Continental Scale hydro model inter-comparison for SWOT
Teleconference summary 2017 05 23

by Cédric H. David

In attendance
Ayan Santos Fleischmann,
Rodrigo Paiva,
Dai Yamazaki,
Colby Fisher,
Daiki Ikeshima,
Ed Beighley,
Jean-Francois Vuillaume
Cedric David.

Meeting minutes
Colby: presented his work on using Dag Lohman's routing scheme with the RivMIP experimental design. Dag worked with Eric Wood as a Postdoctoral Researcher in the 1990s. Domain setup and grid cell mapping was performed for this routing scheme. Model parameters include velocity: 0.5 m/s and diffusivity: 50 m^2/s. The model runs hourly, averaged to daily values. 6-month spin-up was applied before running the 10 consecutive years. Simulation runtime was 2 days. River network used was that of NLDAS, the topography prepared by Dai generated errors at runtime.

Ayan: Dai's river network worked better for us. Perhaps one could fix the flow direction grid if it's faulty. Also, we may consider looking at monthly statistics over 10 years as opposed to daily.

Colby: What's the plan for the next basin we'll address?

Cedric: The experimental design includes the Niger, the Saint-Lawrence, and the Amazon basins. But perhaps we should consider going global as a team instead.

Rodrigo: Speaking of which, Colby, you're assuming that the linear equations are perfect. One should expect that this assumption would fail in basins such as the Niger and the Amazon.

Dai: We need to start thinking about the relationship between SWOT errors for width/height and for discharge. Perhaps use such knowledge to make suggestions to the algorithm working group.

Cedric: That's interesting. And we need to acknowledge differences in the state variables used by various models, e.g. Colby uses discharge, Dai uses height.

Ed: The experiment is really starting to come together. This is really exciting.

Dai: What's the status on publishing Python scripts to allow joint analysis of our model outputs?

Cedric: I committed to doing that. I need to get back to this. Also, I will be emailing the various modeling teams separately to start putting together the "model descriptions" part of our joint paper. I assume we'll take a pause in the telecons until the paper starts shaping up and regroup after that.

Action items
Add analysis tools to GitHub site (Cedric).

Start paper writing and reach out to modeling teams (Cedric).

Telecons on hold until further notice (Cedric).