

Analyses of Interannual Variability

LBA-DMIP Workshop

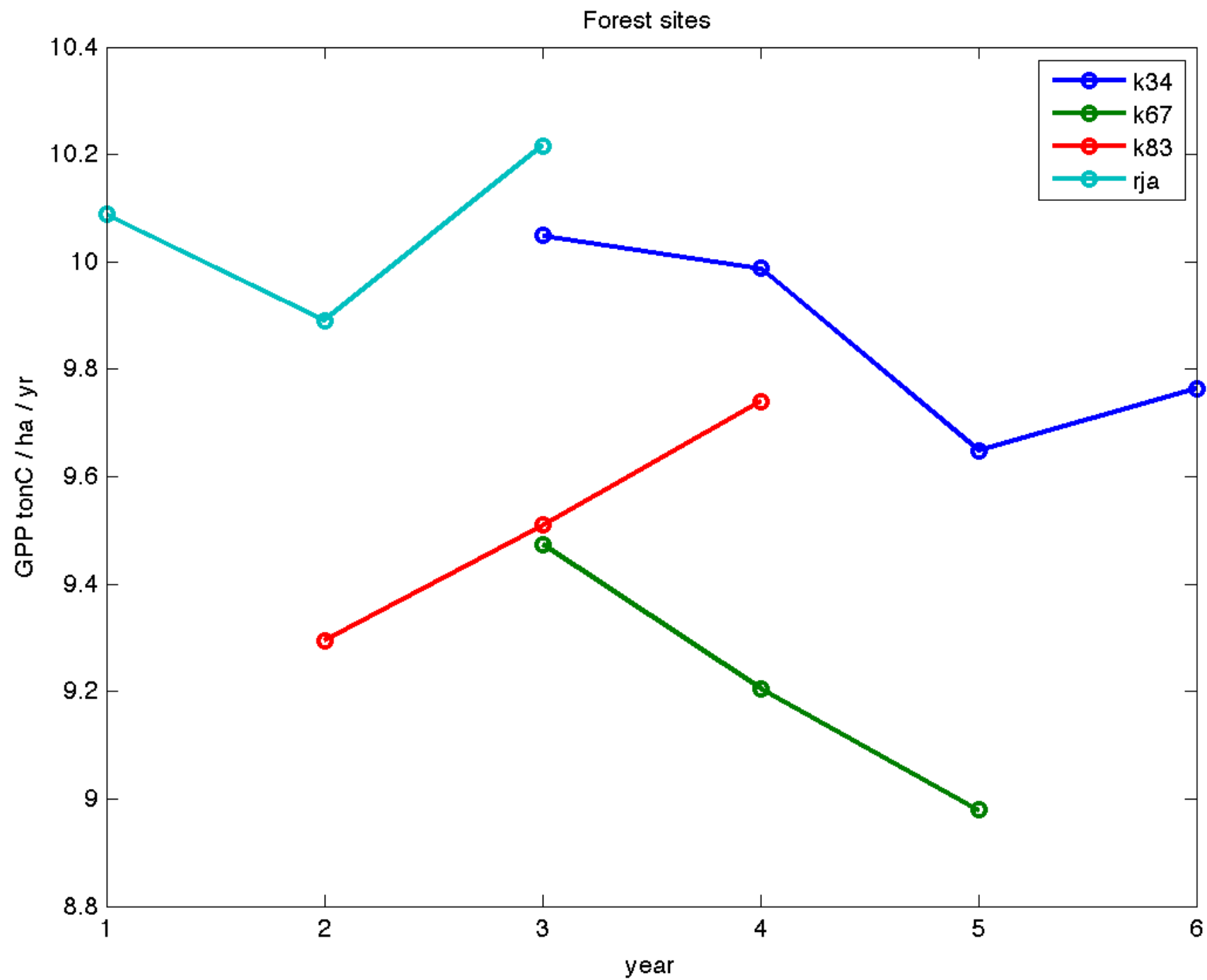
April 18-19, 2011, Tucson, AZ

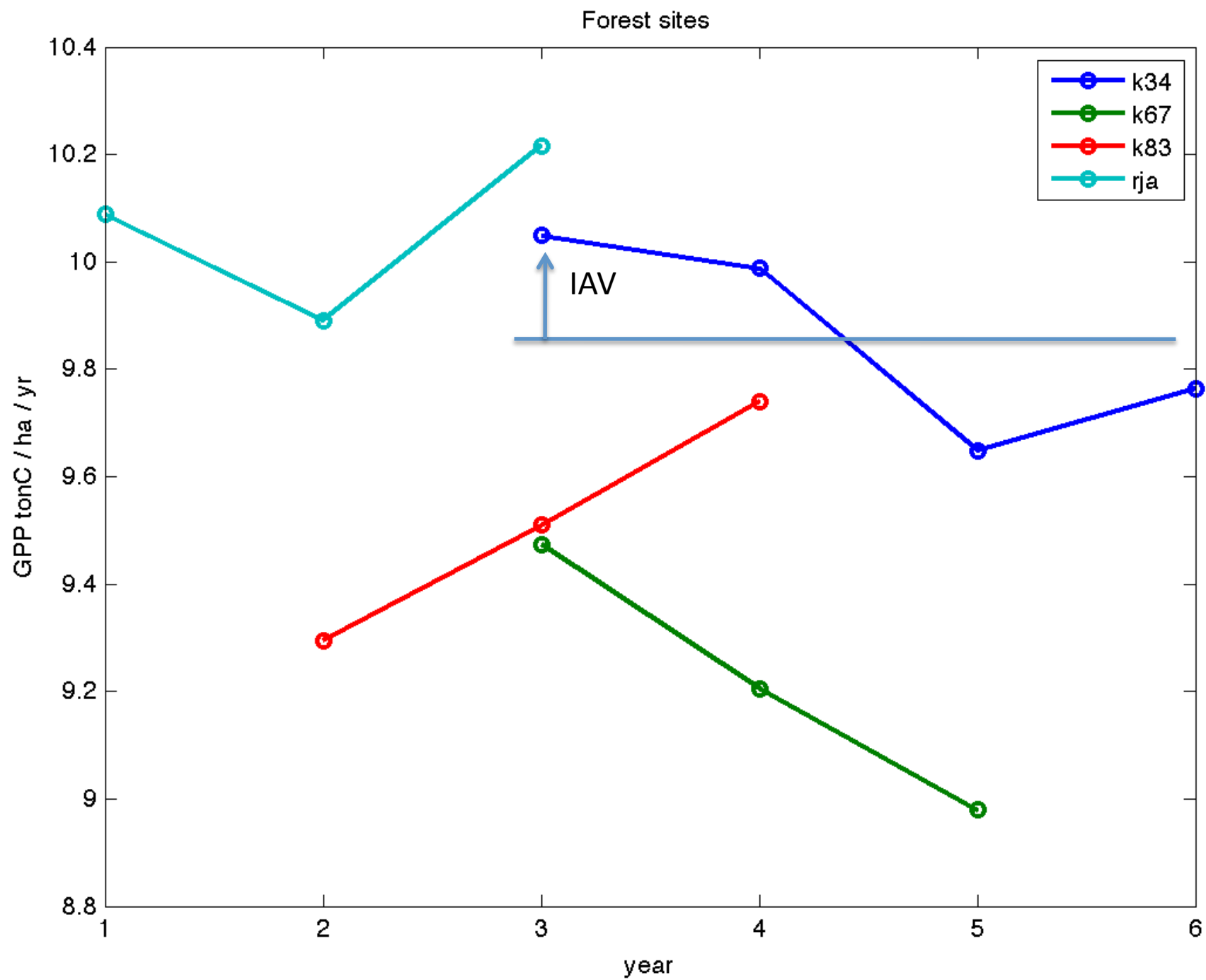
Motivation

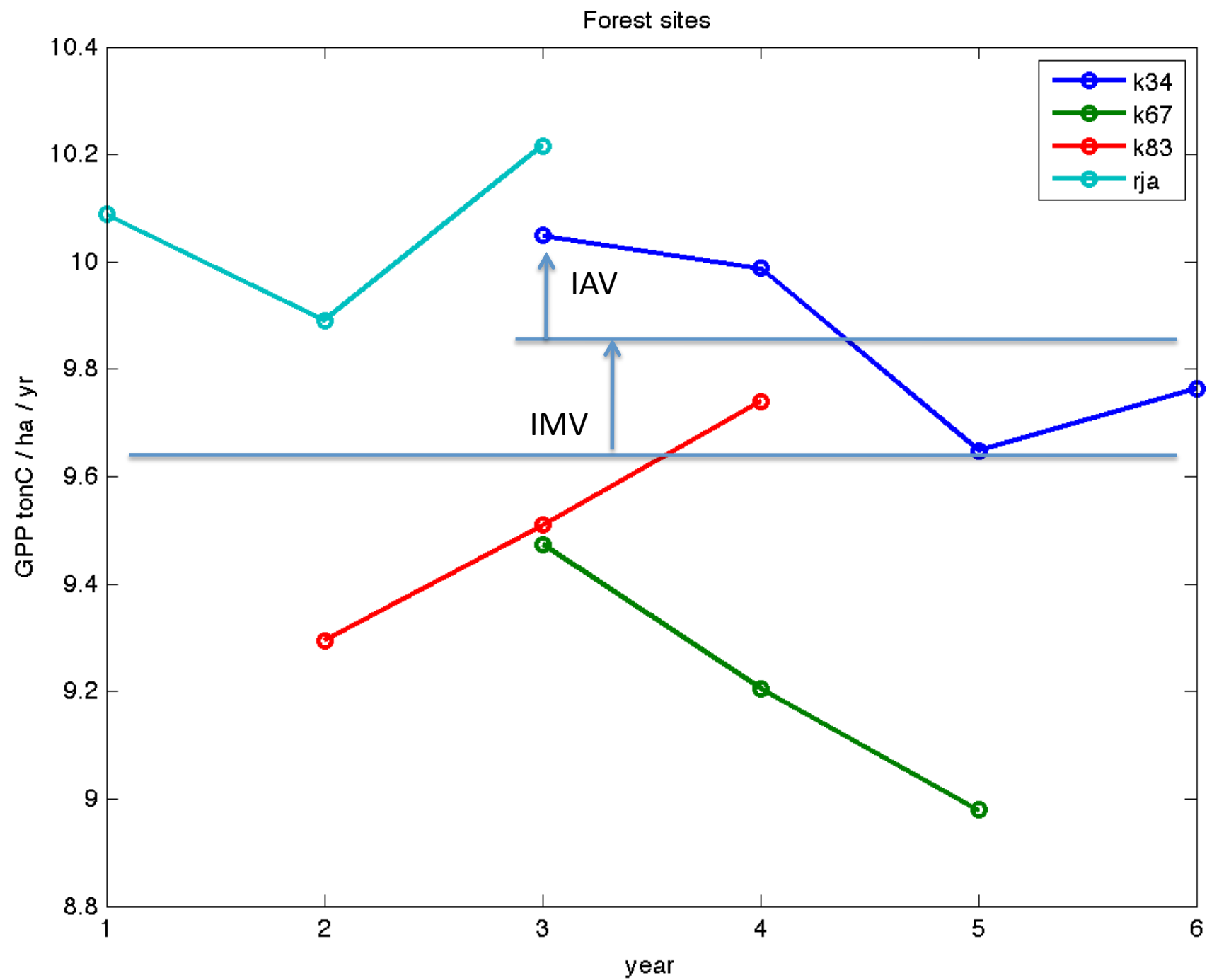
- Study aspects of interannual variability
- Can we identify main drivers? (rainfall, radiation, dryness)
- Point directions to possible improvements on models

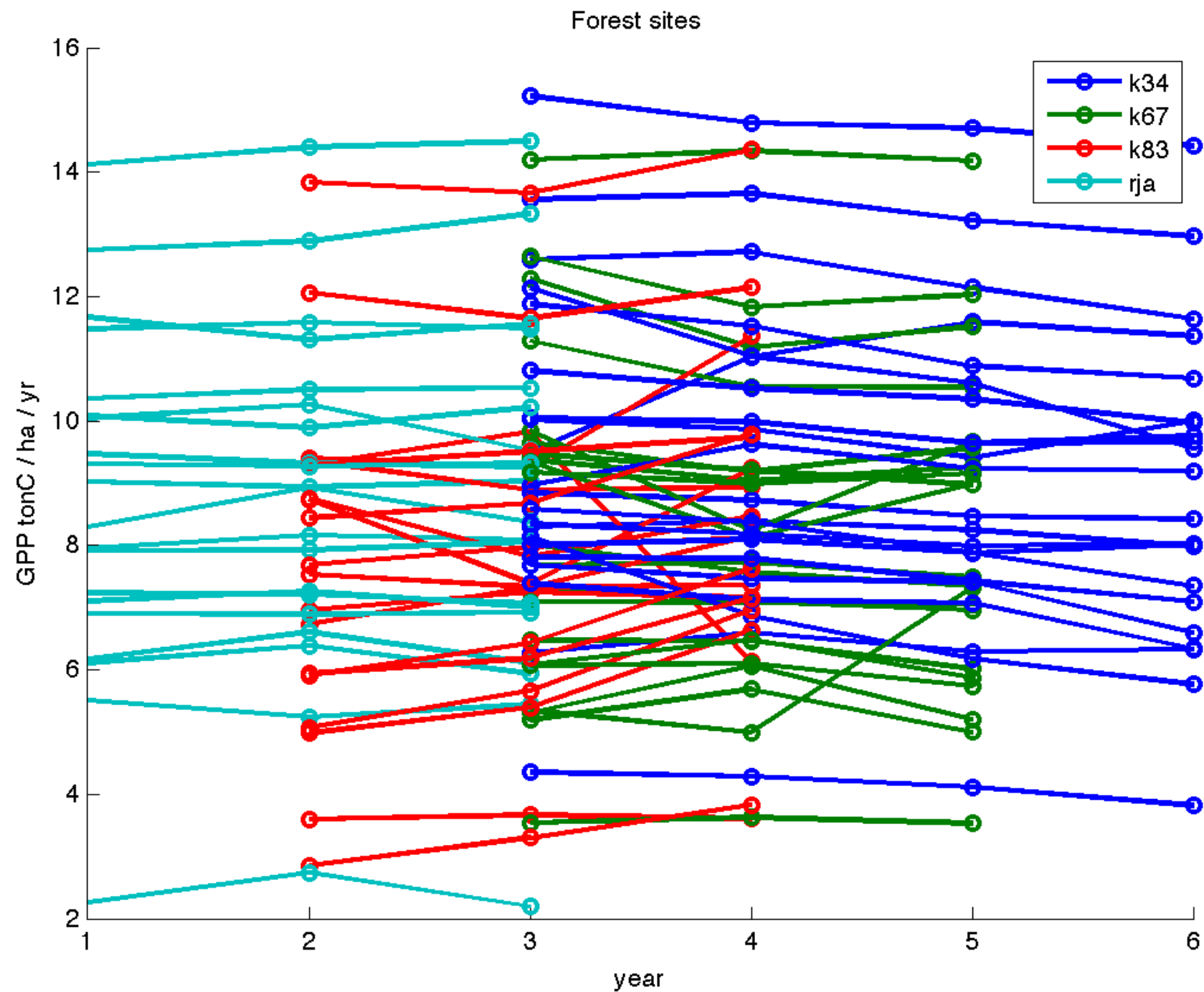
Methods

- Annual totals (GPP, Reco (=Ra + Rh), NEE, LE)
- Inter-**model** variability x Inter-**annual** variability simulated by a particular model
- Aspects of spatial variability / site differences (?)



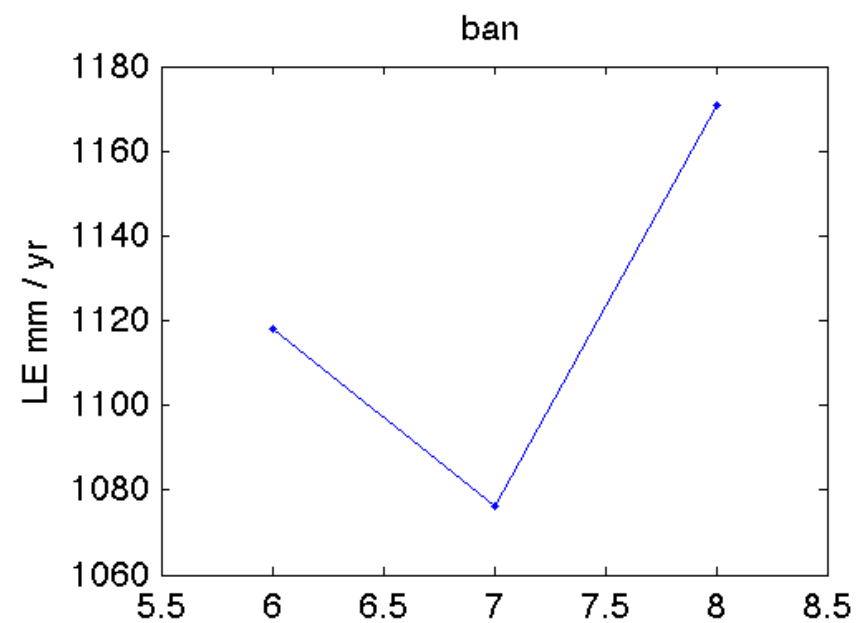
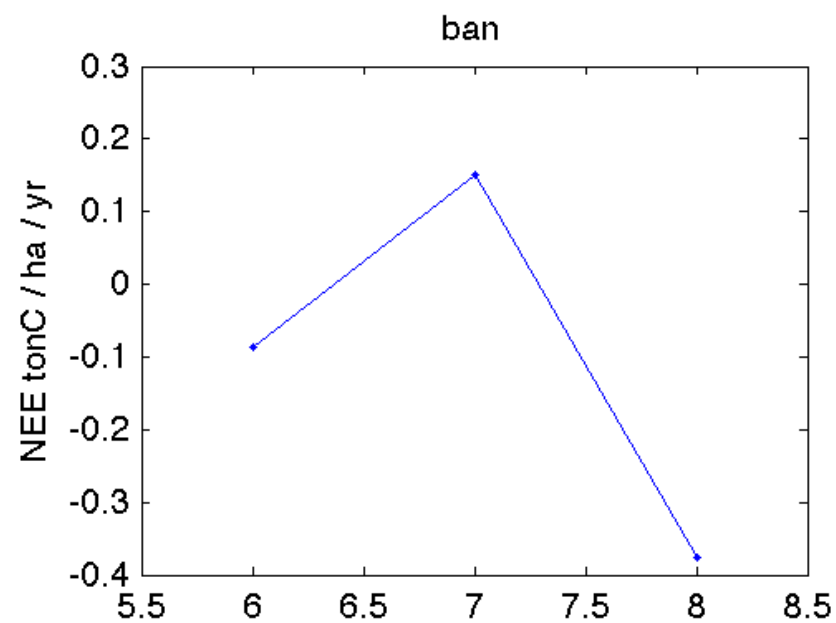
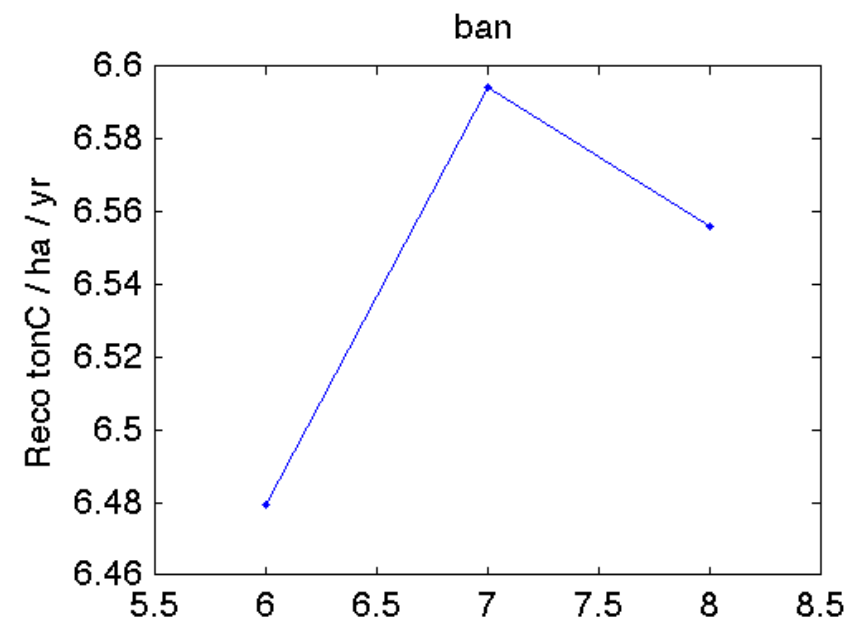
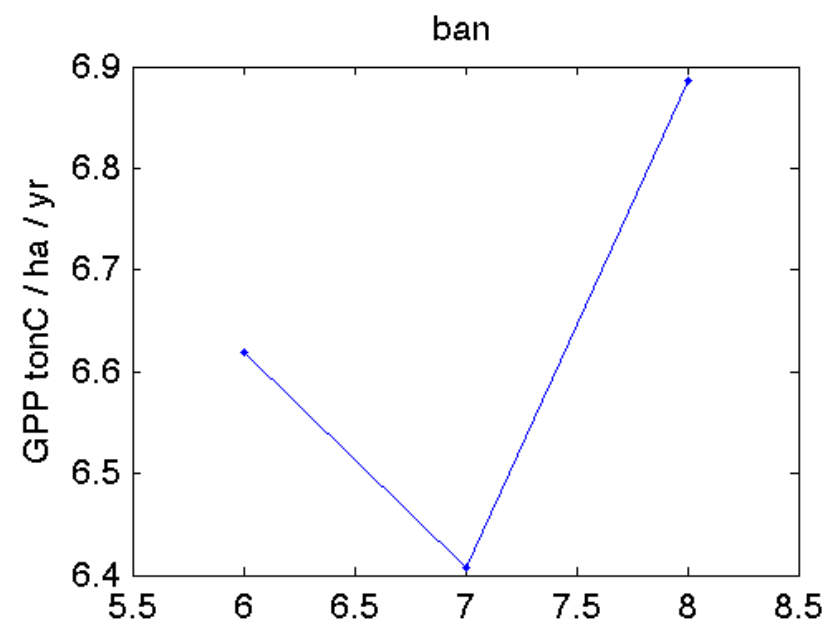


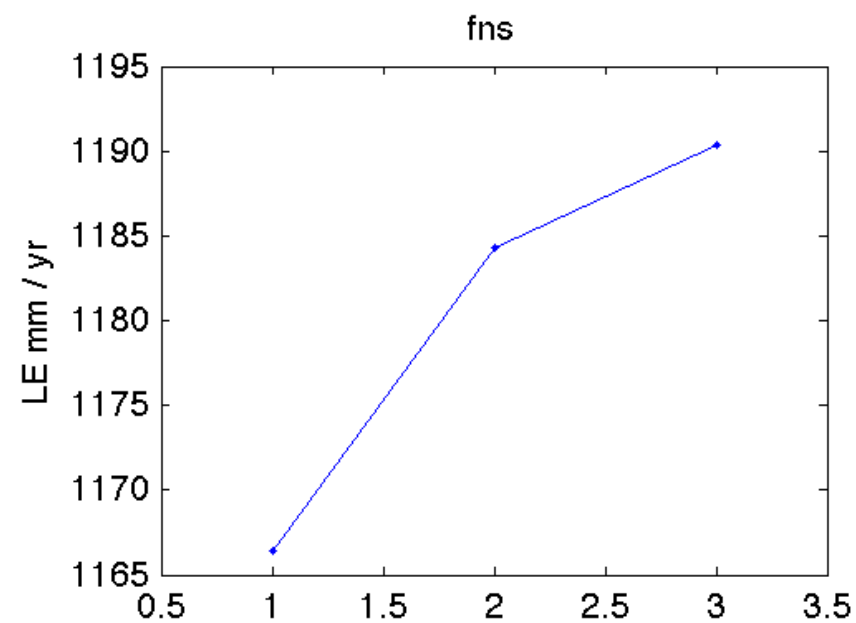
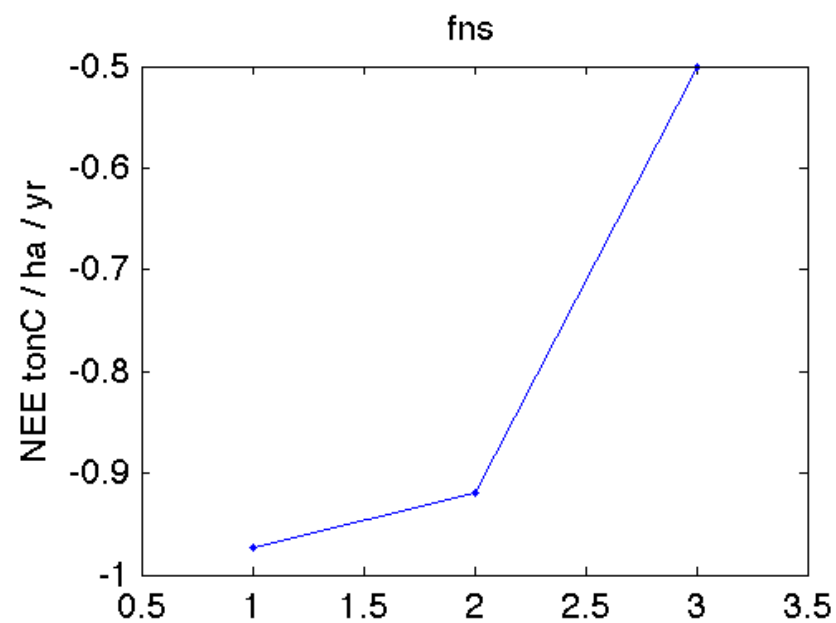
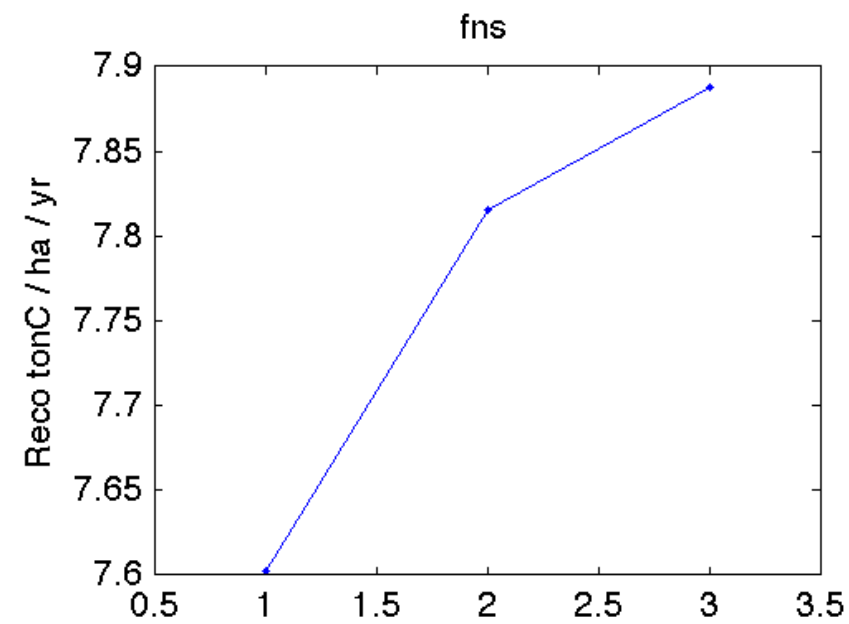
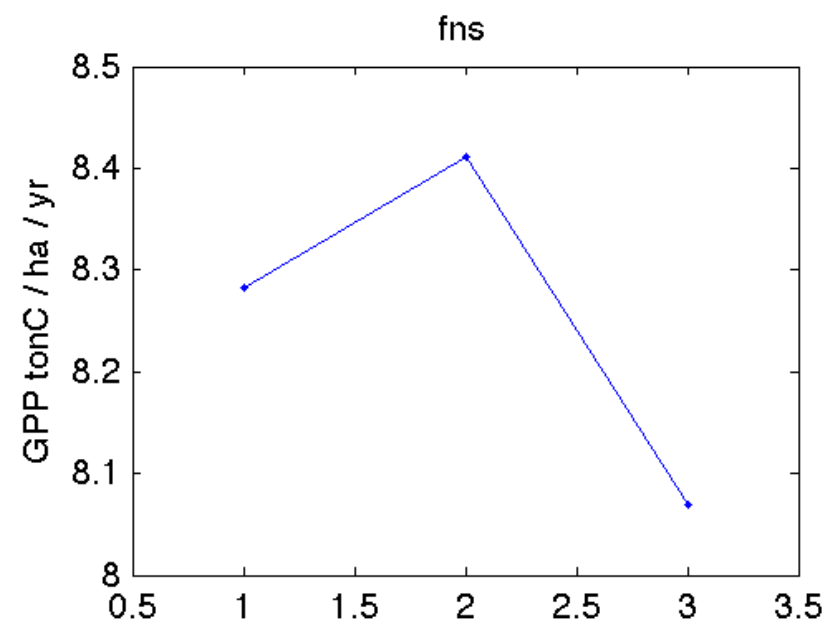


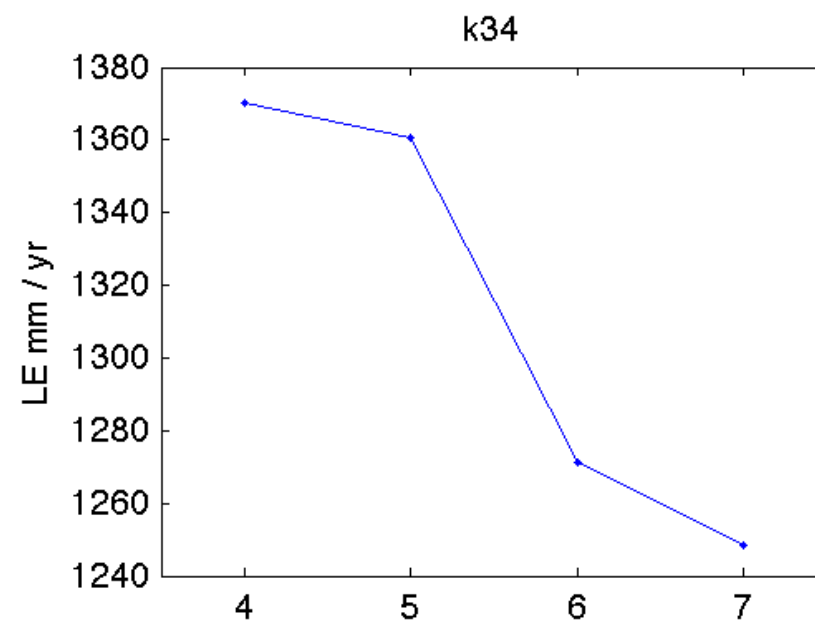
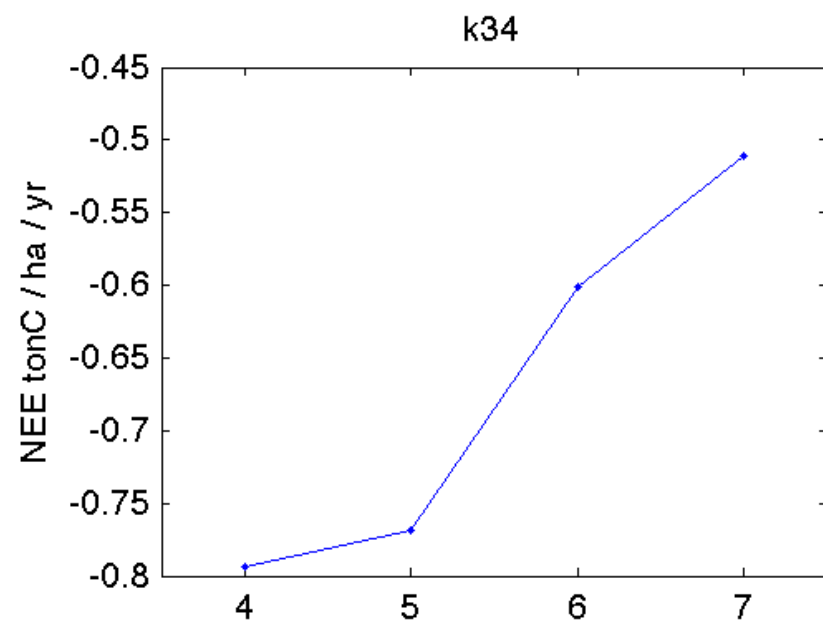
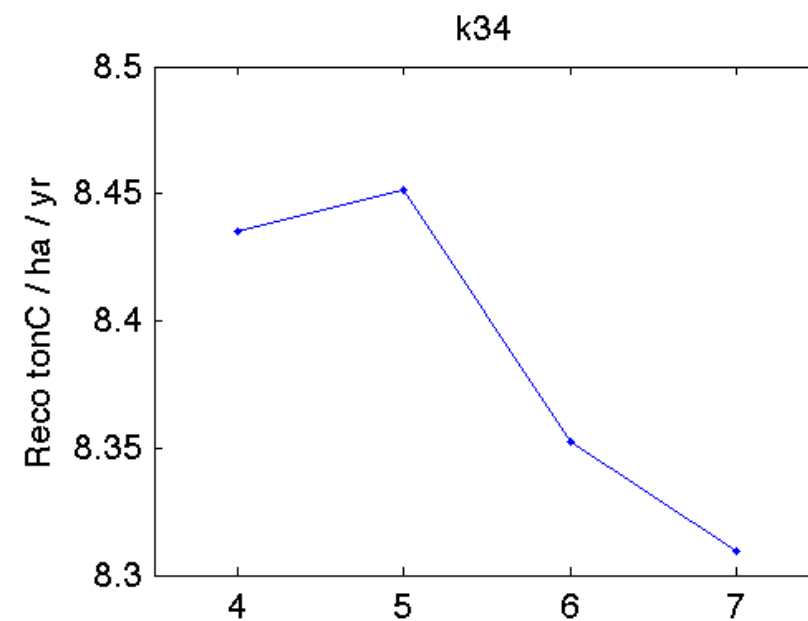
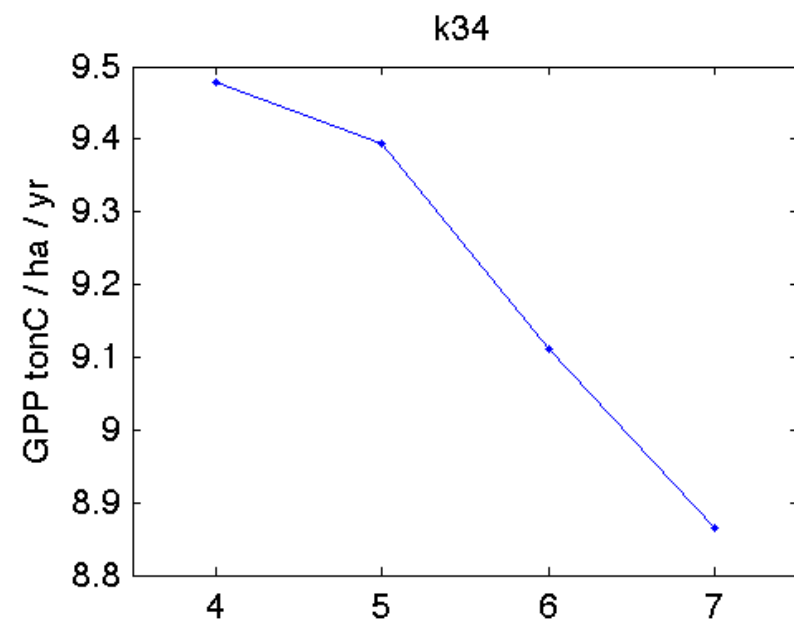


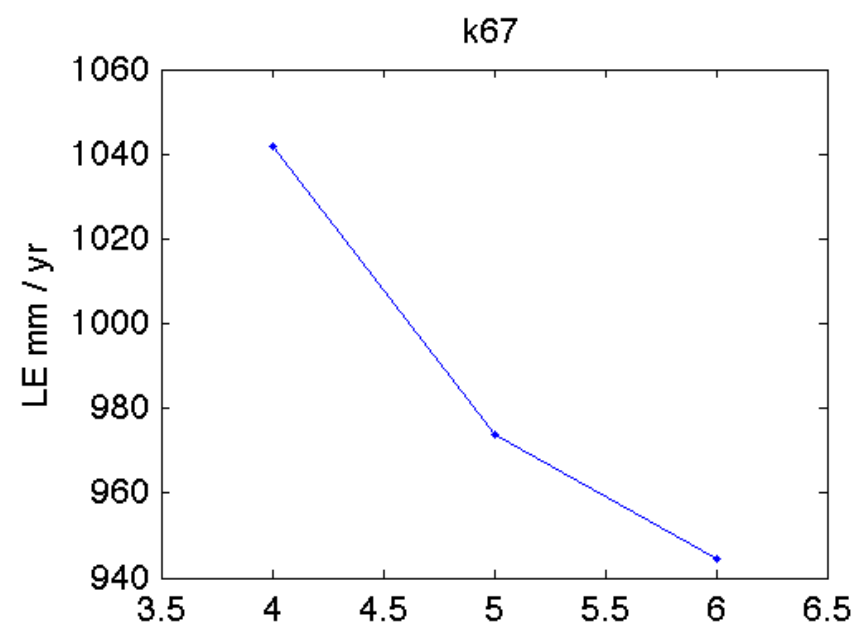
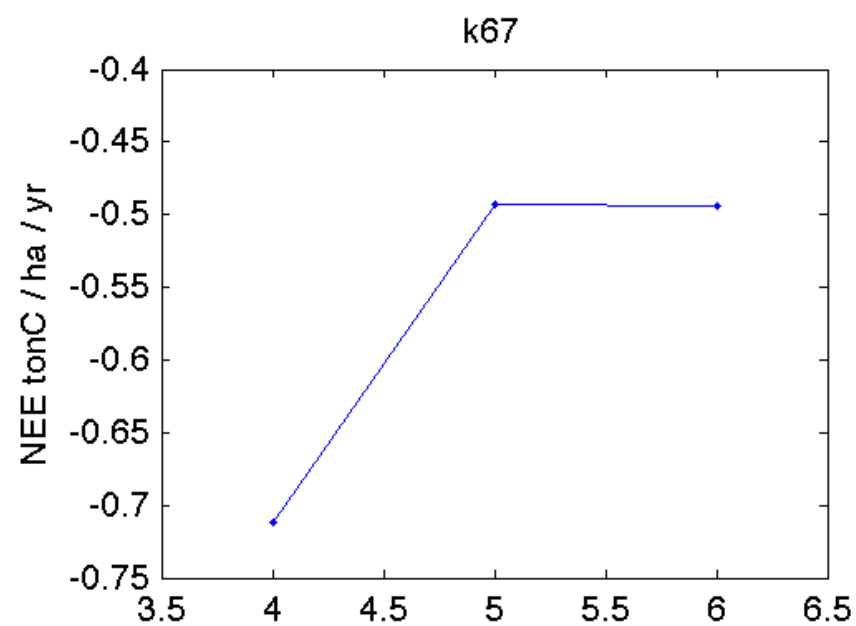
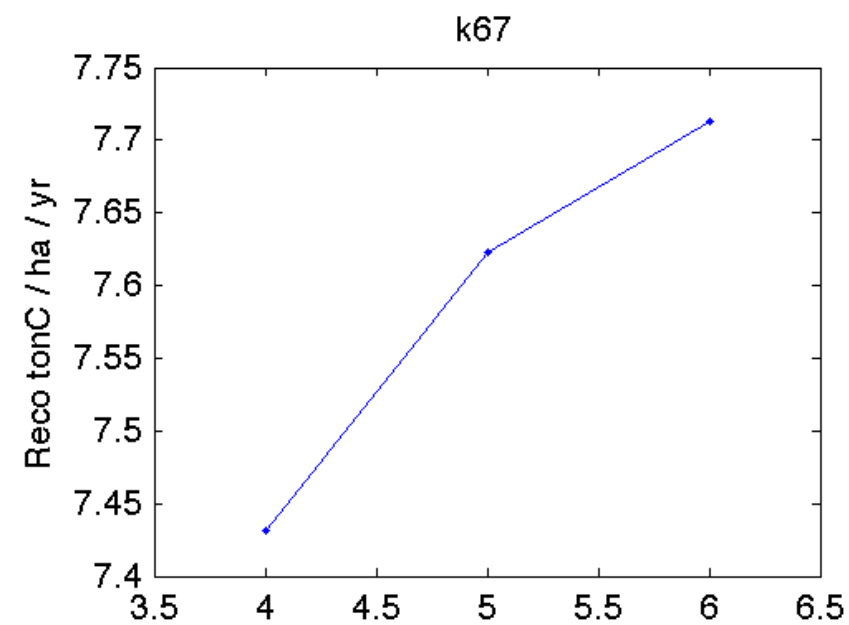
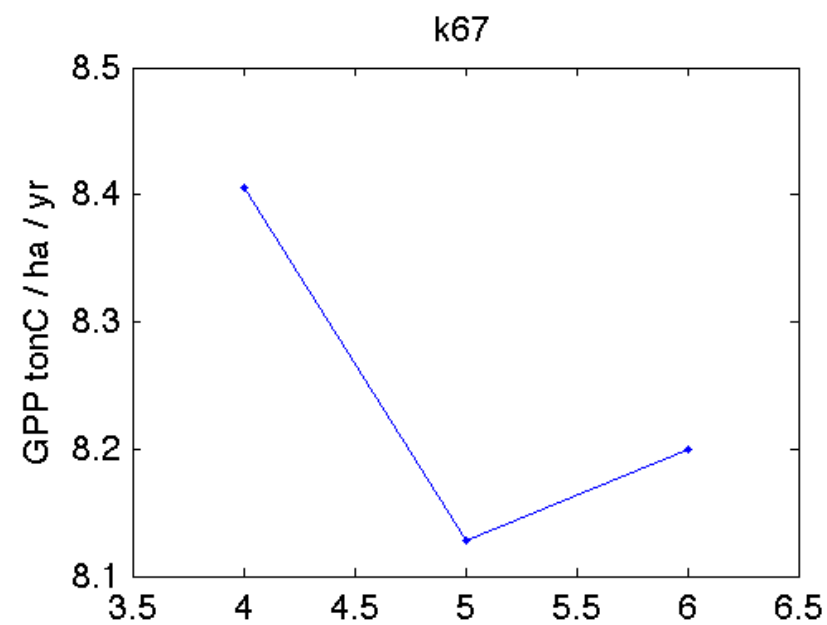
General results

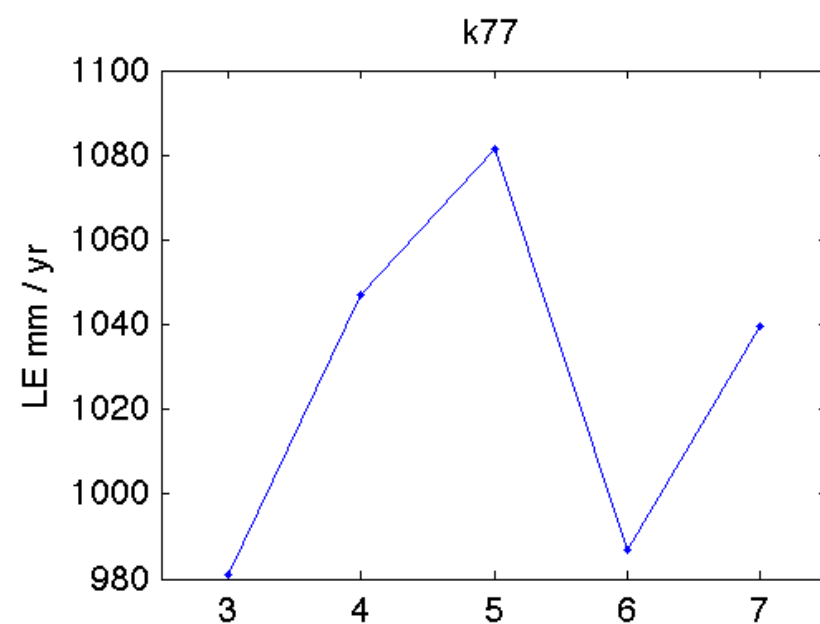
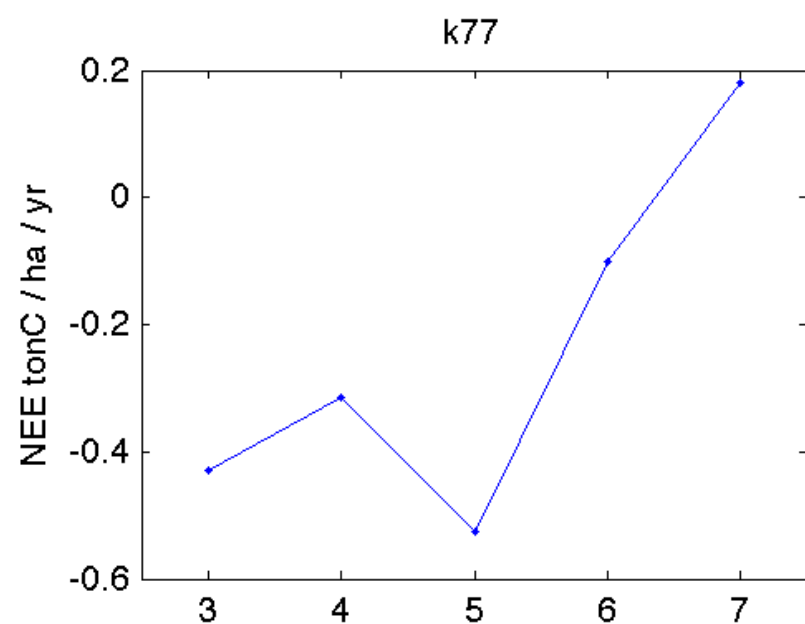
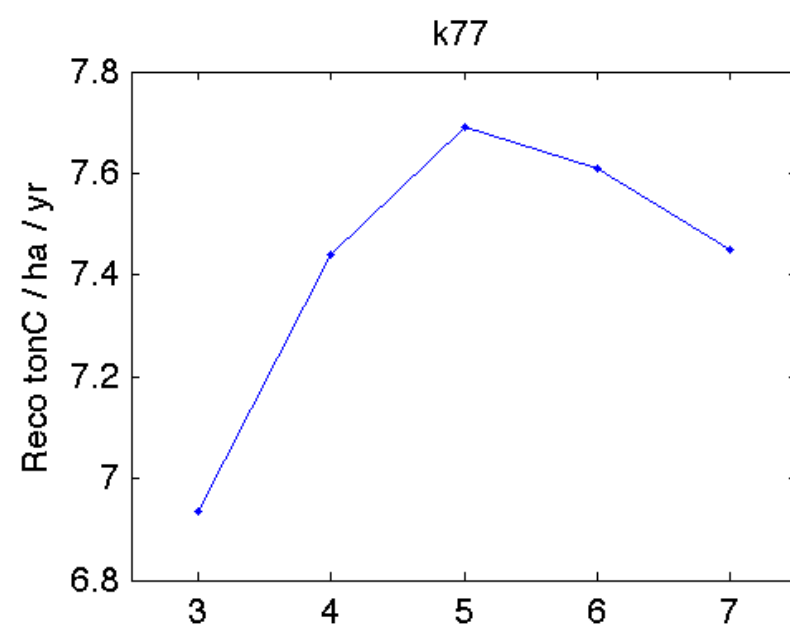
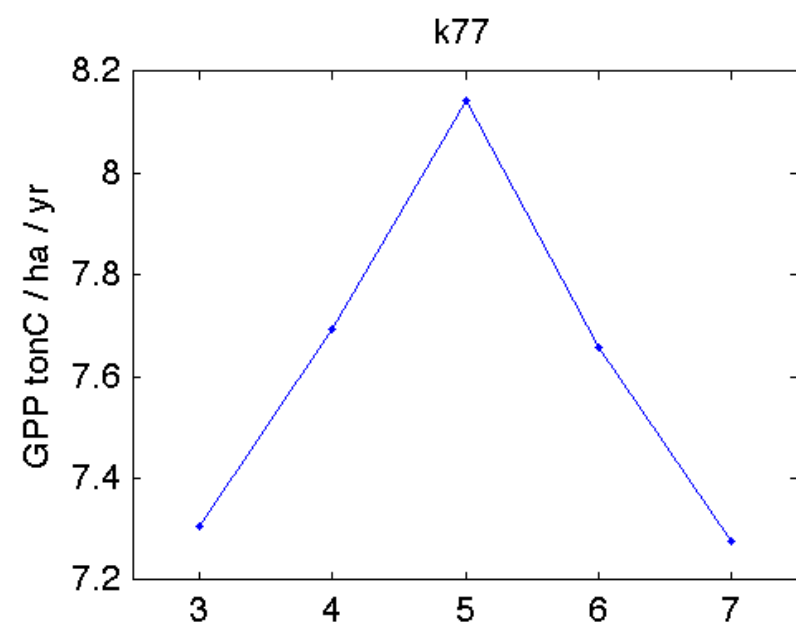
Model means

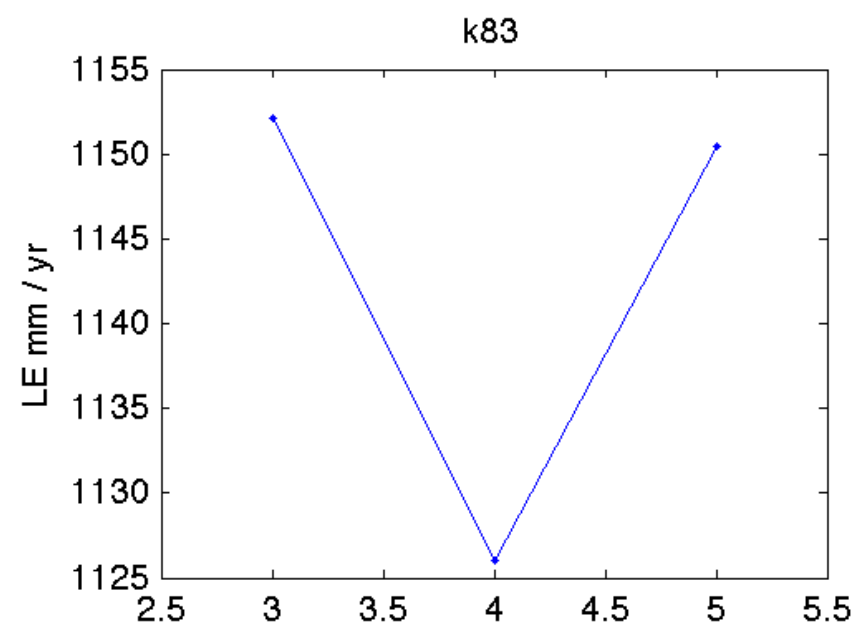
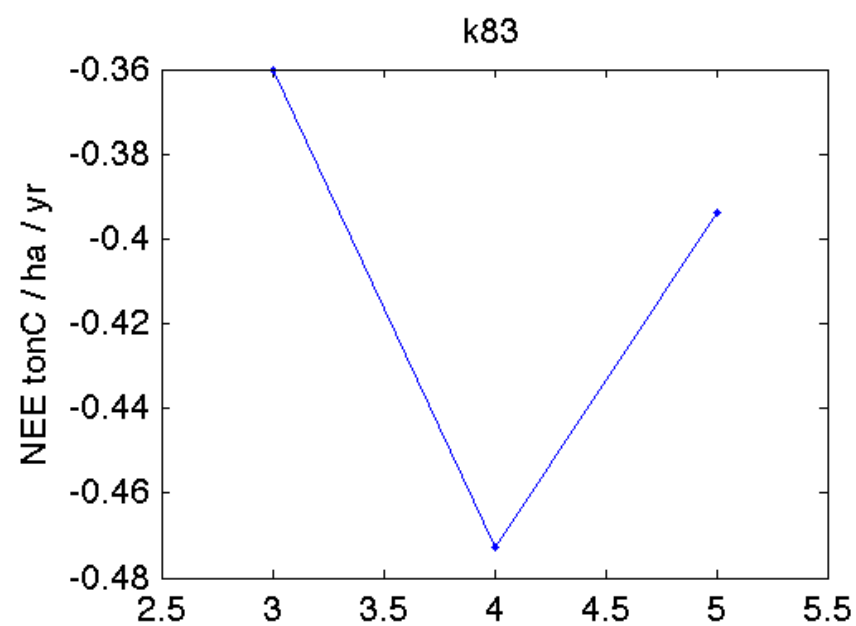
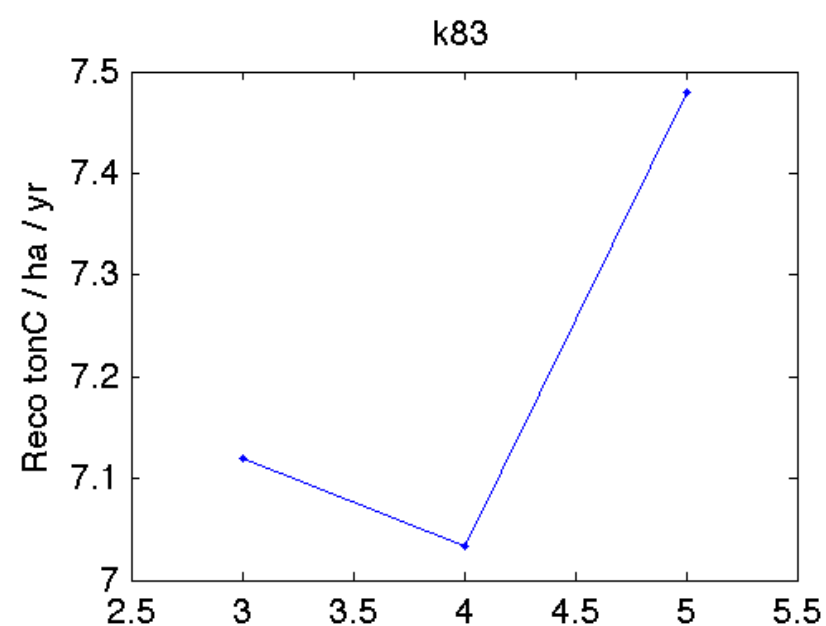
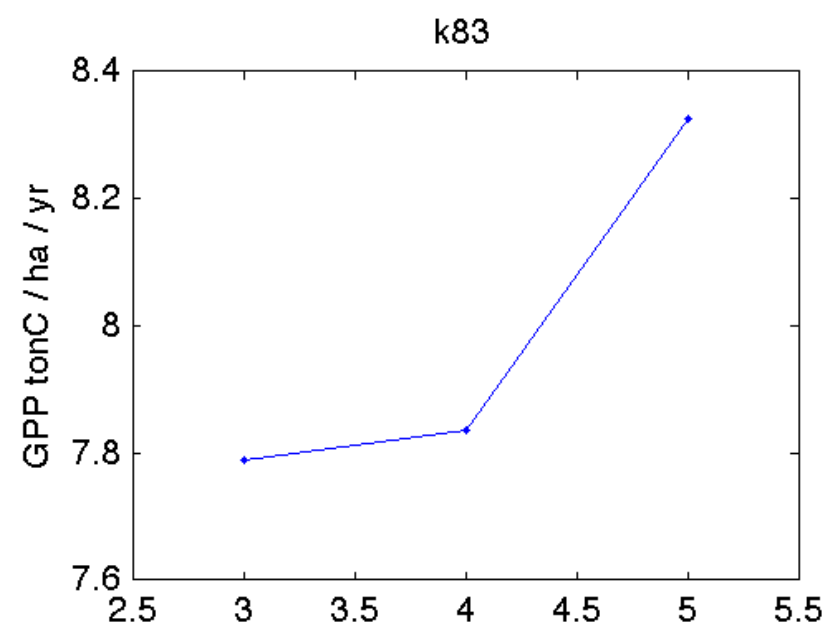


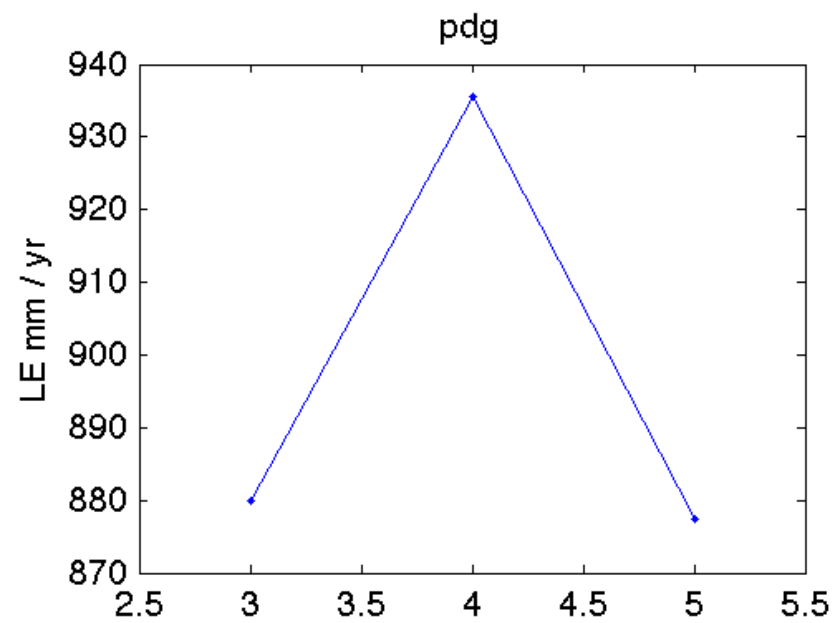
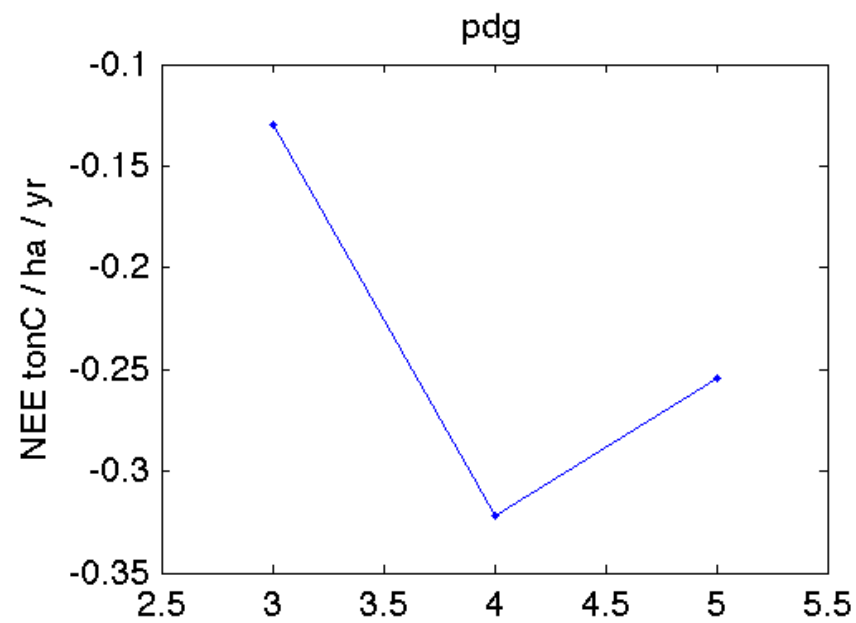
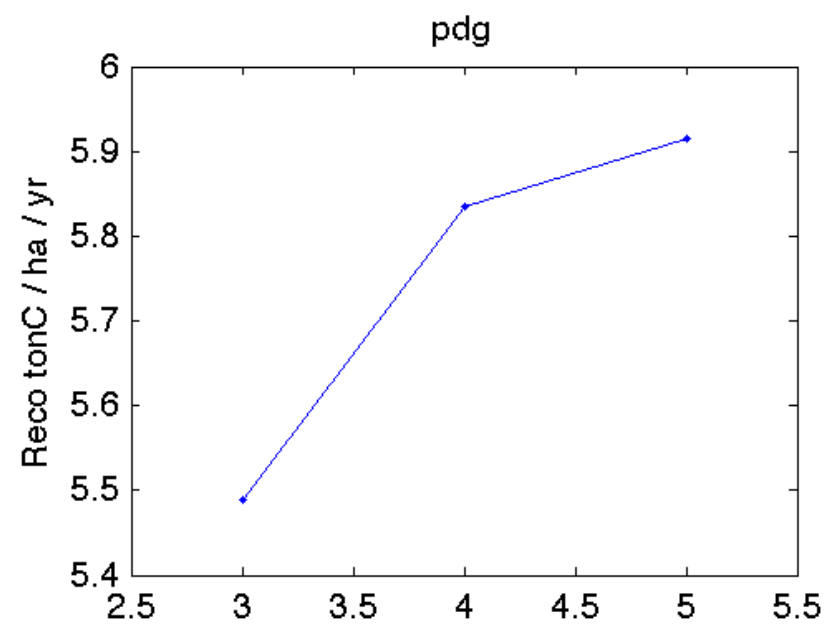
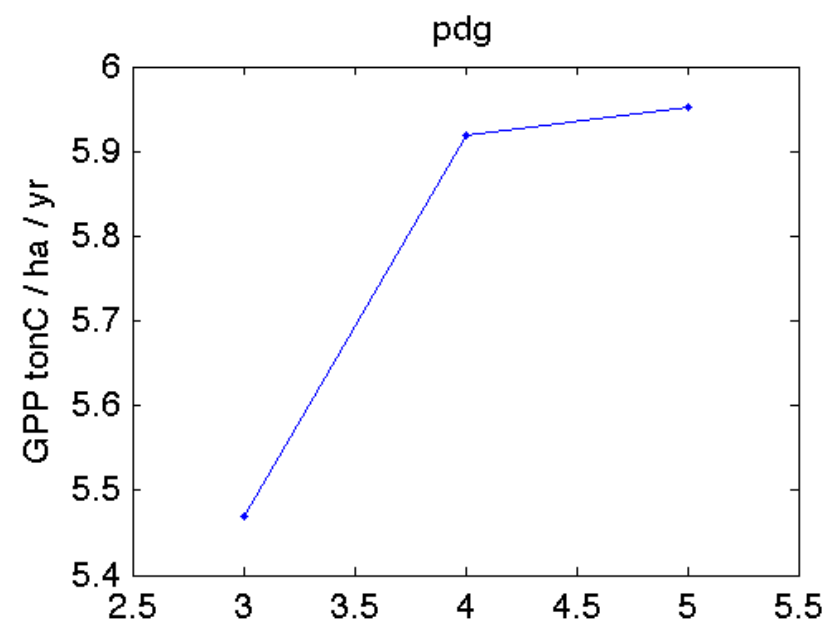


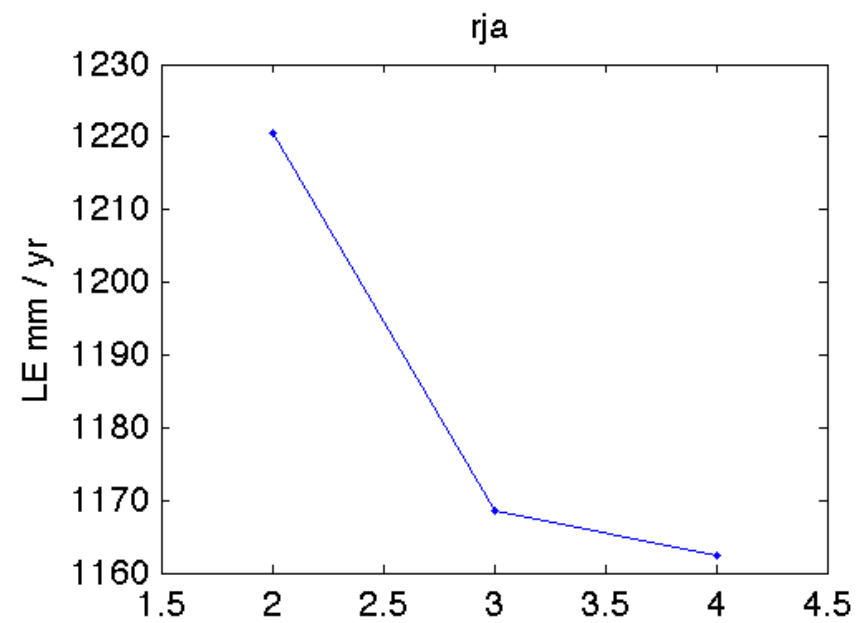
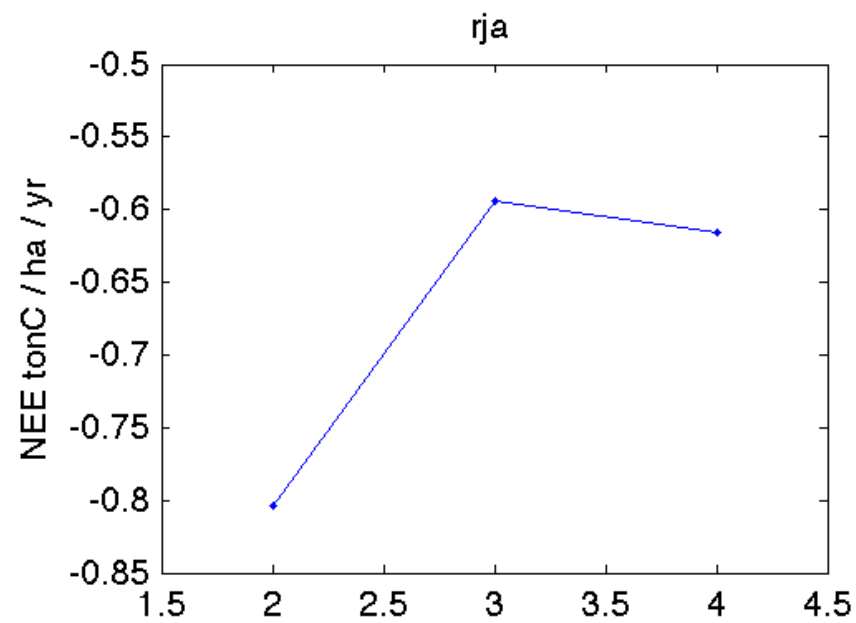
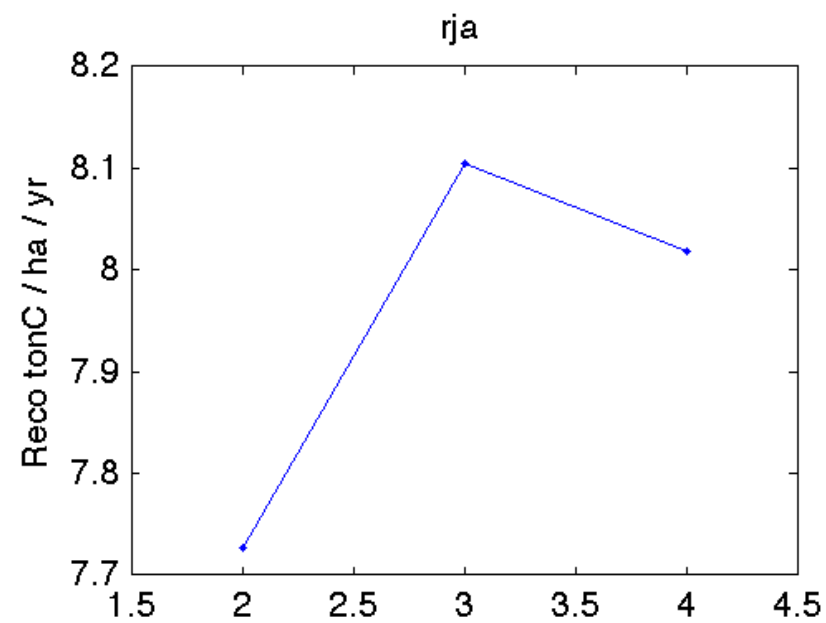
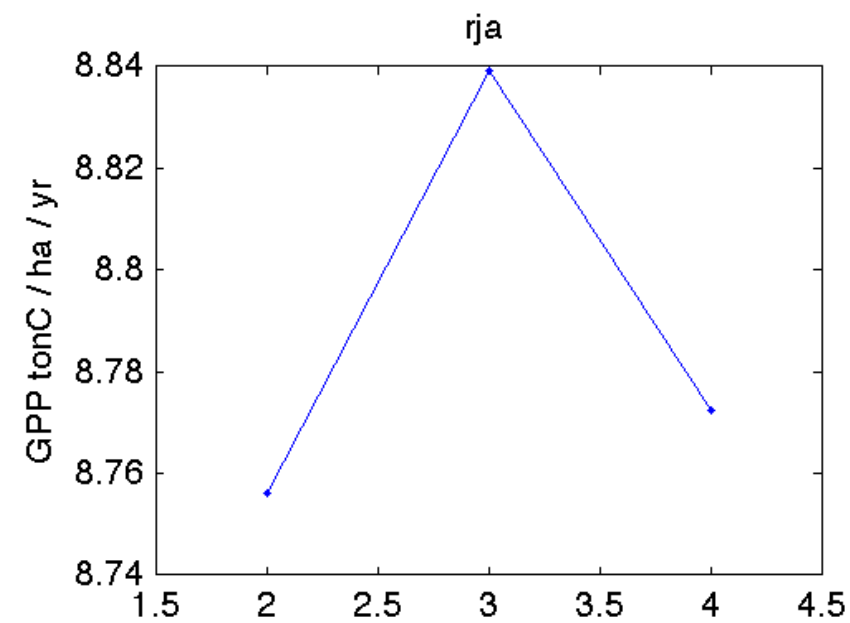




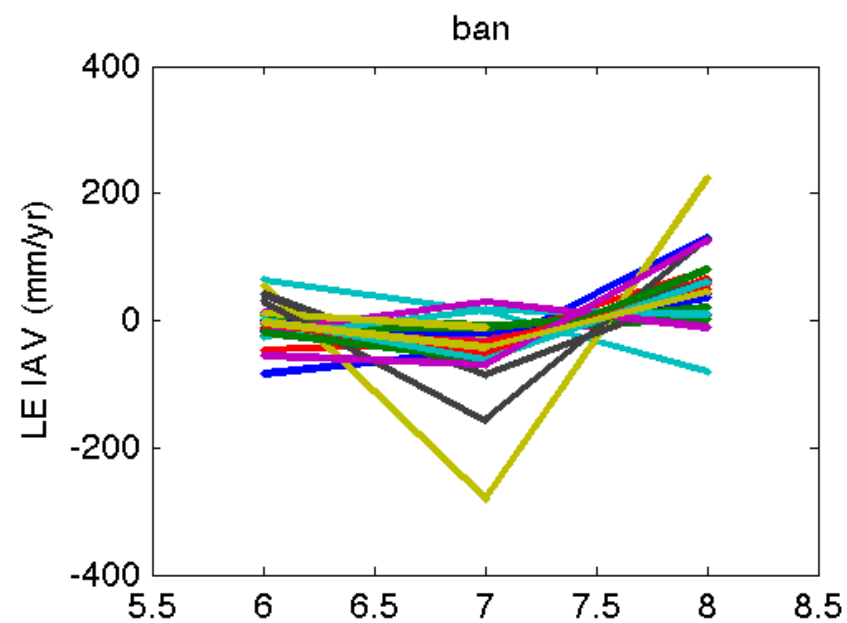
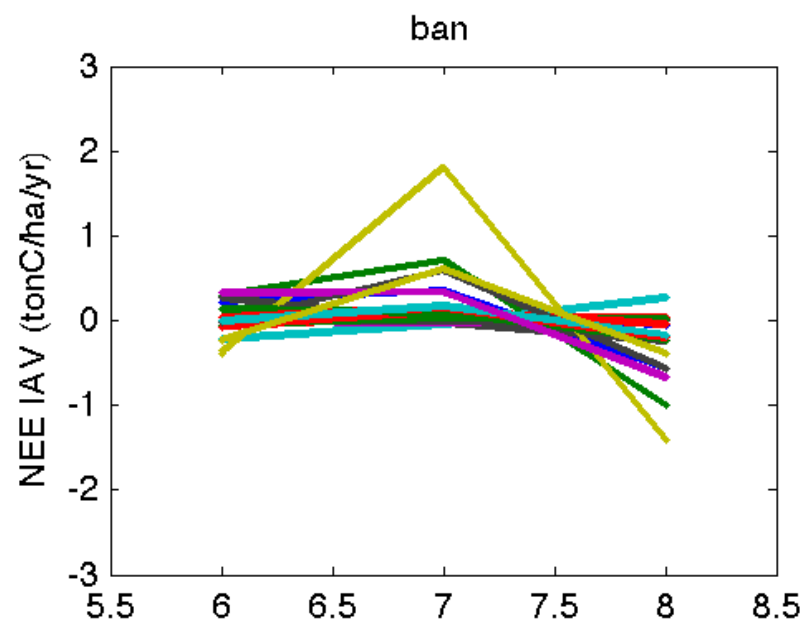
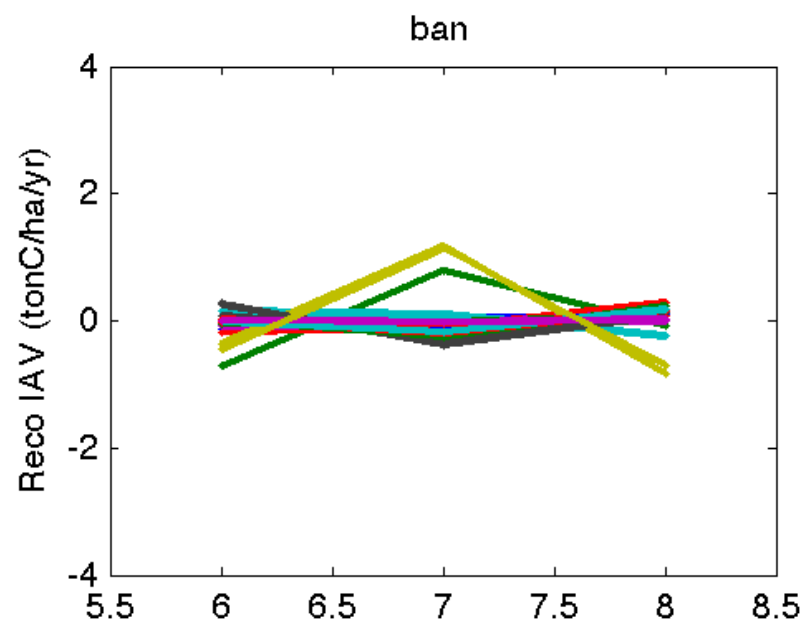
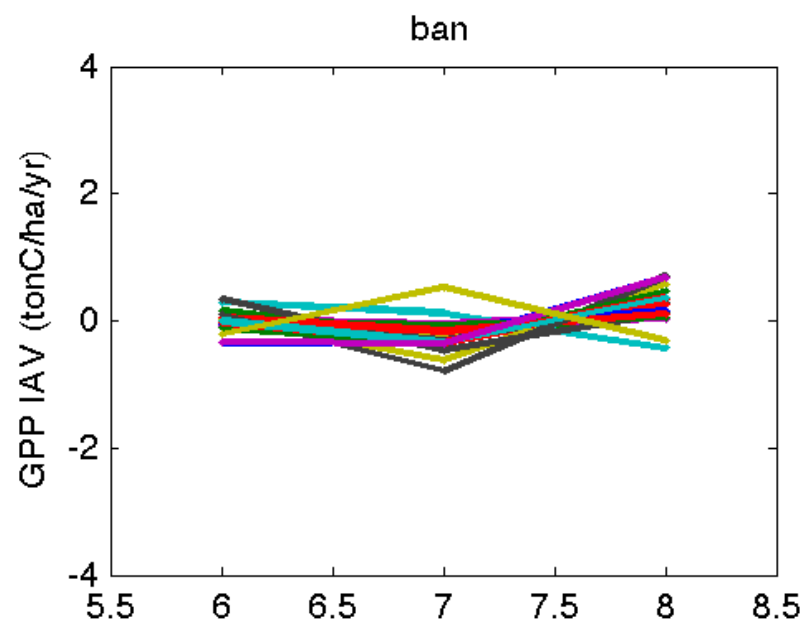


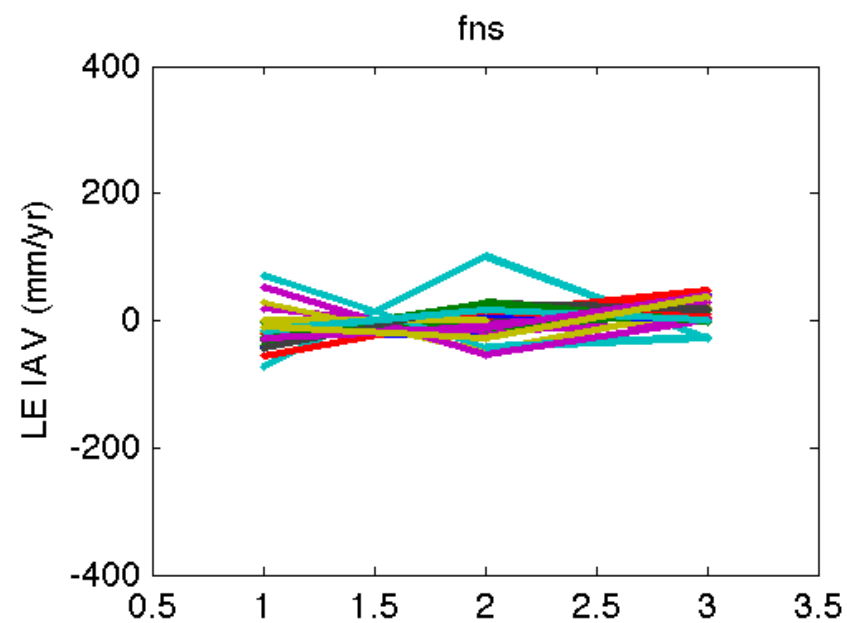
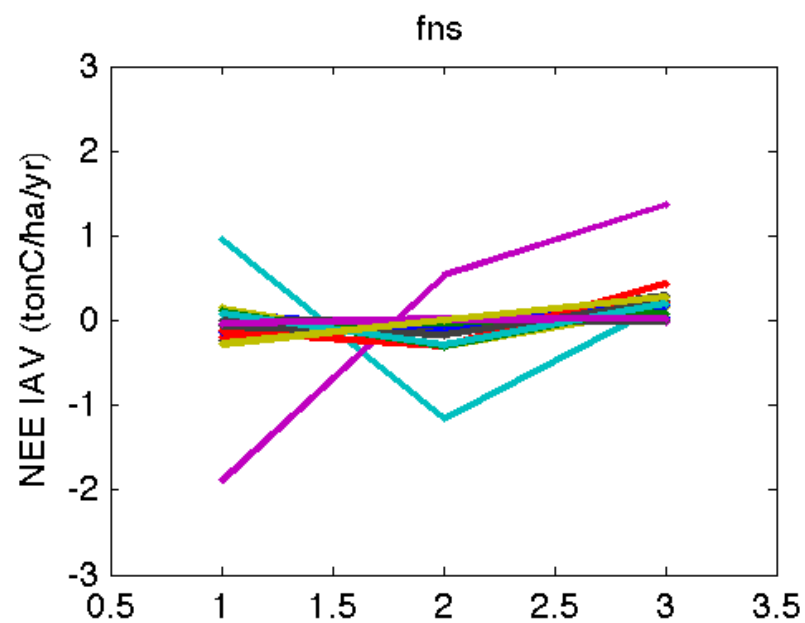
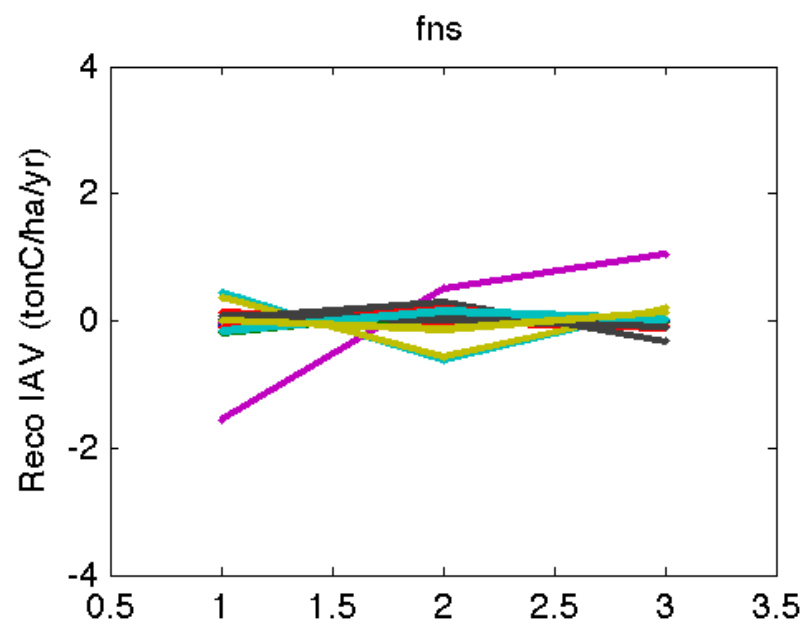
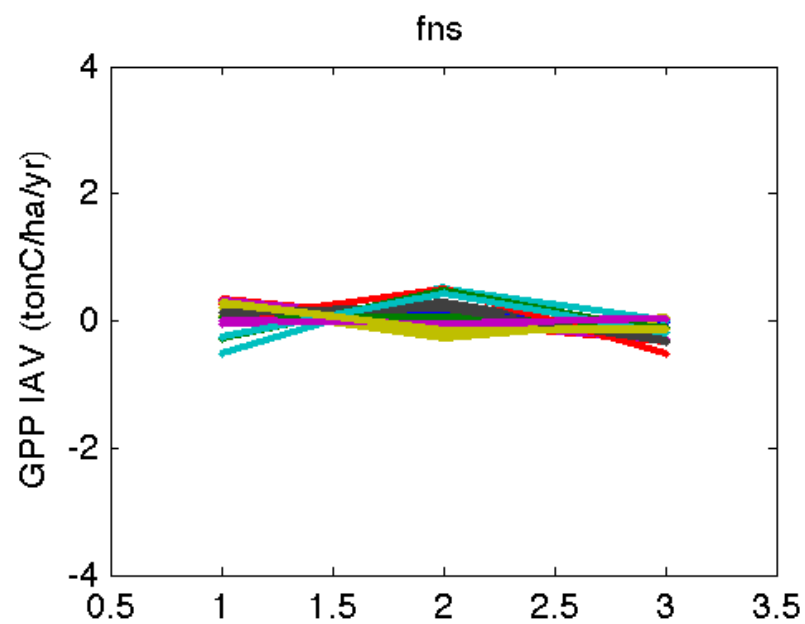


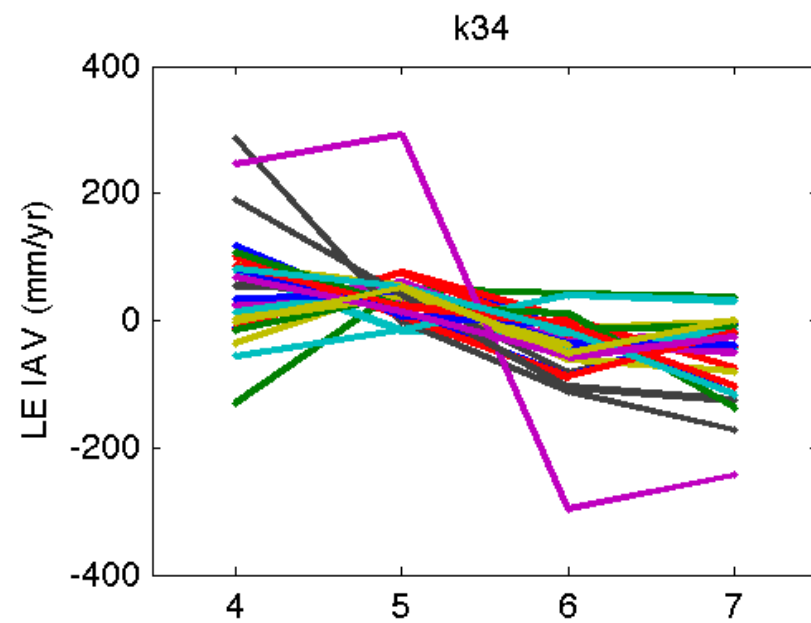
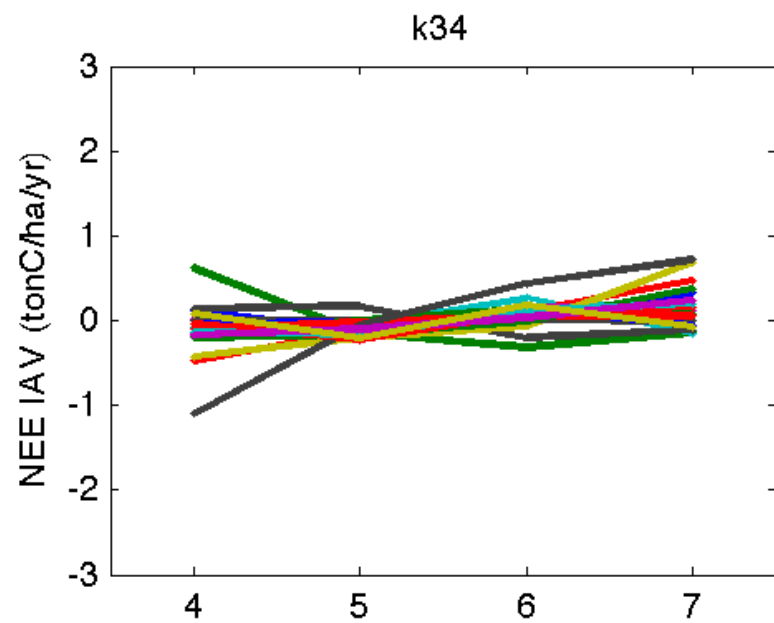
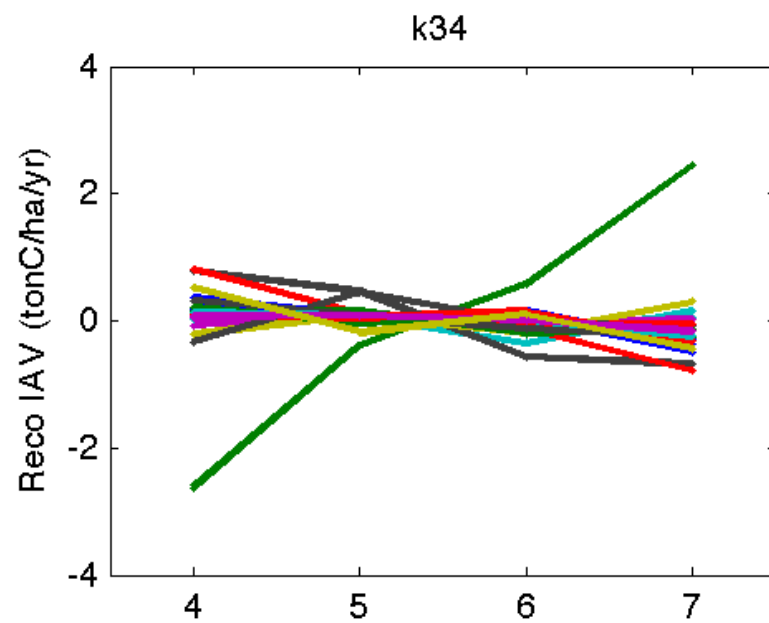
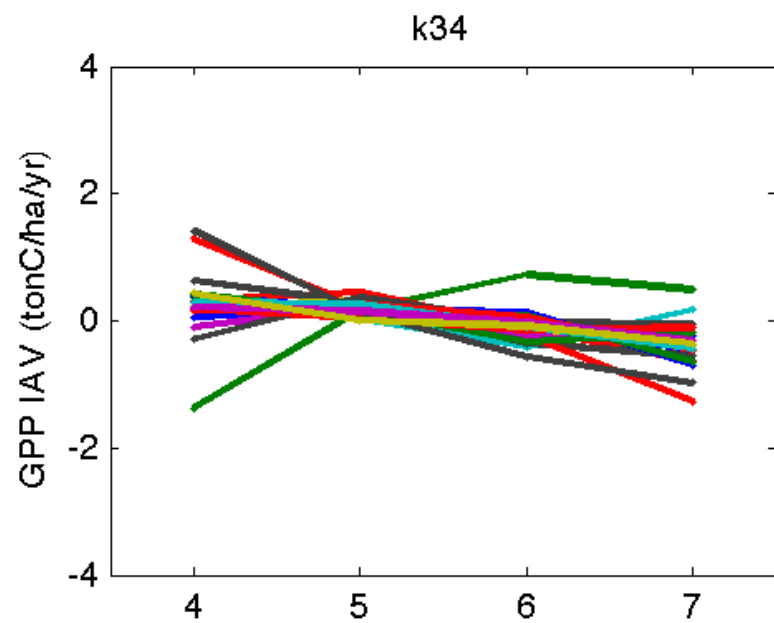


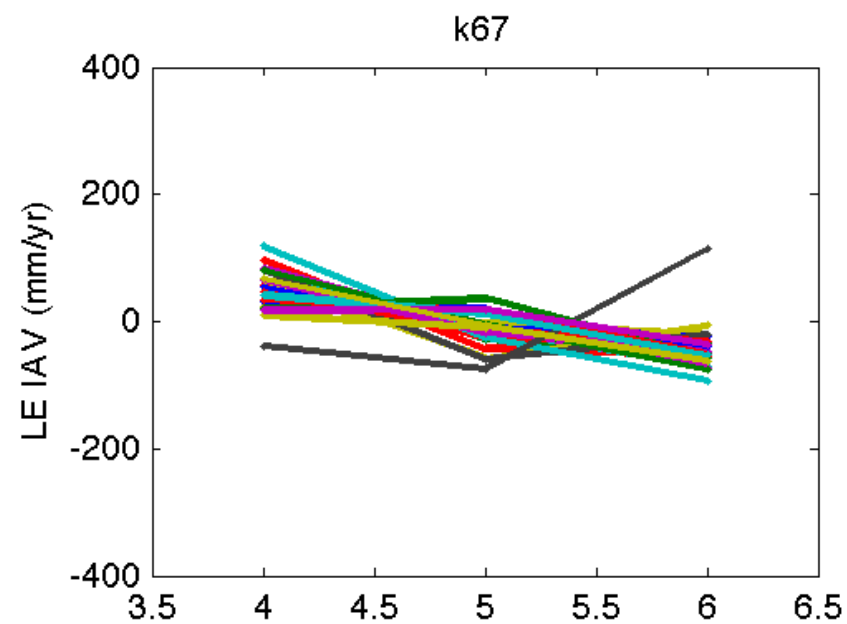
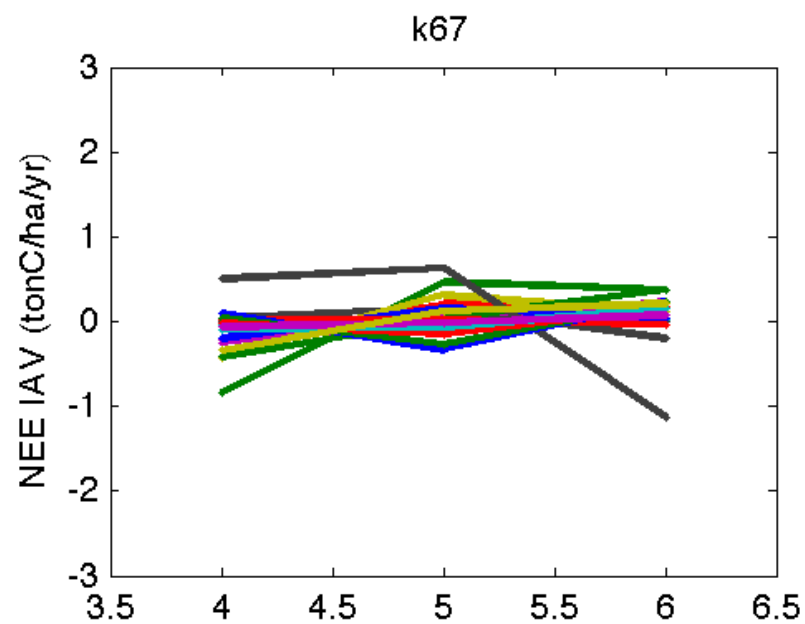
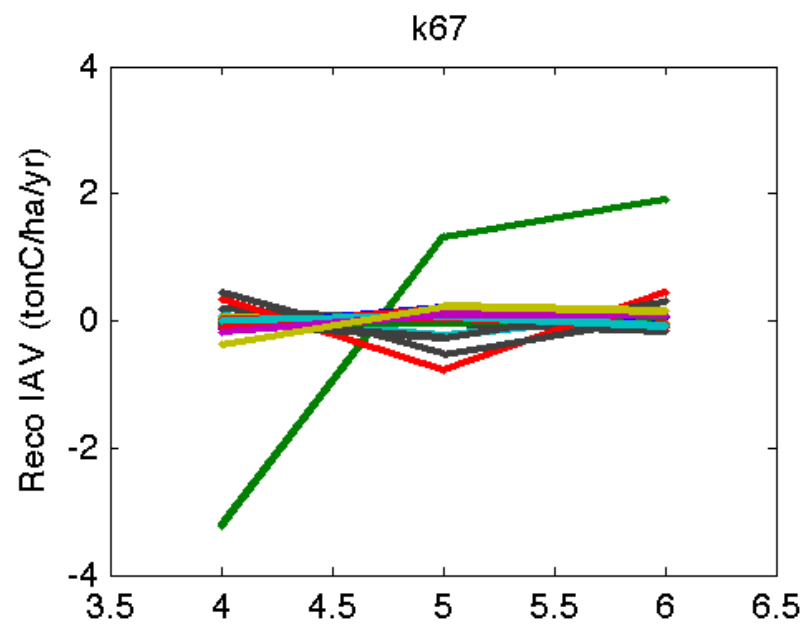
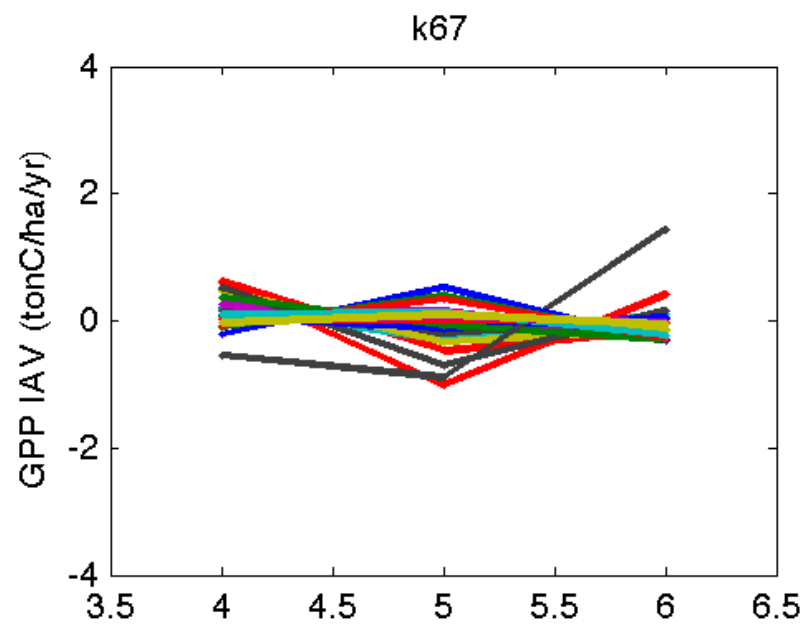


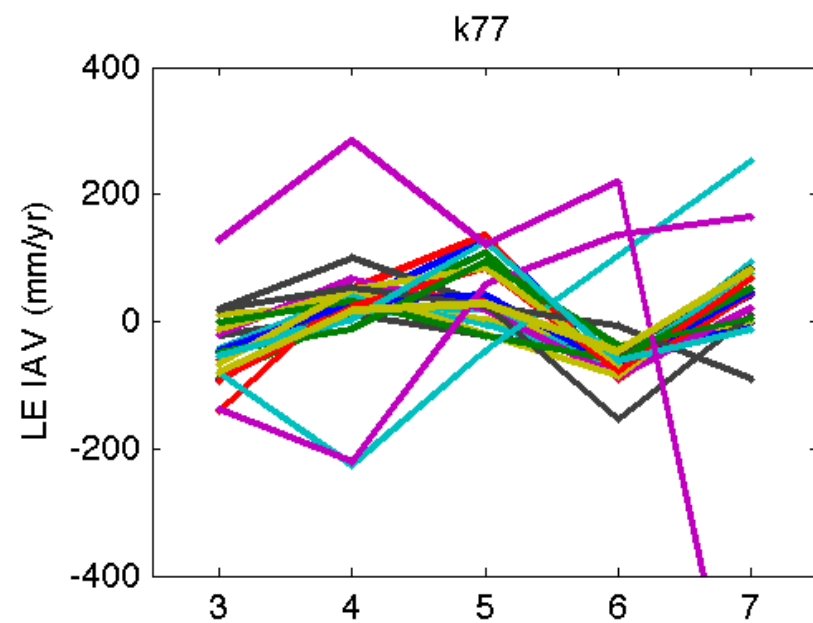
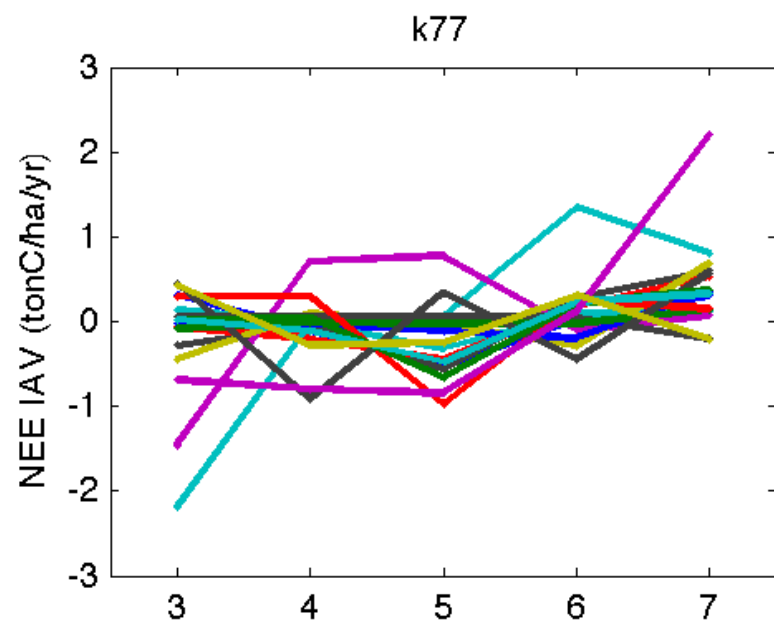
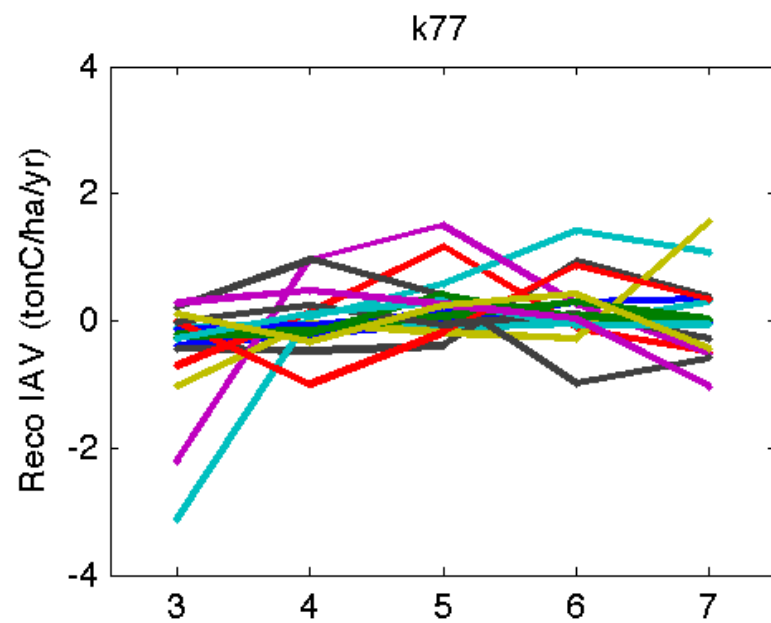
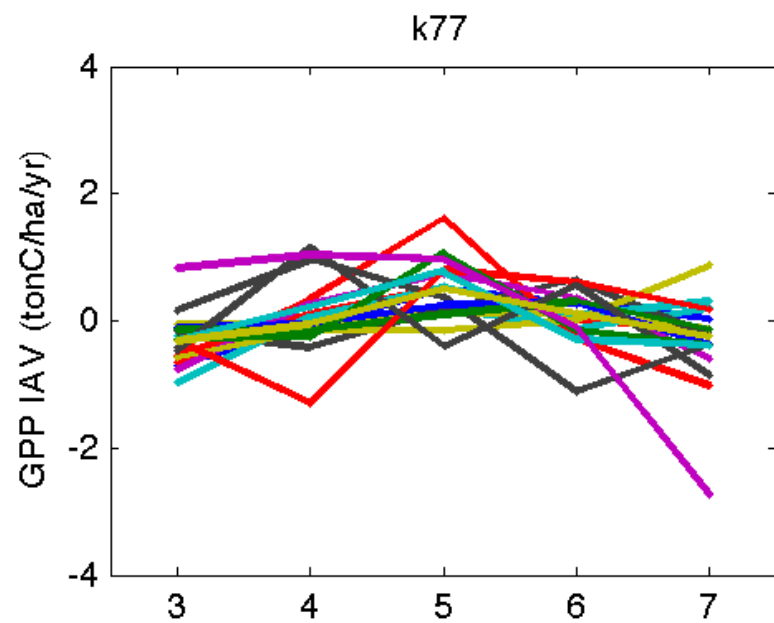
Inter annual variability

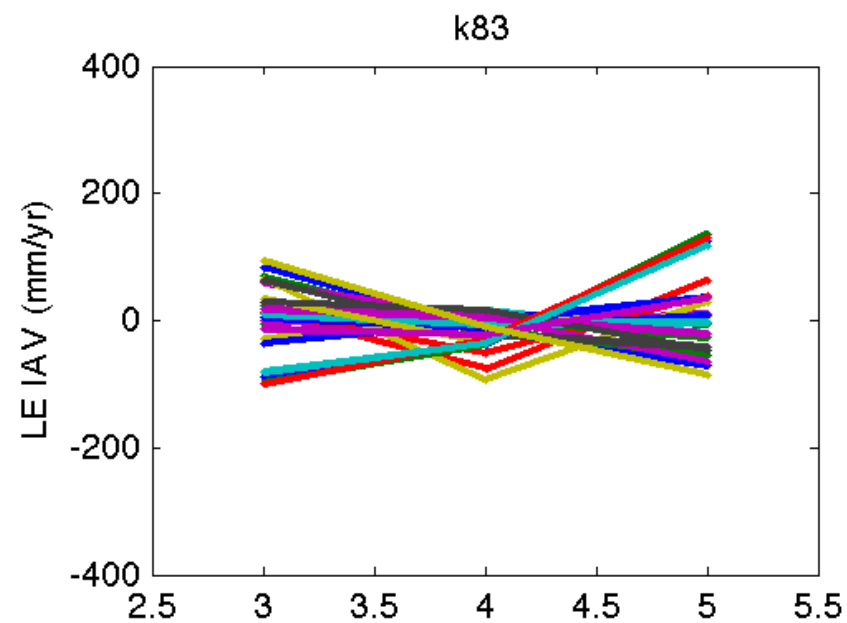
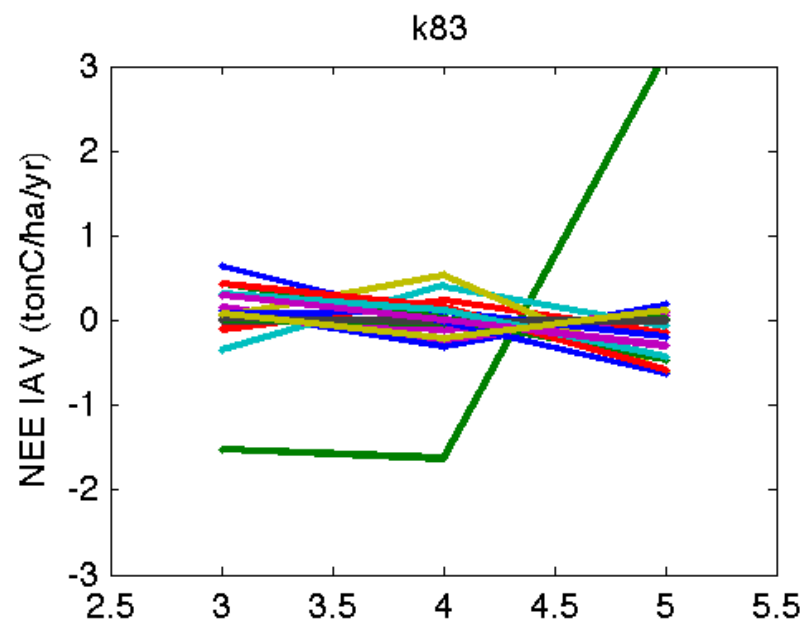
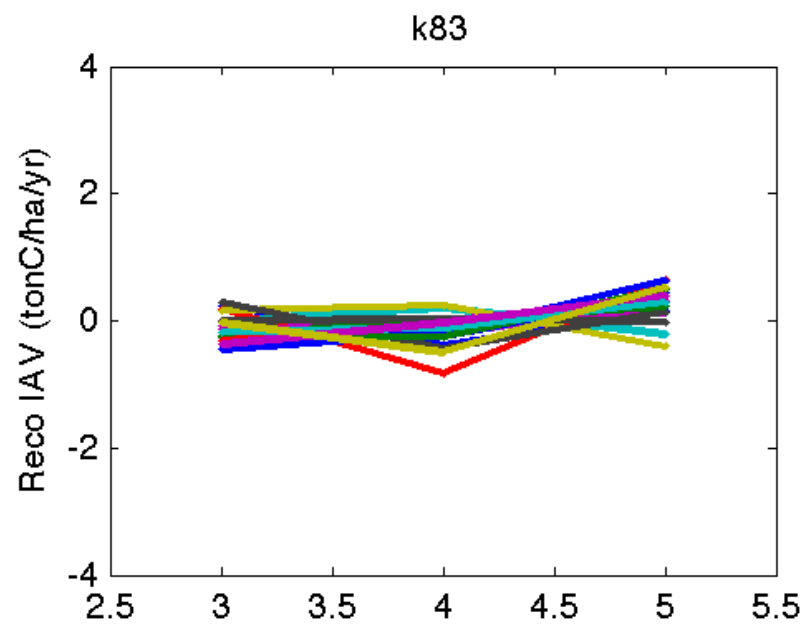
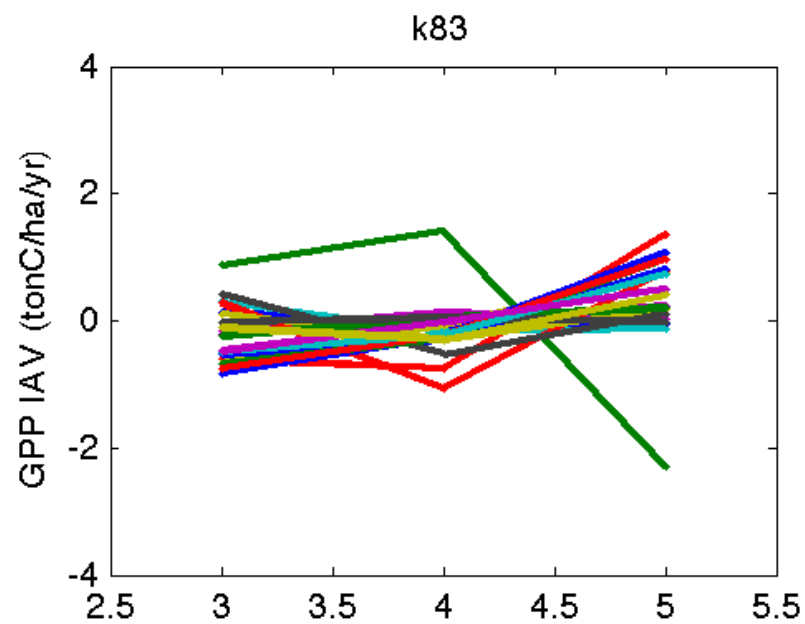


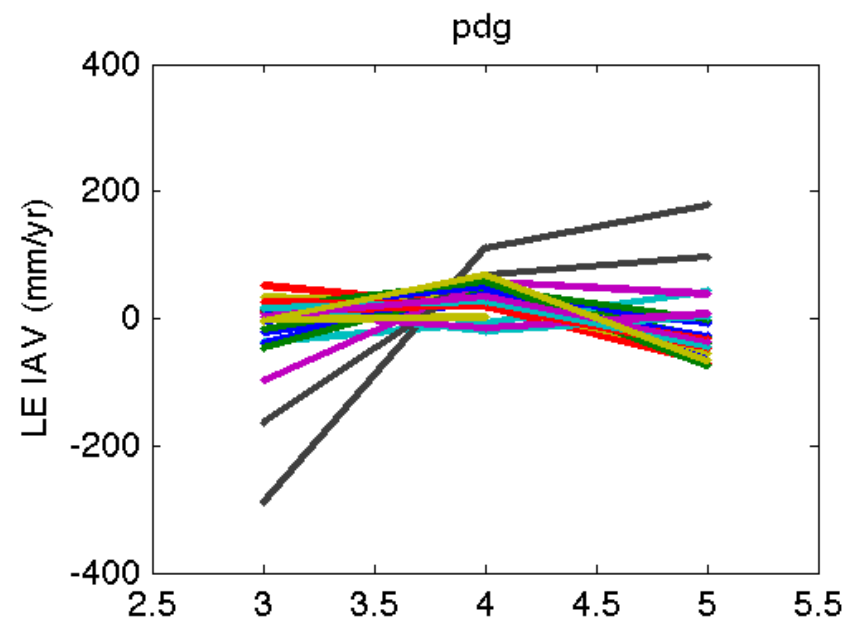
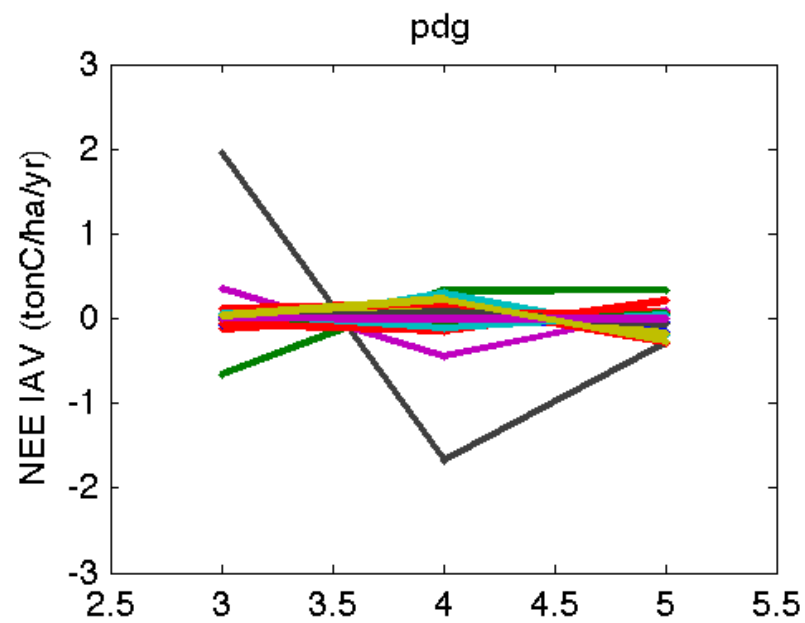
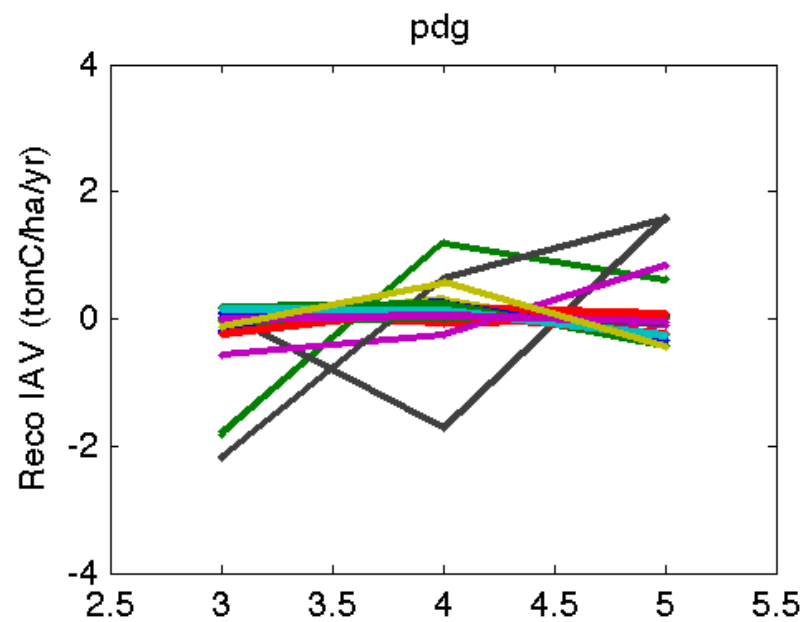
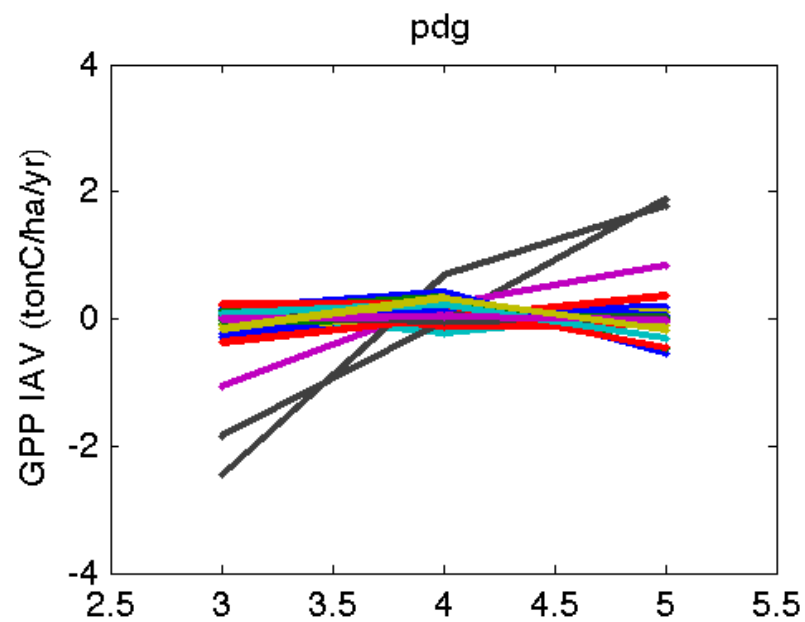


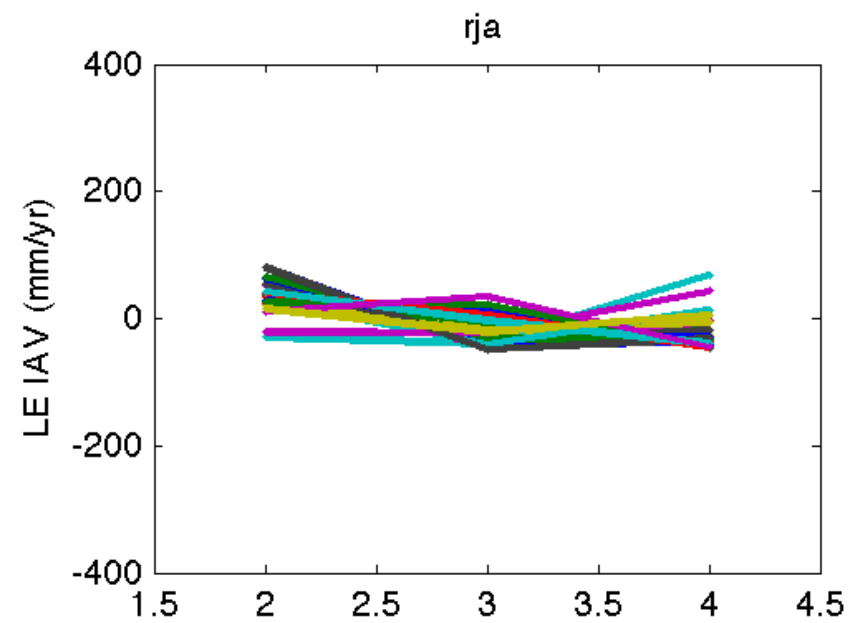
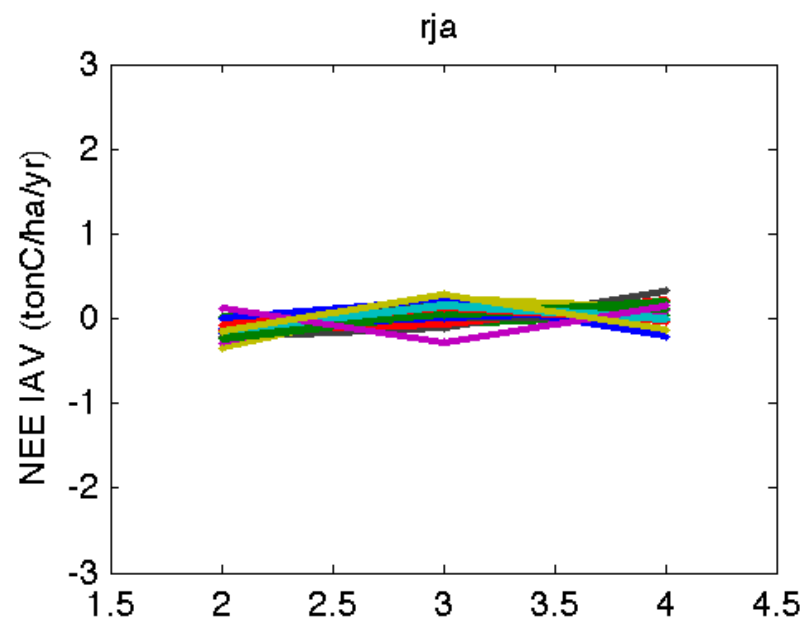
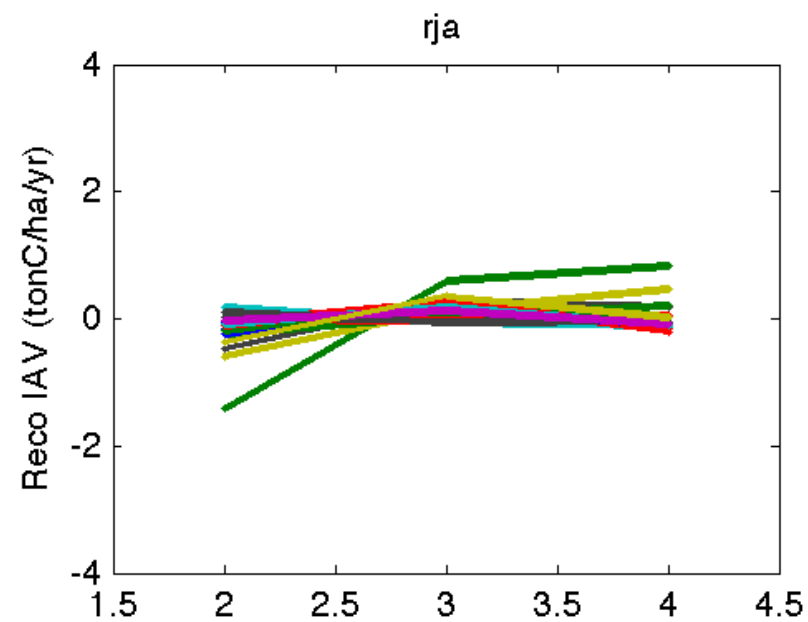
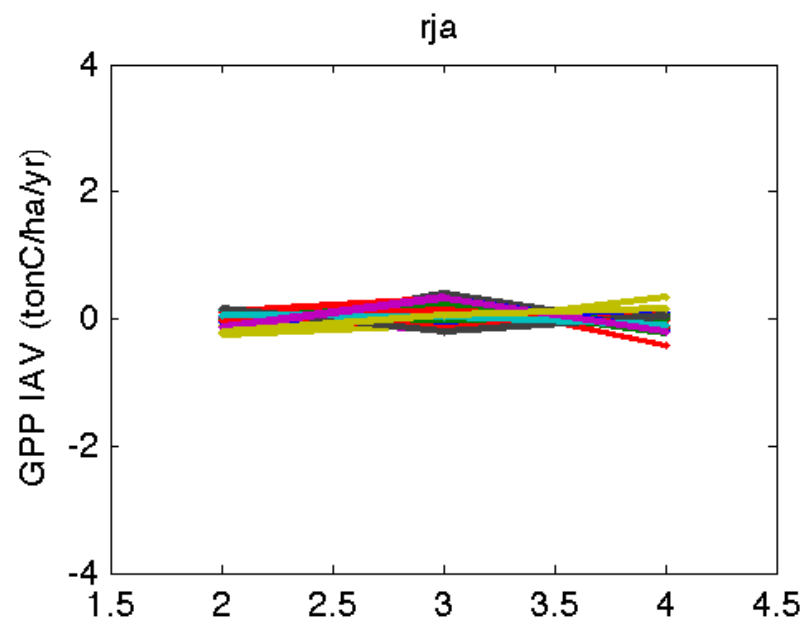




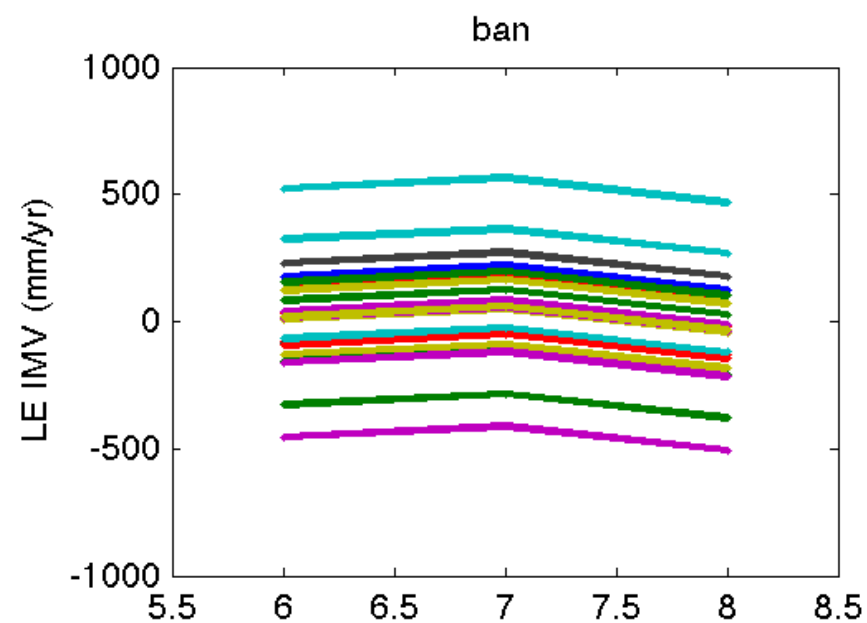
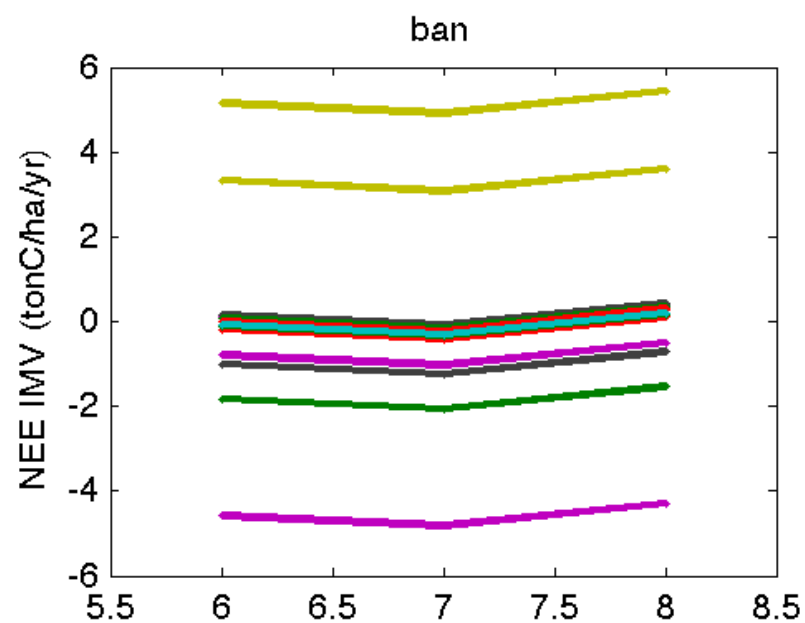
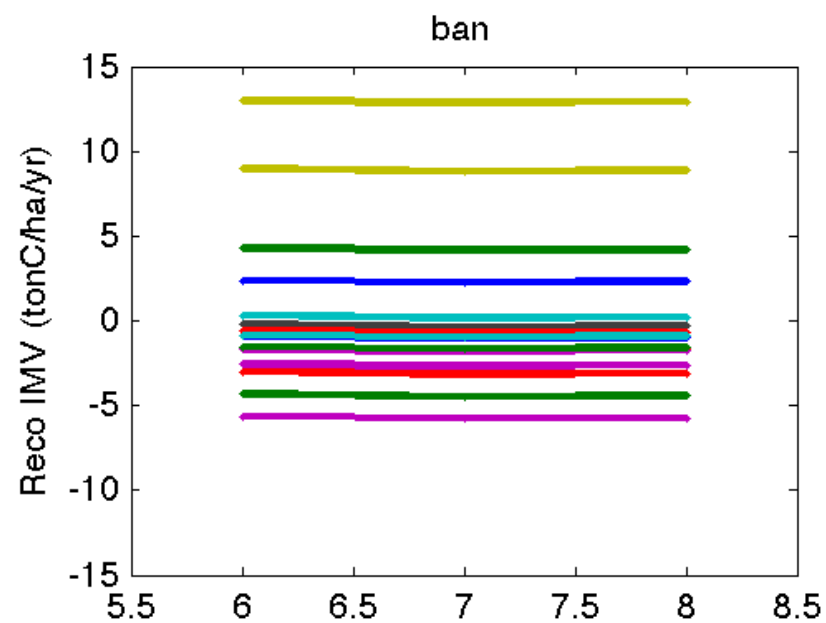
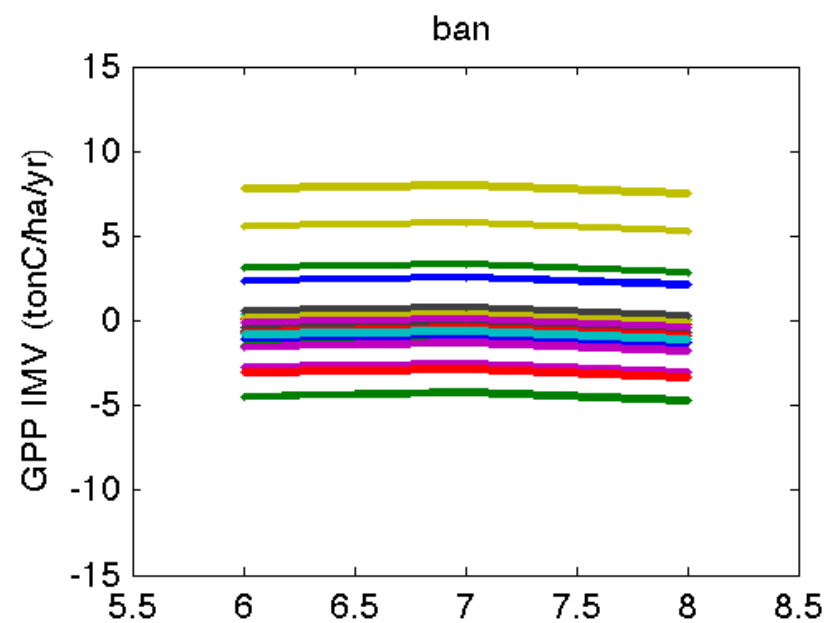


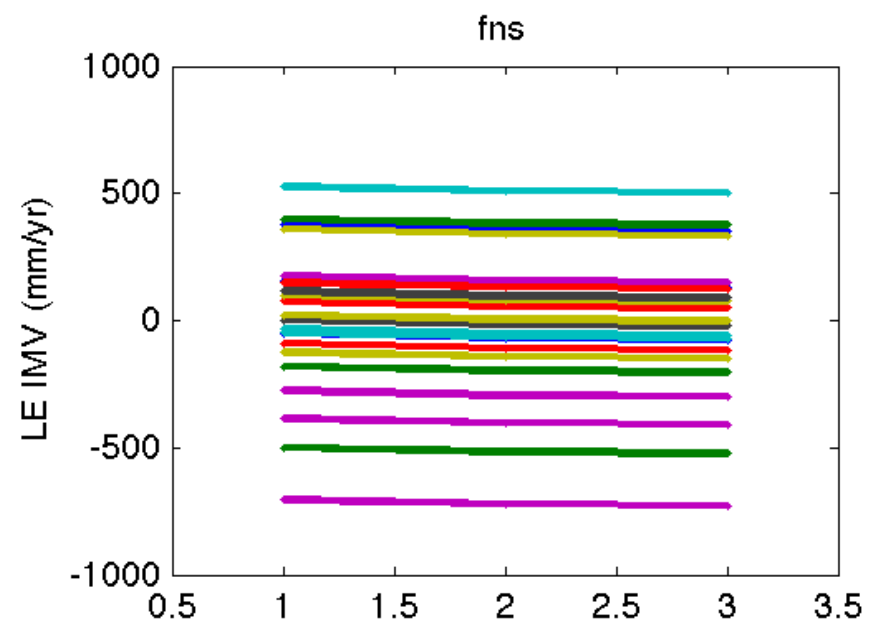
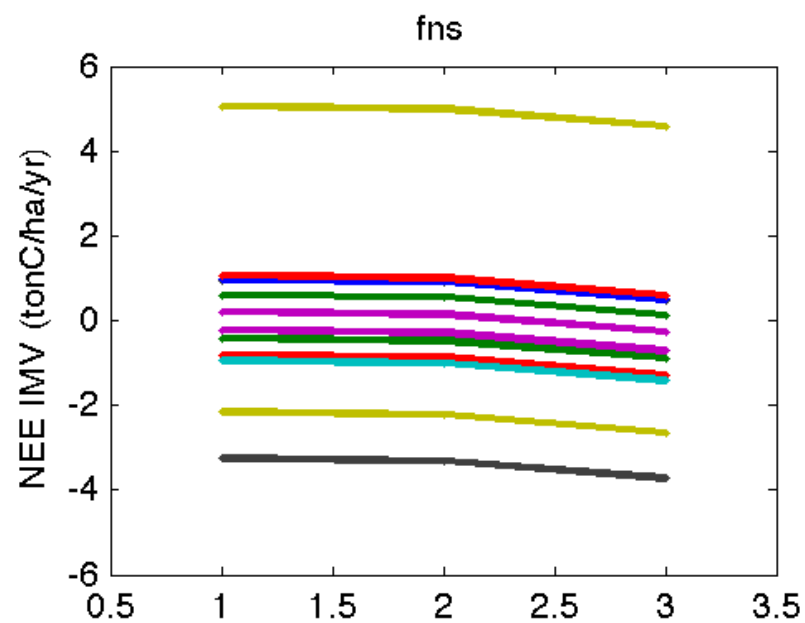
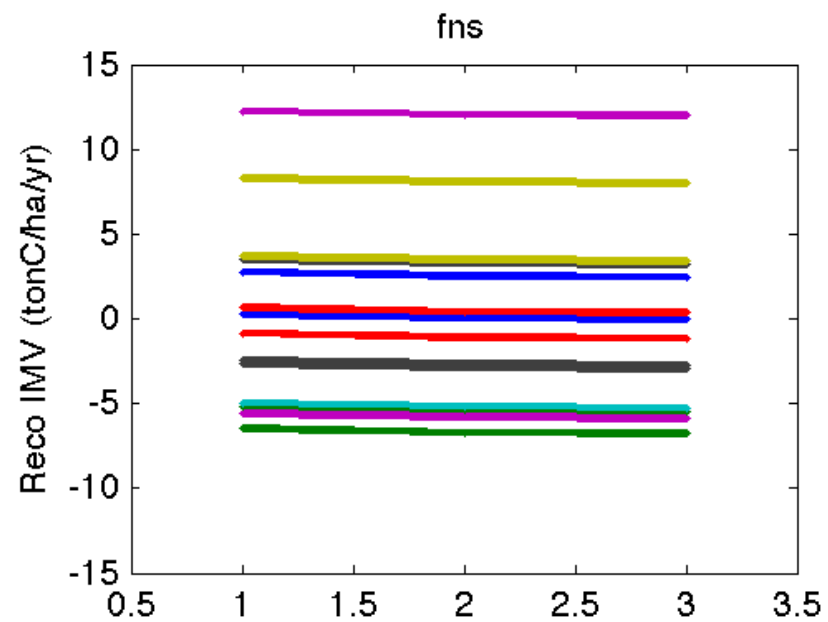
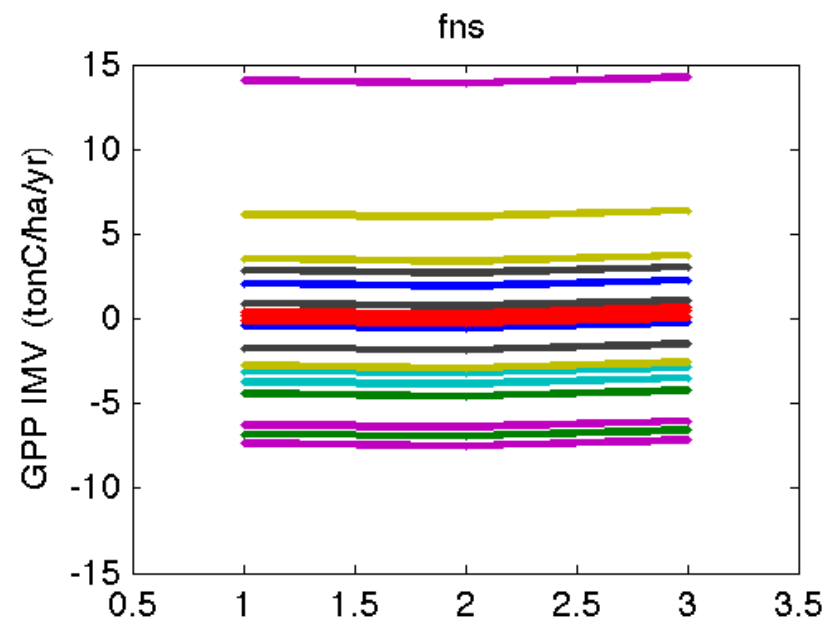


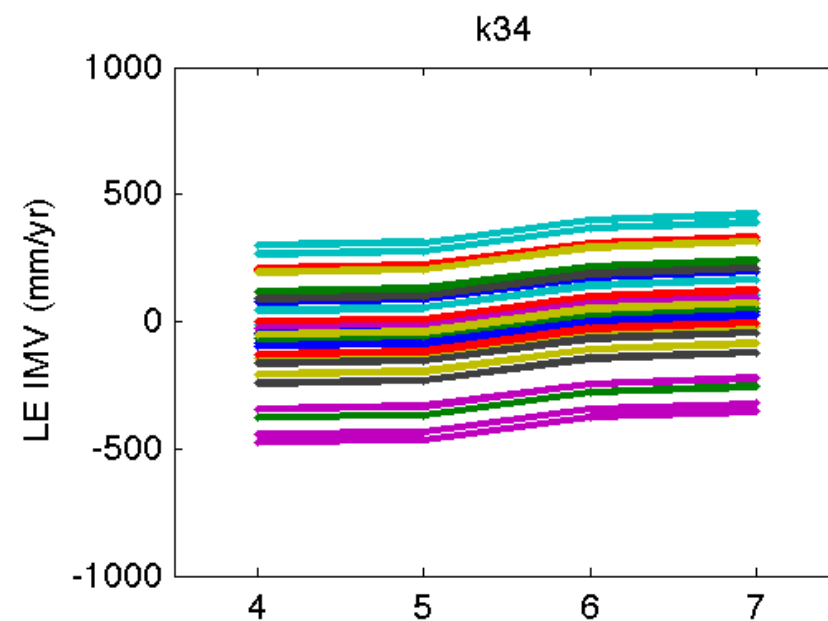
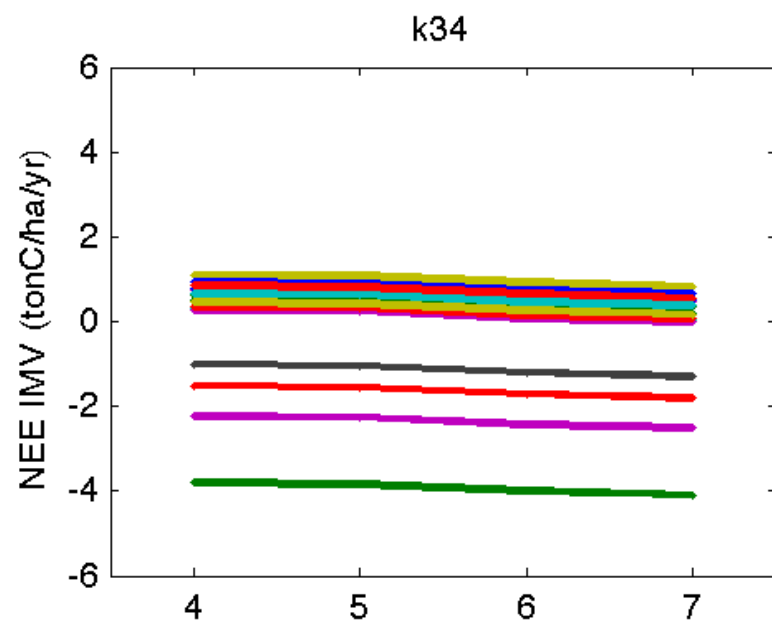
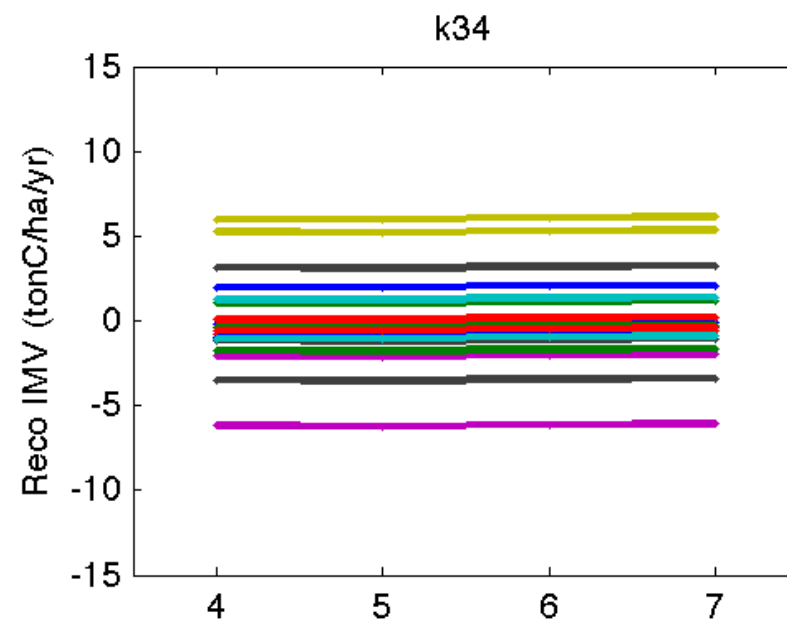
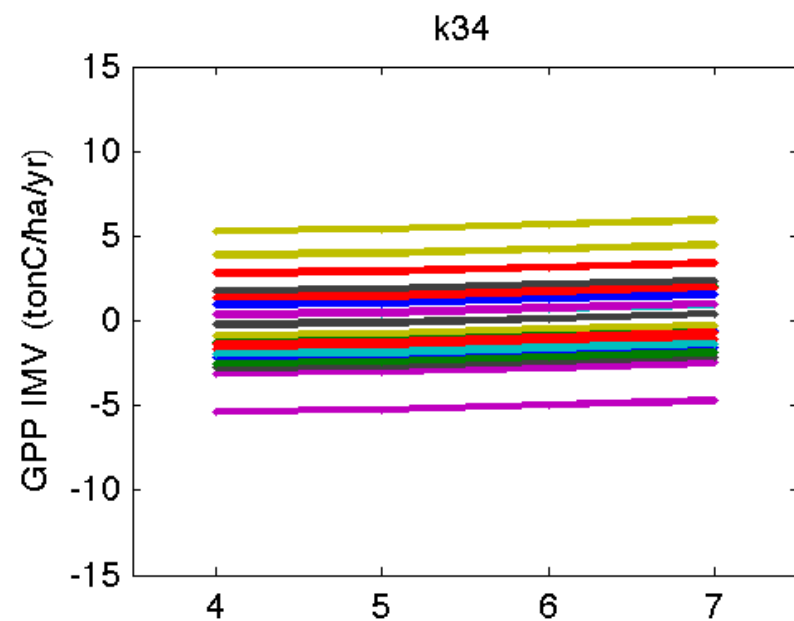


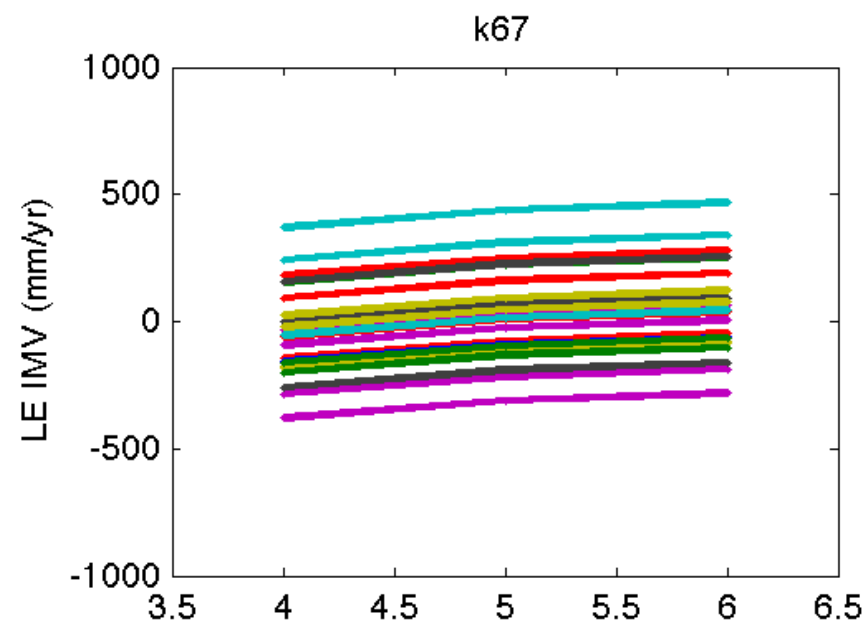
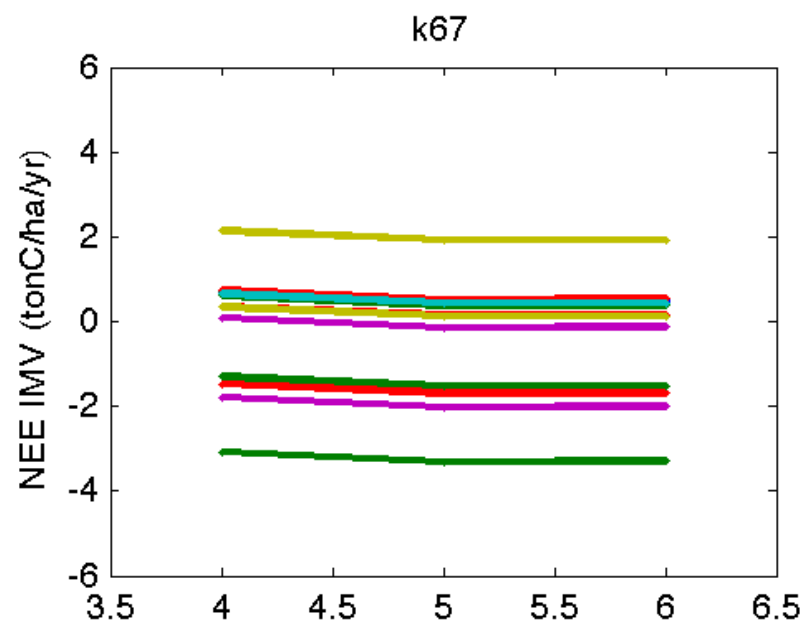
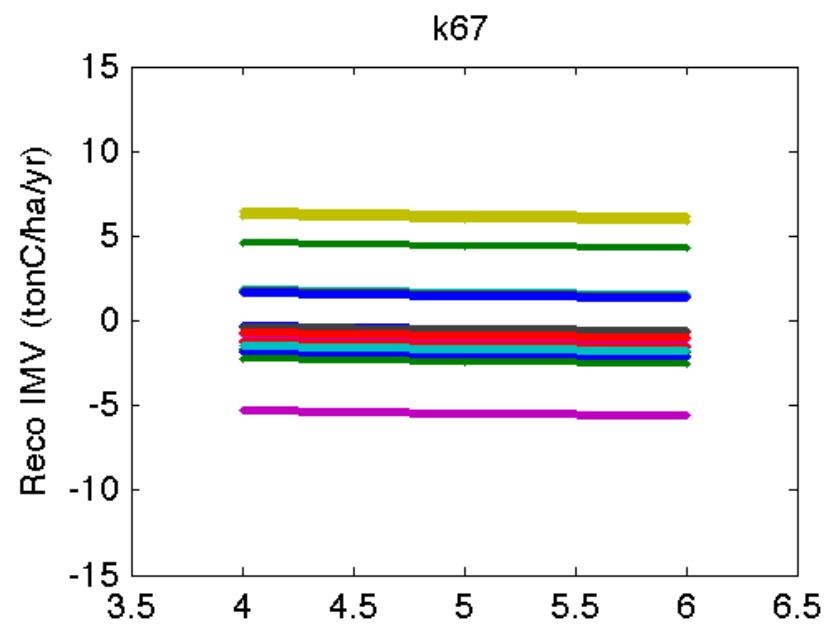
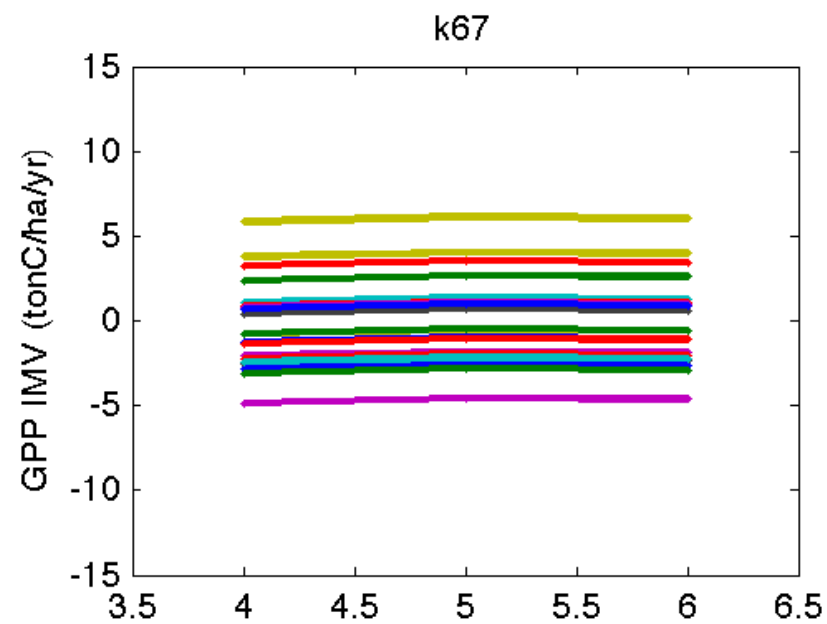


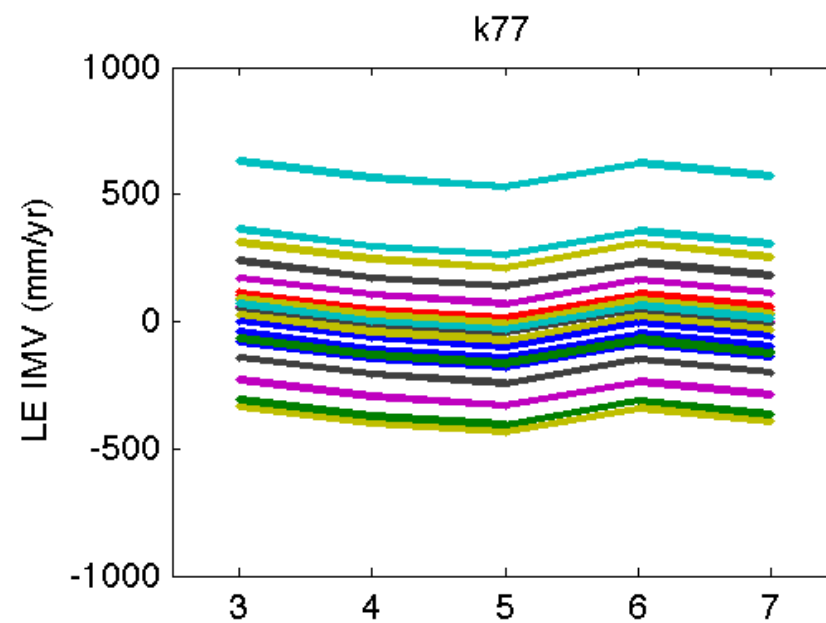
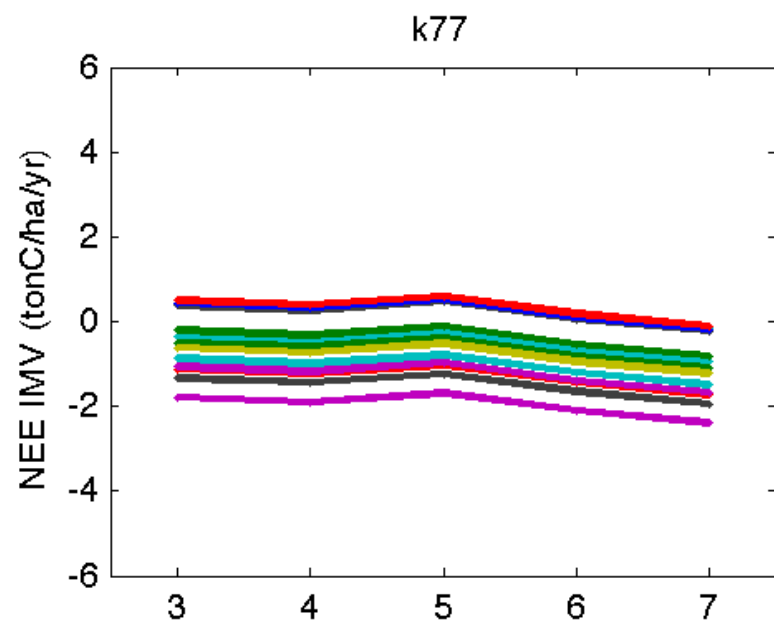
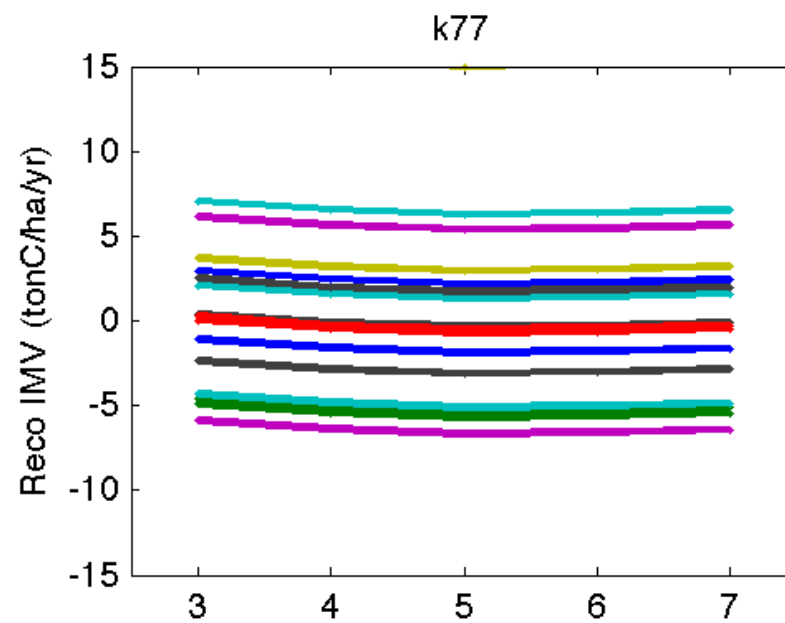
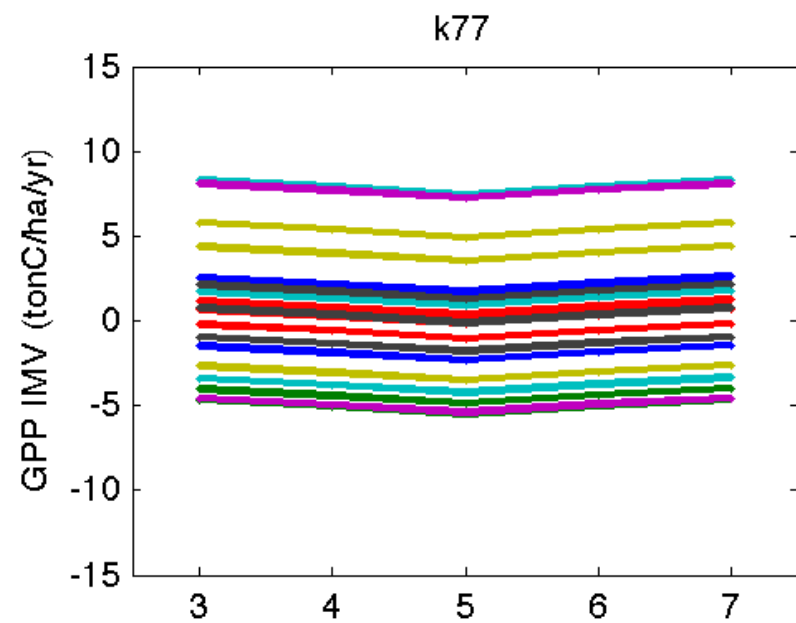
Inter model variability

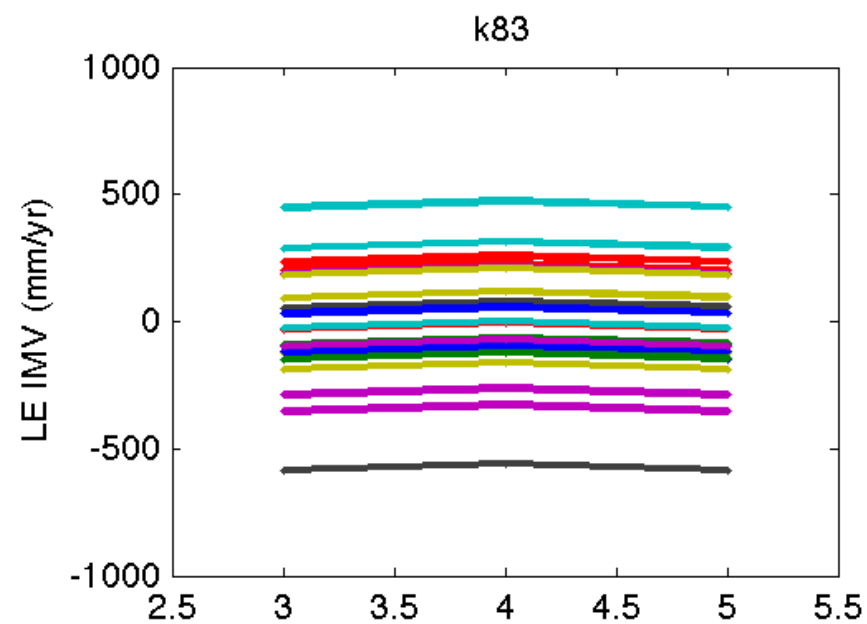
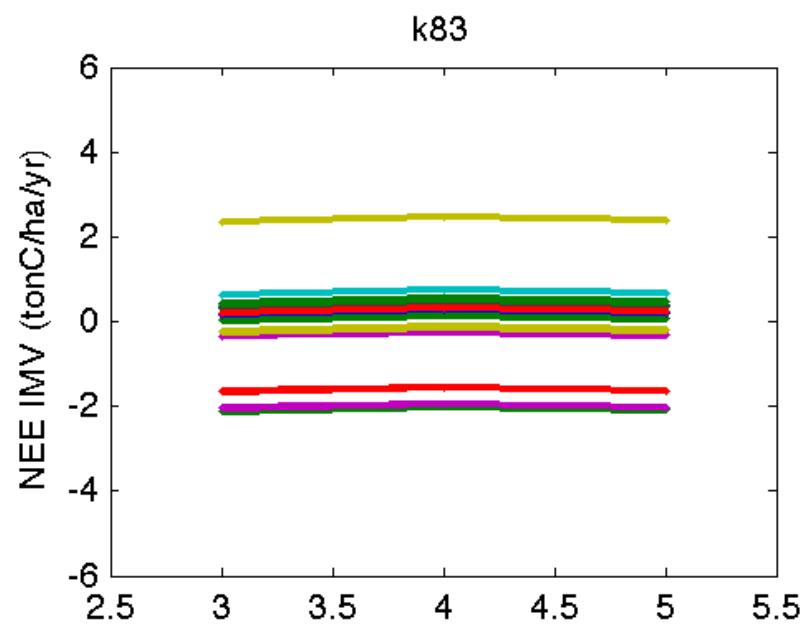
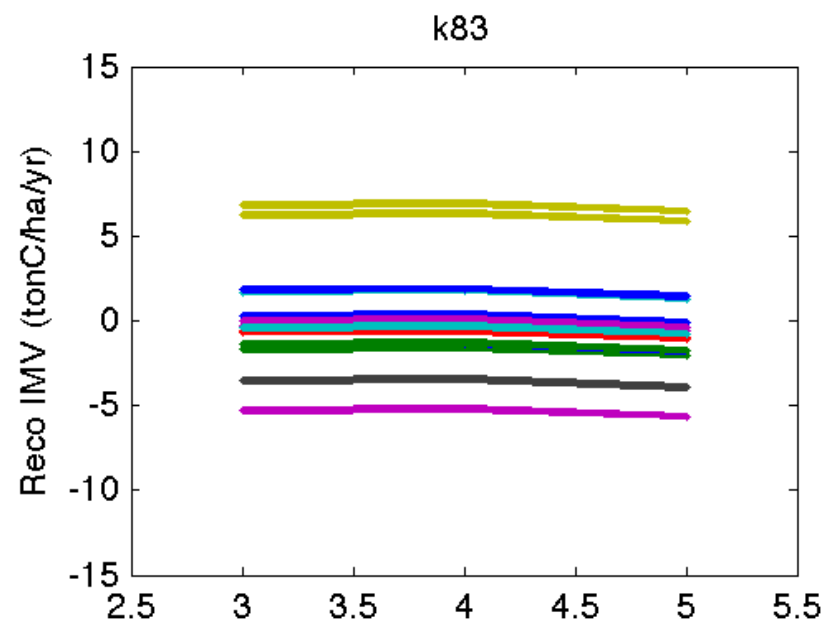
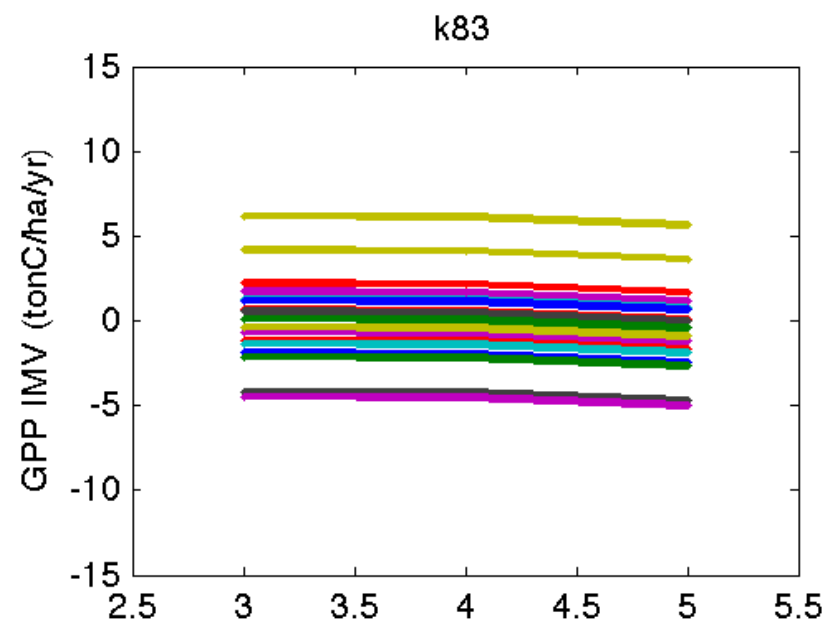


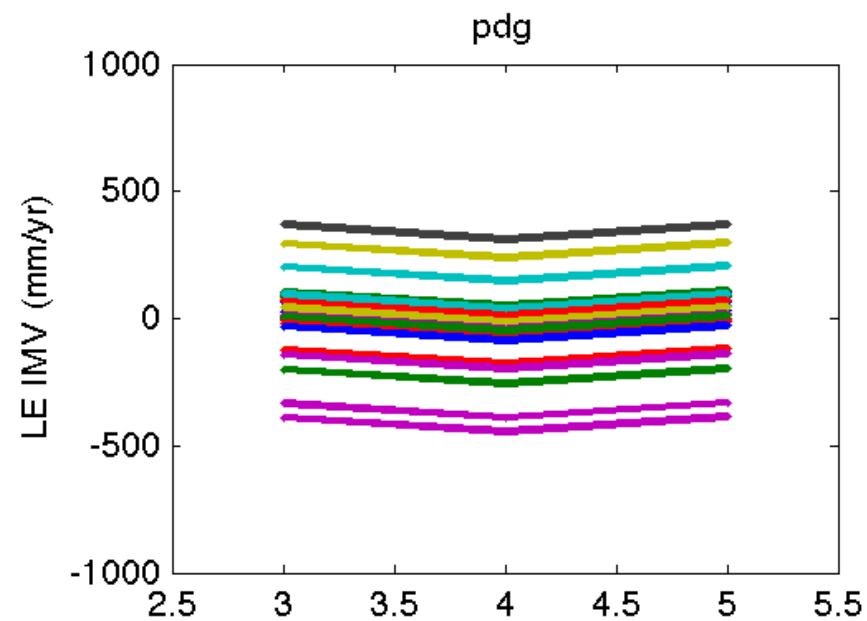
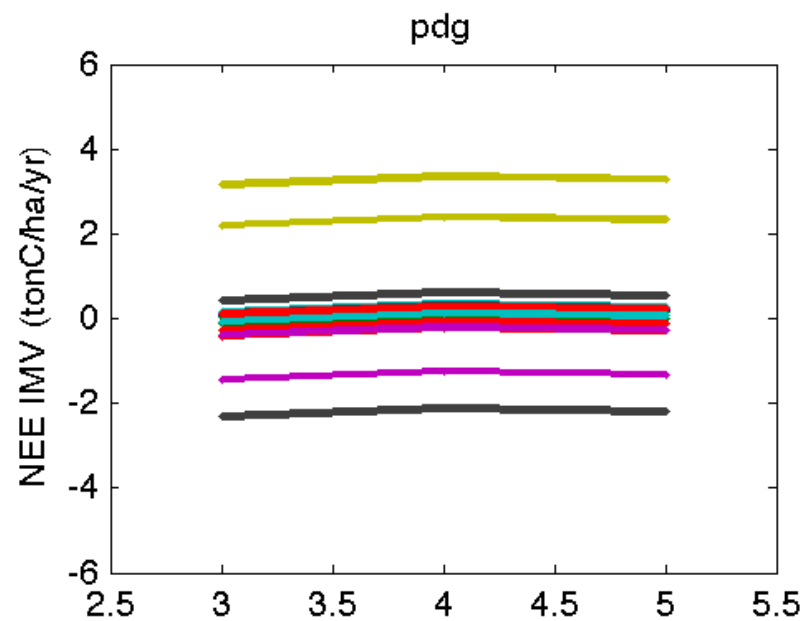
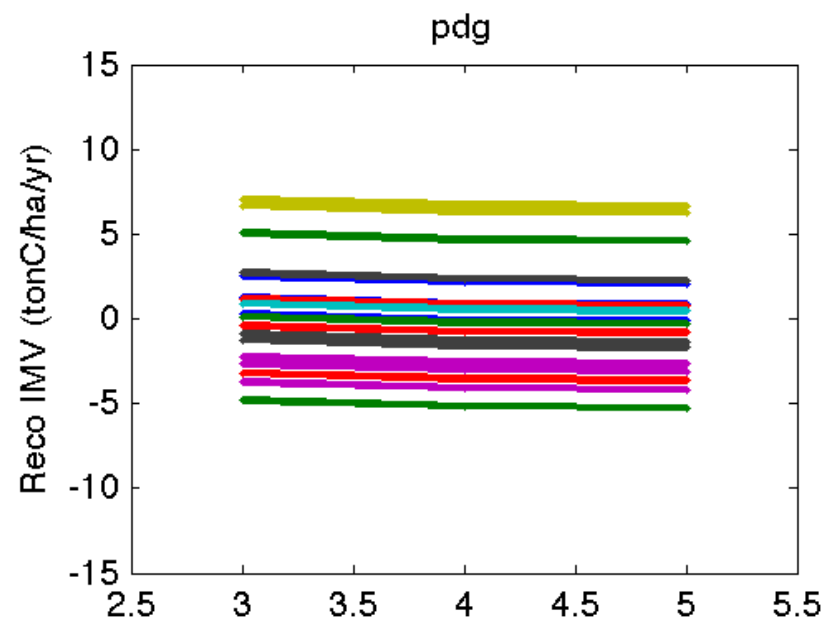
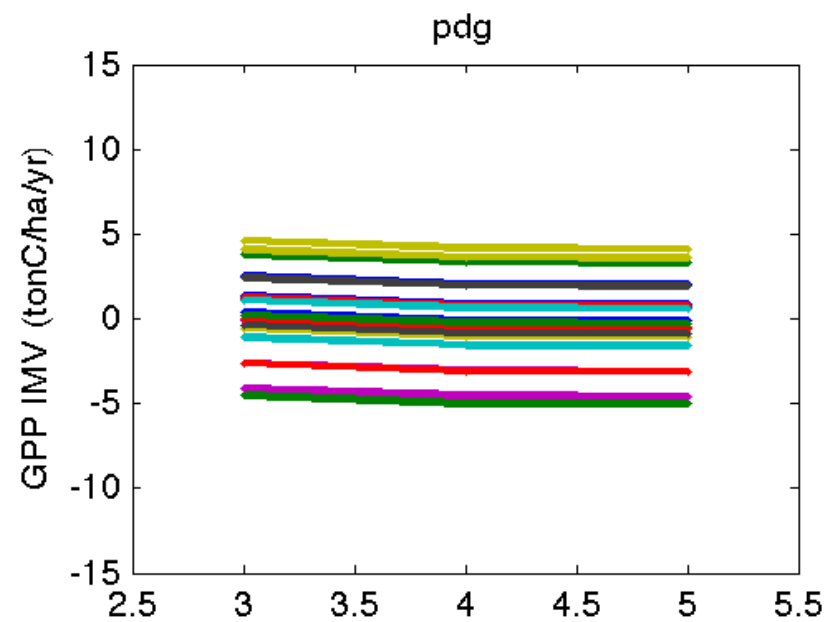


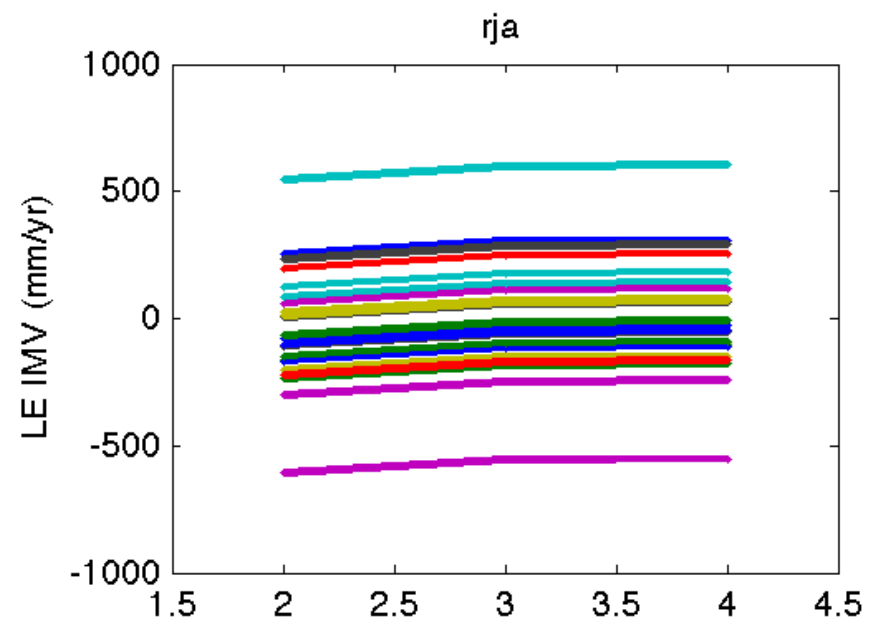
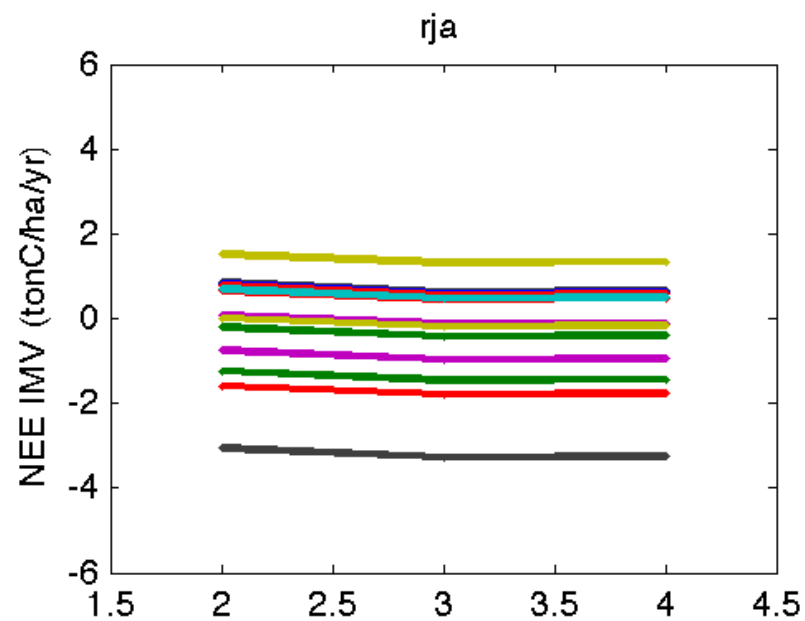
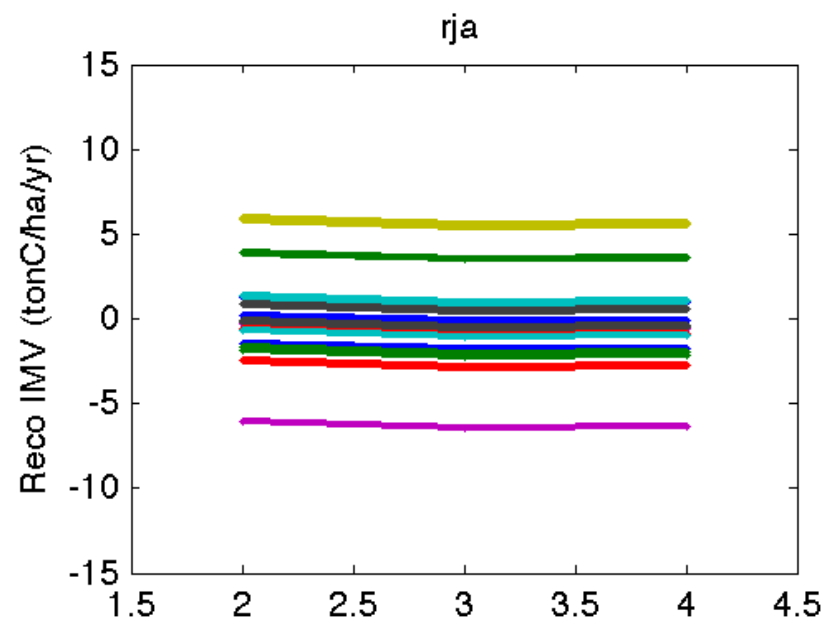
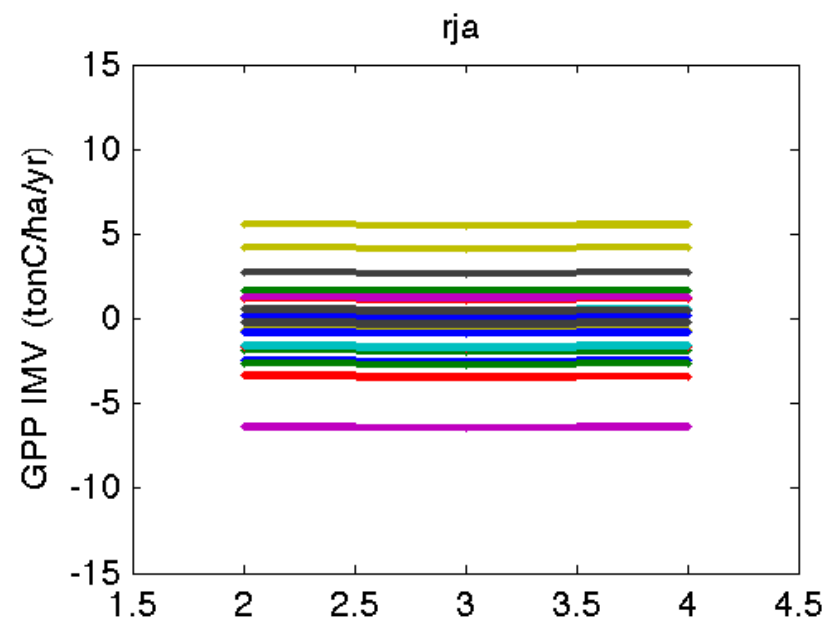






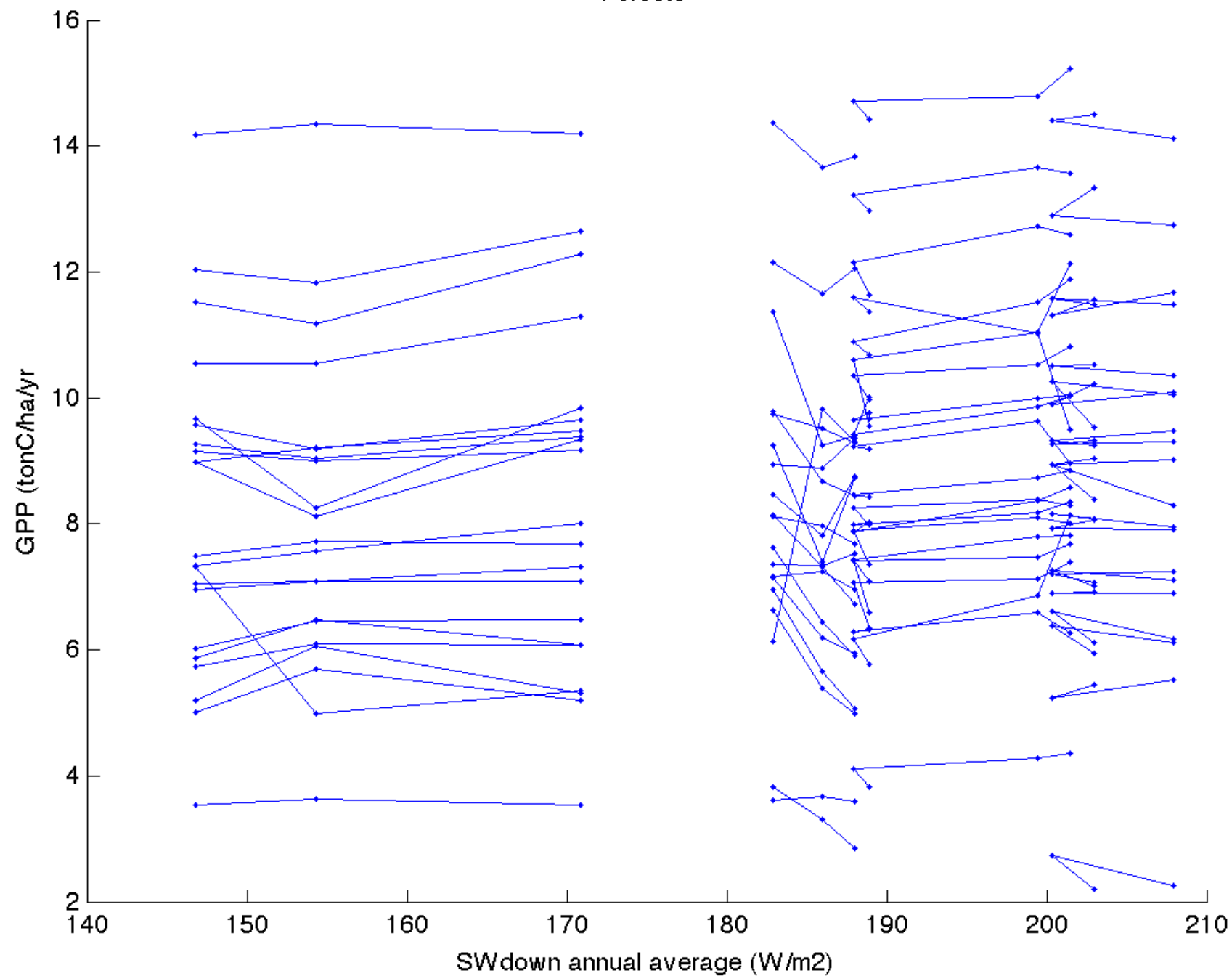




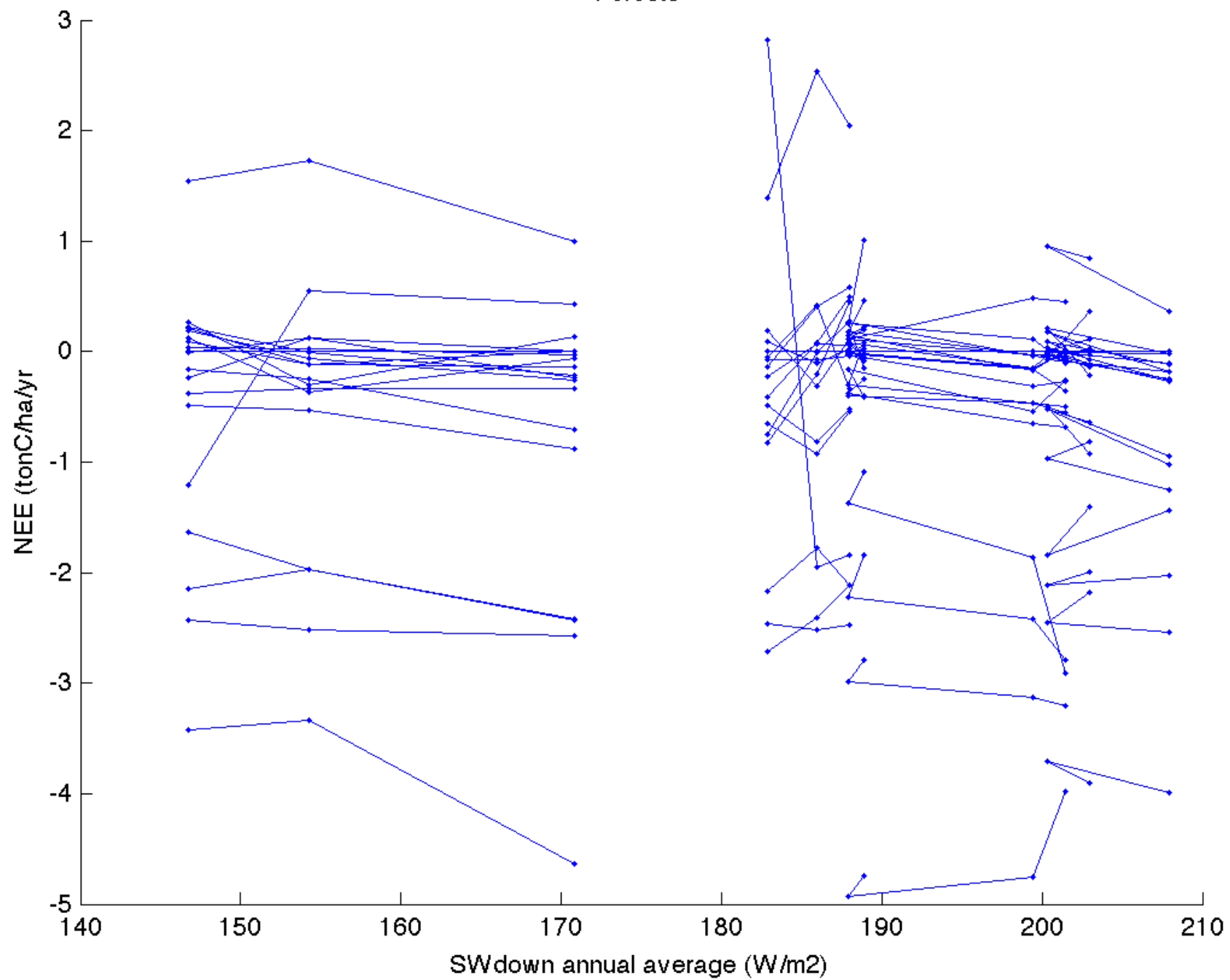


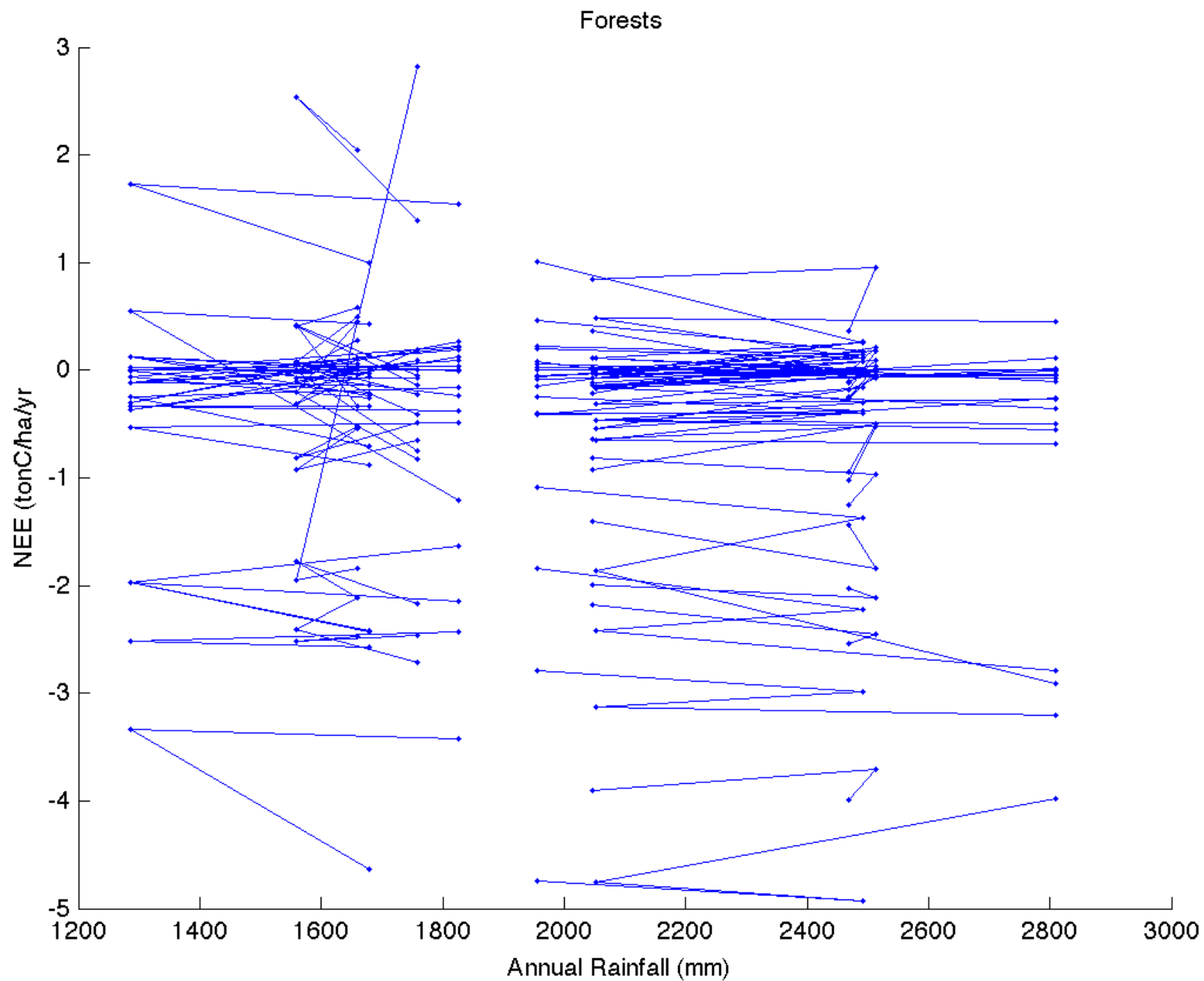
Quest for 'main drivers'

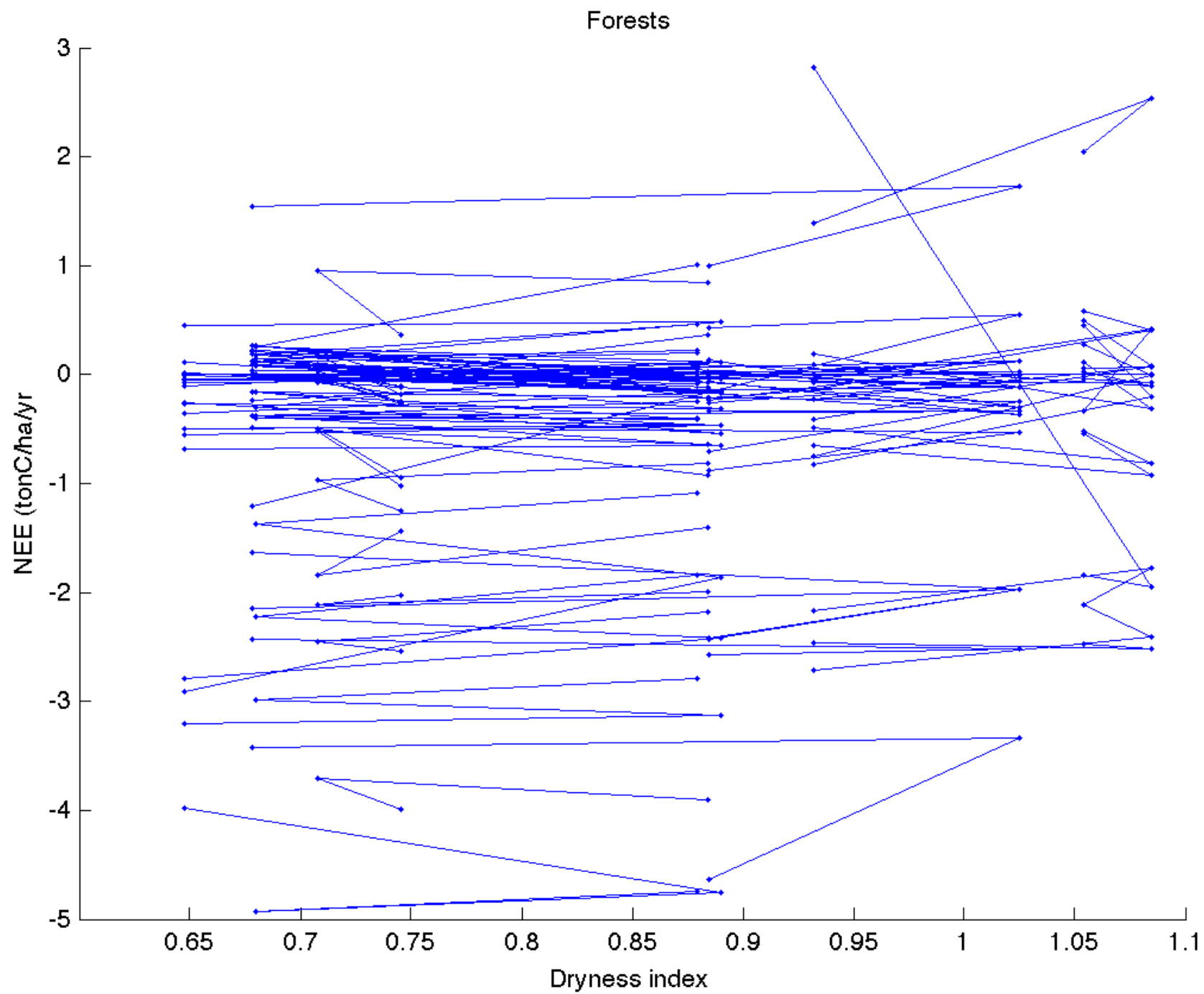
Forests

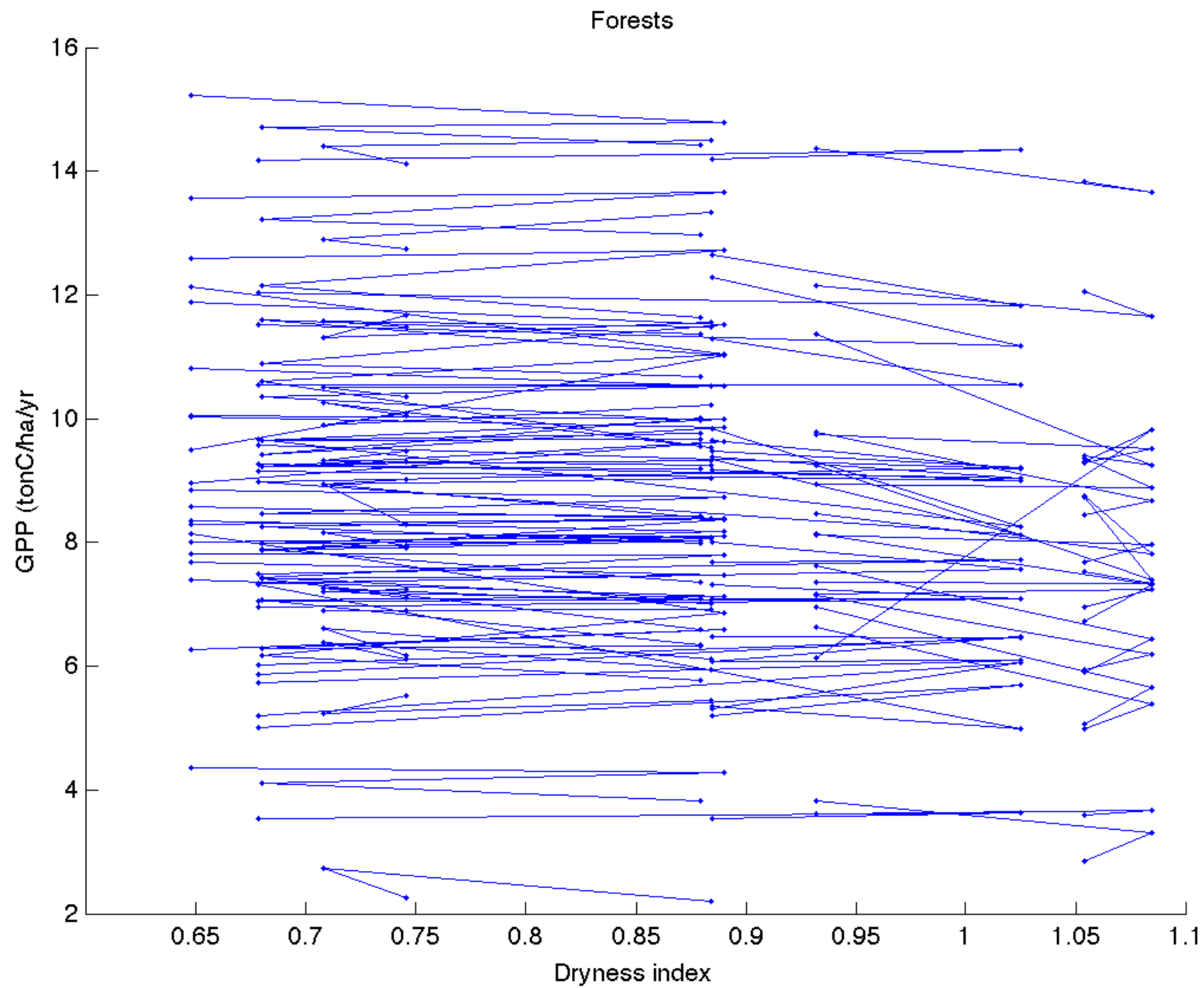


Forests

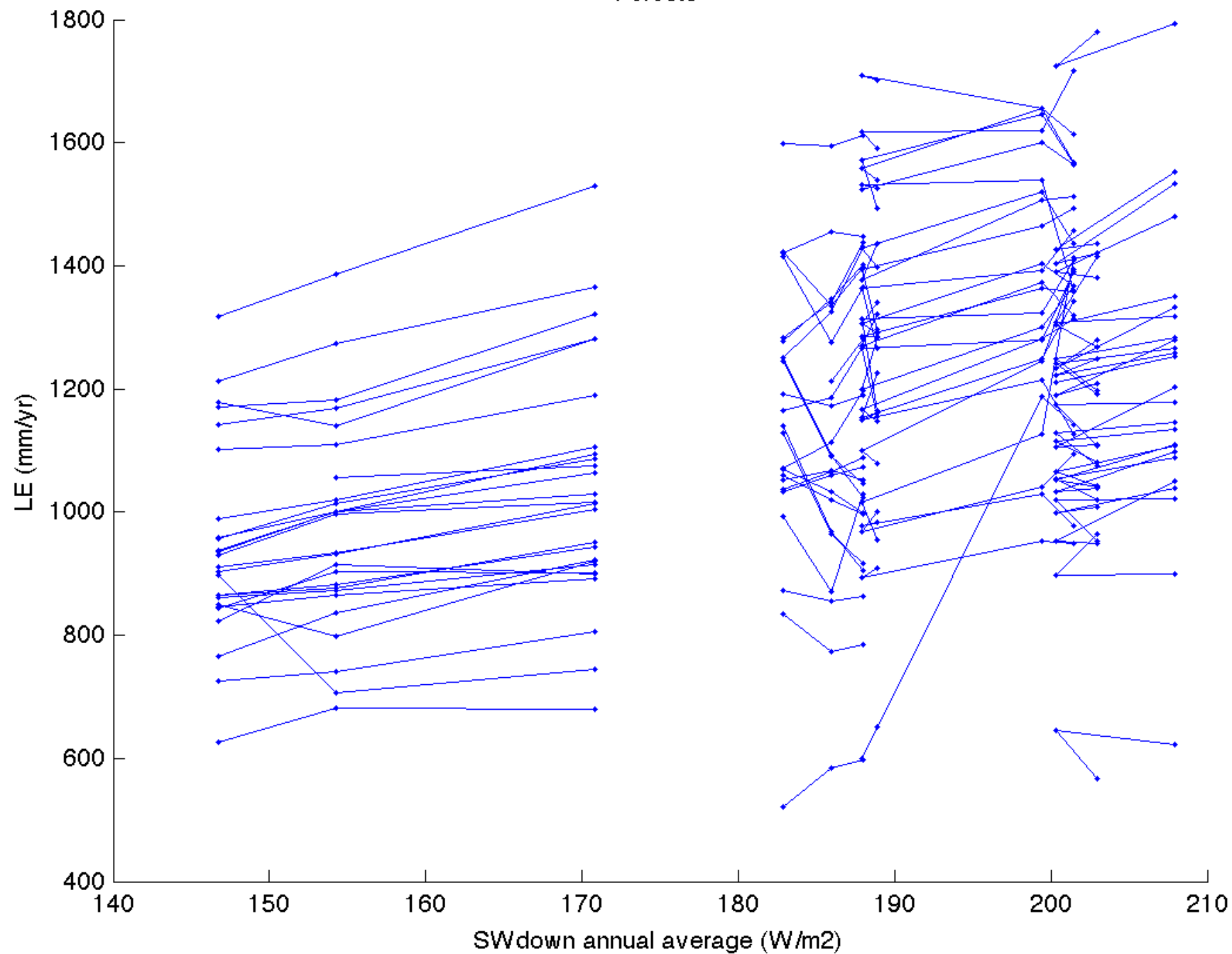


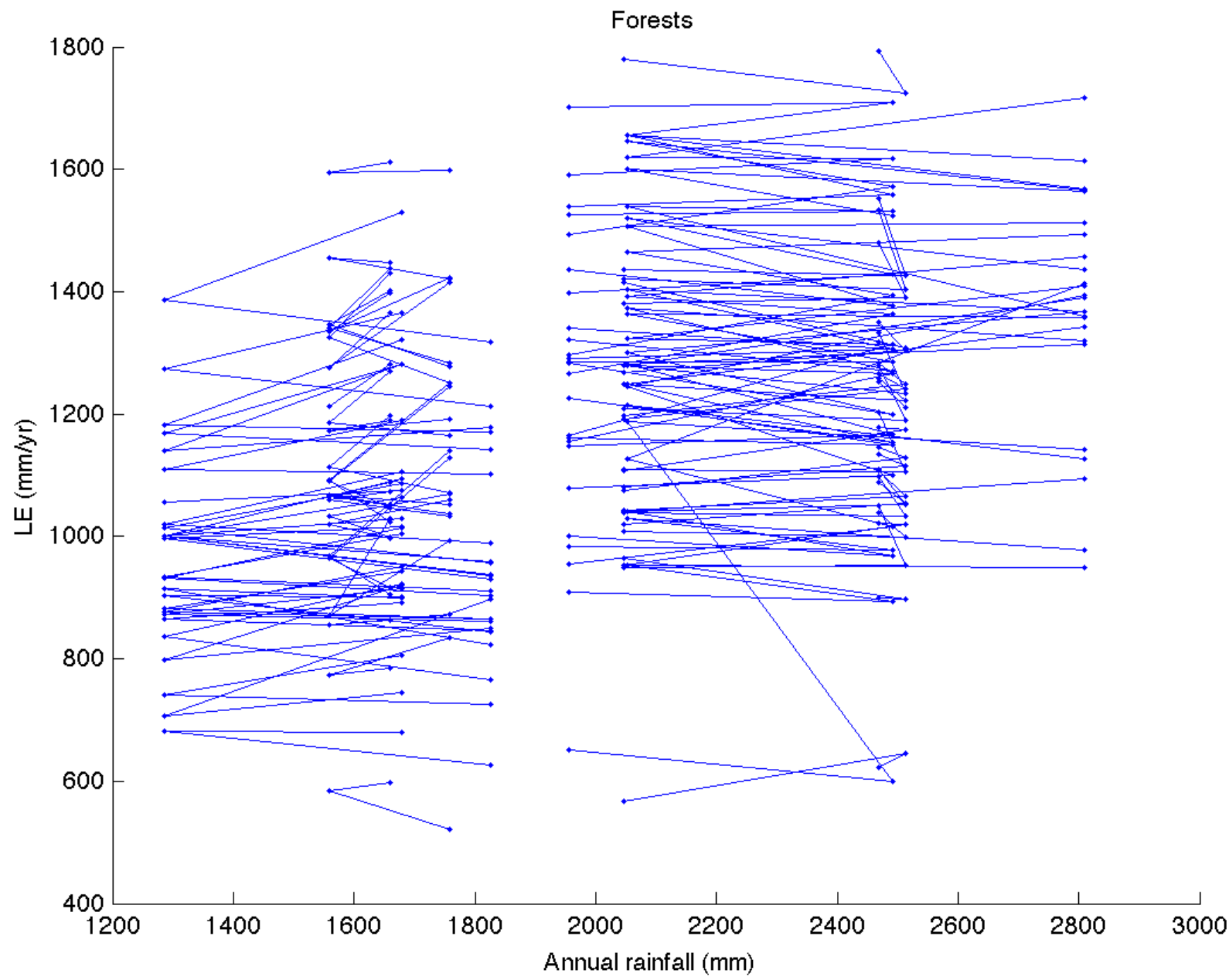


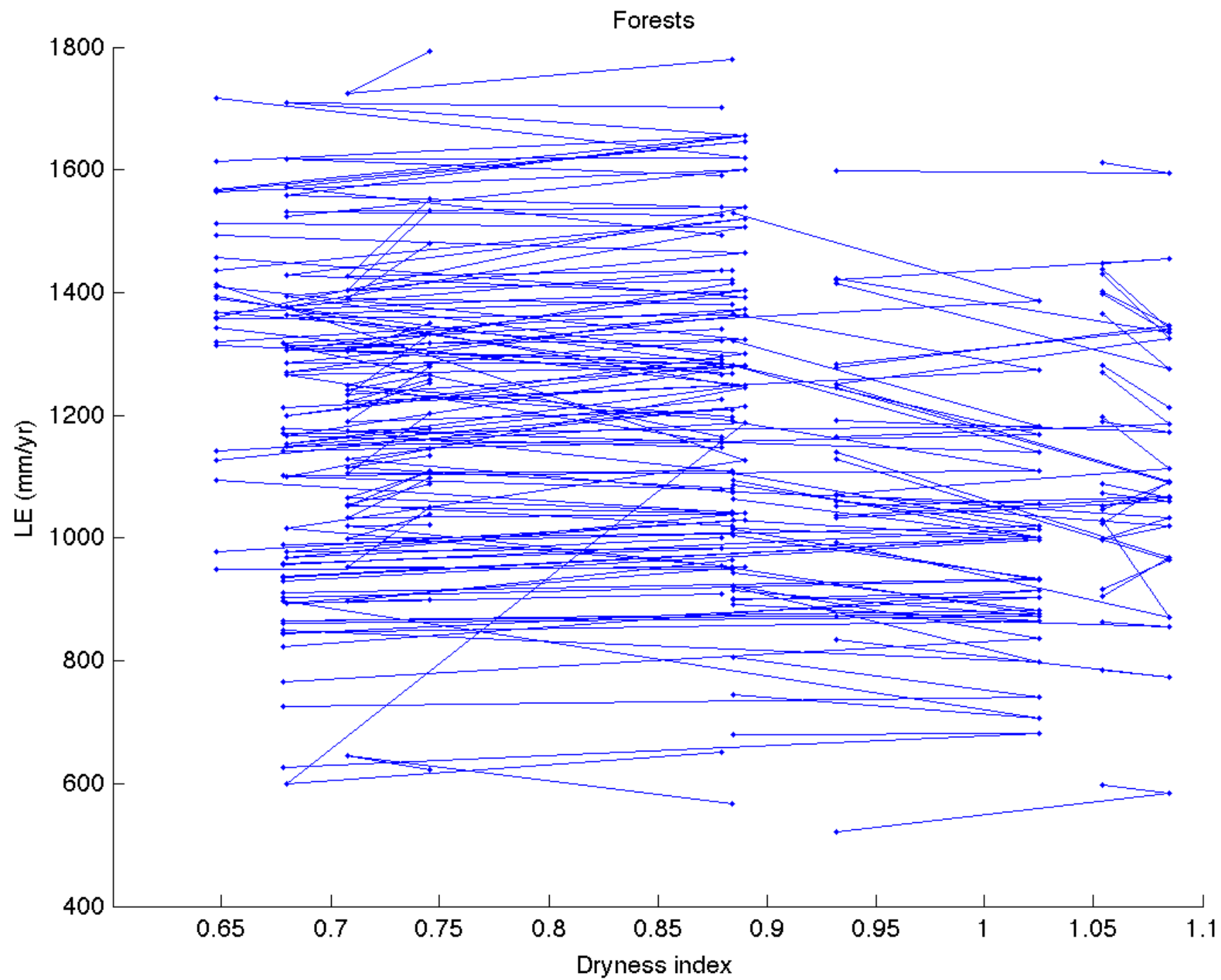




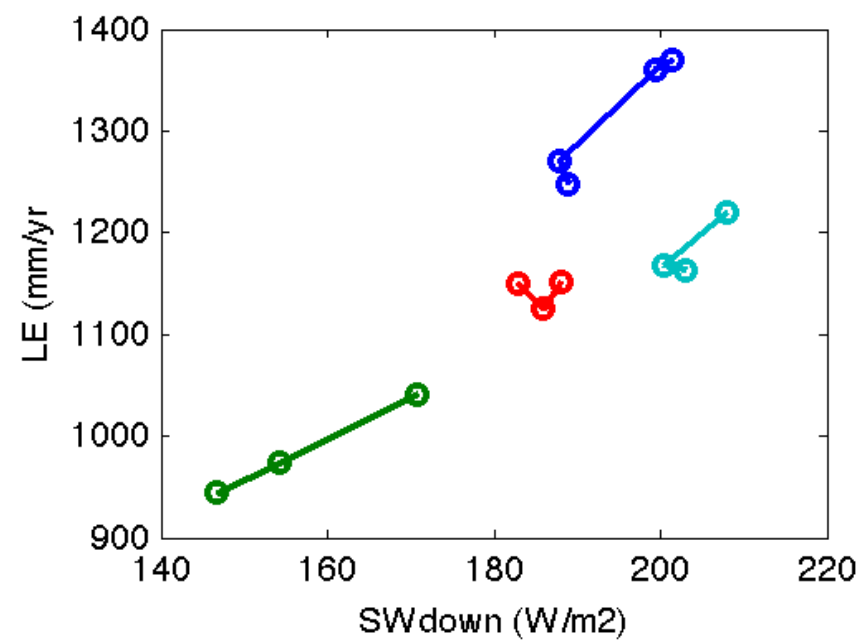
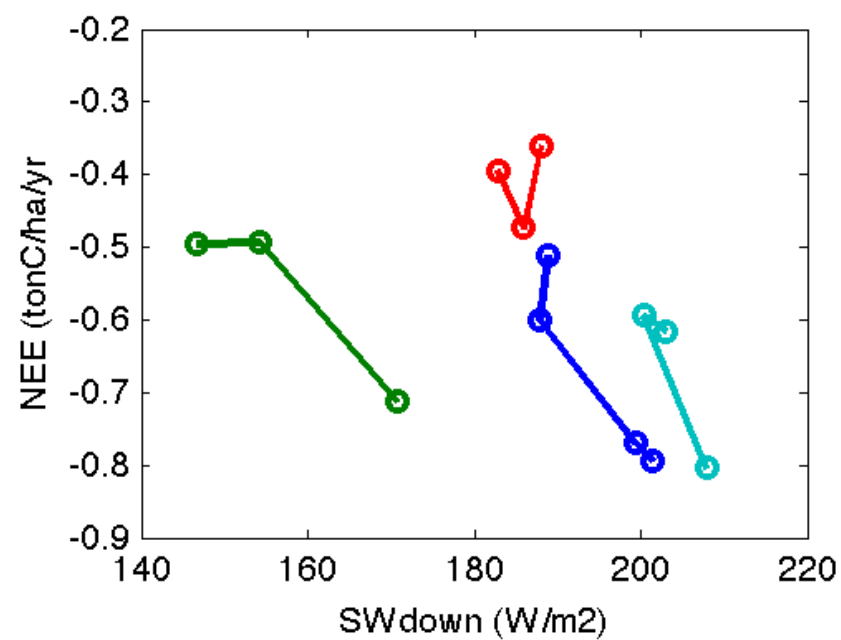
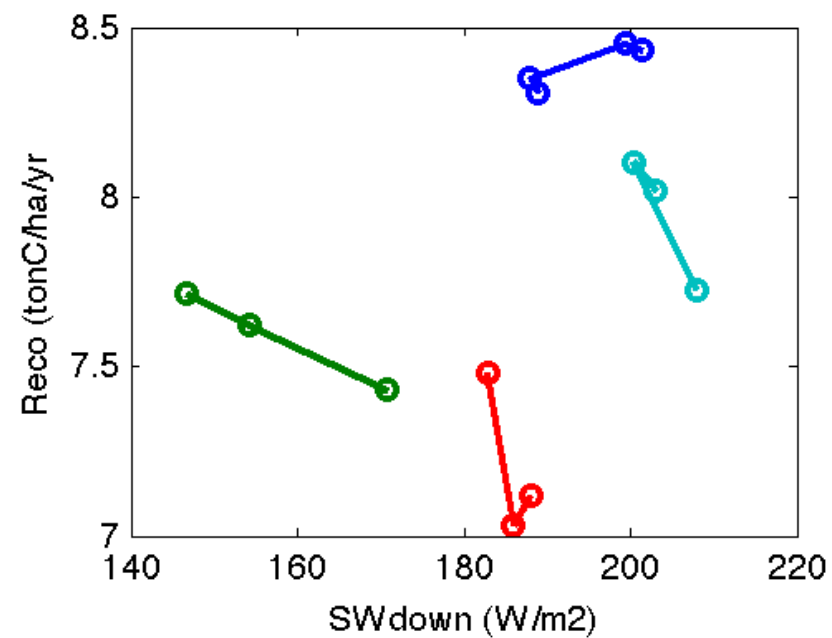
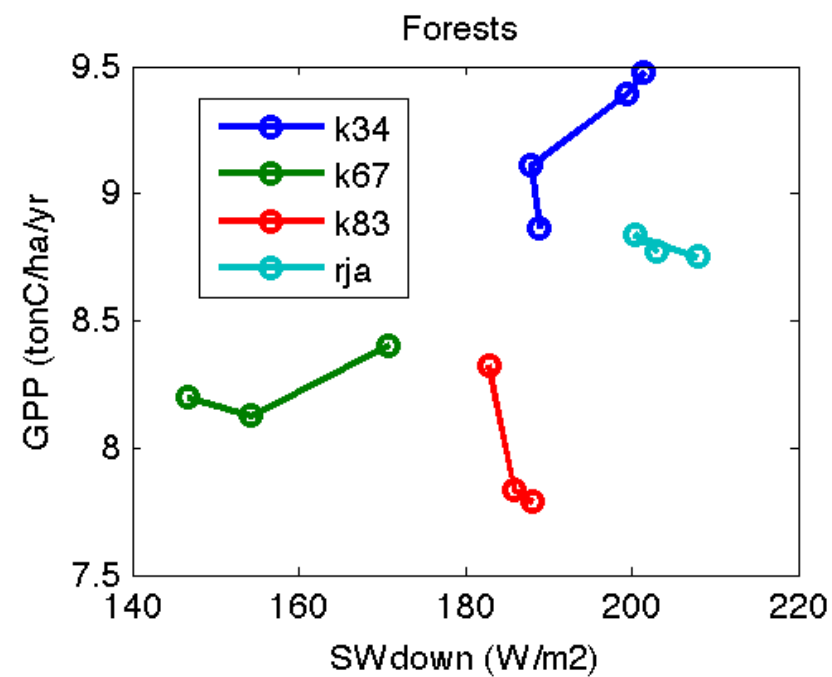
Forests

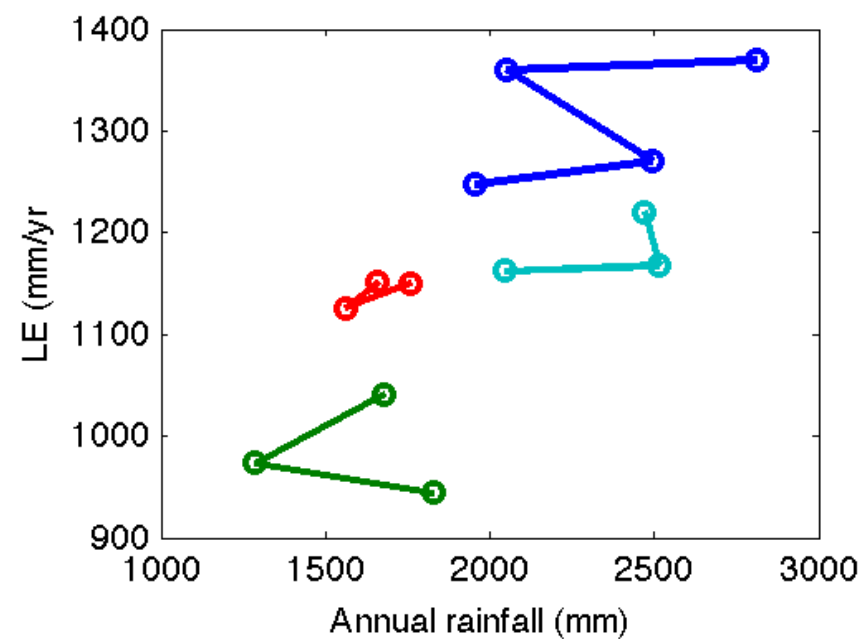
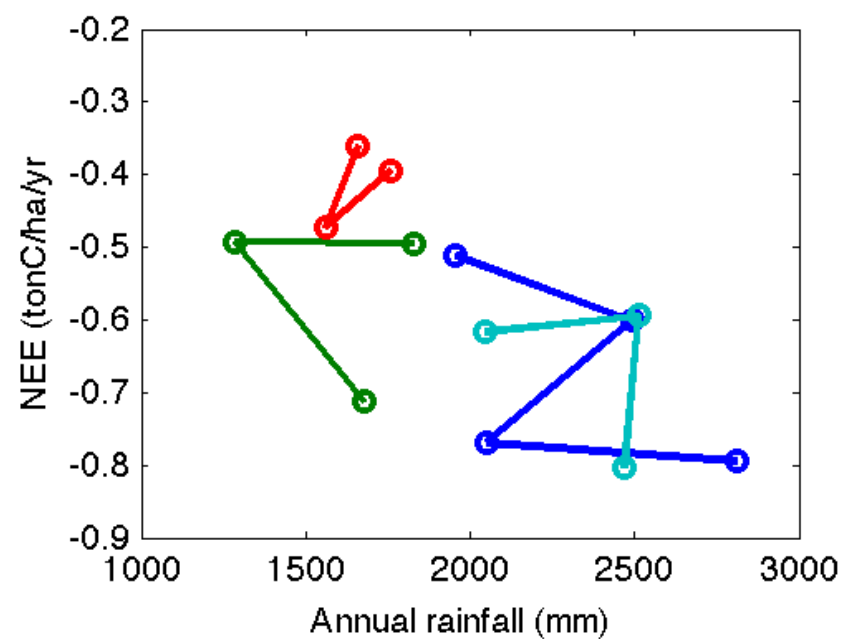
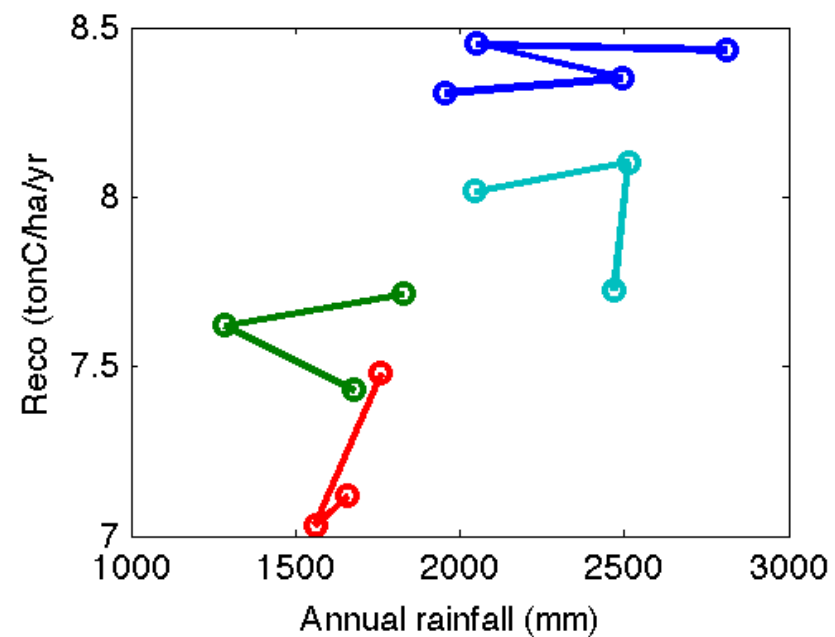
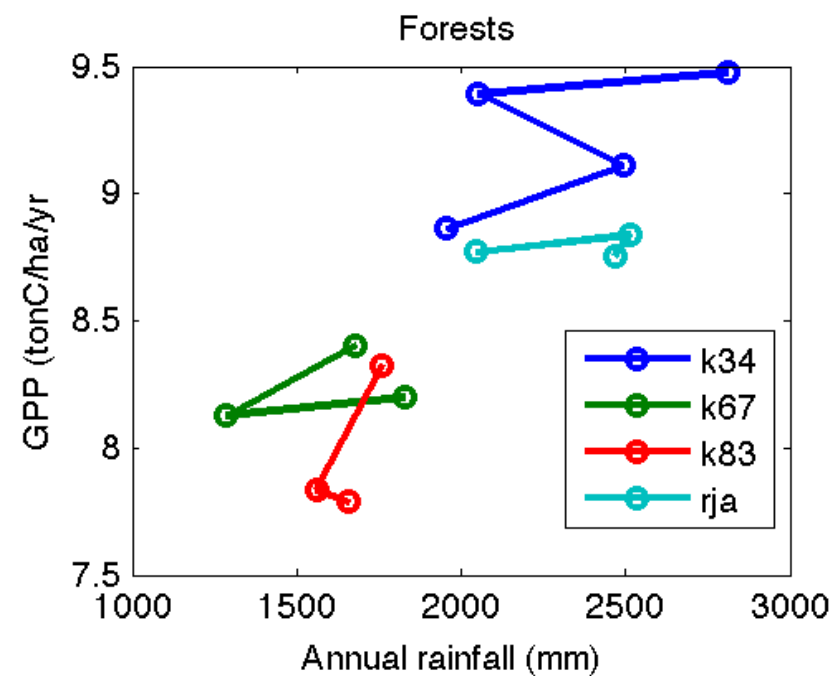


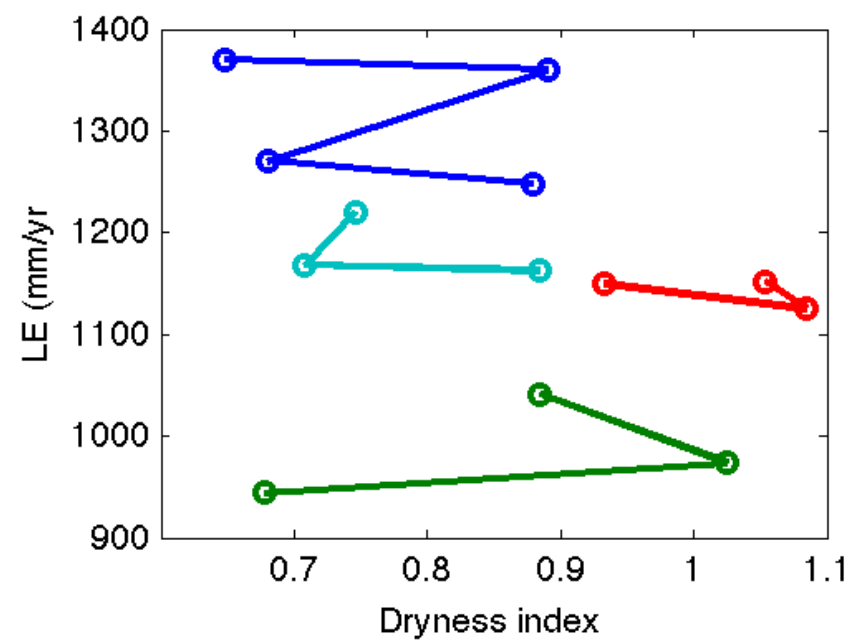
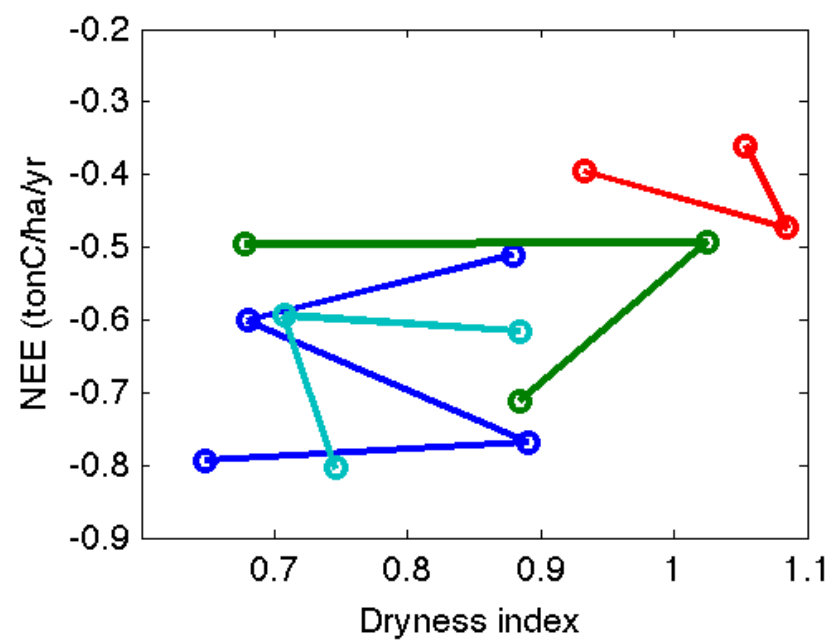
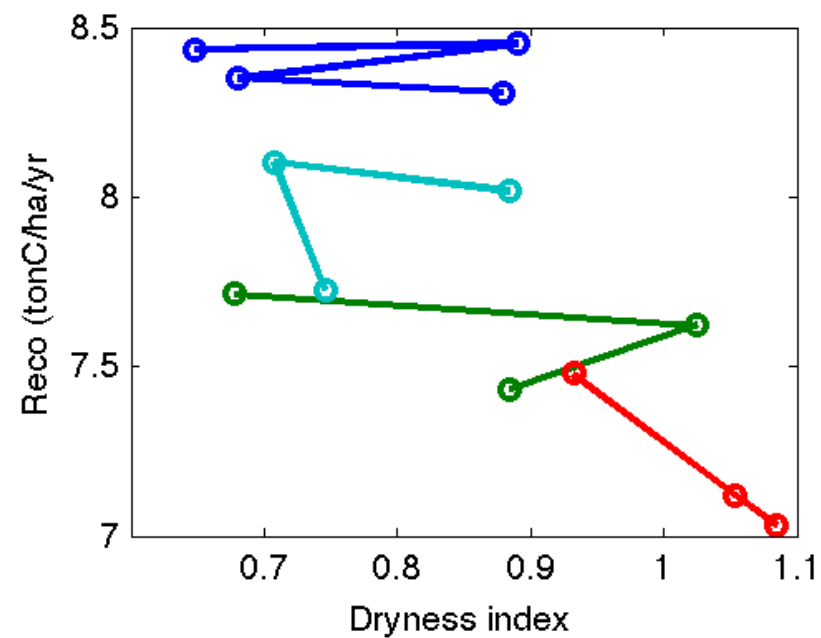
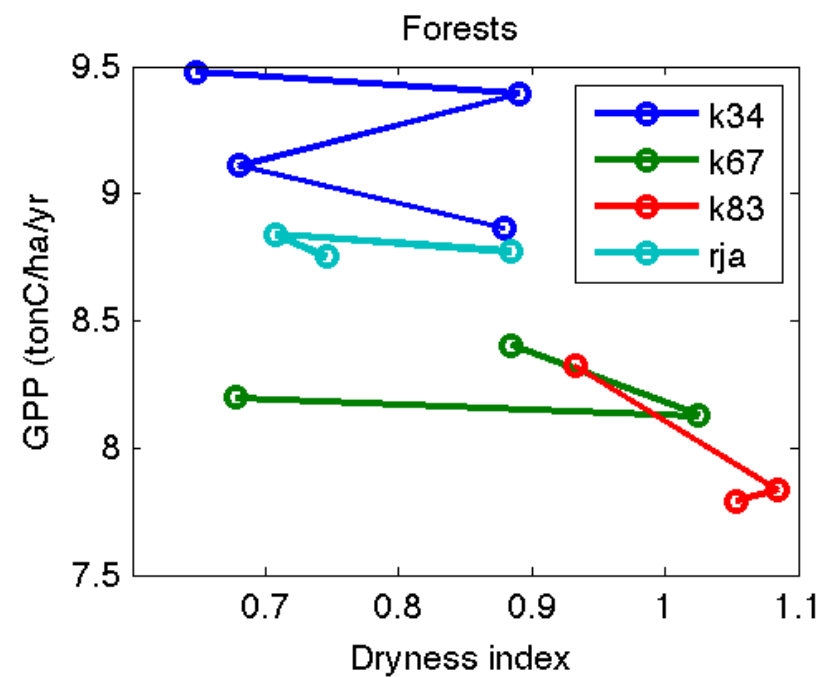




Model means







Conclusions (so far)

- Inter model variability is up to 3 times bigger than inter annual variability simulated by particular models
- Identifying drivers subject to this large variability is quite challenging
- Model mean indicate first qualitative drivers
 - Annual radiation drives annual LE
 - Annual rainfall (or dryness) drives annual GPP

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- 30-hour day length

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- Ride to Tucson tomorrow afternoon

