

Updates on the Lake O'Hara Alpine Hydrology Study

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✕ O'Hara AWS

Lake O'Hara

✕ Opabin AWS

Legend

- Rain gauges
- ▲ Temperature/RH sensors
- Stream gauging sites



0 600 Meters

Opabin Glacier

**Elevation
Value**



North America

Alaska

Canada

United States

Mexico



WC2N

glacier energy balance



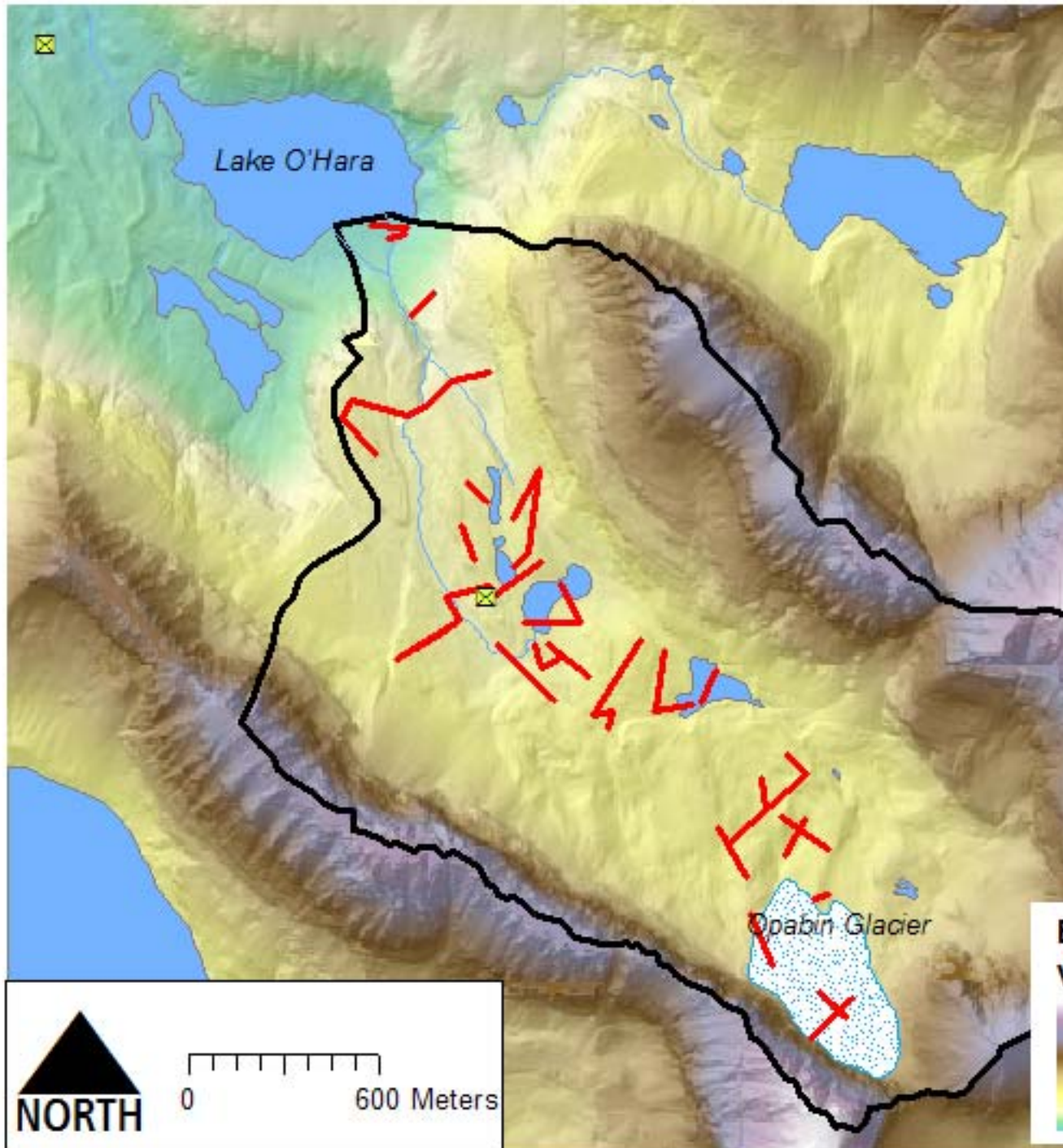
**Shawn Marshall
Mira Losic**

IP3

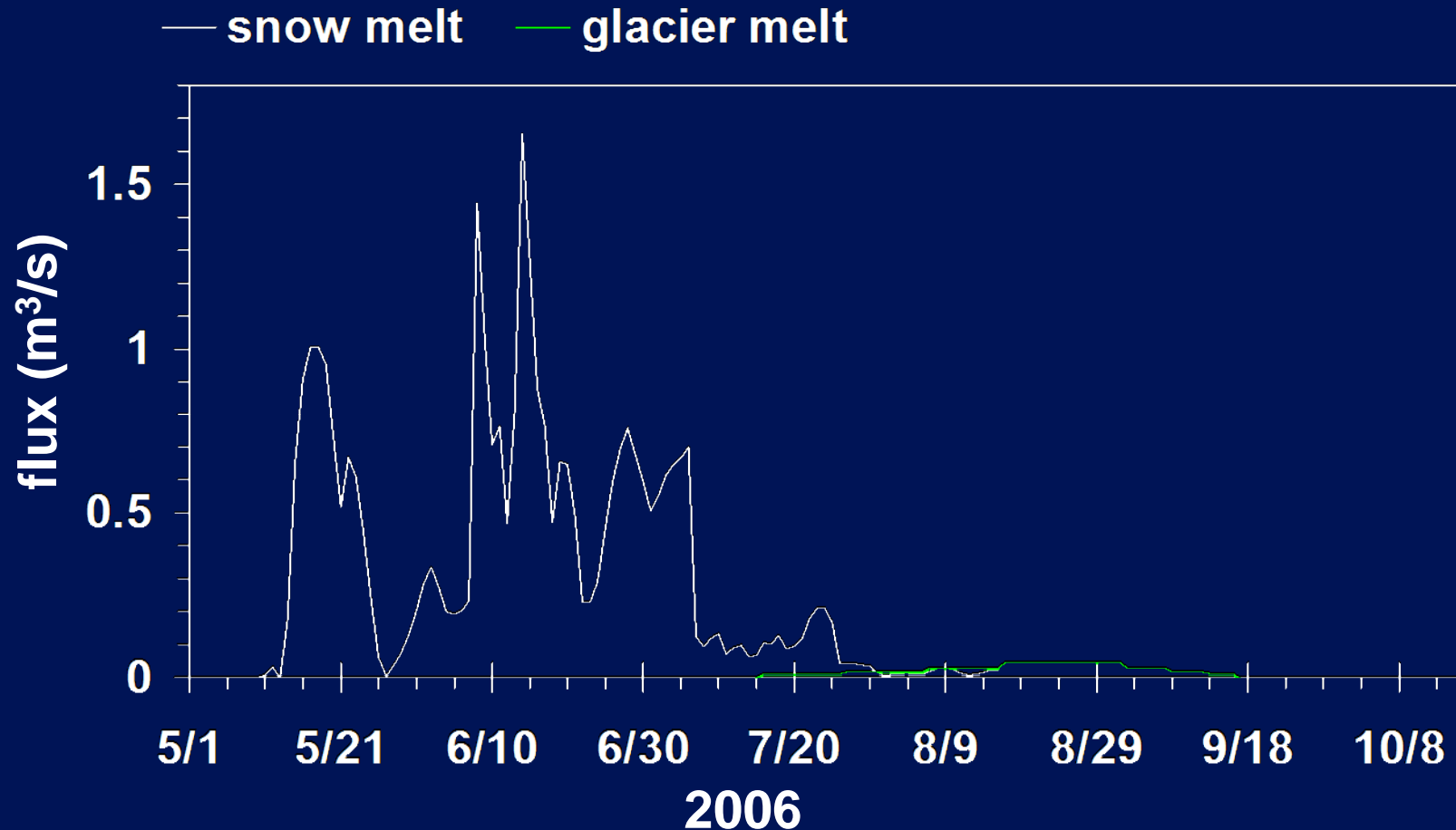
hydrological routing



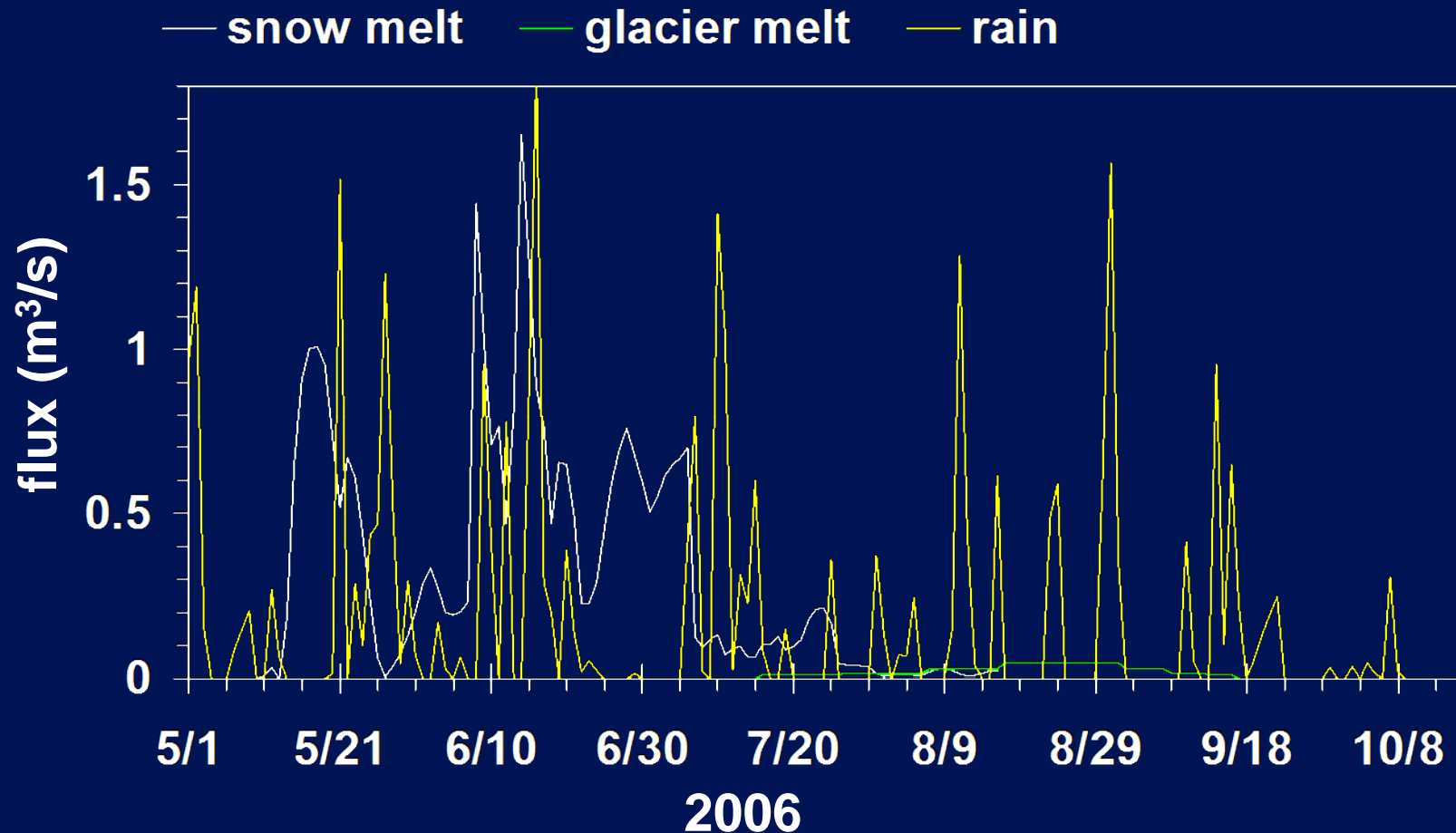
**Linking processes
Parameterization
Prediction in Alpine
Headwater Basin**



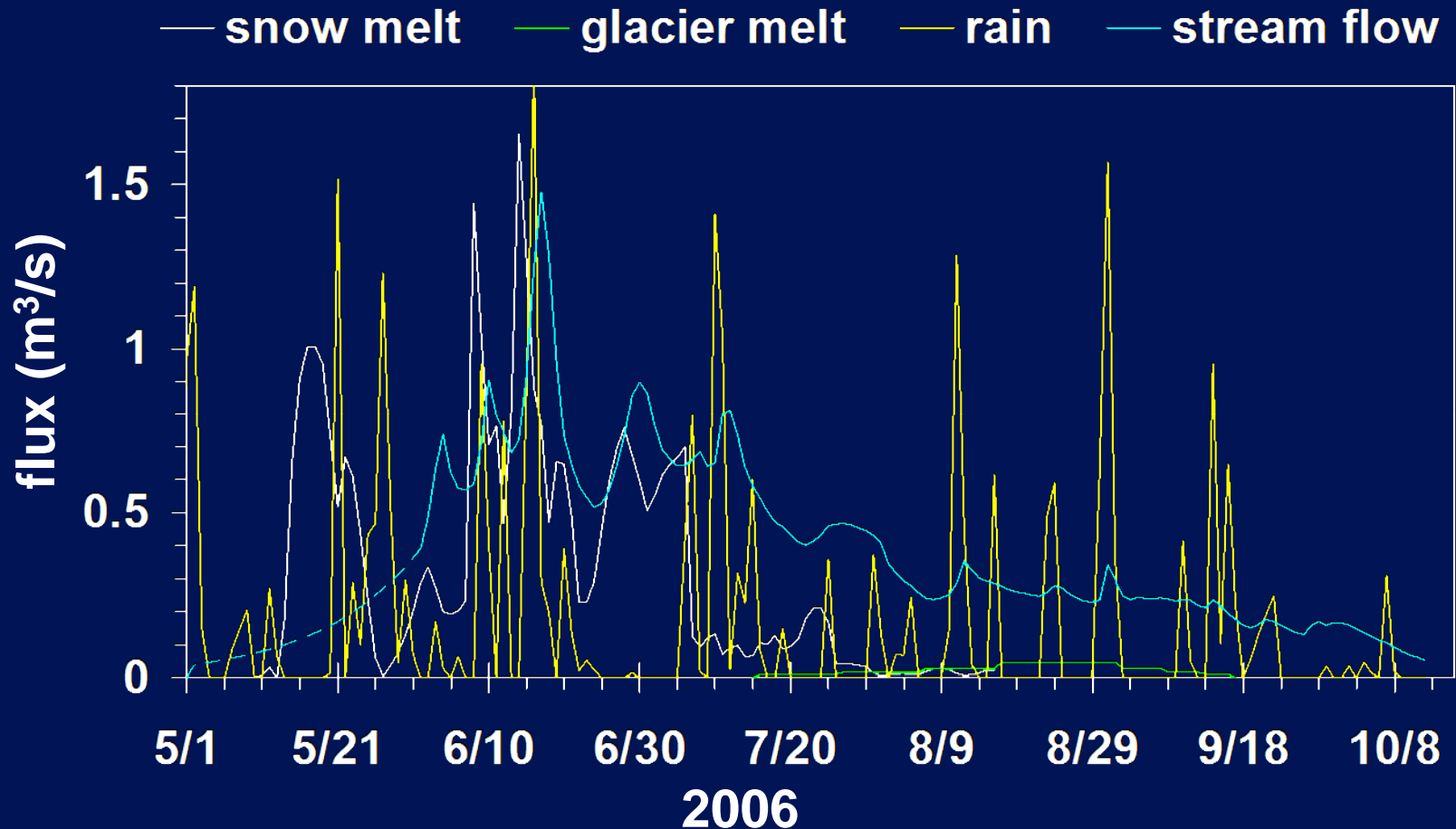
Water Input to the Opabin Watershed



Water Input to the Opabin Watershed



Water Inputs and Output



Opabin Creek in June 2005



Source of Opabin Creek Groundwater Outlet





**Opabin
Lake**

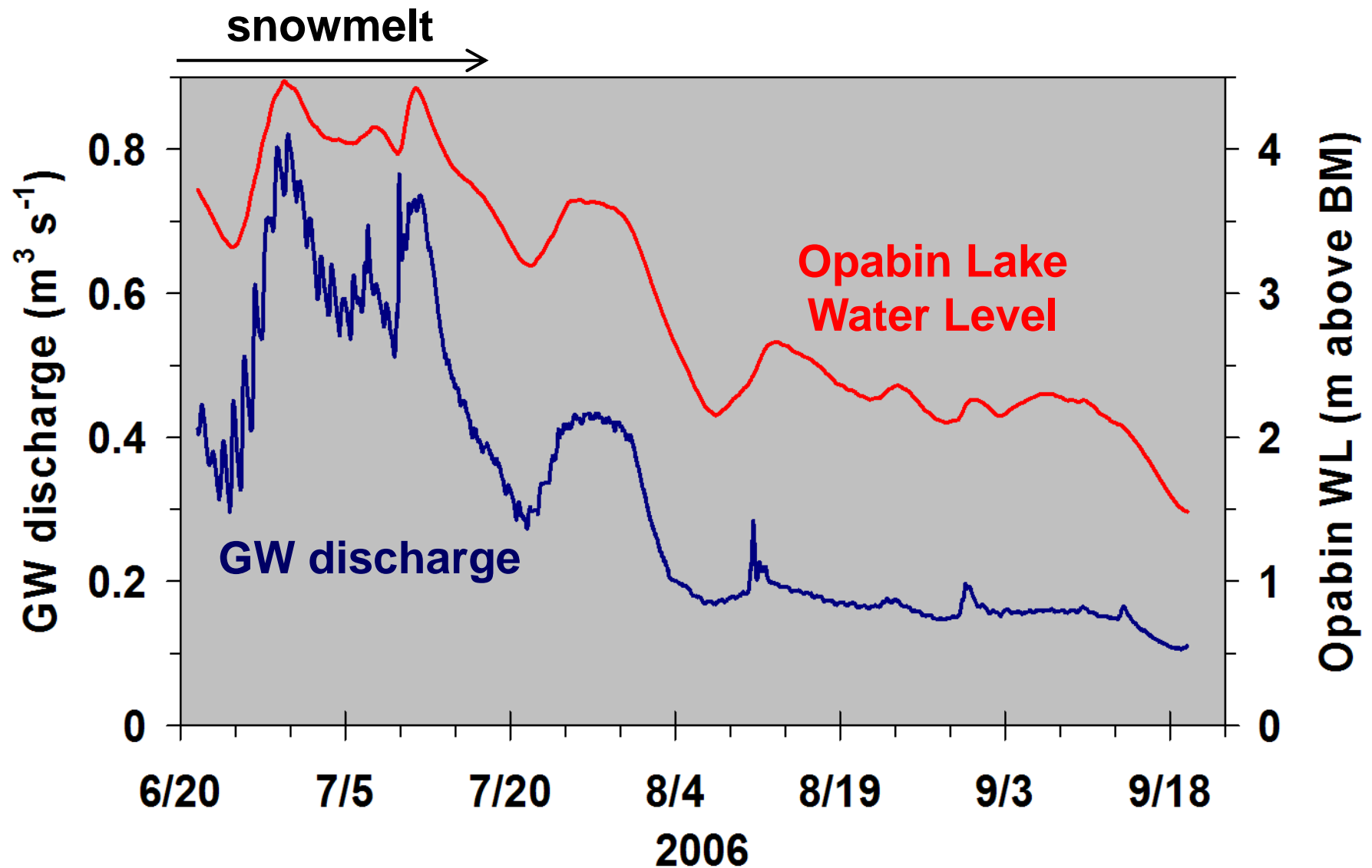


**Opabin
Glacier**



GW outlet

Groundwater Discharge Rate and Opabin Lake Water Level



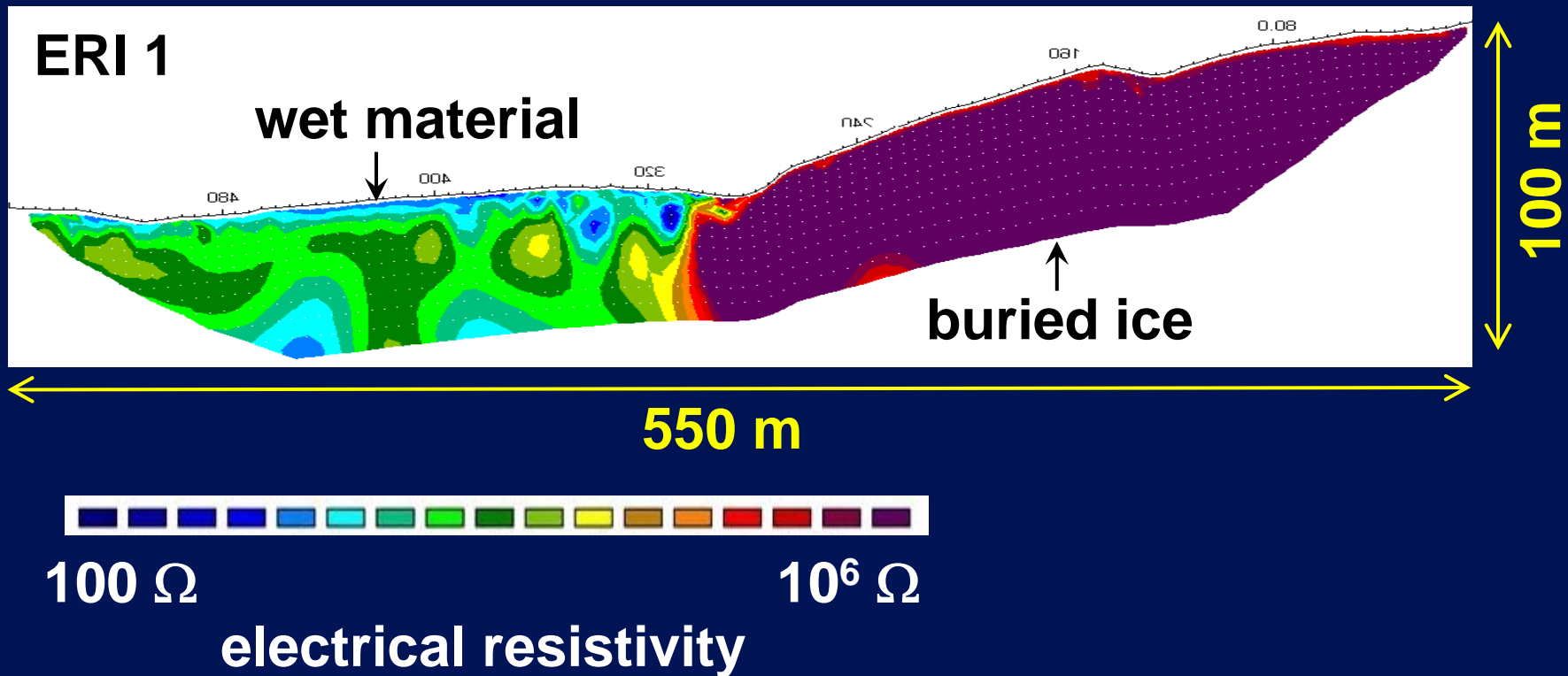
Electrical Resistivity Imaging (ERI)





ERI 1

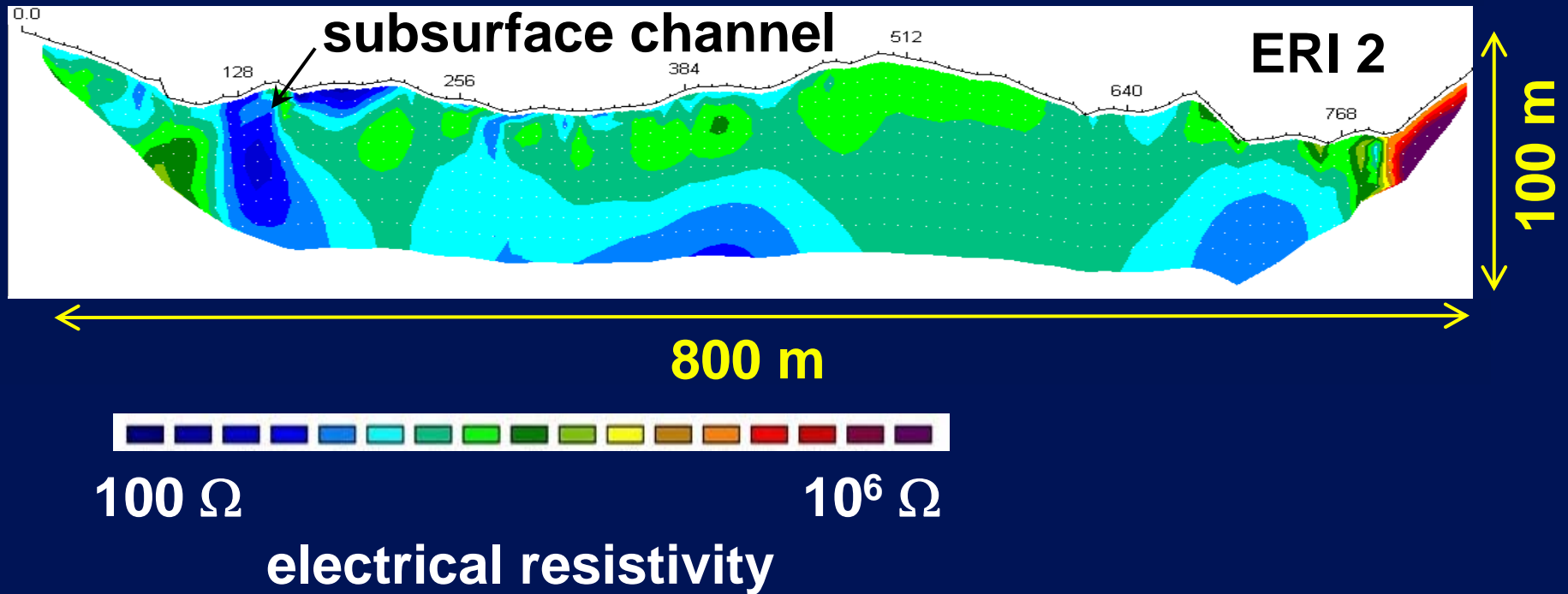
Preliminary Results: ERI 1



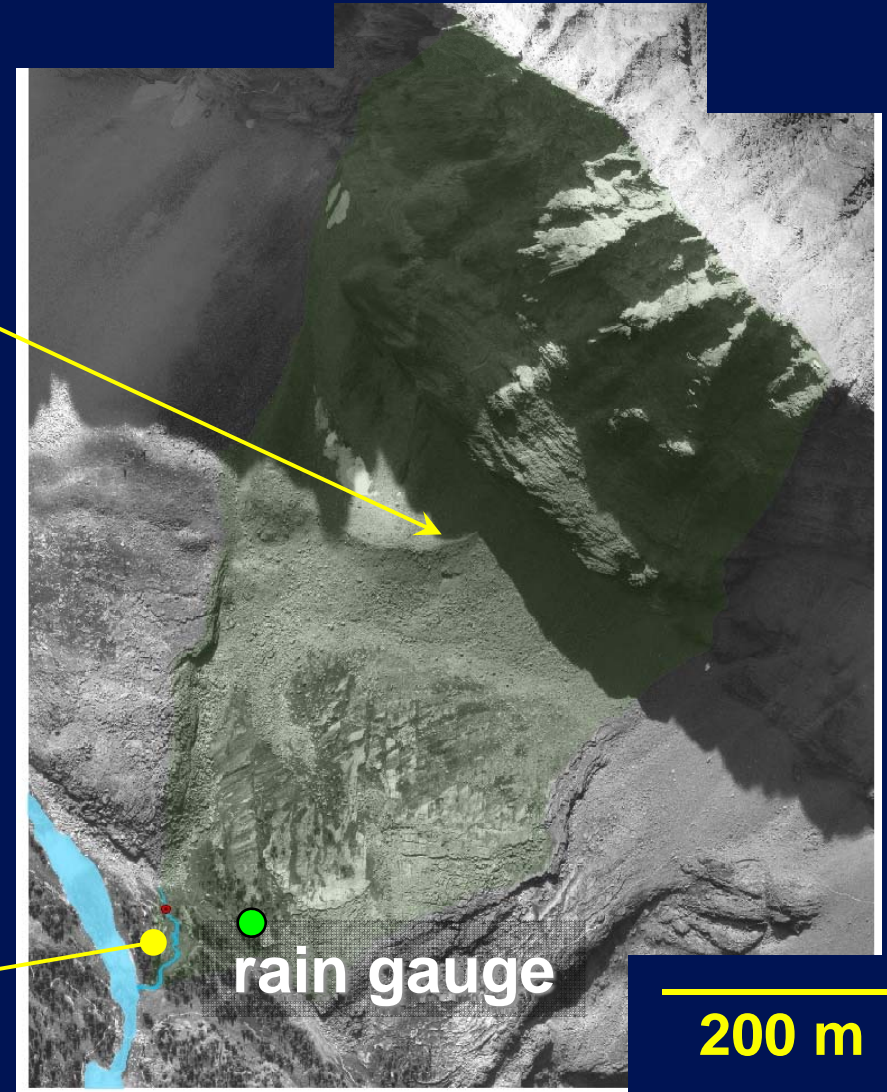


ERI 2

Preliminary Results: ERI 2

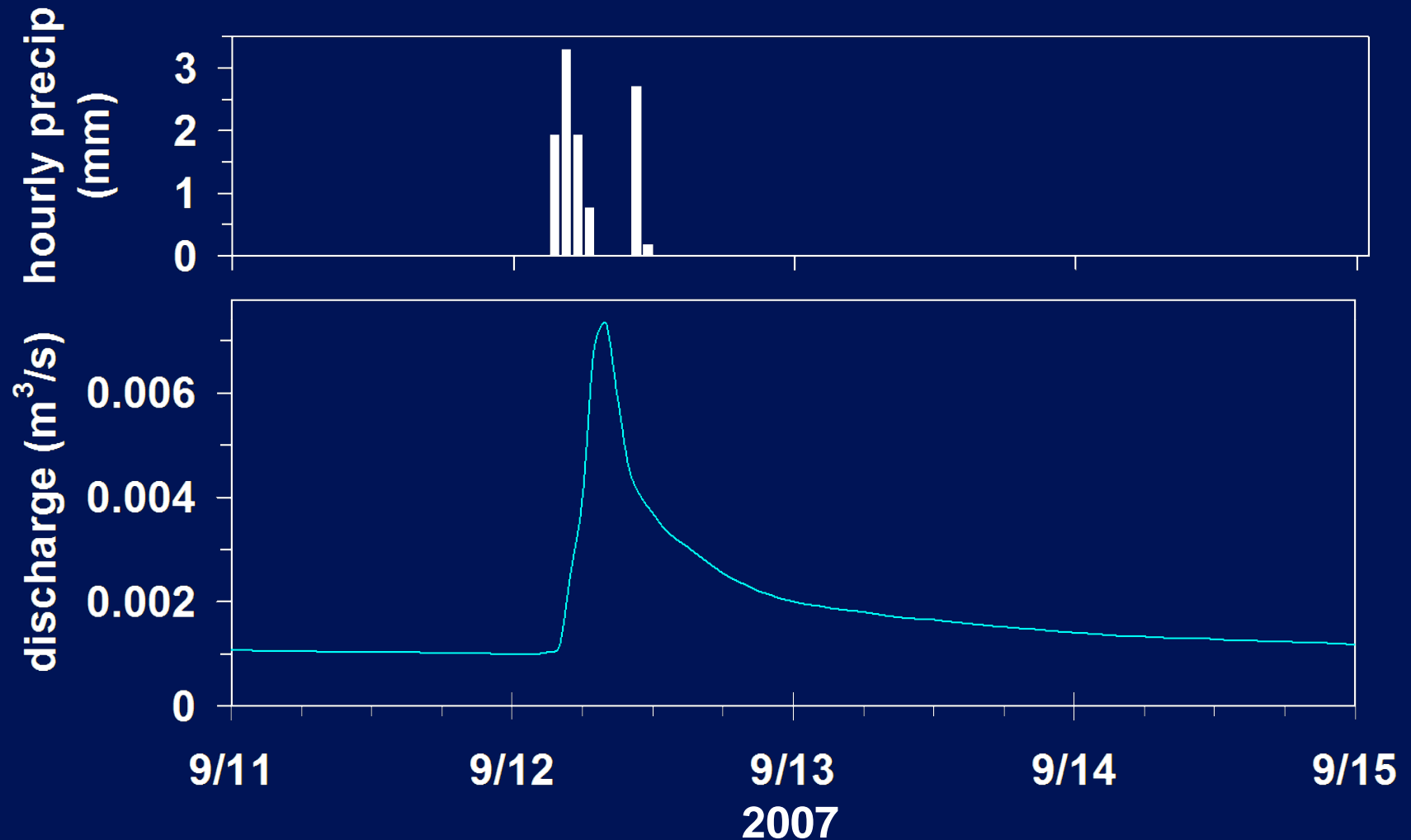


Talus Slope is a Dominant HRU



Babylon Creek

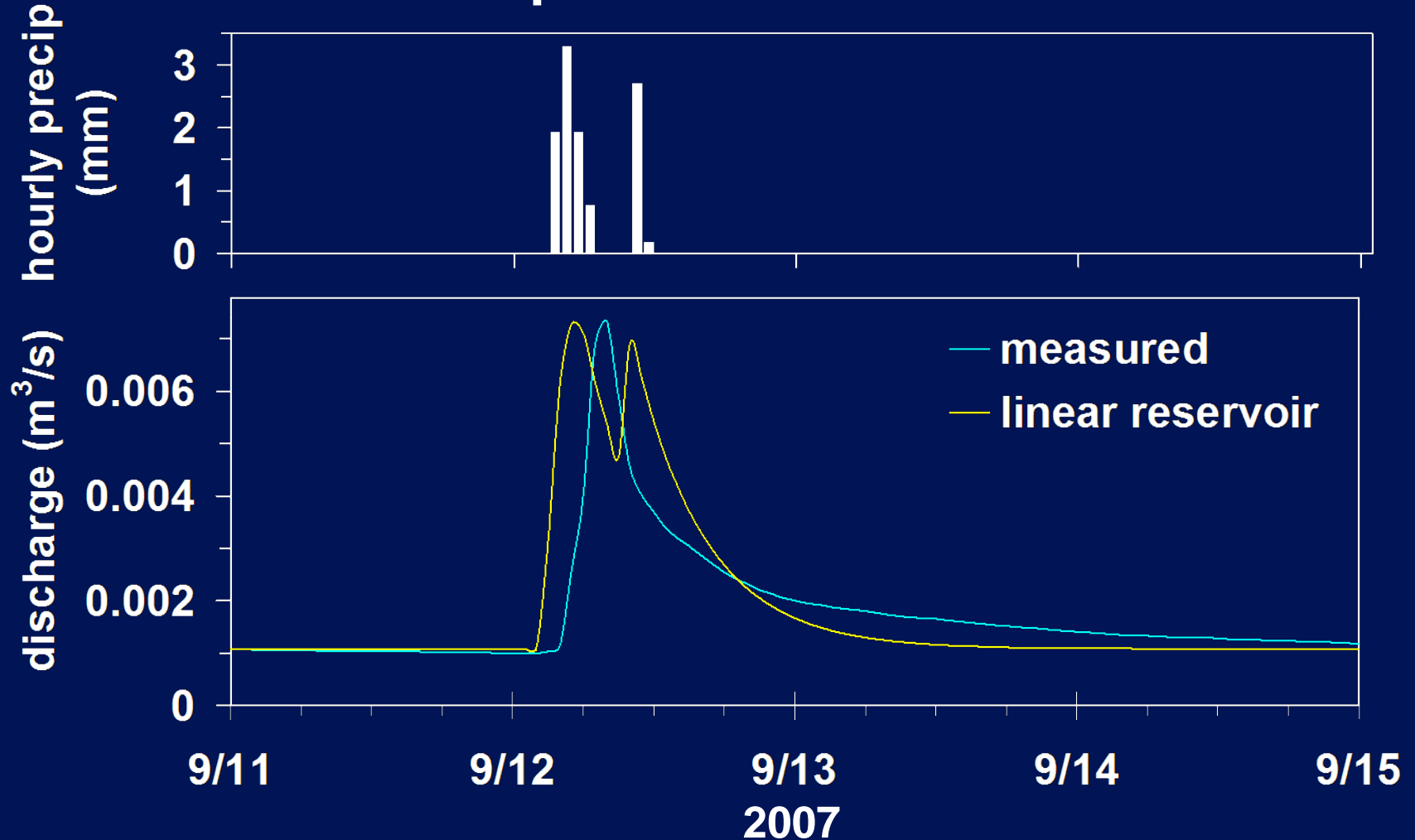
Babylon Creek Storm Hydrograph



Babylon Creek Linear Reservoir Model

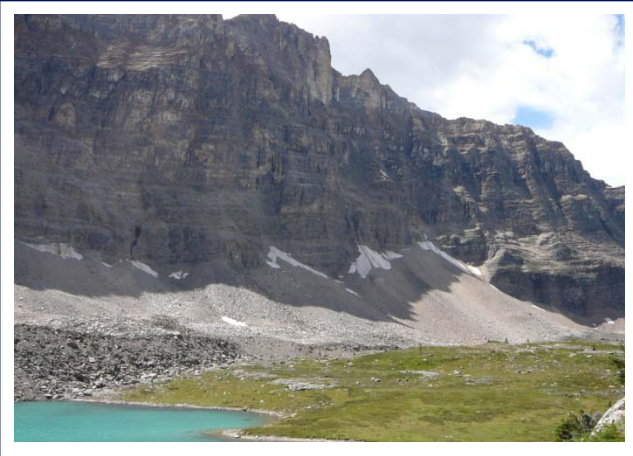
Runoff ratio = 0.08

Response time = 6 hr



From Processes to Parameterization

Field observation

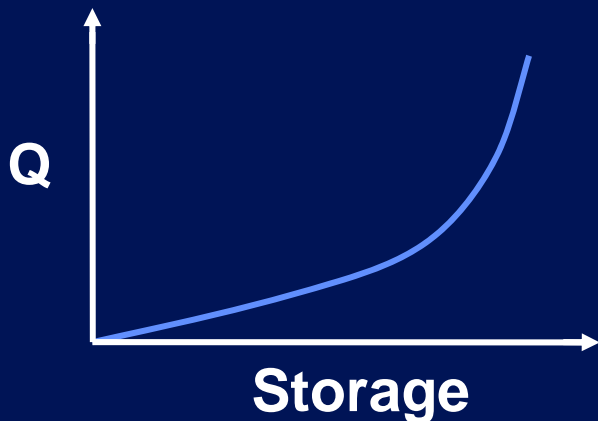


physically-based
model (e.g. FEM)

“virtual” slope

Q

grid-scale function



simulation and
sensitivity analysis

Acknowledgements

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