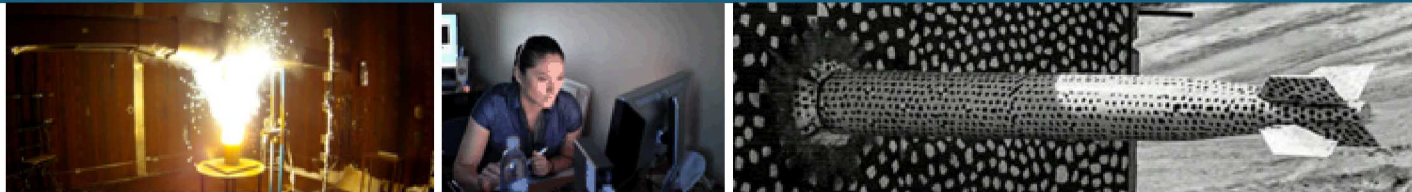




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Automating multi-scale connections for global climate and hydrology models to local water policy models



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Automating multi-scale connections for global climate and hydrology models to local water policy models

- GOAL: Automatic connection between Global Circulation Models (GCM's) and local hydrology/policy
- Variable Infiltration Capacity (VIC) model -- runoff, baseflow, evapotranspiration
- Routing VIC (RVIC) model**
 - Global Dominant River Tracing (DRT) hydrography dataset

River Basin scale

Depletions: Local evaporation, evapotranspiration, and adjustments to daily max/min temperature

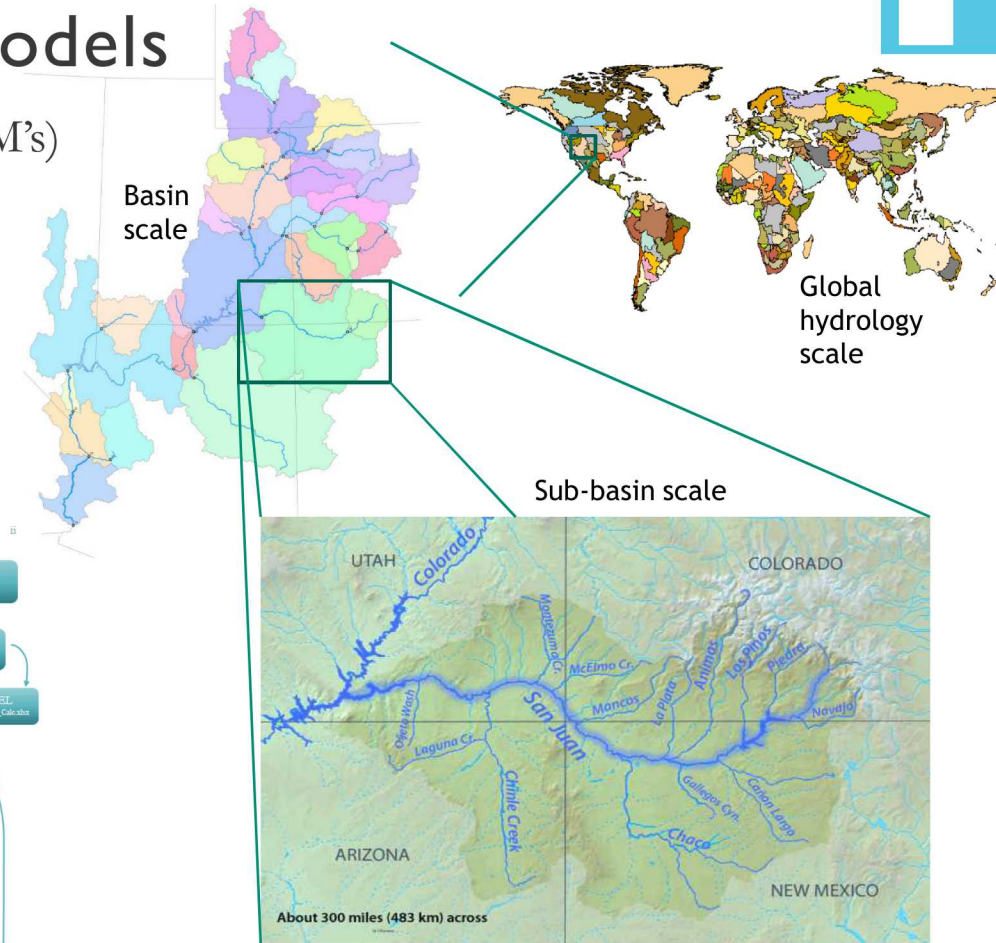
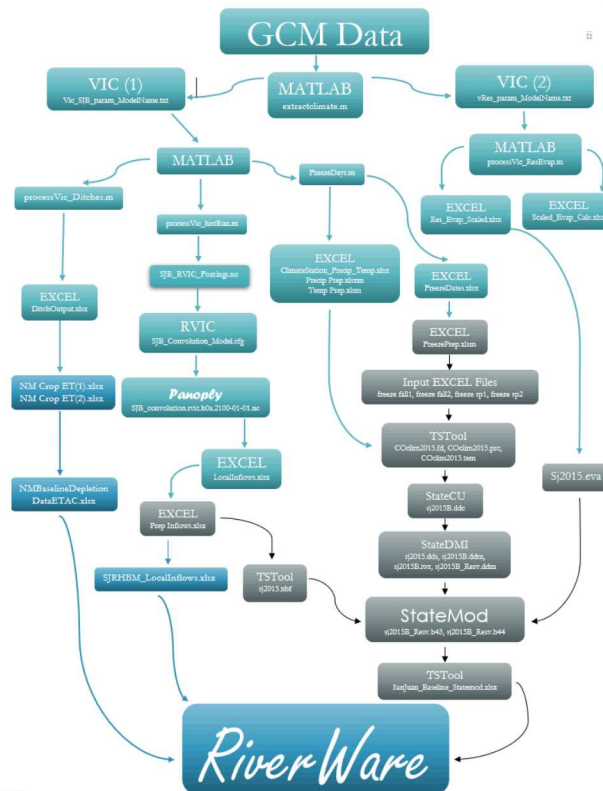
Reservoir surface evaporation

Runoff due to snow-pack

Reservoir operations rulesets

Inter-scale comparisons

Daily San Juan vs. Monthly Colorado River
Global vs. River basin scale



- Gaps:
- Continuous scaling
 - Global datasets adjusted by intuition
 - Globalized gridded demand “structure”
 - River-basin to sub-basin dynamic links for rulesets across scales

Online data sources

Python

Analysis results for several scales

142 step manual process