September 21, 2021

Attendees: Bernie Connell, Adrian Guzman, Abdoul Abdoulaye Sow, Alejandro Roman, Caily Schwartz, Cyndi Hall, Juan Carlos Villagran, Oyeniku Yusuf, Sergio Camacho, Sherrie Morris, Max Salman, Richard Heim, Vanesa Martin-Arias, William Straka, Merrie Neely, Jiali Shang, AJ DeGarmo, Kent Ross, Lauren Childs Gleason, Erin Martin, Yasha Moz, Nancy Searby, Sydney Neugebauer, Jorge Del Rio Vera

Topics:
- Brainstorm Community of Practice outreach and engagement opportunities
- Thematic conversation: Fostering access to capacity building in drought

Discussion:

- *Max Salman:* What is the target audience of EOTEC DevNet?
  - *Erin Martin*: Capacity development professionals, organizations, and even users that can be connected into and supported.
- *Bernie Connell*: What is the benefit to joining the large cross-network group? One thing is meteorologists make forecasts, which are handed off to decision-makers. Can users utilize the data and imagery easily?
  - *Erin Martin*: Benefit in leveraging relationships, skills, and resources across the network to reduce duplication and amplify the impact of ongoing work.
  - *Nancy Searby*: In the operational sense, we have tools (both domestic and international). How do you know which tools to bring in? How do we enable the research to operations transition? Impact-based forecasting ("Weather-ready nation" in the US) includes drought forecasting (which might be outside of weather and in the category of climate).
- *Max Salman*: When looking for capacity development providers, we could work through universities to work with faculty and departments to engage with students and collaborators. They are well-integrated into the community and the CoP proposed here are well-attuned to these roles. Many jobs have a service component, and this might be used to fulfill this component. Already built relationships with students and collaborators. Can we create a chapter 2 or 5 years down the road?
- *Sergio Camacho*: Professional societies are a good group to target to build CoPs. They are a broader audience. If we want these groups to identify those who work in the particular area, the value for them would be to identify needs within their specific application/interest/research groups and match them to capacity development resources (especially trackers). They can look at the available resources to gain awareness.They can bring experiences and resources into their groups and bring them to their research.
  - Summarizing my previous suggestion: To build CoPs, approach universities (Max´s proposal) and professional societies (e.g. SELPER, in LAC). Convey message that specific topic CoPs can share experiences on Capacity Building, Research needs and match them to resources that are being, or could be, shared.
  - Not sure if the trackers already include indications of upcoming training opportunities on the use of select tools in specific applications.
- *Juan Carlos Villagran*: UN SPIDER has comprehensive training procedures and recommended practices to gather NDVI, EVI, and comparative indicators using MODIS to relate current drought to historical drought measurements. FAO has the agricultural stress index and VHI to measure crop health.

- ○ As soon as rainfall begins, that's the end of the drought and the end of the efforts. This is a lesson from 2014 as countries ended efforts to address droughts each rainy season. Challenging to encourage use of tools after drought ends.
  - ○ On the COPs, the risk of trying to reach universities or societies is that we would be duplicating the work of space agencies and potentially of other networks. Space agencies, where they exist, are the ones to be empowered. (I am talking about space agencies, but I can imagine something similar for national meteorological agencies).
- *William Straka*: Another common issue is integrating information into GIS applications (i.e needing the data available in things like a WMS/WTMS link rather than individual webpages that you have to remember to access). On the flood side, it's nice to look at an image on your website, but if you have many tools you're trying to compare/contrast, you don't want to have to search through a million bookmarks and pages. Those tools/products should be integrated in your own website, dashboard, or GIS servers so you can more easily manipulate the data. Data needs to be in a user-friendly format. People want a one-stop-shop.
- *AJ DeGarmo*: Tool fatigue is certainly a real challenge.
- *Max Salman*: There is an opportunity here to integrate what we've been talking about today. If we want to work with capacity builders, we may want to build yet another tool. This mirrors platform fatigue that is a reality of where we are now. Could even develop projects in collaboration with universities and colleagues to get more granular data and support decision making processes. Can't be a 100% government approach, and we will need public-private partnerships and academic support for that.
- *Cyndi Hall*: @William, within NASA's Earth Science Data Systems, the GIS team is attempting to pull together all of the NASA datasets that are relevant to these thematic applications, like drought. The problem we have too, is that not all NASA data is GIS-ready, but we are working on that.
- *Bernie Connell*: Biggest challenge is training forecasters to understand current and potential future conditions and the impacts. Some flooding tools that show the impact of terrain can be beneficial to forecasters that pay a little more attention to these nuances. This isn't just going towards decision makers, but can be picked up by users along the way that can pass that on to end users. Could put in more effort in this area.
- *Juan Carlos Villagran*: FAO is approaching the ministries of agriculture through their national offices in almost every country, so it is easy for them to push the use of their tool. They mention that their tool is being used. If we don't have an office in every country, it can be hard to push the tools. There are interesting examples we can learn from. The National Hurricane Center pushes data everyone tries to use, as does USGS for earthquake data. Perhaps you don't have to be there to train people, but you have to know your true end users. I wonder what the department of agriculture in the US uses in drought decision making? NOAA, NASA, their own things?
- *Richard Heim*: The USDA uses the U.S. Drought Monitor to make drought response decisions. This is a composite drought index created by compiling drought indices and metrics. Amalgamation of datasets is a strength to the drought monitor. Has established criteria for release of drought relief funds based on categories of drought. Engineered to be *the* tool that's used in the US.
- *Juan Carlos Villagran:* FEWS NET has some EO data and complements those data with food prices in public markets, etc. to get at food access. Famine is not necessarily scarcity of food, but inaccessibility of food. Learned this lesson from droughts in Africa. Gives a different picture than what we learn from EO. NDVI/EO works as an index-based insurance mechanism. Cattle growers in Uruguay have this kind of insurance, which kicks in when a certain level of NDVI is reached. No CoP around this, but it's an interesting application.
- *Merrie Neely*: But we have found other scientists who are interested in drought - for example in NOAA, there are some who have interest in saltwater intrusion into aquifers and changes in

mangrove extent. There are fisheries regulations (essential fish habitat) that set jurisdiction based on inland extent of saltwater in estuaries and tributaries (which can be dependent on drought conditions). People living near mangrove biomes can experience saltwater intrusion, which can impact the jurisdiction of fisheries. Need to define the legal extent of essential fish habitat. In drought conditions, you can impose regulation on property owners which impacts habitat regulation.

- *Cyndi Hall*: USDA and NASA have a new tool US-based, Crop Condition and Soil Moisture Analytics, Crop-CASMA: https://nassgeo.csiss.gmu.edu/CropCASMA/
- *Bernie Connell*: Drought means different things to different people and regions.
- *Adrian Guzman*: At AEM we are approaching more top to bottom perspective. Part of the government and assigned a specific budget; not only who can use the information, but who they can work with to help push forward certain initiatives. Makes it easier for people at universities to be aware of different initiatives.
    - https://mesda.agency/spacegeneration/
    - https://mesda.agency/industrialdevelopment/
    - https://mesda.agency/azo/
    - https://mesda.agency/theglobeprogram/
    - https://mesda.agency/spaceexploration/
    - https://mesda.agency/capacity/
    - https://mesda.agency/internationalcooperation/