WebTable 2. Inventory of measurements for quantifying GIW connectivity or its downstream effects. The table is organized by watershed properties. This table is not intended to be comprehensive but to provide examples of appropriate and relevant measurements. Wetland parameterization means that model parameters or equations are specific to wetlands (eg wetland water depths).

Watershed property	*Available measurement technologies for watershed property*	*Associated connectivity properties*
Climate	Climate databases or maps (in-situ and remotely sensed) In-situ long-term meteorological station data	Spatial extent Magnitude Timing Duration Frequency Rate of change
Elevation	Photogrammetry Interferometric synthetic aperture radar (SAR) Light and Detection Ranging (LiDAR)	Spatial extent
Land use/land cover	Remote-sensing images (eg aerial photographs, multispectral, hyperspectral, RADAR)	Spatial extent
Soil/surficial geology	Soil databases or maps (in-situ and remotely sensed) In-situ soil cores	Spatial extent
Soil saturation	Soil databases or maps (in-situ and remotely sensed) In-situ soil moisture monitoring (eg time-domain reflectometry probes, frequency-domain reflectometry probes)	Spatial extent Magnitude Timing

Watershed property	*Available measurement technologies for watershed property*	*Associated connectivity properties*
	Remote-sensing images (eg RADAR)	Duration Frequency Rate of change
Surface water inundation	Remote-sensing images (eg SPOT, LANDSAT, etc)	Spatial extent Magnitude
	In-situ monitoring of wetland stage (eg stilling wells equipped with pressure transducers or capacitance probes) and connections with other surface waters	Timing Duration Frequency Rate of change
Groundwater	In-situ water table monitoring (eg shallow and deep wells equipped with pressure transducers or capacitance probes)	Spatial extent Magnitude Timing
	Remote-sensing images (eg elevation data interpreted as surface expression of the groundwater table)	Duration Frequency Rate of change
Stream discharge	In-situ stream gauging (continuous stage data only)	Magnitude Duration

Watershed property	*Available measurement technologies for watershed property*	*Associated connectivity properties*
	In-situ stream gauging (continuous stage and flow velocity data) Remotely sensed inundation map	Timing Frequency Flow partitioning Rate of change
Connectivity type, ie surface versus groundwater (shallow, deep)	In-situ geochemical tracer data (eg chloride concentrations, specific conductance) In-situ isotopic tracer data (eg stable water isotopes) In-situ monitoring of wetland stage (eg stilling wells equipped with pressure transducers or capacitance probes) Flow modeling using digital elevation models	Magnitude Duration Timing Frequency Rate of change Flow partitioning