

Questions from Working Group 4

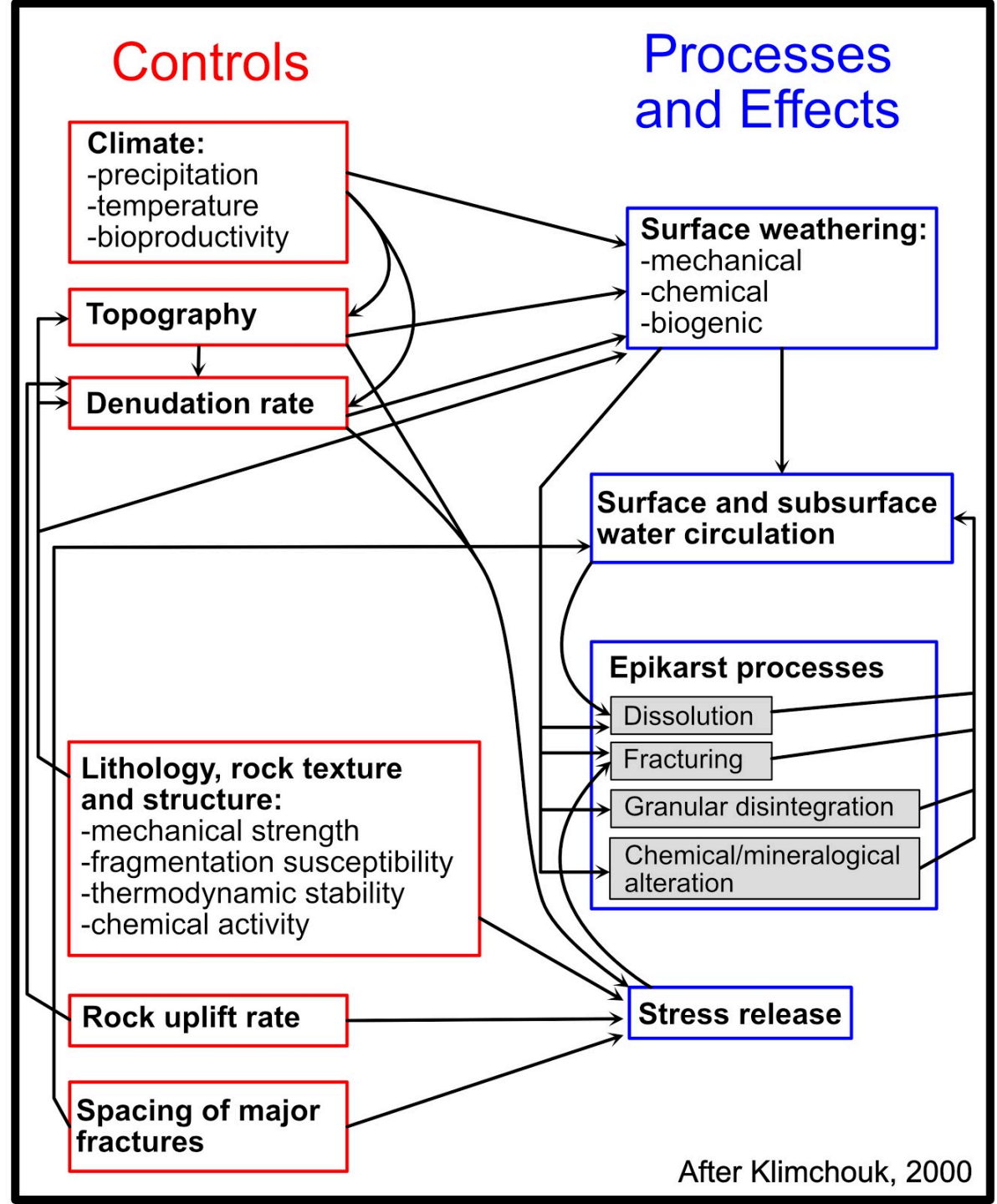
Architecture (Architecture, hydrology, weathering)

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Teresa Baraza	Saint Louis University
Daniel Doctor	US Geological Survey
Lee Florea	Indiana Geological and Water Survey
Jacob Gochenour	New Mexico Tech
Gregory Mount	Indiana University of Pennsylvania
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Michael Sukop	Florida International University
Pamela Sullivan	Oregon State University
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Working Group 4

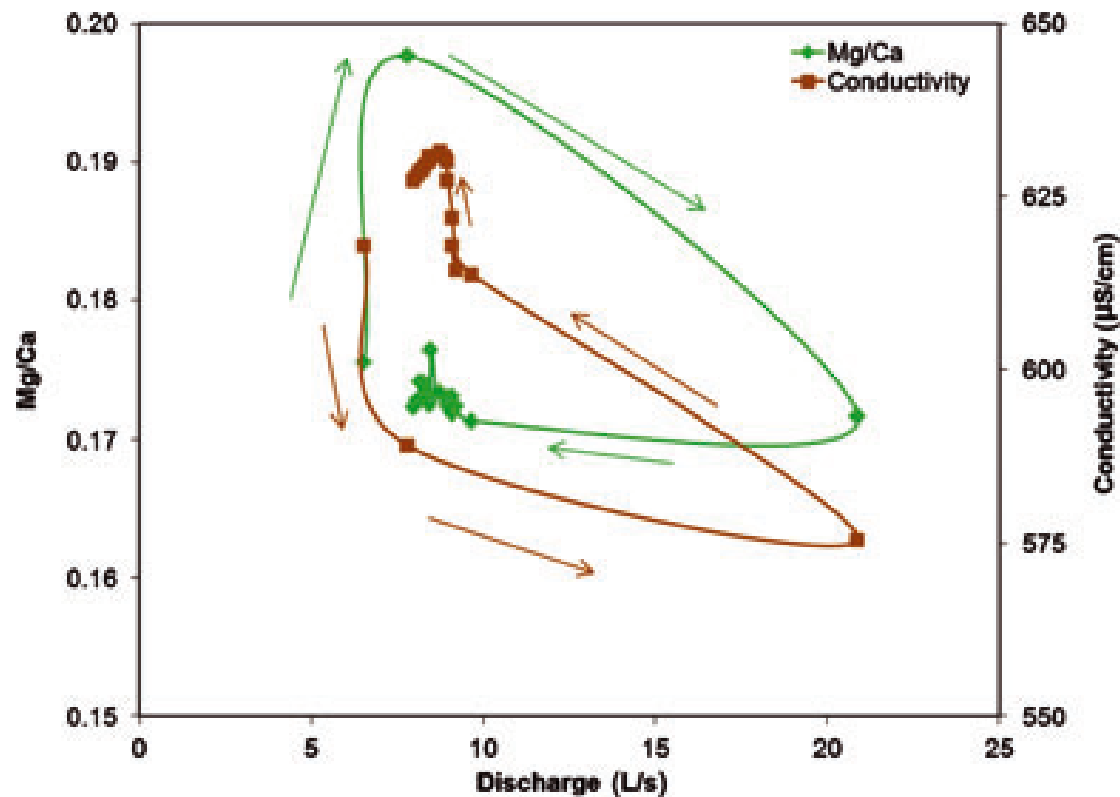
Question 1

- What are the fundamental controls (e.g., fracturing, grain size, primary porosity, insoluble content, age of rock) on karst development? How does geology (water-rock interactions, diagenesis, lithology (carbonate-silicate gradient), orogenic events, relief, acids) impact the architecture that develops in the subsurface?

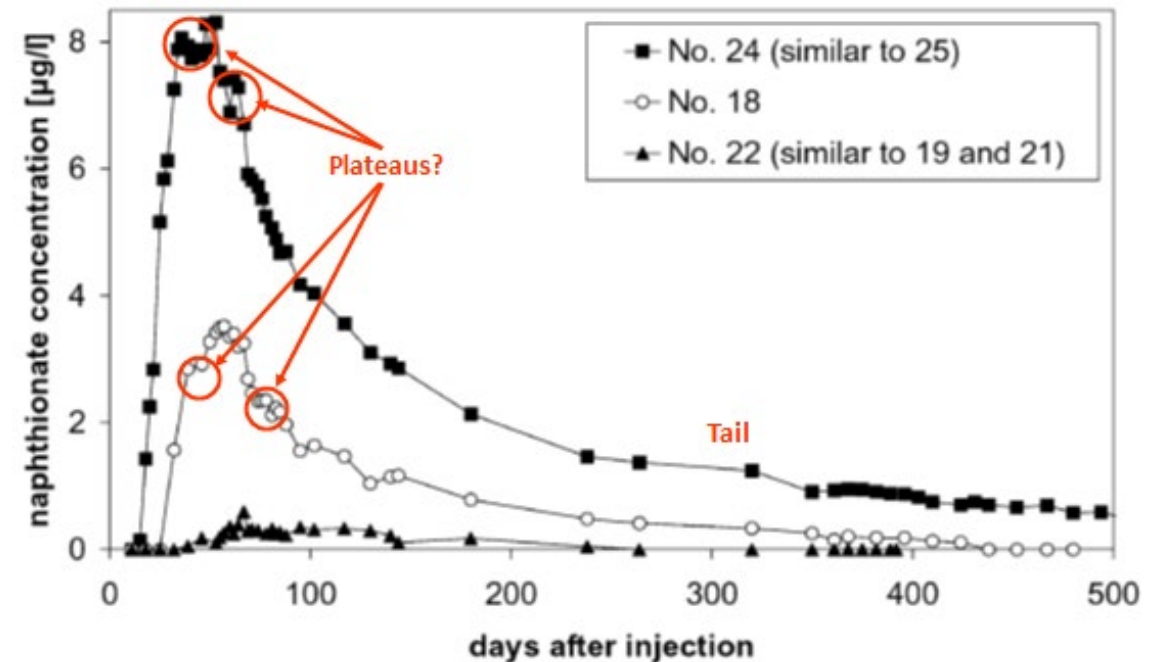


Working Group 4 Question 2

- What are new ways that tracers and solute breakthrough curves can be used to constrain subsurface architecture and quantify parameters such as matrix versus conduit flow in carbonate terrain?



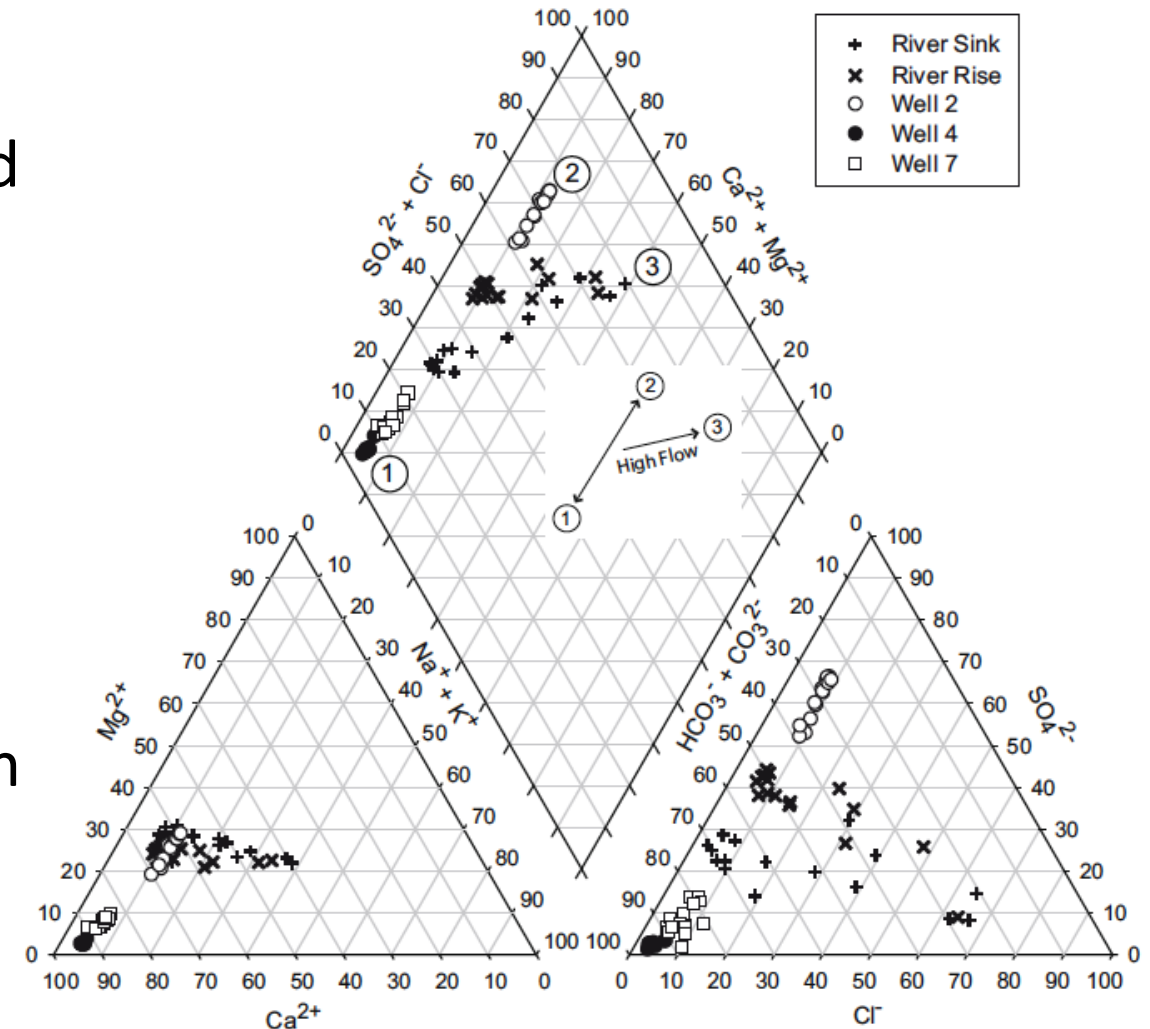
Toran and Reisch 2013



Modified from Goldscheider et al. 2003

Working Group 4 Question 3

- How does partitioning between surface and subsurface flow impact surficial and deep critical zone architecture and water availability? In addition, how can we better couple the disciplines, including but not limited to geomorphology, geochemistry, hydrology, geophysics, mathematical modeling, etc., to evolve our understanding of the deep critical zone and its spatiotemporal relationship with the shallow critical zone?



Working Group 4 Question 4

- How do inputs into the critical zone of water, energy, nutrients, etc., become homogenized in the vadose zone?

