

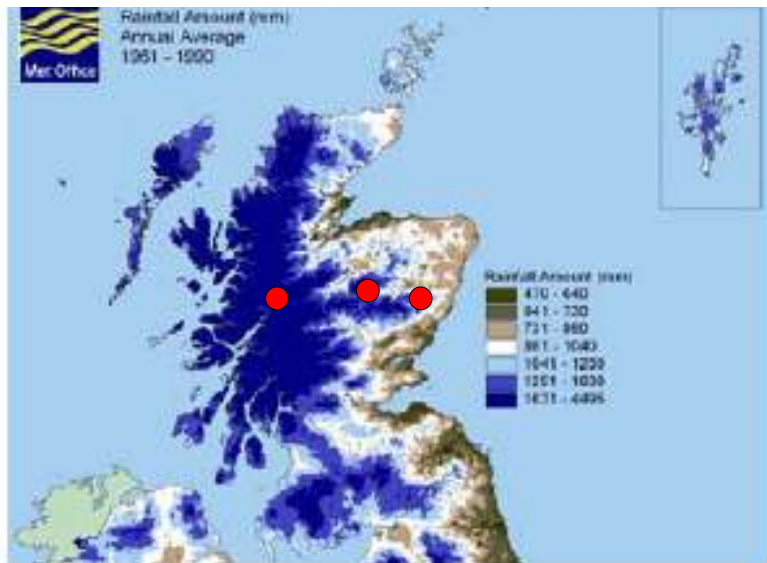
Northwatch sites - Scotland

Chris Soulsby



Northern Rivers Institute: <http://www.abdn.ac.uk/nri/>

Precipitation



Strontian (1.4 & 7km²)



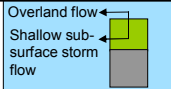
Allt a' Mharcaidh (10km²)



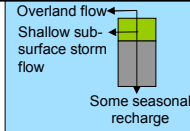
Girnock (30km²)



Responsive soils



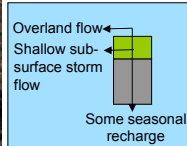
Peats



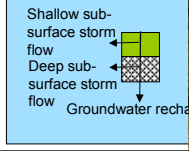
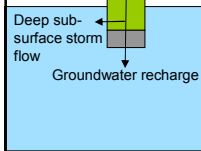
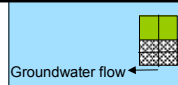
Regosols



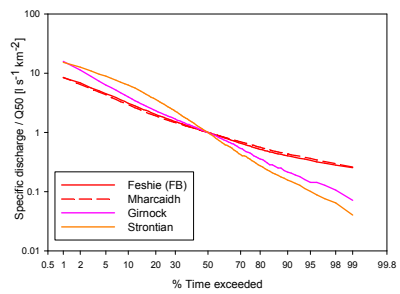
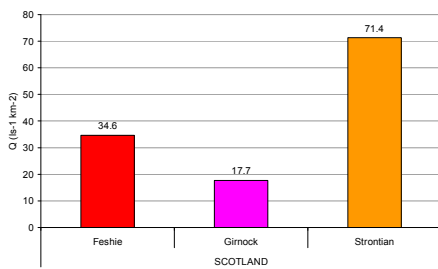
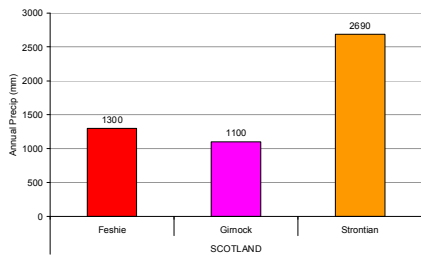
Bedrock



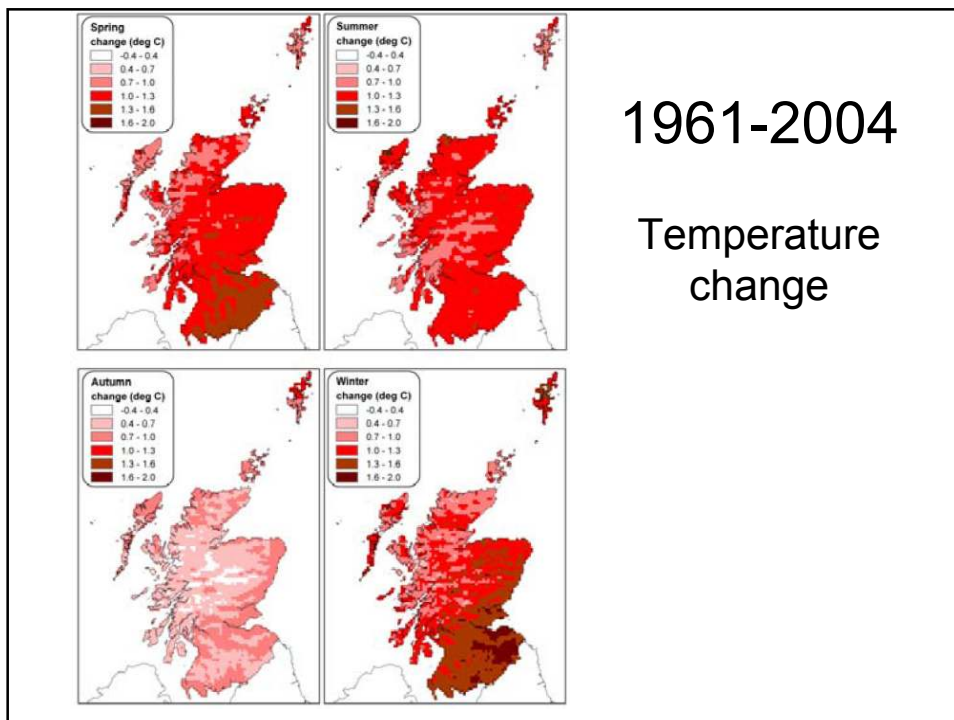
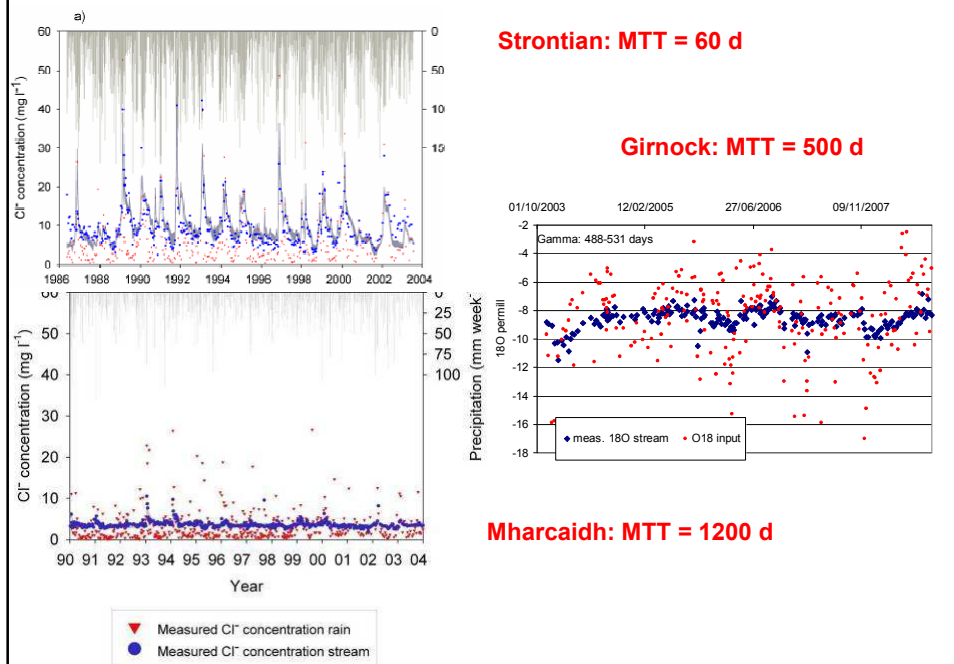
Recharge (free-draining) soils



Catchment characteristics

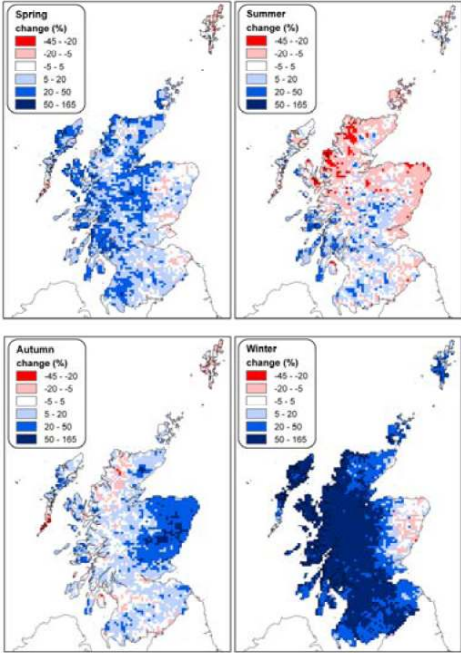


Tracers and hydrological response



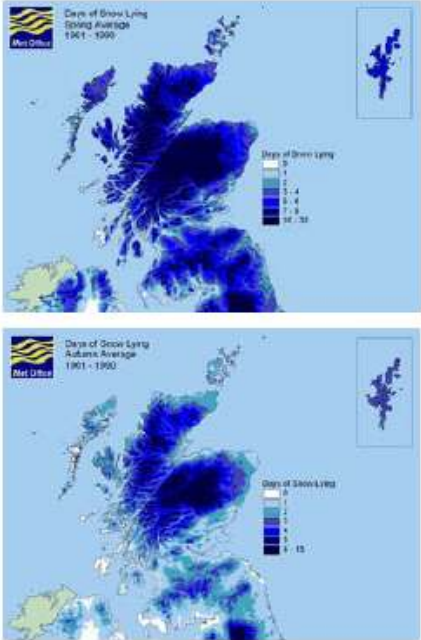
1961-2004

Precipitation change

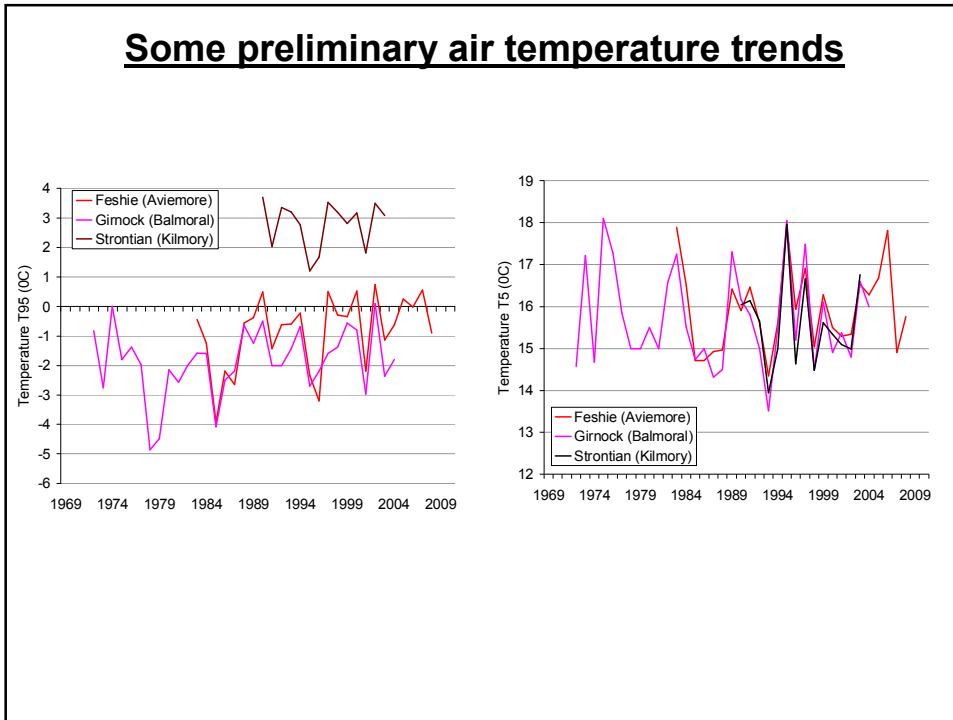


- 1961-1990

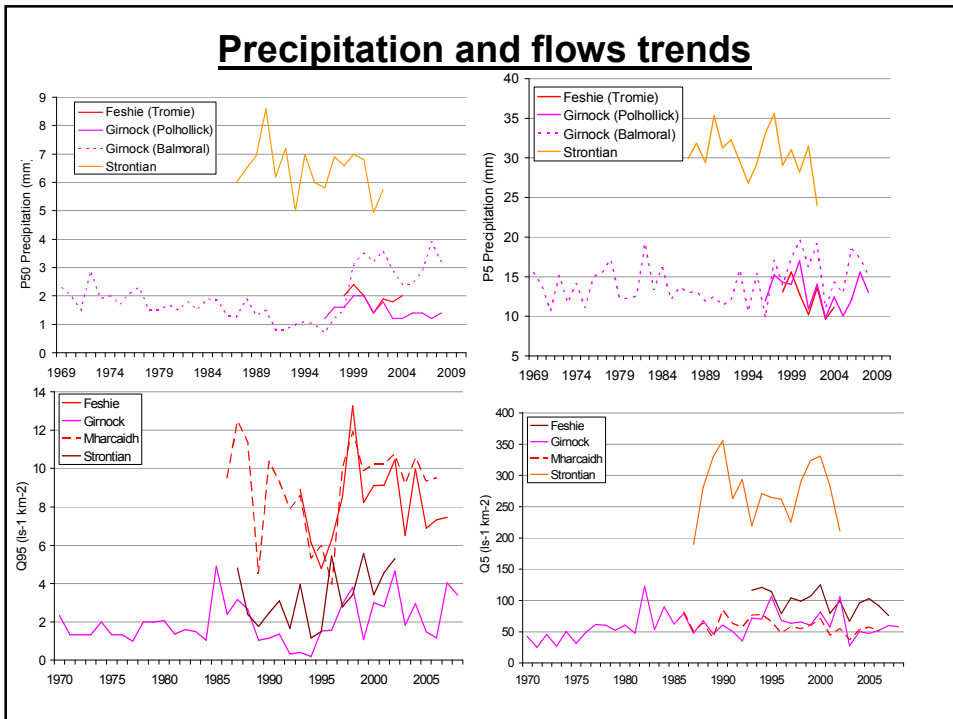
Snow days



Some preliminary air temperature trends



Precipitation and flows trends



Questions

- Impacts on flow regimes – floods and groundwater recharge?
- Water quality impacts – DOC/colour, acid episodes?
- Ecological response – salmon fisheries?
- Implications for watershed modelling

Complexity of change

- **How and why do different aspects of climatic forcing vary in small areas?**
- **What parts of the hydrograph should we focus on?**
- **What times of the year are most sensitive?**
- **How and why do different catchments vary in their sensitivity to change?**
- **Focus on experimental sites where at least some process understanding**
- **Basis for upscaling**