AOGS-EGU NatHazards Virtual Meeting: The AOGS-EGU Joint Conference Series on New Dimensions for Natural Hazards in Asia

Day 1: Monday, 21 September 2020

Theme 1: Hazard Development Under a Changing Climate (Questions & Answers)

#	Question	Answer(s)
1	Dr. Abram, what does the red shade indicate? Higher temperature?	Yes, the red shading indicated ocean temperatures that were warmer than usual. Blue shading was where the surface ocean was cooler than usual
2	Dr. Marc, how did you determine the sactor of safety of the slope? I mean the methods you used knowing the fact that the slope already collapsed? Was it accessible during testing?	We did not determine the exact FOS. Remind that there are >1000 of landslides in such large typhoons, and we do not know essential parameters : depth of failure plane, cohesion, permeability...
3	Is landslides are possible in plain regions?	Not really, although in plain you may have the sediments from landslide or debris flow reaching flat areas, and bringing hazard there.
4	Dr. Abram, Could you please comment on the recently observed anomalous warming in Southern Indian Ocean, poleward of 30 deg S, post 2000.	live answered
5	I am Dr. M. G. Thakkar, Professor in Geology in Kachchh University, I have a question to Nerilie. I wanna ask whether the heavy rains in India this time is a consequences of the La Nina. Because it is still raining in September and forcas that it will be in October too	There is a link between ENSO and the Indian monsoon. During a La Nina event we would expect the monsoon over India to be stronger. This is because the La Nina event changes the atmospheric Walker circulation. Over the cool sea surface temperatures in the central and eastern Pacific, atmospheric convection and rainfall is reduced. Over the western Pacific and eastern Indian Ocean the ocean tends to be warmer than usual during La Nina events, and this causes an increase in atmospheric convection and increased rainfall - including increased rainfall in the Indian monsoon.
6	'@Dr.Odin, where does your rainfall data come from? from model or from observations?	live answered
7	Q for Odin: Really interesting - anomalies are really useful for hazards: particularly wind damage and river floods. On the other hand, landslides leave an unconsolidated mass that I would have expected to be more prone to further movement in future - until all of the loose mass ended up in the valley. That would imply a longer memory than 10 years.	live answered
8	To Odin Marc: Since your work is prediicting landslides in a relatively large areas, what is your method in slope failure, is it deterministic, but you may have problems on engineering and hydroligic vaues	Good point. Hydrological parameters and their variability is a big problem. For the moment we did not use a deterministic model, but an empirical one including slope and rainfall anomaly. The idea is that the past extreme rainfall may also have modulated the slope hydromechanical properties. Check the paper, Marc et al., 2019 in GRL
9	Dr Abram, how can you restore 500 years, while you said the corals live about 150 years?	What we do is to piece together records from lots of corals to build a long climate record. We can accurately date fossil corals and we can find fossil corals that overlap in time, and so we can use these to build longer climate records than what we can get from a single coral colony.

10	to Marc: do you have established landslide threshold per morphologic region	In the case of Japan, we differentiate coastal regions and main range, because although they had very different lithological bedrock, and regolith (and as a result a different morphology for the landslides in each zones) . SO we had a different empirical relation between amount of landslides and rainfall anomaly. See the paper Marc et al., 2019, GRL.
11	high-resolution future climate data using state-of-the-art Regional Climate Models is very important. How can we improve high-resolution future climate data? Nguyen Quoc Dinh from Vietnam	live answered
12	Dr. Marc, which factor is more affecting landslide, the slope or the intensity of rain?	live answered
13	my apologies for misstyping that one, my question to Dr Abram is that where you able to establish some relationship between the Indian Dipole and the ENSO in the Pacific?	live answered The link between the IOD and ENSO was something that we focused on in this recent paper: https://www.nature.com/articles/s41586-020-2084-4
14	Can u measure time series SST data to monitor when and how many days anomay persits in the Indian Ocean to identify Indian ocean Di-pole? , However, based on my current research i had found 3-4 deg plus temperature is increasing in the indian ocean which intensifies several cyclonic event and coastal flooding.	live answered
15	'@Odin: how the slides are modeled numerically? Is it modeled in 1-D?	We did not modelled landslides. Only compared to abslute and relative rainfall to understand which was able to best explained the landslide pattern.
16	Odin Marc, I'm really wondering how did you modelled landslides numerically?	We did not modelled landslides. Only compared to abslute and relative rainfall to understand which was able to best explained the landslide pattern.
17	'@Odin: also how the earthquake triggered landslide, e.g., in mountain ranges, can be modeled?	You can relate them to ground shaking, and slope across epicentral areas. Check Marc et al 2016 in JGR.