

CEOS WG Disasters Meeting 18

MoM vFinal

4 October – 6 October 2022

Pre-event 3 October

Field visit to flash flood site 7 October

The CEOS WG Disasters held its 18th meeting from 4 to 6 October 2022 in Nice, France. It was preceded by a pre-meeting event that focused on exchanges with students and professors from host organization Université Cote d’Azur.

Pre-meeting event

The Pre-meeting event involved approximately 75 people, with presentations from UCA teachers and CEOS WG Disasters members. Students from UCA showed a strong interest in CEOS WG Disasters activities and the prospect of UCA collaborating with the WG on future activities was also raised.

The main meeting of WG took place from 4 to 6 October, with the following participants (in person in bold):

Sylvain Antonetti (UCA), Philippe Bally (ESA), Claude Boniface (CNES), **Dave Borges (NASA)**, Shawn Boyce (CIMH), **Emilie Bronner (CNES)**, **Helene de Boissezon (CNES)**, Jorge DelRioVera (UNOOSA), **Mark de Jong (NRCAN)**, **Andrew Eddy (AG Europe for CNES)**, **Zach Foltz (ARGANS for ESA)**, **Delphine Fontannaz (CNES)**, Michael Foumelis (University of Thessaloniki), Laura Frulla (CONAE), **Marie-Claire Greening (CEOS EO)**, Rafael Grandin (IPGP), Adrian Guzman (AEM), **Dave Hodgson (UKSA)**, **Josh Johnston (NRCAN)**, **Rui Kotani (GEO Sec)**, Andrei Kuklin (Roskosmos), Ziyang Li (CAS), **Jean-Philippe Malet (EOST)**, **Shanna McClain (NASA)**, Ana Medico (CONAE), Antonio Montuori (ASI), **Dorella Papadopoulou (NOA)**, Erwan Pathier (Isterre), **Felix Perosanz (CNES)**, **Floriane Provost (EOST)**, Sinead Russell, Norafiza Sahlan (MYSA), Stefano Salvi (INGV), Surassawadee (GISTDA), Thitawadee (GISTDA), **Linda Tomasini (CNES)**, Marcelo Quirno Uribu (CONAE), **Anne Valette (ARGANS for ESA)**, Albrecht van Bargaen (DLR), Weiyuan Yao (CAS), Zimona Zoffoli (ASI).

Following the meeting, a visit to the Vesubie Valley was organised, the site of dramatic flash floods two years previously. Meetings were organised with local civil protection to understand how the crisis unfolded and participants exchanged on how satellite imagery might have been better used during and after the crisis.

DAY 1 (Tuesday, October 4th)

09:00		Arrival at UCA Valrose campus (downtown Nice) – Coffee	All
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09:30		Attendance / Adoption of Agenda	Andrew Eddy, Athena Global
		Tour de table	
09:35	1	Welcoming remarks	Sylvain Antoniotti, Vice-Président Idex de l'Université Côte d'Azur
		The Vice-President welcomed the participants. UCA is a relatively new university, regrouping many previously independent institutions. It was federated in 2020. After a brief review of the hazards present in the region and the hazard related work at the university, he wished the participants a fruitful meeting.	
09:45	2	Introductory Remarks from WG Chair and Vice Chair	Helene de Boissezon, CNES Laura Frulla, CONAE
		Helene began by indicating it was a real pleasure to have once again a face to face meeting. Many activities were delayed because of Covid but much progress has been made nonetheless and this gives us time to look at sustainability of the demonstrators which have achieved much success. This sustainability session is quite critical, as much more than an update of activities, it is an opportunity to explore the role of CEOS beyond the demonstrator phase in setting up on-going activities outside the WG Disasters. The WG Disasters chair indicated she was very happy to welcome new members from Thailand, Malaysia, India, and Mexico... Interactions with other WG are developing, including now WG Climate in addition to WG CapD, and also the GEO DRR WG	
10:00	3	Telecon #31 MoM; Open Actions Review	Andrew Eddy, Athena Global
		The minutes were adopted. The actions can be found in the Excel action tracker.	
10:15	4	Agency presentations/updates:	
		ASI: (PPT on website) AEM: (PPT) 2 new regional aerospace development centres; new sat GXIBA (UNOOSA, JAXA) for volcanoes and other disaster monitoring. MYSA: (PPT) new member of this WG; MYSA presented cost savings achieved through EO investment... advanced flood monitoring system – response time shortened.	

		<p>NASA: (no PPT) A new strategy is being developed with two components. A new disaster response coordination system will be created within NASA, which offers an opportunity to better coordinate with partners internationally. Disasters portal has been successful and will be moved to a cloud environment so that they are more easily accessible to others. Will be based on Teams environment. New mission – 2027 – INCAS mission (Raincube satellites – high convection clouds and vertical motion of clouds in extreme weather events. Implication for tropical environments, lightning, hail, etc... Possible to influence specs at this stage. NISAR (with ISRO) to be launched early 2024, also SWOT in December 2022. NRCan indicated possible synergies with WildFireSat.</p> <p>CNES: (no PPT) SWOT mission will show water extent, height, discharge, etc. all around the world at a relatively high resolution. This mission is very important for water management at the planetary level. CO3D new mission – 50 cm full resolution multispectral with 3D reconstruction... A CO3D preparatory programme has just started and may be of interest to WG members. Global coverage every 2 years; infrared mission with ISRO – TRISHNA 2025 – Pleiades NEO images will also be available. Microcarb CO2 monitoring around 2025.</p>	
10:45	5	<p>CEOS Work Plan:</p> <ul style="list-style-type: none"> • Overview and activities relevant to WGD • Linkages to other activities, including Ocean activities • Presentation of changes and WGD Deliverables 	Marie-Claire Greening, CEOS
		<p>PPT presented by Marie-Claire Greening, CEO. Three priority areas include disasters, and Chair will report on this end of 2023.</p> <p>Three-year work plan is updated annually and is a key tool to structure CEOS work. Request was made that WG Disasters come to next version of work plan with clear vision of new deliverables.</p> <p>Action M18/1 – update to WP deliverables through the tracking tool.</p>	
11:15	6	<p>Group on Earth Observations (GEO) Updates</p> <ul style="list-style-type: none"> • UNDRR EO risk toolkit • GEO DRR WG collaboration 	Dave Borges, NASA, GEO DRR WG Chair Rui Kotani, GEO SEC

		Discussion on WGDisasters / GEO DRR/ UN-GGIM linkages	
		<p>Dave Borges and Rui Kotani presented GEO updates. See PPT.</p> <p>UNGGIM – close ties with GEO. The GEO DRR WG is working to integrate value and impact of EO on DRR globally (Target E of Sendai Framework). Stronger ties of EO to statistical information. Updates to RiX (open source tool kit within UNDRR’s Risk Information Exchange).</p> <p>EO4DRM is now a GEO Initiative and maps our CEOS WG activities into GEO. GEO is brainstorming with GAR and also Ghanian Sendai focal point and OGC pilot – side event at GEO Week 2022.</p> <p>Post 2025 incubators for GEO Workplan are test beds for new collaboration. Possible synergies with CEOS? 1st coordination workshop will share experiences between activity leads for thematic integration efforts. CEOS as Participating Organisation has a contribution to make. Five (proposed) themes for incubators: nature-based solutions, ocean-climate, climate-urban, systemic risk, cryosphere. One workshop for each theme. One idea is to leverage success of RO. GEO has been trying to collaborate with the Charter. One idea is to come up with ideas about how PDNA can be done in more systematic fashion. Systemic risk will be with UNGGIM. It will take place this month. RO Sustainability activity is underway. Rui is invited to participate. Dave is already a member. Interest expressed for the joint CEOS WGCapD and WGDisasters activity “RO for decision makers” to expand awareness of the use of satellites for recovery in the DRM Decision Maker community. A lot of water related disaster activities and links can be made. Nature-based solutions: a dedicated Task Team will have a specific goal – a small effort to address biodiversity. This is a key nexus area.</p>	
11:45	7	CEOS WGISS Presentation WG Collaboration; Discussion	Makoto Natsuisaka, JAXA, WGISS Chair
		See PPT. Makoto-san presented the main initiatives of WGISS. The WG is interested in machine learning, data exploitation, and artificial intelligence, and is preparing a white paper on this product (which they will share with the WG).	

		<p>WGISS is also documenting service delivery best practices and requested use cases from the WG (PoC at WGISS Joske Kehata).</p> <p>Action M18/2 Josh and Dave Borges to provide use cases for WGISS.</p> <p>WGISS had been working on EAIL with the Flood Pilot, but with the departure of the EAIL lead (R. Woodcock) the future of the collaboration is uncertain.</p>	
12:00	8	<p>CEOS WGCapD Presentation WG Collaboration (joint actions); Discussion</p>	Jorge de la Rio Vera, UNOOSA, WGCapD Chair
		<p>Last week UNSPIDER mission to Philippines. They could become a CEOS member and join this WG, suggests Rui Kotani.</p> <p>Jorge presented (PPT). Support for new space agencies – WGCapD also encouraging them to join and offer training for new agencies (Paraguay, CSA, offering training). Training is available to a wide range of actors and does not require a specific WGCapD action in the workplan.</p> <p>Interest in RO from ALCE (Latin American and Caribbean Space Agency) during the IAC workshop. RO training for decision makers – beginning in December of this year in El Salvador (December 7th SICA Regional Forum for DRM) – is a joint CEOS WGCapD and WGDisasters activity to expand awareness of the use of satellites for recovery in the DRM Decision Maker community. A second and third event will take place in 2023 in Africa and Asia.</p> <p>EOTECDevNet – global effort to support Communities of Practice for training, education and capacity development (pilots on floods). Invitation to contribute to the flood tracker (see PPT). Potential points identified for collaboration: EOTECDev NET, RO, Pipelines for data processing for disasters (Jupyter notebooks), capacity building for DRM community... at least two CEOS agencies must be involved.</p> <p>Action M18/3 Organise a bilateral session - March meeting will be in Vienna.</p>	
12:15	9	<p>International Charter / WGDisasters</p> <ul style="list-style-type: none"> • Observer Status / WG Activities Status/Data exchange agreement 	Dave Hodgson, UKSA

		<p>COS-2 implementation is progressing well and offers users a very powerful tool. All COS-2 implementation work is available to CEOS projects. Final procedure for data sharing is adopted. A final confirmation from the Charter Board is expected shortly.</p> <p>Should we make a short statement about WG Disasters at next Charter Board meeting?</p> <p>Opportunity to insert an item in the next agenda for late October meeting.</p> <p>Action M18/4 Insert WG Disasters briefing in next Charter Board meeting.</p>	
12:20		<i>Lunch Break – restaurants nearby</i>	
14:00	10	<p>Wildfire Pilot</p> <ul style="list-style-type: none"> • Activities / Deliverables Updates • Implementation Plan Progress 	<p>Joshua Johnston, NRCan Mark de Jong, NRCan Peter Moore, FAO Denis Dufour, CSA</p>
		<p>Josh and Mark presented the Wildfire Pilot. Links to GOFC GOLD.</p> <p>Not all fires are disasters. It's part of a natural life cycle, the carbon cycle.</p> <p>Are you running tests/simulations for the WildFireSat mission? Yes, there will be simulated products.</p> <p>Winter 2027 – VIR and NIR</p> <p>Action M18/5 Provide wildfire links to MIM</p>	
15:30		<i>Health break</i>	
16:00	11	<p>Data Coordination Team (DCT) Report Pilot / Demo / GEO Quota Status; DINAMIS presentation, future French VHR missions</p>	<p>Laura Frulla, CONAE Delphine Fontannaz, CNES</p>
		<p>DCT: PPT from Laura. List of reports in PPT. SAOCOM data access provided through u_inter@conae.gov.ar outside Europe (ASI exclusive area).</p> <p>DINAMIS: Delphine Fontannaz from CNES presented the DINAMIS program for VHR data access. For now, CO3D is only for French users but this may change next year. English version of DINAMIS is now online.</p>	

16:30	12	<p>GEO-DARMA</p> <ul style="list-style-type: none"> • Activities / Deliverables Updates • Perspectives on future activities 	<p>Ivan Petiteville, ESA Andrew Eddy, Athena Global Ricardo Quirogas, NASA</p>
		<p>Andrew – short introduction of new GEO-DARMA proposal; Ricardo – presentation of proposal (PPT). 17 universities from across the Americas. ASI – proposal seems ok – some feedback will be provided. No issues identified at this time. Happy to work to provide feedback. CNES – not analysed yet; ok a priori for budget. Decision: support in principle for this GEO-DARMA project.</p> <p>Action M18/6 : define data needs and plan acquisitions for projects going forward. Complete by end of November</p>	
16:45	13	<p>WGD Discussion Session: EO, Big Data and Machine Learning – presentation and discussion</p>	<p>Philippe Bally, ESA Dave Borges, NASA</p>
		<p>Philippe Bally presented a PPT. Over 50 missions with SAR acquisitions today and 50% are “new space”... The flow of data is large – Sentinel-1 led the way. The data are free but managing the data flow has a cost. Josh – interesting to see how quickly things are changing – AI can also help address false positives... trying to use AI to screen out complex artefacts. Training data sets and features is interesting. Machine learning algorithms rely on feature extraction... Very few common containers for MLOPS infrastructure. Not specifically tailored to EO. NASA-wide there is a mass Earth data cloud migration (NASA DACS). NASA is leveraging ESRI solutions. Pakorn from GISTDA is the new CEOS Chair – New space will be the new priority for incoming chair... Relationship to Analysis Ready Data... workplan with OGC to find roadmap to turn ARD into OGC standard. NASA is also undertaking a broad Digital Twin project, to be presented tomorrow. Flood focus, with CNES partnership. There are example of machine learning in CEOS-related projects now, such as the VietSCO project – results to be known soon</p>	

	<p>for Phase 1. New information can be obtained by working differently, not just working with more data. It's also necessary to understand what the quality of the products are, for civil protection use (confidence is a key issue here). We must be rigorous about how these experimental techniques are used. Perhaps we should be asking Copernicus what they are doing in this regard. Andrew raised the issue of exposure and how it could be helped by machine learning. FAO/WFP has a robust activity. We should be sure we do not recreate an existing activity. Radiant Earth Foundation (MLHub) is a global leader in training data sets for EO. Explore a partnership with these leaders? Strong links to New Space. Josh – we've improved our products for machine learning but do not underestimate the value of high-quality data. Do not lower the bar on data quality. Machine learning does not compensate for data quality. We still need a variety of high quality data sets. Physics is stubborn.</p> <p>Contact points for WGISS White Paper activity: Philippe Bally, Dave Borges, Dave Hodgson, Marcelo Quirno, Josh Johnston.</p>	
17:30	End WGISasters-17 Day 1	

DAY 2 (Wednesday, October 5th)

09:00		Attendance – coffee	All
09:05	14	<p>Seismic Demonstrator</p> <ul style="list-style-type: none"> • Activities / Deliverables Updates • Sustainability plan and discussion 	Philippe Bally, ESA Stefano Salvi, INGV
		<p>Presentation by Zach (see PPT). The seismic activity will end after the Demonstrator. There is no plan for continued work in this area. The community used Pleiades images. CNES asked if the community was aware of the CO3D preparatory programme.</p> <p>Action M18/7 Ensure website is updated for final Demonstrator.</p>	
09:35	15	Ideas from ESA about new activities	Philippe Bally, ESA Michael Foumelis, BRGM
		<p>ESA presented two new activity ideas: one proposing the use MCube for PDNAs, and one offering to organise a Demonstrator for DRR activities. COS2 is the data workflow management system of the Charter (a fully operational and close environment); mCube is a processing environment for accessing imagery and monitor hotspot, the link is that mCube is the light version of the ESA Charter Mapper.</p> <p>The two ideas were discussed by the WG. Several WG members were of the opinion that the PDNA activity overlapped with the RO activity and the two should be combined. CNES and ESA agreed to hold a meeting to discuss this. The second activity was well received by the WG. The WG will discuss how to go forward with both these activities in the coming year. ESA's suggestions would become formal proposals if two or more CEOS agencies expressed interest in collaboration.</p> <p>Action M18/8 WG Secretariat to coordinate with ESA to chart a way forward for these two proposed contributions.</p>	
09:55	16	<p>EO and Geodesy</p> <ul style="list-style-type: none"> • Perspectives on possible WGDisasters activities with the geodesy community 	Felix Perosanz, CNES
		<p>Felix Perosanz presented a PPT. Question from Rui about the links to GNSS Enhanced Tsunami Early Warning Systems (Allison Craddock).</p>	

		<p>Strong connections to this activity as Felix chairs the international IGS activity.</p> <p>Usefulness of GNSS receivers for flash flood detection. There are interesting questions to be asked about the troposphere and wildfires. How accessible is the past data to extract past data sets? Usually they are stored and they can be used for science research.</p> <p>Dave indicated that in many cases national networks are not free and open even though there's a lot of data. There is a push to make the data anonymous and thus more accessible. This is a key point.</p> <p>There is a GEO activity on GNSS and wildfires. This is mentioned in the GAR (UNDRR).</p> <p>Action M18/9 Agencies interested in collaborating should reach out to Felix, copy to the WG Secretariat. Exploratory discussion to see if this could be a pilot or an activity tied to an existing pilot. (linkages to GEO activities)</p>	
10:35	17	<p>Landslide Demonstrator</p> <ul style="list-style-type: none"> • Activities / Deliverables Updates • Implementation Plan Progress 	<p>Pukar Amatya, NASA</p> <p>Jean- Philippe Malet, UNISTRA</p> <p>Corey Froese, BGC Engineering</p> <p>Clément Michoud, Terranum</p> <p>Weiyuan Yao, CAS</p>
		<p>See PPT.</p> <p>World Bank demonstrator project working with rain forecasts to predict landslide was completed one year ago. The simulator allowed to project flows and possible impacts to predict both landslides and downstream land displacement. Need to include also snow. New project starting. Some contacts with AXA, and also in the Philippines.</p> <p>Need to be local, but also to follow up internationally... Tailor products and services to local needs to be able to address private/public contrast...</p> <p>There is already a platform investment, and then private companies apply with smaller funds to operationalise...</p> <p>Weiyuan Yao made a short presentation on the China component of the Demonstrator.</p> <p>Recent 5 September earthquake in China.</p>	
11:15	18	<p>Geohazard Supersites and Natural Laboratories (GSNL)</p> <ul style="list-style-type: none"> • Changes to GSNL governance • Results/Requests from Supersites 	<p>Stefano Salvi, INGV</p>

		<ul style="list-style-type: none"> • Activities / Deliverables Updates 	
		<p>PPT Stefano Salvi.</p> <p>DCT – Guatemala supersite proposal will be received in a few weeks. 40% of population is at risk from these volcanoes. Limited ground monitoring. L-band data would be invaluable for this monitoring.</p> <p>Proposal submitted by INSIVUMEH and CONRED</p> <p>5 GNSS stations being donated to Goma supersite through USGS, France and Egypt.</p> <p>No Pleiades NEO available yet, but still TBD. Pleiades is still available for now. PNEO may be 10 or 20 times more expensive so quotas will be much lower.</p> <p>Dave – Joint GEO-CEOS report will be published in Journal of Disaster Prevention Management. GSNL input was substantial.</p> <p>ASI indicated they had no issue with the new proposals which are still under evaluation.</p>	
12:15		<i>Lunch Break – restaurants nearby</i>	
14:15	19	<p>GEO/LEO/SAR Flood Pilot</p> <ul style="list-style-type: none"> • Activities / Deliverables Updates • Implementation Plan Progress 	<p>Marcelo Uriburu Quirno, CONAE</p> <p>Mitch Goldberg, NOAA</p> <p>Guy Schumann, RSS Hydro</p> <p>Maggi Glasscoe, NASA</p>
		<p>See PPT</p> <p>New links to Malaysian Space Agency.</p> <p>EAIL from WGISS.</p> <p>EOTECDevNet – Flood tracker.</p> <p>Need to include exposure elements in the analysis. Vulnerability elements should also be considered.</p> <p>See PPT2</p> <p>Digital Twin is a three-year program, now entering year 2.</p> <p>Open Source Framework from start to end, so hope that more contributions will be forthcoming.</p> <p>Action M18/9 Connect NASA IDEAS team leads with Landslide Demo leads to explore synergies.</p> <p>What is the scale of the ambition for the next 18 months? The intent is to develop a comprehensive framework, but it will not be fully populated.</p>	

15:00	20	Volcano Demonstrator <ul style="list-style-type: none"> • Activities / Deliverables Updates • Sustainability Planning 	Susi Ebmeier, University of Leeds Mike Poland, USGS
		<p>See PPT</p> <p>Significant progress in extending the reach of the pilot and bring in new communities for Demonstrator.</p> <p>Recent events – Sao Jorge, Ambrym, Agung</p> <p>Questions from demonstrator on whether they should be limiting their rapid ftp requests? Should there be a separate system for archived and NRT data?</p> <p>Where to go from here... Best effort vs ideal states were compared. Data coordination is a key element for sustainability. Background data are also key and not currently well addressed.</p> <p>International Virtual Volcano Observatory : What is a typical annual number of response events and how many turn into a crisis response? In the last year there were 6, but several times no response was possible due to limited resources. Maybe 6-10 would be the right number, but does not include background monitoring.</p> <p>ASI asked to clarify about the integration of new satellite data into the activity... More L-band data could/should be used.</p> <p>For urgent cases, ftp delivery could be discussed with ASI.</p> <p>MCG indicated that a New Space Task Team was to be set up through SIT to investigate this theme and see how we can best capitalize.</p> <p>Some experience with ICEYE and Capella Space. Limited number of images from Capella and rapid acquisitions – works very well.</p>	
15:45		<i>Health Break</i>	
16:15	21	Recovery Observatory Demonstrator <ul style="list-style-type: none"> • Current activations • Planned activations • Concept Paper • Sustainability & Next Steps 	Hélène de Boissezon, CNES Andrew Eddy, Athena Global
		<p>See PPT</p> <p>UNDRR was suggested as a possible partner for RO training events for leaders, as well as UNOOSA.</p> <p>Action M18/10 Shanna to make connections for recovery support (UNOCHA).</p>	

		<p>Uruguay regional platform 2023 AEM asked if it was necessary to attend the December 7th event (RO training for decision makers) in person – it is not.</p> <p>Action M18/11 Create a list of interested people/organisations for each RO event</p> <p>Rui – GEO can be a strong complement to this activity GEO can perhaps support on fund raising GEO Sec can support more actively Process on standardisation underway within the Charter. Requirements for PDNAs</p> <p>Action M18/12 Begin a dedicated discussion on PDNA requirements</p>	
17:15		Group Photo	
17:30		End WGDIsasters-17 Day 2	
18:00		<i>Bus to Observatory of the Cote d’Azur (OCA)</i>	<i>Bus will depart from Valrose campus @ 18h sharp</i>
18:45 – 22:30		<i>Cocktail at the OCA Visit of the site Light Dinner</i>	<i>Return to downtown Nice by bus departing OCA around 22h</i>

DAY 3 (Thursday, October 6th)

09:00		Attendance – coffee	All
09:00	22	CEOS WG Climate Presentation WG Collaboration (joint actions); Discussion	Albrecht von Bargaen, Chair Joint CEOS / CGMS Working Group on Climate
		<p>See PPT. This session merged with following session (23) Yesterday was the GEO meeting on Climate Change. Finalisation of a paper. Linkages between use cases and SCO. Focus of WG Climate is ECVs, whereas SCO is more focussed on climate impacts and climate change adaptation. The same use case could be covered by both. The SCO has already been presented to the WG Climate. The topics addressed are not the same. WG Climate relies on best efforts and has as sole focus promoting the satellite data, but not only for ECV, also for variables outside of ECV. There are also climate services (Copernicus CC Service : C3S). How can we best use climate records? How do we serve the International Paris Agreement – adaptation, mitigation, loss and damages...? Invitation to present SCO within WG Climate</p> <p>Action M18/13 Set up further bilateral discussion with WG Climate – set up a further reflection on what can be done together. Consider defining a joint activity tied to SDGs.</p> <p>SEO leads SDG linkages for CEOS – activities are being scoped out, and there may be SCO linkages. Is there a CEOS-level deliverable that might sit here in the coming year?</p> <p>Is SCO working with Future Earth and other large international climate focussed groups, and Links to GEO? Yes. Does WG Climate work on climate scenarios? Derivation of local and regional scenarios.</p>	
9:30	23	New initiatives and new themes: <ul style="list-style-type: none"> • Space Climate Observatory projects; 	Linda Tomasini, CNES

		<ul style="list-style-type: none"> • Oceans and climate (linkages – coastal erosion, coastal zone monitoring?) 	Ivan Petiteville, ESA/CEOS SIT
		<p>See PPTs from Ivan and Linda</p> <p>A discussion ensued on interest in the WG for SCO-type activities and Ocean activities. There are few areas of overlap in the WG with Ocean activities (e.g. Tsunami hazard), however there is large potential interest in SCO-related activities.</p>	
10:00	24	WGD Thematic Demonstrator Sustainability Discussion	Demonstrator Sustainability Sub-Team
		<p>GEO Value community – good connection. Socio-economic analysis tied to GEO benefits. Shanna also leads socio-economic work within. NASA – build different approaches to understand cost-benefit. Dave Hodgson asked if they can contribute to reporting... UK can contribute.</p> <p>Jean-Philippe – quota of images (“CIEST” model)</p> <p>How do we map baseline risk? In Canada 20 researchers, 7 years...</p> <p>GFDRR – have they moved forward on the EO based baseline...</p> <p>Rui...</p> <p>Links to GEO</p> <p>Action M18/14 Website rethink? Themes rather than activities? Helene and Andrew to consider new structure. Dave Hodgson to look at CEOS website to showcase work of WG – Seismic Demo in particular...</p>	
11:30	25	WGDisasters Future Meetings Planning <ul style="list-style-type: none"> • Telecon #32 • WGDisasters-19, WGDisasters-20 	Andrew Eddy, Athena Global
		<p>WGD19 in Argentina (Cordoba).</p> <p>SIT is last week of March (28-30 March). Regional Platform for Americas in Caribbean 27 Feb to March 3rd. The following week is WG Cap D (March 6-10). Mid March or Mid April (WGISS) to be considered for WGD19 (now confirmed 18-21 April).</p> <p>WGD 20 in Yellowstone. Dates to be discussed with USGS (Mike Poland).</p>	

11:45	25	Conclusions / AOB	Helene de Boissezon, CNES Laura Frulla, CONAE
		Laura Frulla – lots of good work. Interesting new projects – oceans, climate... Demonstrators. Helene de Boissezon – richness and denseness of the discussion, with key issue about sustainability of demonstrator activities	
12:00		End WGDIsasters-18 Meeting	