska (ESA), Dana Osterga, Michelle Piepgrass (Consultant to JAXA), HK Rama (ISRO), Iolanda Rhea, Isabella Read (UKSA), Raquel Rodrigues, José Romero (AEM), Arijit Roy (ISRO), Aurelien Sacotte (CNES), Stefano Salvi (INGV), Guy Schumann (RSS), , **Álvaro Soldano (CONAE)**, Tom Sohre (USGS), Wenying Su (NASA, WG Climate), Raquel Suquet (CNES), Deodato Tapete (ASI), Linda Tomasini (CNES), **Marcelo Quirno Uribu (CONAE)**, Minnie Wong (NASA), **Weiyuan Yao (CAS)**, Zimona Zoffoli (ASI).

### DAY 1 (Tuesday, April 18<sup>th</sup>)

---

09:35	1	Welcoming remarks	Laura Frulla, CONAE
Laura Frulla welcomed participants on behalf on CONAE and laid out the agenda for the following three days.			
09:45	2	Introductory Remarks from WG Chair and Vice Chair	Helene de Boissezon, CNES Laura Frulla, CONAE

Helene and Laura highlighted the key points of the upcoming meeting – the Joint Session with WFGISS, work on the post Demonstrator activities (sustainability), new activities to be considered and the contributions to the New Space Task Team.			
10:00	3	Telecon #32 MoM; Open Actions Review Discussion on CEOS WG Disasters website and outreach/awareness activities	Andrew Eddy, Athena Global
MoM adopted with minor changes from NRCAN. Actions – see excel tracker. Discussion on the website – need for a restructuring around themes, and a higher-level approach. Need for increased linkages via links to partners; clearer explanation of pilots and demonstrators required. Showcase GEO-DRR. See M19/1.			
10:30		<i>Coffee</i>	
10:45	4	CEOS Work Plan and Cross-cutting issues: <ul style="list-style-type: none"> <li>• Overview and activities relevant to WGD</li> <li>• Linkages to other activities</li> <li>• Presentation of changes and WGD Deliverables</li> <li>• CEOS New Space Task Team update</li> <li>• CEOS Oceans Update</li> </ul>	Marie-Claire Greening, CEOS George Dyke, Symbios
MC Greening presented GISTDA priorities for the current chairmanship: UNFCCC Global Stock take and New geometries for space agencies (NSTT). The NSTT is currently working on a think piece. WG is contributing to section 10.			
11:20	5	Group on Earth Observations (GEO) Updates <ul style="list-style-type: none"> <li>• The UN Early Warning for All (EW4ALL) Initiative</li> <li>• Post 2025 GEO Incubators</li> </ul> Discussion on linkages and synergies among WGD disasters / GEO Work Programme activities and DRR WG – input to the EW4ALL, as possible Incubators	Rui Kotani, GEO SEC Dave Borges, NASA, GEO DRR WG Chair
Rui presented the EO4All initiative and sought contributions of activities from CEOS. MC Greening indicated this was a CEOS corporate issue and not only a WG issue. Rui agreed to send the WG information on the genesis and development of EO4All. 30 countries have been listed as priorities including several where the WG has had activities like Haiti and Nepal for example. WG has contributed on post 2025 GEO incubators and will continue to contribute (Helene de Boissezon, Andrew Eddy).			
12:00		<i>Lunch Break – CONAE cafeteria</i>	
13:30	6	Wildfire Pilot <ul style="list-style-type: none"> <li>• Activities / Deliverables Updates</li> <li>• Implementation Plan Progress</li> <li>• Post Pilot planning</li> </ul>	Joshua Johnston, NRCAN Mark de Jong, NRCAN Peter Moore, FAO Denis Dufour, CSA
The pilot has completed its analysis of satellite coverage for forest fires. The analysis includes supply driven and demand driven elements. AEM indicated that with the zones of interest they could provide			

ground data for validation. The coverage maps do not provide fuel information. CNES offered support to better coordinate with European partners. See M19/2.			
14:30	7	WG Climate and WG Disasters Collaboration <ul style="list-style-type: none"> <li>• Activities</li> <li>• General discussion</li> </ul>	Jeff Privette, Chair Joint CEOS / CGMS Working Group on Climate Hélène de Boissezon, Chair WG Disasters
Wenying Su presented current activities of the WG Climate. She has been coordinating the collection of use cases to demonstrate how space-based observations contribute to climate understanding. Wildfire work would be a promising use case. Also flood work, including a possible new global flood record. There is still time to submit use cases to promote work. See M19/3. Future collaboration could consider how to downscale global observations to local impacts (climate disasters), or how to link ECVs to disaster-related measurements.			
15:15	8	Update on Space Climate Observatory activity	Frederic Bretard, CNES
Frederic presented the SCO and invited new linkages between future WG activities relating to climate and the SCO. The next international SCO Steering Committee will be in Oslo in May. An international call for projects will be issued in September. The Oslo meeting will consider how projects are funded and approved. A new global SCO working group will be created under UNOOSA leadership.			
15:30		<i>Coffee with WGISS</i>	
16:00	9	Data Coordination Team (DCT) Report Pilot / Demo / GEO Quota Status; <ul style="list-style-type: none"> <li>• Activities / Deliverables Updates</li> </ul>	Laura Frulla, CONAE
Laura presented on DCT updates. A discussion about whether project leads should report systematically to DCT on data usage was held. It was agreed that data reporting needed to be improved to track use and benefits. The WG asked about the GSNL China Earthquake activity in 2022. See M19/4.			
16:30	10	International Charter / WGDisasters <ul style="list-style-type: none"> <li>• Update on relations with the Charter</li> </ul>	Dave Hodgson, UKSA
The recent Turkey/Syria earthquake highlighted the need within the Charter for science products not currently developed by the Charter. CEOS can provide. Dave Hodgson reminded WG activity leads of the agreement allowing access to Charter data for our activities.			
16:45		End WGDisasters-17 Day 1	
17:00		Joint WGs Ice breaker hosted by CONAE at Space Center	

**DAY 2 (Wednesday, April 19<sup>th</sup>)**

		<b>9am to 12pm – Special joint session with WGISS</b> (see separate agenda and MoM)	
12:00		<i>Lunch Break – CONAE cafeteria</i>	
13:10	11	Recovery Observatory Demonstrator <ul style="list-style-type: none"> <li>• Current activations (Pakistan, Turkey/Syria?)</li> <li>• Cost benefit activity</li> <li>• RO training for DRM leaders</li> <li>• Sustainability &amp; Next Steps</li> </ul>	Rashmin Gunasekera, WB/GFDRR Dominique Blariaux, EU/Particip Linda Tomasini, CNES Emilie Bronner, CNES Aurélien Sacotte, CNES Stefano Salvi, INGV Andrew Eddy, Athena Global Philippe Bally, ESA
<p>Andrew Eddy presented on the RO. A discussion on next steps was held. Use cases are being developed around typical events to see what cost benefit can be achieved at different balance points. A report will be presented to the RO Demo Team late June and to this WG at T34/WGD20. No Turkey RO for the moment – possible contribution to Recovery Framework after Turkish elections (not before June). ASI indicated Planetek could contribute to this analysis. RO for Decision Maker events will be held in Africa and Asia in the fall. This will be similar to the event held in December in El Salvador.</p>			
14:40	12	Geohazard Supersites and Natural Laboratories (GSNL) <ul style="list-style-type: none"> <li>• Report on Kahramanmaraş Supersite</li> <li>• Results/Requests from other Supersites</li> <li>• New proposals</li> </ul> Activities / Deliverables Updates	Stefano Salvi, INGV
<p>The GSNL report was made by Stefano Salvi (see PPT). Significant work has been accomplished in the establishment of a new supersite following the major EQ in Turkey/Syria. Stefano Salvi was congratulated for his exceptional contributions to GSNL over the past few years. ASI was particularly impressed by recent work at the Virunga supersite. Stefano requested official letters for two supersites: Enceladus and Kahramanmaras. See M19/5.</p>			
15:30		<i>Coffee</i>	
15:45	13	Volcano Demonstrator <ul style="list-style-type: none"> <li>• Activities / Deliverables Updates</li> <li>• Draft Sustainability Report</li> </ul>	Mike Poland, USGS
<p>Mike Poland presented a retrospective of the last six months of Volcano Demonstrator work (see PPT). The participants congratulated the Demonstrator on the high calibre of work being undertaken and the value being added to by the coordinated acquisition of EO data sets and the integration of these sets to create valuable information products for decision makers. Mike presented an overview of the current planning for the International Virtual Volcano Observatory (IVVO), a permanent program to be established under CEOS (and perhaps GEO?), modelled after the GSNL. The IVVO would be led by a coordinator (initially using USGS resources) and would coordinate voluntary contribution of data in support of volcano monitoring and study. The initial areas of focus</p>			

remain the Demonstrator areas, but the IVVO has a vocation to become global. A detailed proposal including requested data types and data volumes will be presented at WGDIsasters20. See M19/6.

16:45

End WGDIsasters-17 Day 2

### DAY 3 (Thursday, April 20<sup>th</sup>)

09:05	14	CEOS WGCapD Presentation WG Collaboration (joint actions); Discussion	Jorge del Rio Vera, UNOOSA, WGCapD Chair
<p>Jorge presented the current status of WG activities. A short course on geospatial applications will be offered by ISRO and DLR in July. Contributions from the WG are welcome. A Joint meeting of the economic commissions and UNISPACE was held in Vienna, with presentations from 25 UN agencies. Many agencies have relevant EO activities. The RO has strong needs for capacity building and is counting on WGCapD to be a player. Jorge invited the RO and others to use the UNCPUOS session in June (May 31- 9 June) to reach out to delegations. A side session on the RO could be organised if proposed by a delegation such as the French delegation. See M19/7.</p>			
09:35	15	Landslide Demonstrator <ul style="list-style-type: none"> <li>• Activities / Deliverables Updates</li> <li>• Draft Sustainability Report</li> </ul>	Pukar Amatya, NASA Jean- Philippe Malet, UNISTRA Corey Froese, BGC Engineering Clément Michoud, Terranum Weiyuan Yao, CAS
<p>The landslide demonstrator was presentation was made by Andrew Eddy on behalf of the Landslide leads. The presentation includes a comprehensive update of science work being undertaken in the demonstrator. Participants felt more details were necessary on plans for the activity post demonstrator phase. A proposal is under development and will be discussed by the WG at WG Disasters 20. A status update will be provided at T33 and T34. Laura indicated the DCT needed more information on data used for the Demonstrators. ASI contributed data to the EO4Alps landslide project but the DCT was not aware. Each agency is approached individually and the value of coordination is lost.</p>			
10:30		<i>Coffee break</i>	
10:45	16	GEO/LEO/SAR Flood Pilot <ul style="list-style-type: none"> <li>• Activities / Deliverables Updates</li> <li>• Implementation Plan Progress</li> <li>• Plans for next steps</li> </ul>	Marcelo Uriburu Quirno, CONAE Mitch Goldberg, NOAA Guy Schumann, RSS Hydro Maggi Glasscoe, NASA
<p>The flood pilot activity was presented by Marcelo Quirno. A new activity is being organised in the Balkans. Some of the other regions have been less active. The WG recommended that inactive sub-groups be discontinued. The Pilot is planning to begin organising a series of webinars or online workshops that would be theme based and provide a forum for leaders in the flood community to share knowledge and discuss on specific topics. The first theme would likely be the Pakistan Floods and bring together users and practitioners to discuss challenges and the state of the art. A tentative timeframe for this activity would be July. This will continue with other themes every four months.</p>			
11:30	17	New ideas for pilots or new activities <ul style="list-style-type: none"> <li>• New seismic activities (ESA)?</li> <li>• DRR pilot (ESA)?</li> <li>• Coastal activity (UKSA)?</li> <li>• Others?</li> </ul> Debrief on GEO-DARMA Close-out (AG)	Andrew Eddy, Athena Global Philippe Bally, ESA Dave Hodgson, UKSA

<p>Philippe Bally and Zach Foltz will propose a new Seismic activity based on previous demonstrators near real time work – need made clear through Turkey earthquake. See M19/12. Interested agencies to work with ESA on the Seismic Demonstrator included (non-exhaustive list): ASI, CNES, CONAE... There is no plan for a DRR pilot. The coastal activity under development at UKSA will be coordinated with the CEOS Coastal work if it goes forward. It will be discussed again at WGD20. The main purpose is to examine physio and socio-economic vulnerabilities in the coastal zone, beginning with test sites in UK: climate change scenarios, vulnerability maps, etc. In the UK this is funded. See M19/9. Colin suggested a new activity looking at best practices in multi-hazard sue of EO data could be put forward. See M19/10. Rui indicated outreach for EO4All would be a great way to bring CEOS contributions. See M19/11.</p> <p>The WG is beginning to rely on contributions from commercial space players. It will make a contribution to the NSTT report. See M19/13.</p>			
12:00		<i>Lunch break – CONAE cafeteria</i>	
13:00	18	WGD Thematic Demonstrator Sustainability Discussion and Draft Sustainability Report	Demonstrator Sustainability Sub-Team Hélène de Boissezon Laura Frulla Andrew Eddy
<p>Andrew Eddy made a presentation on work accomplished to date in the Subteam on Sustainability. Each of the demonstrators has made progress in defining next steps but they are at different levels of maturity (see PPT). Full blown proposal for next steps will be presented to WGD20.</p>			
14:00	19	<p>WGDisasters Future Meetings Planning and leadership</p> <ul style="list-style-type: none"> <li>• Telecon #33</li> <li>• WGDisasters-20</li> <li>• Future co-lead</li> </ul>	Andrew Eddy, Athena Global
<p>The WG will plan two telcons before WGDisasters20: one in May, one in July. This is to ensure progress is made on the key issue of post demonstrator planning for the RO Demo, the Volcano Demonstrator and the Landslide Demonstrator. A new Seismic Demonstrator activity is also being planned.</p> <p>WGDisasters20 will be held in Yellowstone Park at the invitation of USGS on 5, 6, and 7 September. The room has been reserved at Monmouth Lodge. Hotels are available nearby (10 minutes) in Gardiner, Montana, but no transportation will be provided to the site. Cars will also be required (but can be coordinated among participants) for the two-day DRM site visit planned on 8 and 9 September. Participants will visit the site of a major landslide (from 1927) as well as the Yellowstone Volcano.</p> <p>CNES will step down as chair in November 2023. CONAE will assume the chairmanship of the WG (Laura Frulla), and UNOOSA (Lorant Czarán) will become vice-chair and Data Coordination Team (DCT) lead.</p>			
14:15	20	Conclusions / AOB	Helene de Boissezon, CNES Laura Frulla, CONAE
<p>Participants thanked CONAE for the warm reception received in Córdoba, and the excellent meeting venue.</p>			
14:30		Visit of CONAE Space Center	CONAE
17:00		End WGDisasters-19 Meeting	

**DRM Site Visit (Friday, April 21<sup>st</sup>, half day)**

---

Visit to Government of Cordoba Hydro-Met Services