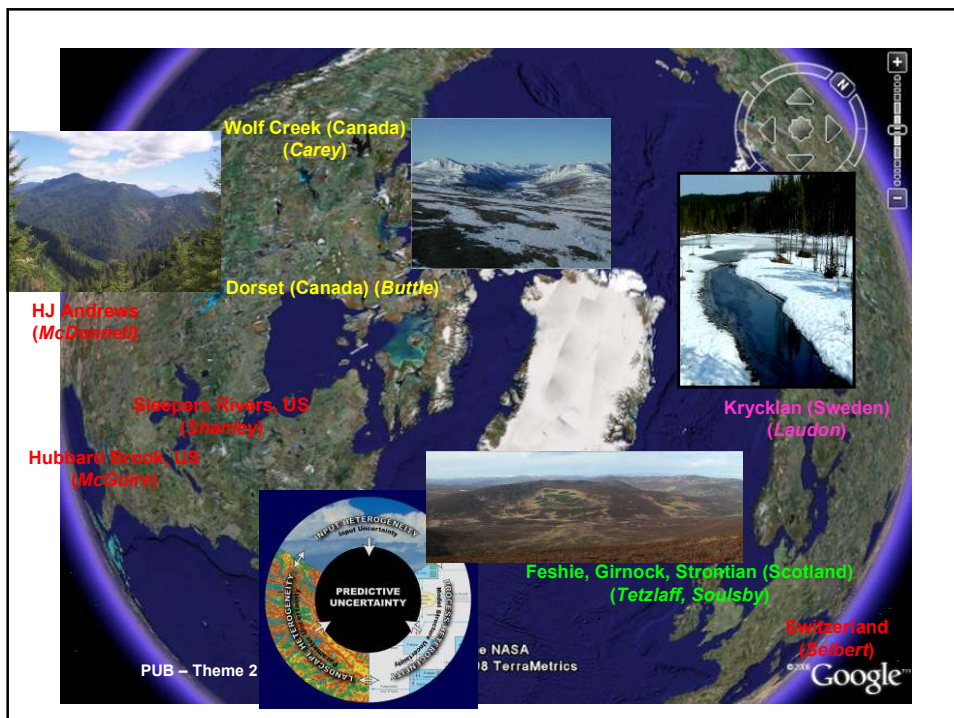


Attempt at summary

Chris Soulsby

NorthWatch

- 1) Spectrum of catchments
 - Climatic regimes
 - Process dominance
 - Rates of change
- 2) NorthWatch Niche
- 3) Approaches to catchment classification
- 4) Unifying themes/fruitful concepts



NorthWatch Niche

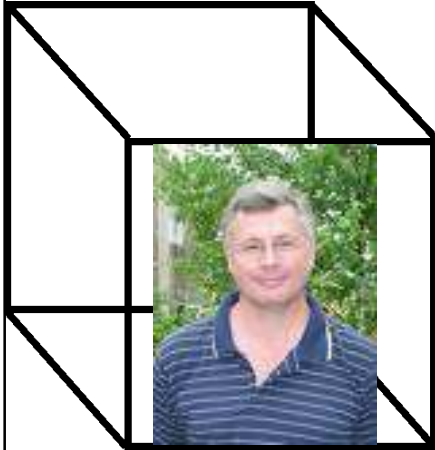
- Process-based knowledge of short and long-term behaviour
- Context of change (warmer and wetter/drier)
- Northern focus, but quest for generalizable physical hydrology
- Interfaces with biogeochemistry and ecology
- Engagement with “climate impacts community” – climate modellers/stakeholders



Approaching catchment classification

- Catchment function (Dunne, Black, Wagener...)
 - Partitioning
 - Storage
 - Release
- Behavioural traits
 - Energy and mass transfers
 - Flow indices
 - MRT.....etc

“Jimcube” and “Pomangle”

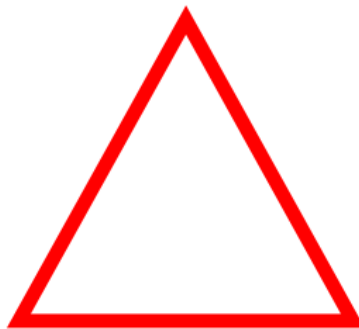


Basis for classification

CLIMATE

“Cold” -
Energy
inputs

“P-ET”
Water
availability



CATCHMENT

Storage
Potential/element

Appropriate scales

Storage – discharge relationships

- Characterisation of curve
- Direction of hysteresis

Spatial scales -

- Size of any hysteresis loop
- Hydrological response units
- Micro-catchments
- Experimental catchments
- Mesoscale catchments

Temporal scales

- Individual events
- Annual events – e.g. spring snowmelt
- Seasonality
- Interannual variability
- Longer term trends

Unifying themes & concepts

- Storage elements
- Connectivity
- Thresholds
- Synchronicity
- Detecting change
- Sensitivity
 - Resistance
 - Resilience
- Memory

Some other things

- Scaling
- Emergence
- Meaningful indices to describe hydroclimate