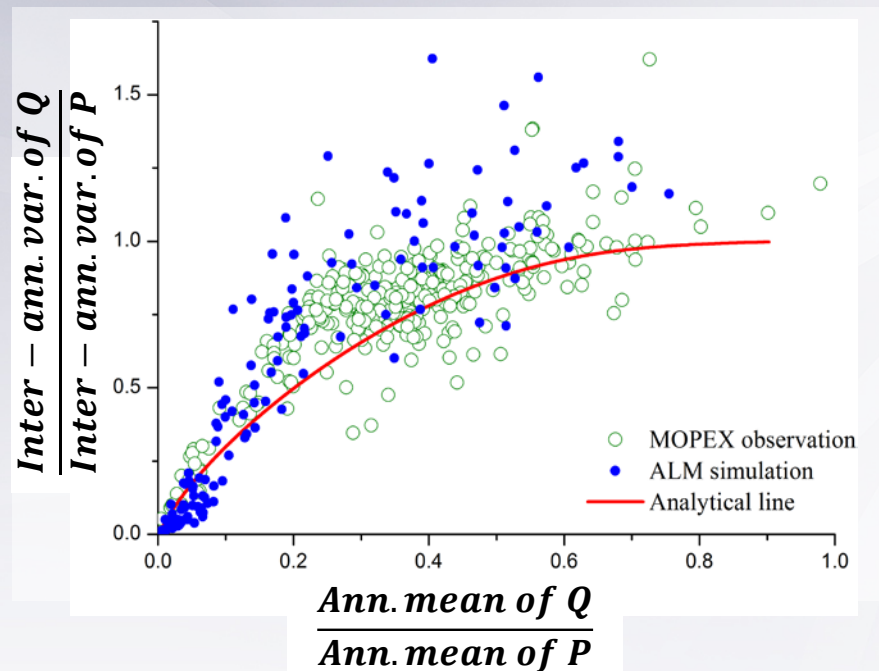


# R: Hydrological Metrics for Earth System Models

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## Emergent patterns from real watersheds

- ❖ Observed runoff data from over 250 natural watersheds in USA
- ❖ Emergent linkages among annual mean, inter- and intra-annual variability of runoff and floods
- ❖ Math. framework suggests underlying interconnections between different hydrological processes



## Questions/implications to Earth System Modeling

- ❖ How can we identify the specific mechanisms behind these linkages?
- ❖ Can Earth system models reproduce these linkages, and the underlying process interconnections?
- ❖ Are these linkages useful metrics for informing model performance, the causes of model biases, or implications in the larger context of Earth system model performance?