

## **Continental Scale hydro model inter-comparison for SWOT Teleconference summary 2016 08 31**

by Sylvain Biancamaria and Cédric H. David

### **In attendance**

Kostas Andreadis,  
Ed Beighley,  
Sylvain Biancamaria,  
Pascal Bonnefond,  
Aaron Boone,  
Cedric David,  
Ayan Fleischmann,  
Vincent Fortin,  
Hyungjun Kim,  
Christine Lion,  
Rodrigo Paiva,  
Guy Schumann,  
Alban de Lavenne,  
Patrick Lemoigne

### **Meeting minutes**

Cedric: provided some background on river modeling for the Mississippi River Basin (RAPID continuous simulation and sub-sampled simulation based on SWOT orbit). Key question is: will all models get the same results given same data? How to handle reservoirs within this project?

Vincent: Are lakes and reservoirs taken into account in RAPID?

Cedric: There is a break in connectivity between up and downstream where there is a known water body (reservoir or lake) and downstream could be forced with in situ observations.

Rodrigo: MGB can model reservoirs, should reservoirs be included in our runs?

Cedric: it's up to people. It might be an issue for comparison if some models have reservoirs and some don't, but each team could decide.

Ed: in our HRR model, reservoirs can be specified using characteristic curve (i.e. daily average reservoir storage change pattern vs time → need reservoir storage change timeseries).

Hyungjun: Having a protocol for these experiments shared among the group will be very useful to know what is expected, what is the model configuration that should be implemented.

Aaron: Agreed, a white paper will be useful, even if it evolves in time (not necessarily as formal as a paper).

Ed: a spreadsheet has been sent with forcing data and key parameters that need to be used. They might be very specific to some models. So they could be defined in the white paper to help people using other type of models.

Hyungjun: Why not including USGS Vicksburg gage station?

Cedric: Couldn't find daily time series with no data gap on USGS website for recent years.

Hyungjun: I have that time series from GRDC, but it might not be the same years.

Aaron: Should we use the best model setting (with all key parameters...) or the usual model setting?

Cedric: using the usual setting is ok, but for the ease of comparison, using the same setting (params and forcings) for each model will help comparing models among themselves.

Kostas: presented the global width and depth database from Andreadis et al. (2013).

Vincent: One equation per continent has been derived. Shouldn't you derive one equation per climatic zone?

Kostas' reply: Each climatic zone is taken into account indirectly by using the closest gage near the considered reach.

Kostas, Cedric and Guy: discussion between on discrepancy between the database on the UNC Gaia website (<http://gaia.geosci.unc.edu/rivers>) and the latest update of Kostas' database. The database is currently being reprocessed and reevaluated by Kostas and Guy. Once it's done, it will be put on line on Zenodo with a unique DOI for everyone to use (we need to wait for these updated database).

Cedric: In the forcing and key parameters list (spreadsheet sent in July), is something missing?

Ed: What is the final decision on the issue to convert NLDAS Grib format to NetCDF?

Cedric: As there is no volunteer for this job, everyone will have to do it on their own. But we need to keep the group apprised when we have done some conversions and share the files when they are converted, so that everyone could benefit.

Aaron: Is there a website or ftp site to share data among us?

Cedric: Not yet on the JPL side as openly sharing text can be a challenge. If anyone in the group could do that, it would be great.

Cedric: There is the need to have a co-leader on the French side.

Cedric: A workshop for this work group in spring would be very useful and is needed. It could be done in Japan (need to discuss in more details with Dai).

**Action items**

Sylvain: contact French people and see who could be the co-lead.

Kostas & Guy: validate and finalize Zenodo sharing of an equivalent to the dataset of Andreadis et al. 2013 that matches the official HydroSHEDS unique identifiers.

Cedric: next phone call ~September 30.

Ed: will present HRR results for Mississippi.

Rodrigo: will present MGB results for Mississippi.