Selection of 20 Research Catchments

**Ergolz**
- Surface: 261 km²
- Mean elevation: 910 m (a.s.l.)
- Alluvium, Marl, Limestone
- Forest, pastures, arable land
- Isotope data:
  - 1 Hydrometric station: bi-weekly, started in July 2010
  - Precipitation: NAQUA

**Emme**
- Surface: 117 km²
- Mean elevation: 1189 m (a.s.l.)
- Tertiary Molasse, Alluvium, Flysch
- Forest, pastures, bare rock
- Isotope data:
  - 2 Hydrometric stations: bi-weekly, started in June 2010
  - Observation well: regularly, started in October 2010
  - Precipitation: NAQUA and 2 local gauges (bi-weekly)

**Alp**
- Surface: 46.6 km²
- Mean elevation: 1156 m (a.s.l.)
- Tertiary Molasse, Flysch, Limestone
- Forest, pastures, bare rock, arable land
- Isotope data:
  - 2 Hydrometric stations: bi-weekly, started in June 2010
  - Observation well: monthly, started in February/March 2011
  - Precipitation: NAQUA and local gauge (bi-weekly)

**Murg**
- Surface: 7 km²
- Mean elevation: 956 m (a.s.l.)
- 53.6% pastures, 20.5% forest
- Tertiary Molasse, Marine, fluvioglacial deposits
- Isotope data:
  - 1 Hydrometric station: bi-weekly, started in July 2010
  - Observation wells: monthly, started in February 2011
  - Precipitation: NAQUA

**Objectives**

**Problem:** During times of critical low flow, streamflow is fed by groundwater discharge to the stream.

**Main objectives of workpackage 3**
- to improve the understanding and modeling of groundwater discharge and hence baseflow
- to characterize the vulnerability of a variety of different catchments to drought

**Stable isotope signal in precipitation**

**Stable isotope signal in streamflow**

**Surface and groundwater model**

**Groundwater model**

**Spatial-temporal explicit simulation of isotope signals**

**Conceptionally lumped simulation (transfer function) of isotope signals**