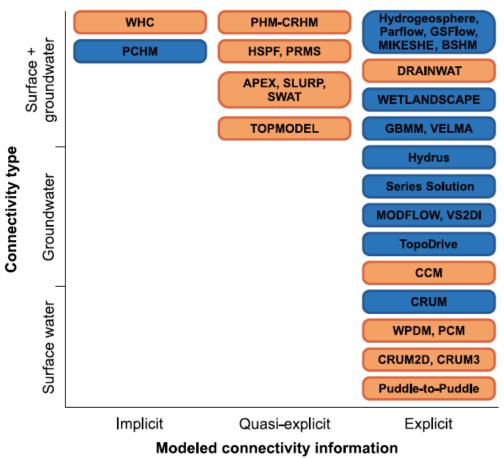**HE Golden et al. Supporting Information**

WebFigure 1. Modeled data can provide varying degrees of GIW conncectivity information for different connectivity flowpath types. Information provided by models can range in spatial detail from implicit (eg spatially lumped model; no connectivity represented; assumed similar at watershed scale) to fully explicit (fully distributed model; each GIW's connectivity flowpath is measured or modeled individually). Examples of connectvity information derived from hydrologic models are included here (acronyms and information detatiled in WebTable 3).