IAEE/COSMOS International Strong Motion Committee (ISMC)

Special Session at the 16WCEE Santiago, Chile
13 January 2017, 2-4pm

Minutes if the ISMC Meeting
Secretary Sean Ahdi

Jamie Steidl: IAEE/COSMOS Joint International Strong Motion Committee

- Over past 18 months we have developed the terms of reference and submitted to IAEE a request to establish an official Joint International Committee under the auspices of IAEE. This was approved and Prof. Masayoshi Nakashima will serve as the IAEE nominee and Jamie Steidl as the COSMOS representative. As such, this is the first official meeting of this committee.
    - Passes a sign-in sheet
- IAEE Joint Committee Objectives:
    - Bring together worldwide strong motion (SM) network operators to increase data awareness, discuss common issues, and learn from each other; also the users should be included to give feedback
    - Increase cooperation on data dissemination thru new data portals; we generally all have the mandate to make our information available online, but we are all using different protocols, formats, etc. We could standardize and unify these.
    - Bring together international SM network data providers and users to collaborate on development of standards and tools for collection and use of SM data. Example: how can we properly use the SM data if we don't know anything about the site?
    - Facilitate exchange of info on the availability and use of SM data by practicing design engineers
- Who is on this international committee?
    - Anyone that wants to be.
    - We do have rules listed in IAEE bylaws, we need:
        - Chair: Jamie Steidl
        - Co-chair: Masayoshi Nakashima
        - Secretary: Sean Ahdi
    - These are just names on paper so that we follow the bylaws of IAEE
- New Web-Based Communication tool:
    - COSMOS Wiki/Forums Page: http://cosmos.eri.ucsb.edu
    - Individual network pages with info and links back to each network. Users from those networks (Network operator) will register on their page and given permission to be the page editor on the wiki site.
    - Operators and Users must register on with COSMOS.
    - This is the beginning of a framework for network Wiki pages, mainly to help solicit users to go to the original websites. This is very flexible so these pages can be modified easily, so please provide feedback

- There is a discussion forum where people can post new threads or continue existing ones; must register online to participate. Can also be notified when the thread is responded to.
- Projects tab will be added to website (first one is COSMOS Guidelines) to be a content management system to share information to users and also allow participants to upload data/info
- Albert: how set are you on this? Have you seen ex: stackoverflow? When you have a flat thread, whatever response is used the most, will rise with upvotes and be more helpful.
    - Jamie: not yet, but if it's a typical way that online forums are created, then it can be easily implemented by student developers

- Updates on COSMOS Virtual Data Center (VDC)
    - 2017-18 redesign of backend of database technology at strongmotioncenter.org, as it is a decade old.
    - There is a second separate database, the Engineering Data Center (EDC), but we want to merge them, because this is US-centric but want to include it in the global database
    - You can have a code-based call of the data in the database, not just point/click to access/download data
    - WebServices important to provide better data and metadata exchange capabilities between networks. We should discuss standardized parameters to make these requests/web services; how does one form the query to get data from network X.
    - As a committee if we get the right people in the room then we can develop a standardized set of parameters and web service tools for data and metadata, and it should be flexible.
    - Alexandros: is your data to be just the SM info or do you want to get into more site characterization data (beyond V_{S30})?
        - Jamie: I think we should plan for these things and set them up even if we don't end up using them. If you have processed data, then sure we would love to have those included.
        - "Virtual" means that we don't store the data form another network; we just store the link to the data so they can go to the original data provider. And this prevents the improper acknowledgement of COSMOS rather than the original data provider.
        - Alexandros: the metadata of the networks, the raw data, etc., is MDSN services, which is all XML.
        - Jamie: we should adopt some standard without reinventing the wheel
    - Rubén Boroschek: did a review of the Latino networks, and some of them have no organized database. So it would be nice to tell them how to format theirs when they set up, and to populate established fields. Also: we will need a guidelines document for metadata handling; sometimes they are transient information e.g. temporary stations, etc.
        - Albert: 1) is the lack of a central database in some places a technical or budget issue?
            - Ruben: both. If you offer them a free system, then they will use it. Albert: developing Linux systems would be easy to do.

        - Albert: 2) are you visualizing the VDC as being a network-specific inquiry? Jamie: yes
        - Alexandros: we need to make it such that when someone updates/changes someone in a different region, then COSMOS should be automatically updated. If there is a legacy, there should be a way for them to use that.
        - Jamie: and this is why people using station XML, and that's the method of communication.
- Improve output format consistency for data download, given that COSMOS uses an archaic format (ASCII80)
    - List as AI for subcommittee people to discuss.
    - Alexandros: when people are asking for final processed data, then you don't need any of the metadata; because the final data is already done. Thus it's very easy to use a specific format (SEED, SAC);
        - Jamie: engineers won't want SEED or SAC. They will want ASCII/CSV files so they can upload into codes.
        - COSMOS has developed a data converter for multiple formats
        - Hamid: it works on K-Net, KiK-Net, USGS, others; now starting on Chile data format
- Expand on tools for SM processing and analysis (New USGS PRISM GUI tool).
    - Our hope is that if you process the same records you get the same answers. But it's a modular tool so that we can add more processing tools from other people.
- Final thoughts: from 15WCEE SMF Resolution.
    - Ruben: I think the issue of data processing is controversial. I will not eliminate metadata from processed data, because they are key to reproducing the final processed data. The metadata is huge consideration, that you use this on only a single piece of data.
        - Jamie: this software has a track logger so that you can see every step of what was done to a data, so that when for ex: the case goes to a court, they have an account of it.
    - Ruben: how will we deal with PEER database? It's tricky
        - Jamie: so far, there's a link to the PEER flatfile, that is a specific project, and we (COSMOS) are not doing data QC, and will put the raw data out there for the users to use. Also, PEER is a snapshot in time, whereas the COSMOS data are ongoing…people don't always want to wait for the PEER project to finish