# Soil texture experiments

## A case study using single pt CLM

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# Background

- Purpose: Understand how important benchmarking soil characteristics is in site simulations
- Site: Hurdal (MOCABORS & ICOS site)
  - Boreal forest site (100% evergreen needle leaf forest)
- Climatology: GSWP3+observations, RCP8.5 & RCP4.5
- Soil texture manipulation: obtained from literature
  - Default (Loam): 21% clay, 47% sand
  - SandyClayLoam: 25% clay, 52% sand
  - SandyLoam: 5% clay, 63% sand
- Simulations:
  - BGC spinup to build up soil C
  - 1900-2005 (GSWP3+observations)
  - 2005-2100 (future scenarios)
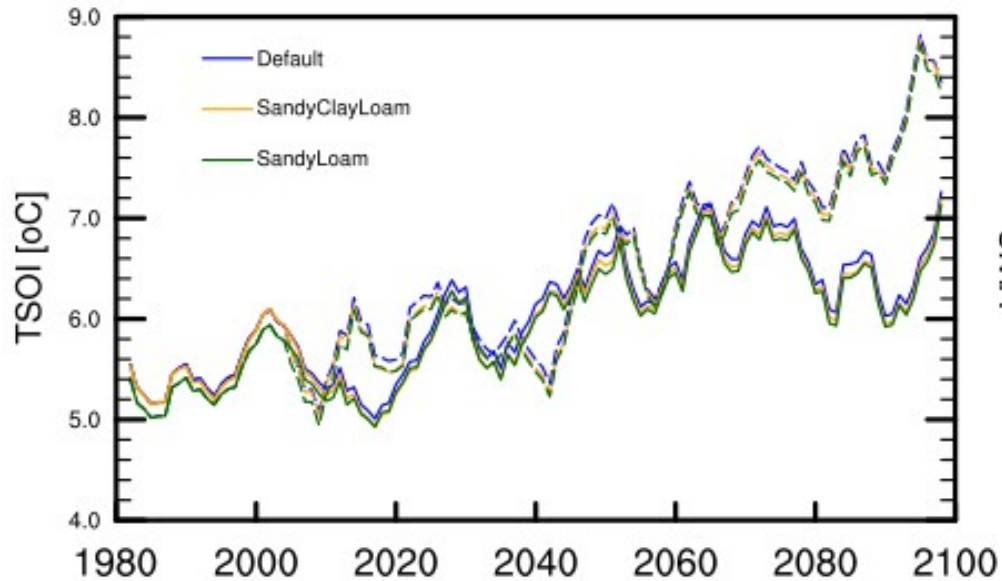
# Results: temp & precip
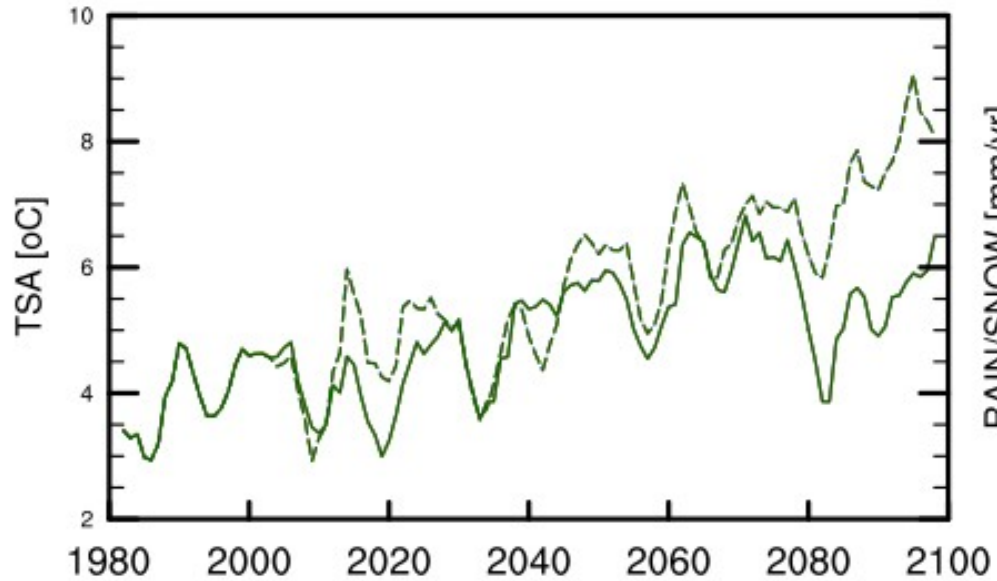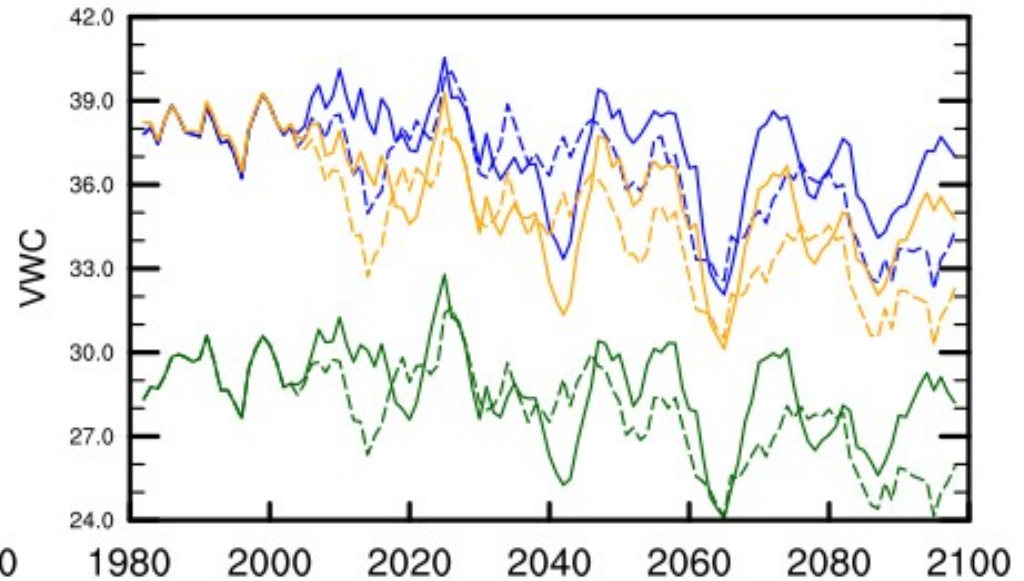


(a) air temperature
(b) mean annual precip
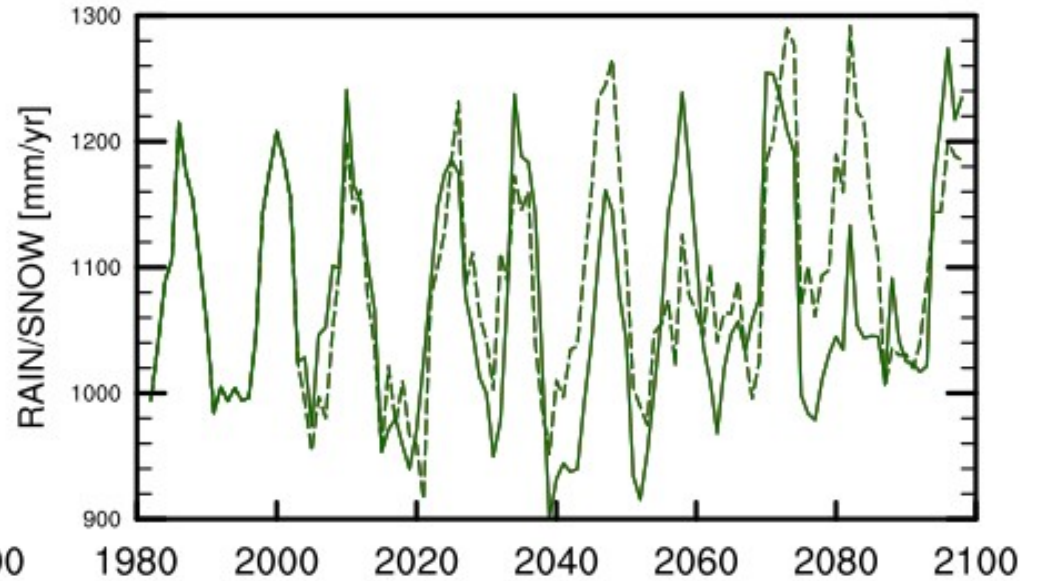
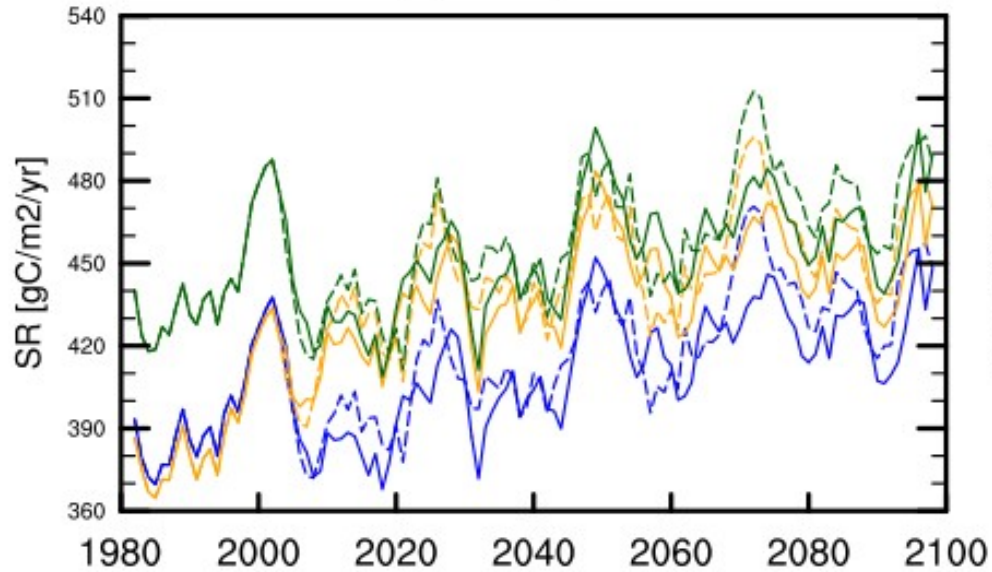# Results: soil t & vwc



(c) soil temperature at 10cm

(d) soil water at 10cm

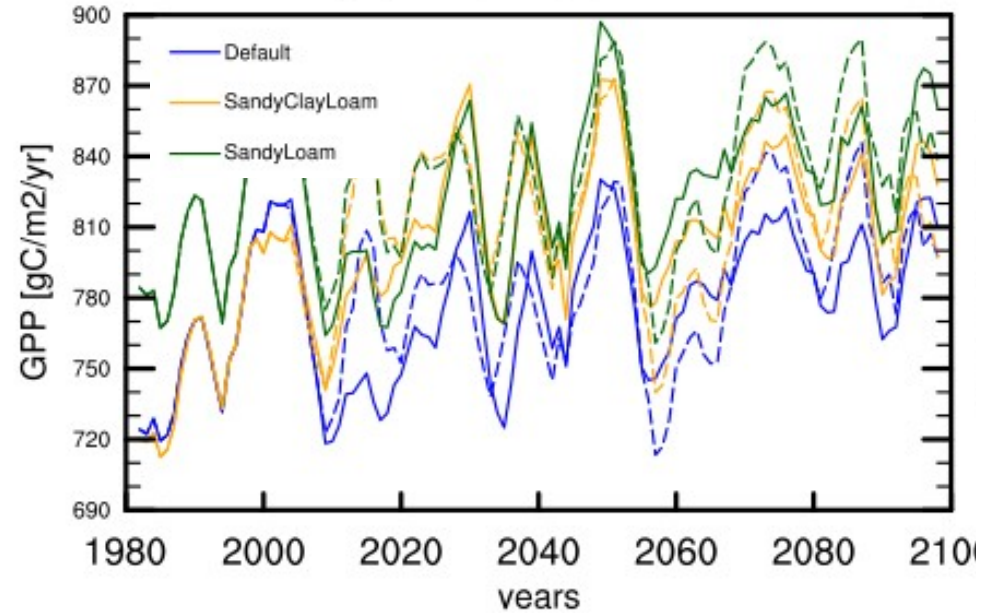Loam: 21% clay, 47% sand / Sandy clay loam: 25% clay, 52% sand / Sandy loam: 5% clay, 62% sand

# Results: soil respiration & gpp



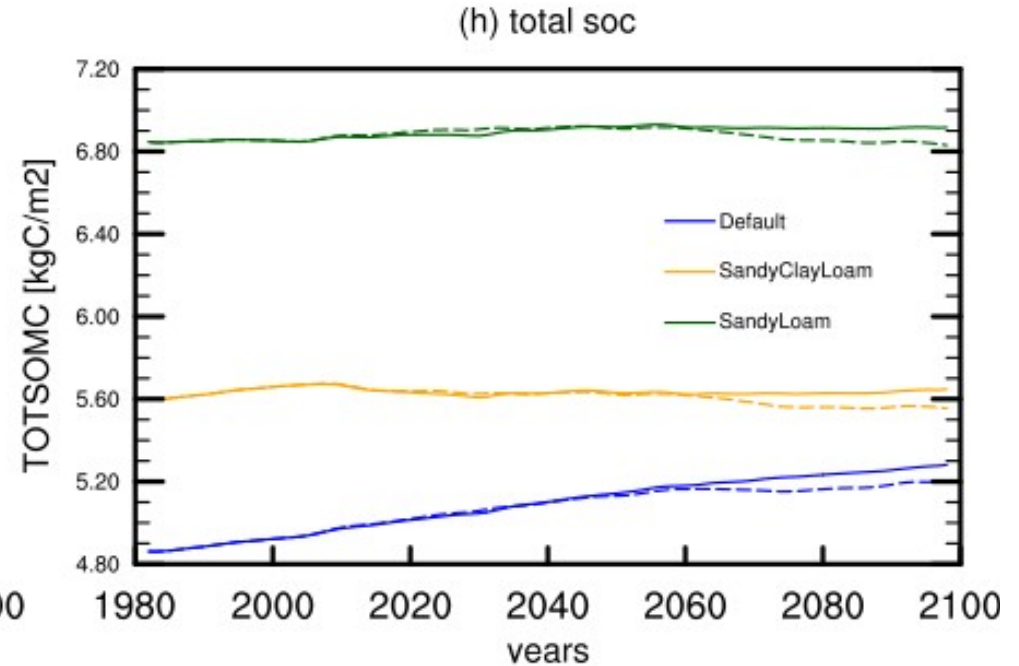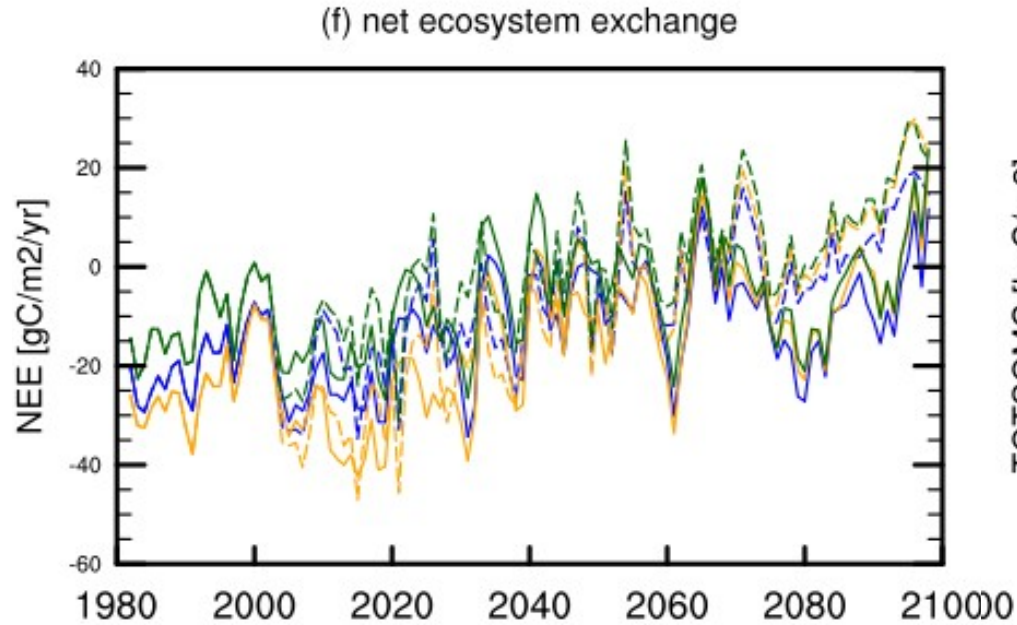Loam: 21% clay, 47% sand / Sandy clay loam: 25% clay, 52% sand / Sandy loam: 5% clay, 62% sand

# Results: nee & soil c



(f) net ecosystem exchange

(h) total soc

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