

The Pepsi 2 datasets

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The datasets

- Pepsi 1:
 - 19 cases
- Pepsi 2 – First set of cases:
 - 32 cases.
 - daily time step
 - No error added
- Pepsi 2 – SWOT like cases:
 - Must be SWOT observable
 - 10-km reaches
 - SWOT temporal sampling
 - SWOT like error

Assembling the datasets

- Mining cases:
 - San Joaquin model:
 - Contained 30 smaller models
 - After discarding small cases and cutting those with insufficient flow variability: 13 remained.
 - Ohio:
 - Inspection of the height and discharge profiles showed potential for 8 breaks:
 - Breaks at locations with sudden increase in discharge or at persistent discontinuities in elevation.
 - One of the 8 was included in Pepsi 1.
 - Missouri:
 - Validation of discharge caused part of the Model to be discarded
 - Remaining model was broken into 3 cases at tributaries

Mining cases - continued

- Ganges Brahmaputra models:
 - Initially contained 10 models
 - Ganges was used in Pepsi 1
 - After cases with less than 40 usable cross-sections, Arial-Khan, Brahmaputra, Jamuna, Padma, and Kushiyara remained.
- Seine:
 - Broken into 2 new cases for Pepsi 2
- Iowa River:
 - Only section upstream from Columbus junction was kept (downstream contained several storage areas)
- Mississippi:
 - Added one case that was not used in Pepsi 1
- Olentangy

Quality control

- GBM models had an incredible range of discharge and width variations. Validated against the literature.
- Missouri, San Joaquin, Ohio, Iowa River, Mississippi, Olentangy were validated against USGS gages.
- Validation wasn't exact as:
 - Most models did not have georeferenced cross-sections
 - San Joaquin was forced with a synthetic hydrograph representing a flood event

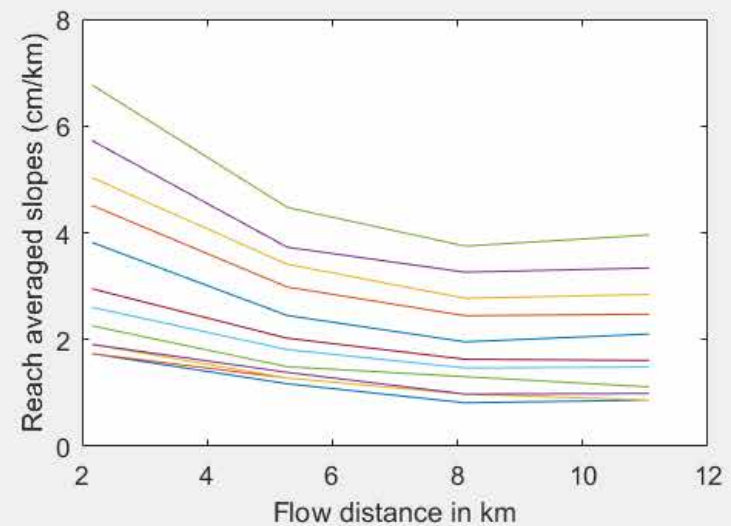
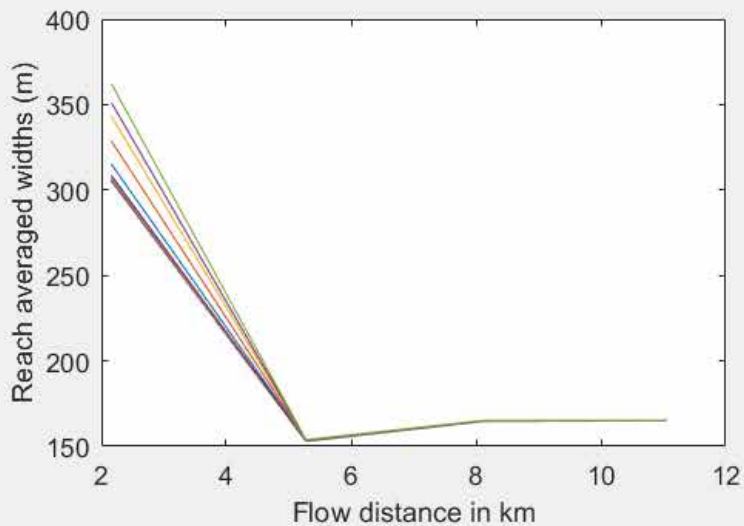
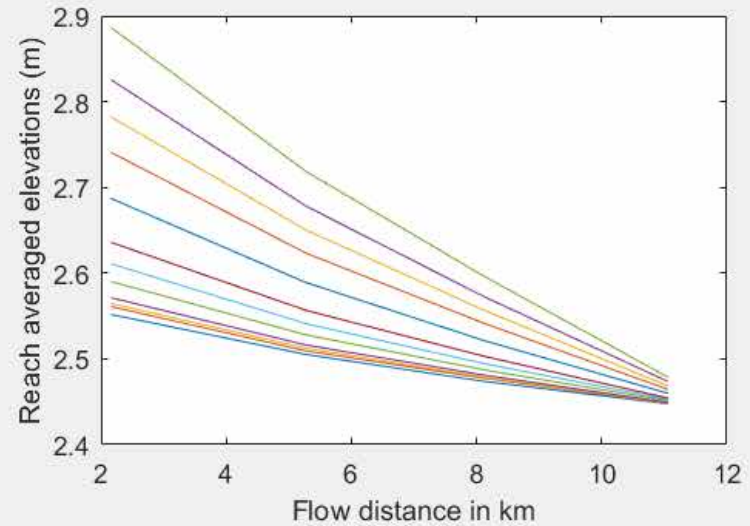
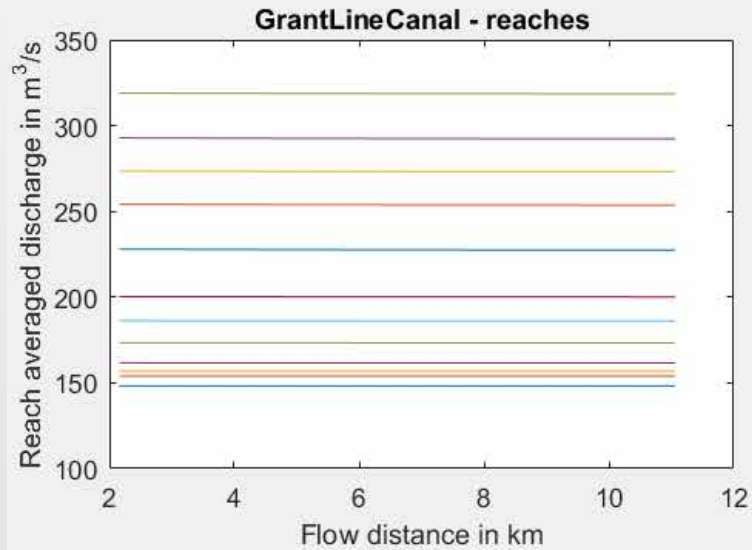
Retrieving WBW discharge

- Missouri, Iowa River, and Ohio were easy, as the cases' locations were known.
- San Joaquin's general location was known, but not the extent.
- GBM models had an aerial image, so eyeballing in google earth to identify coordinates.

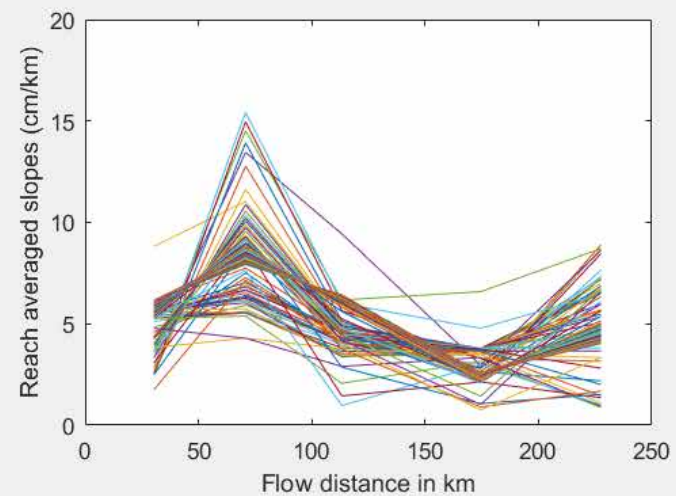
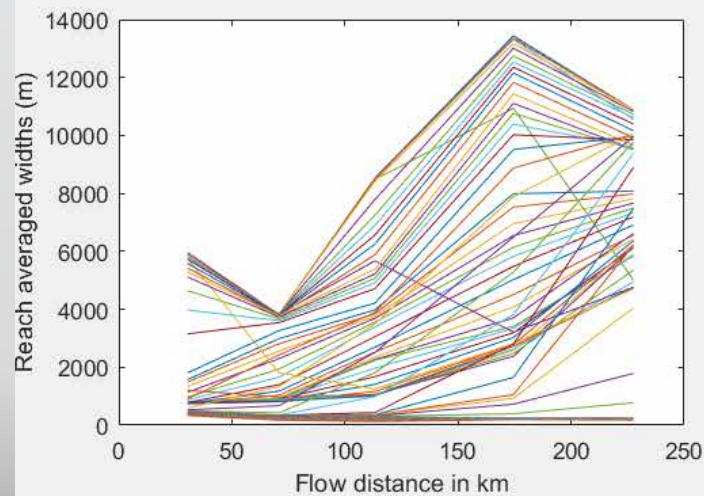
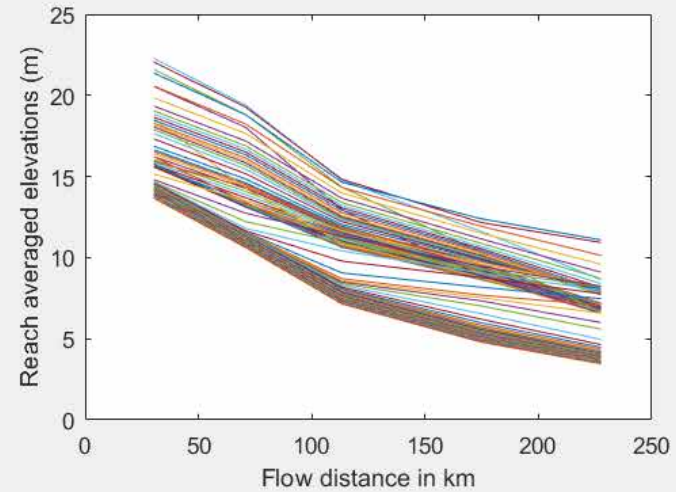
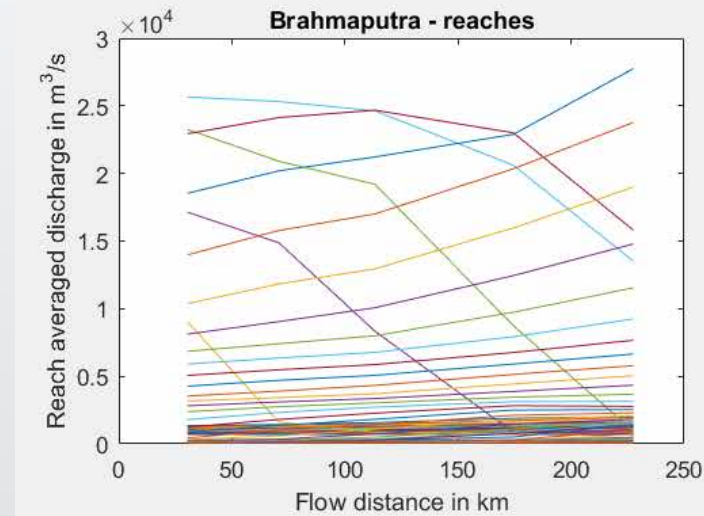
Reach definition

- Reaches were defined by:
 - Identifying breaks in water surface slope
 - Location of small dams.
- Provided that:
 - Reaches contained 10 or more cross-sections
- Small reaches around the dams were not included in the list of good reaches

How challenging are the cases



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Thank you for your attention

Questions?