

News from the Portal

With thanks to all those across OzFlux
contributing to data collection and processing

Contents

- OzFlux Data Portal
- Submission to FluxNet
- Data QC and post-processing
- Possibilities for next 12 months

OzFlux Data Portal

- ~80 site-years of data on portal
- Portal migrated from Monash eResearch resources to NeCTAR/RDSI
- Portal maintenance and development moved to Matt Nethery and Matt Paget (CSIRO)
- Implementation of THREDDS server on portal
- Portal is the primary repository for OzFlux data
 - important to make sure portal contains latest version
 - important to avoid duplicate data paths internally and externally

Submission to FluxNet

- ~64 site-years of data submitted to FluxNet
 - still some minor problems at some sites, need to clean up and finish off in the next month
- Implemented FluxNet-style plotting of data in OzFluxQC to make future QC/submission efforts easier
- Feedback is positive, OzFlux data regarded as high quality

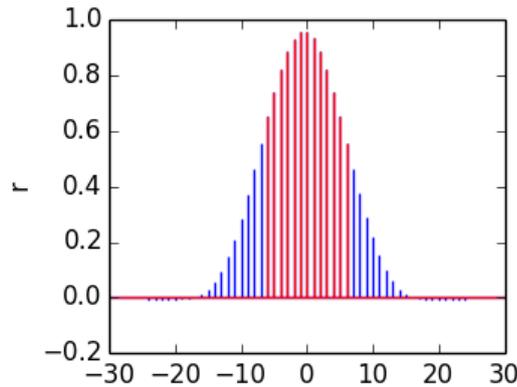
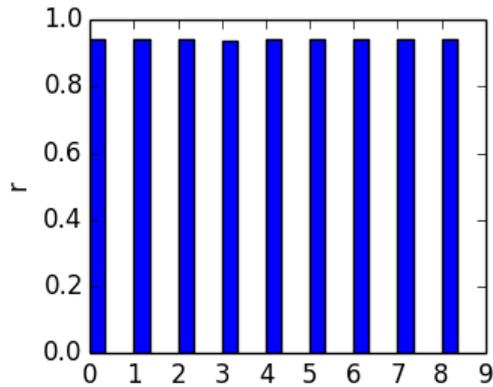
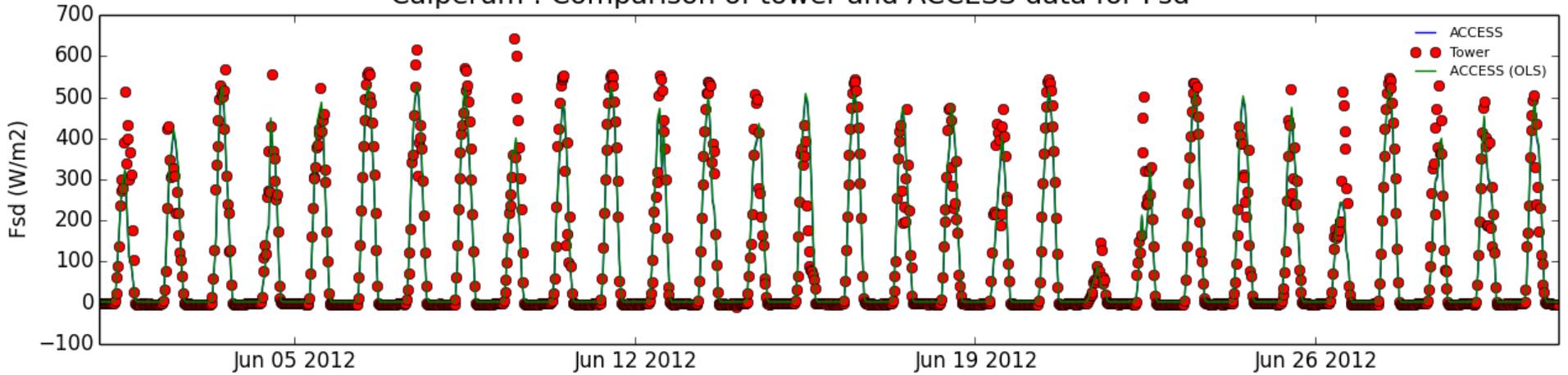
Data QC and post-processing

- OzFluxQC
 - gap filling
 - partitioning NEE
- Disseminating data within OzFlux
 - CloudStor+
- OzFlux Data Portal
 - public access to OzFlux data

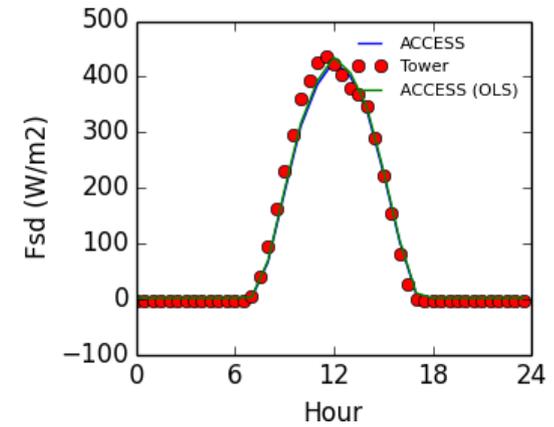
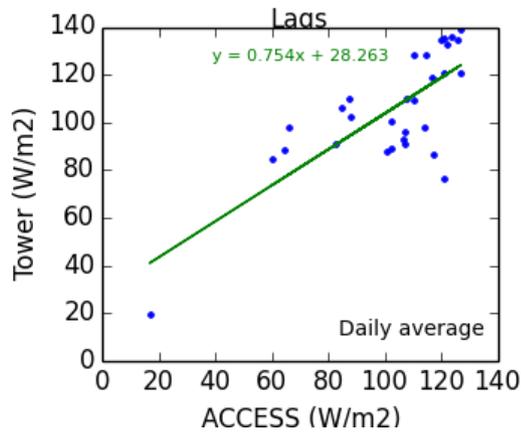
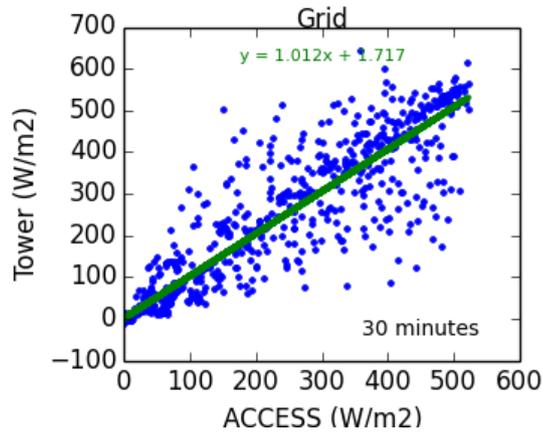
OzFluxQC

- Gap filling: meteorological drivers (L4)
 - Fsd, Fsu, Fld, Flu, Ta, q, Ws, Wd, Ts, Sws, Precip
 - 4 sources of data available;
 - ACCESS NWP output at tower locations
 - 2010 to present
 - BIOS2 output at tower locations
 - 2000 to March 2014, regular updates
 - AWS data from nearest BoM sites
 - 2000 to June 2014, regular updates
 - climatology

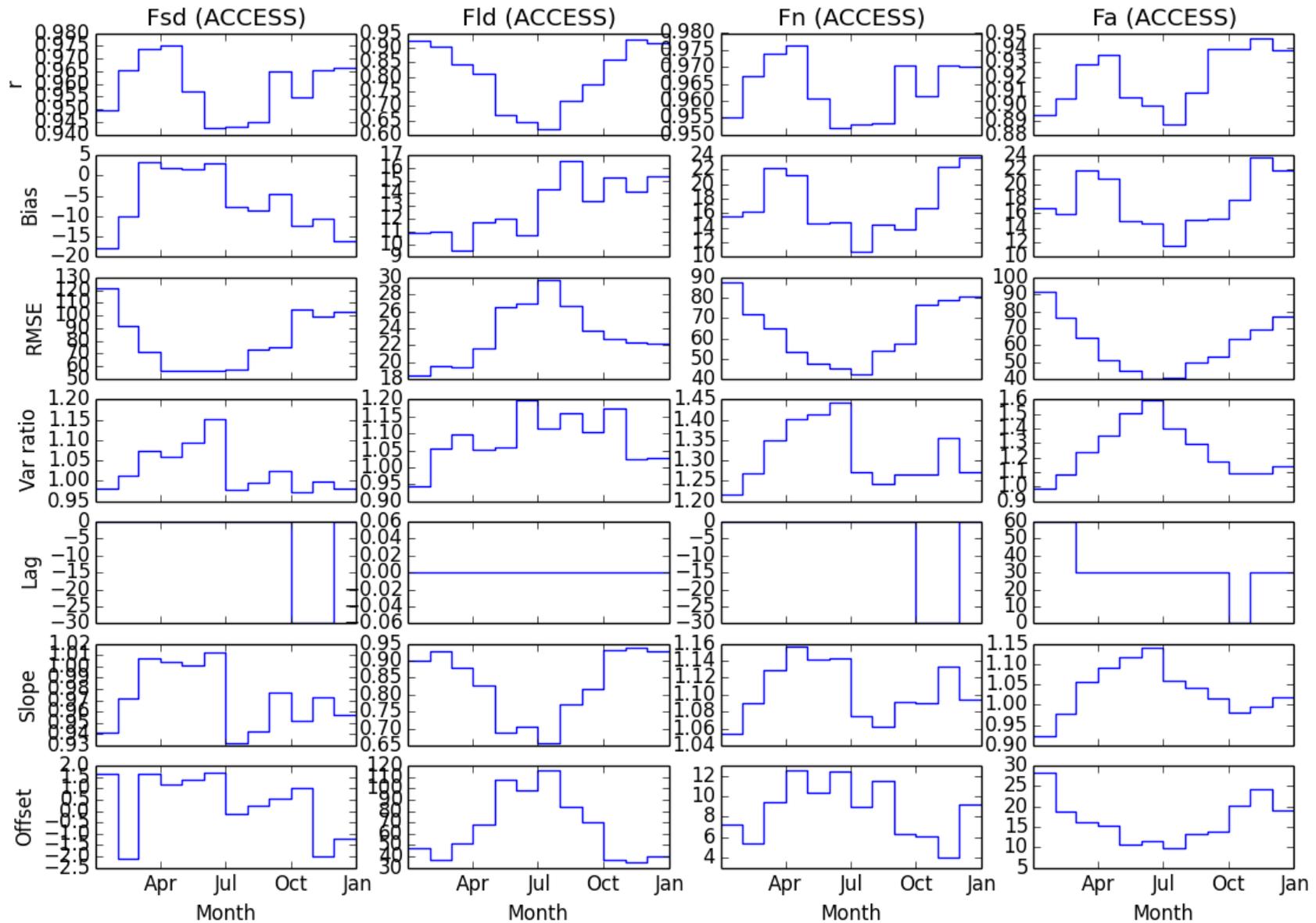
Calperum : Comparison of tower and ACCESS data for Fsd



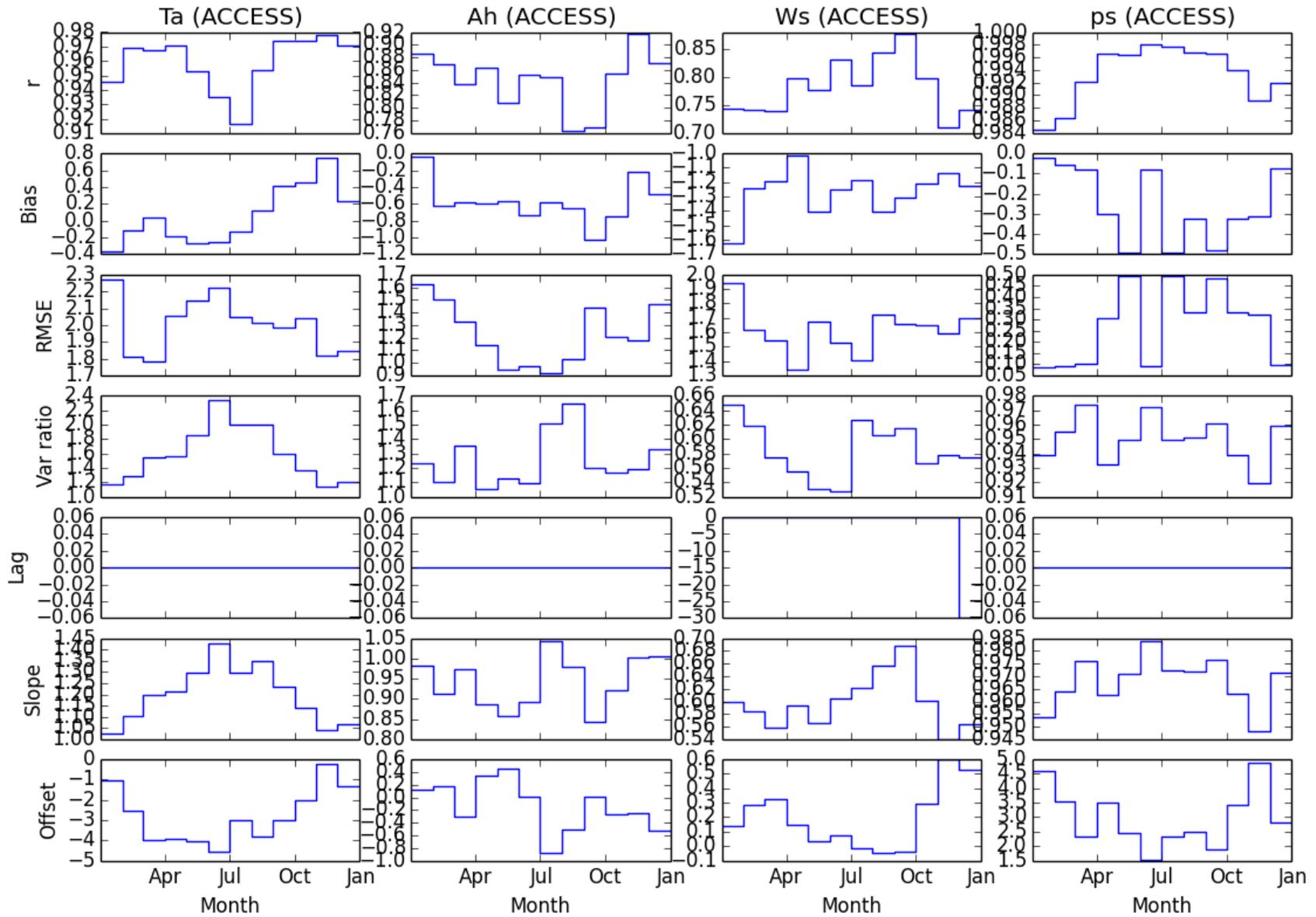
No. points	1441
r	0.9428
Bias	2.995
RMSE	56.65
Var (tower)	2.878e+04
Var (alternate)	2.496e+04
Lag (uncorrected)	0
Lag (corrected)	0



Alternate: Radiation; Calperum 2012-01-01 to 2013-01-01



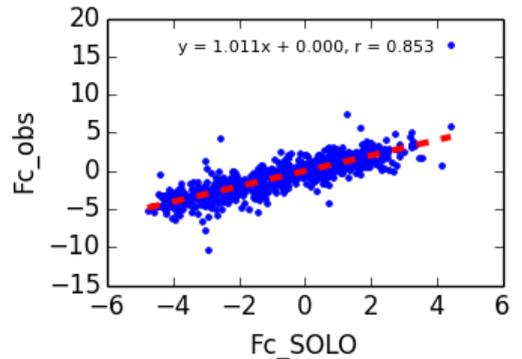
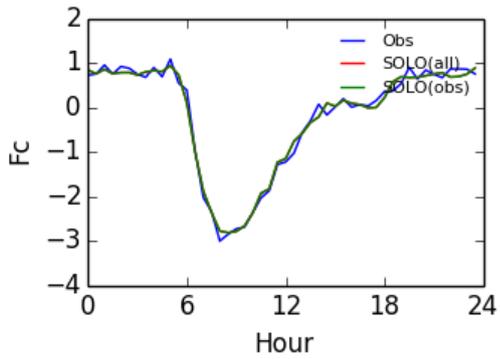
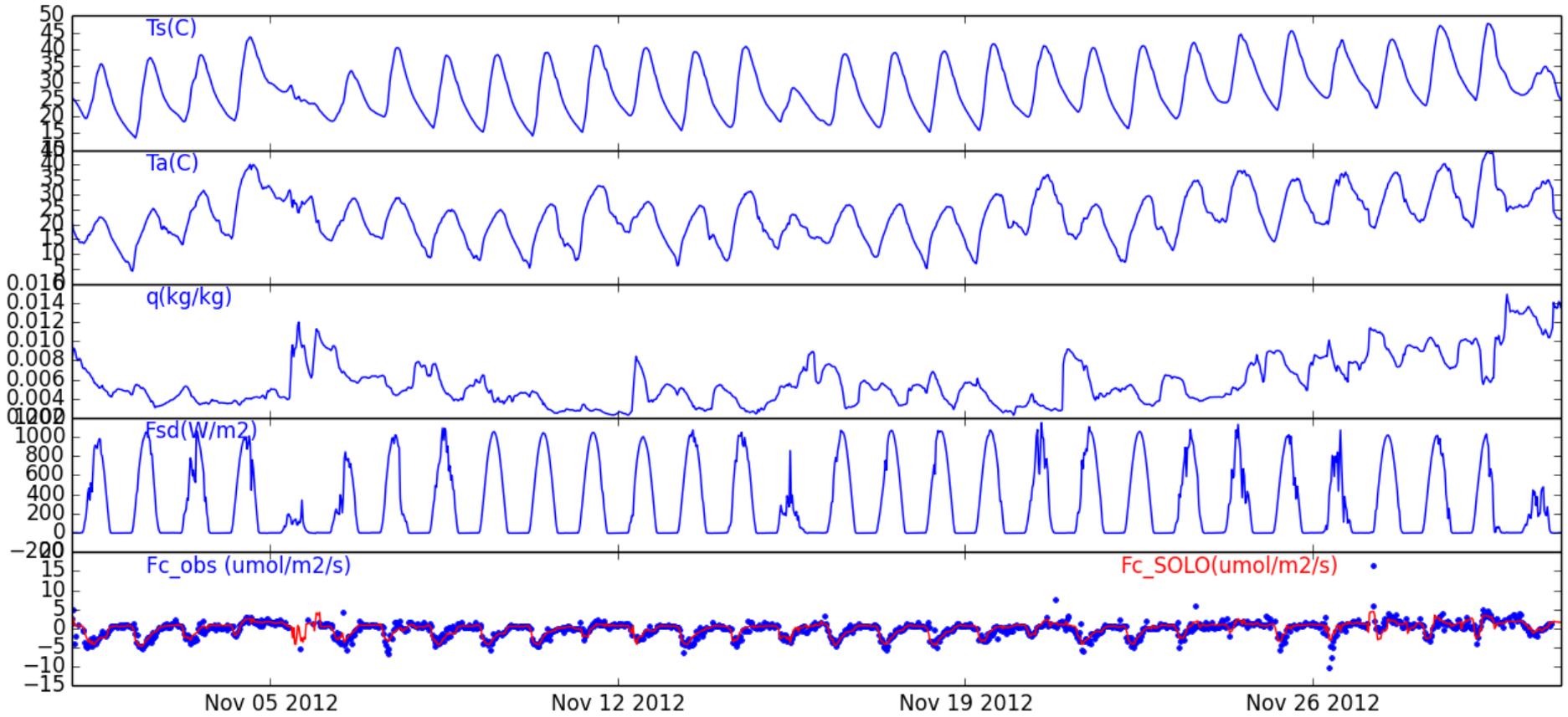
Alternate: Meteorology; Calperum 2012-01-01 to 2013-01-01



OzFluxQC

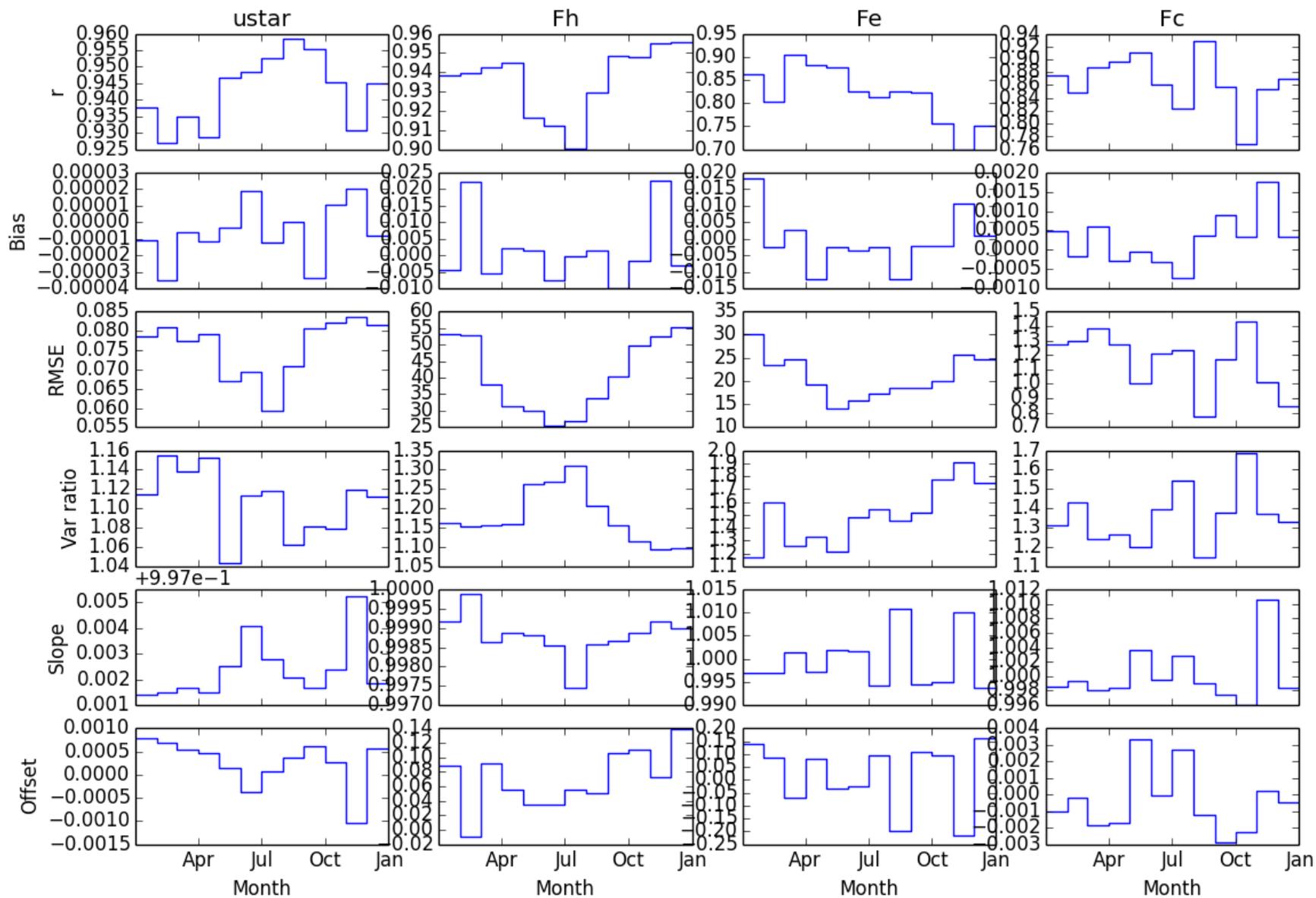
- Gap filling: fluxes (L5)
 - ustar, Fh, Fe and Fc
 - able to ingest remote sensing data as drivers
 - 3 methods available;
 - artificial neural network (SOFM/SOLO)
 - trained on periods from days to years as required
 - ratios (EF, BR, WUE)
 - climatology

Calperum : Comparison of tower and SOLO data for Fc



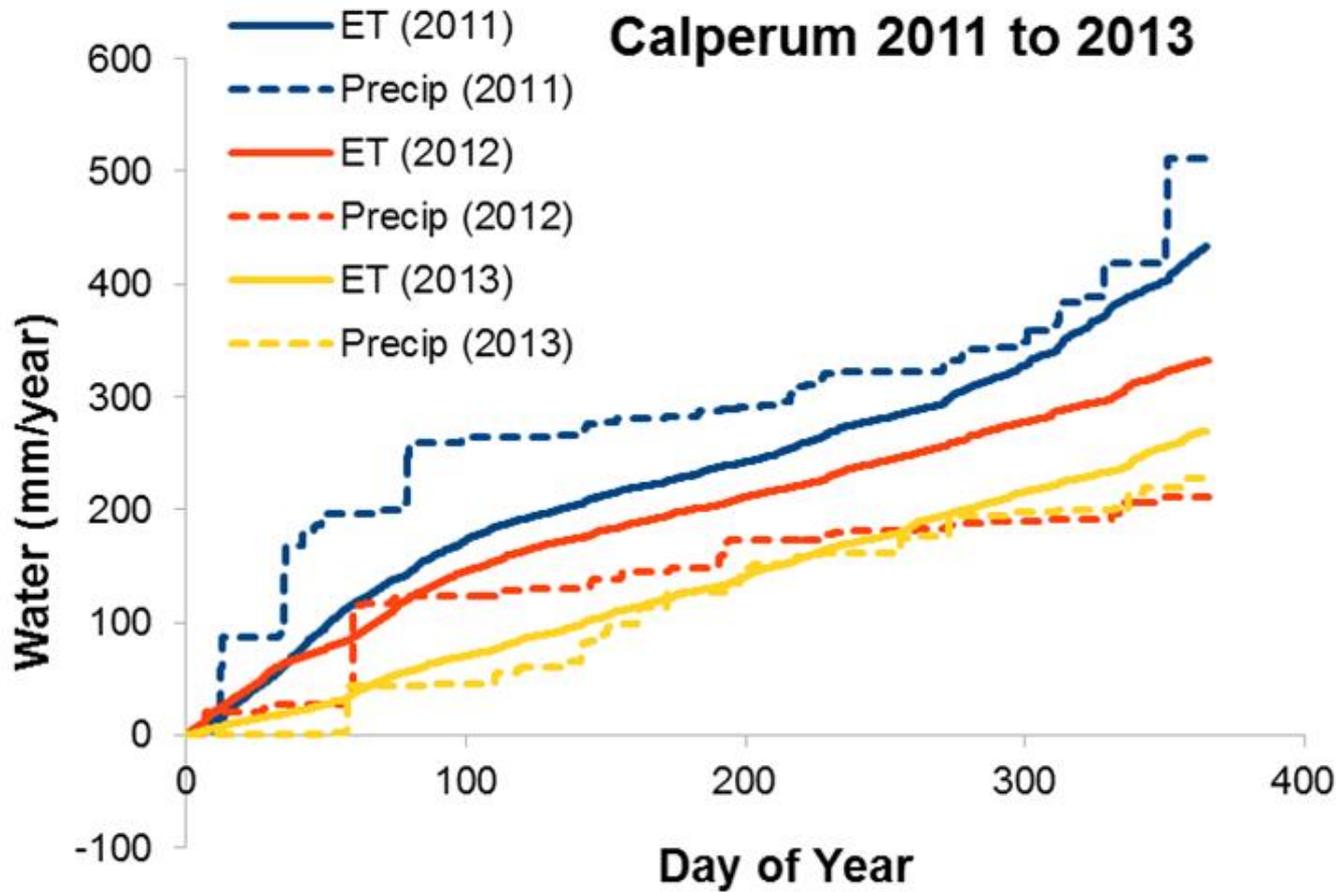
No. points	1338	No. filled	103
Nodes	5	Slope	1.011
Training	500	Offset	0.0002271
Nda factor	5	r	0.8534
Learning rate	0.01	RMSE	1.008
Iterations	500		

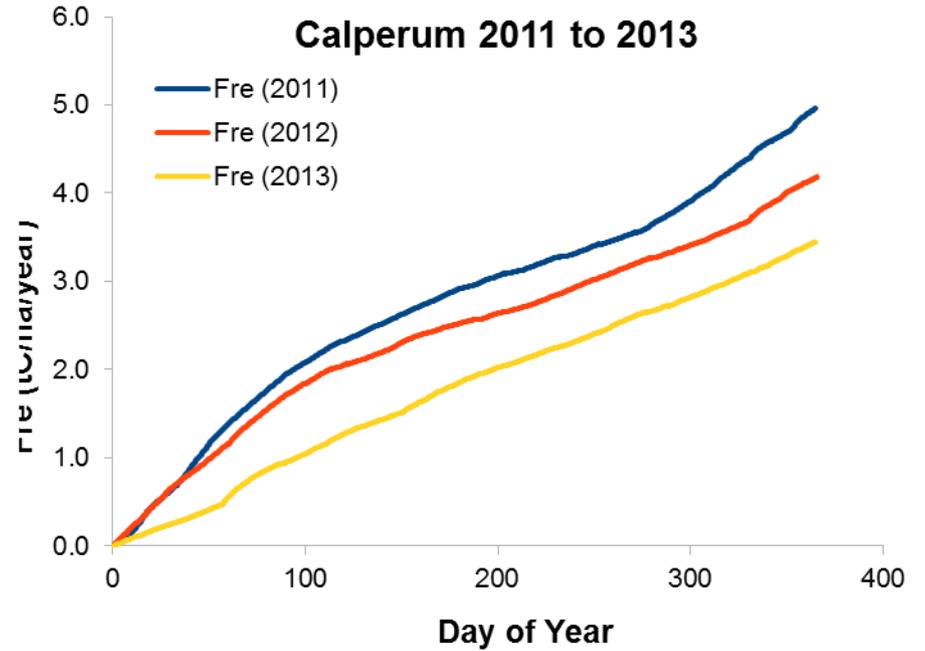
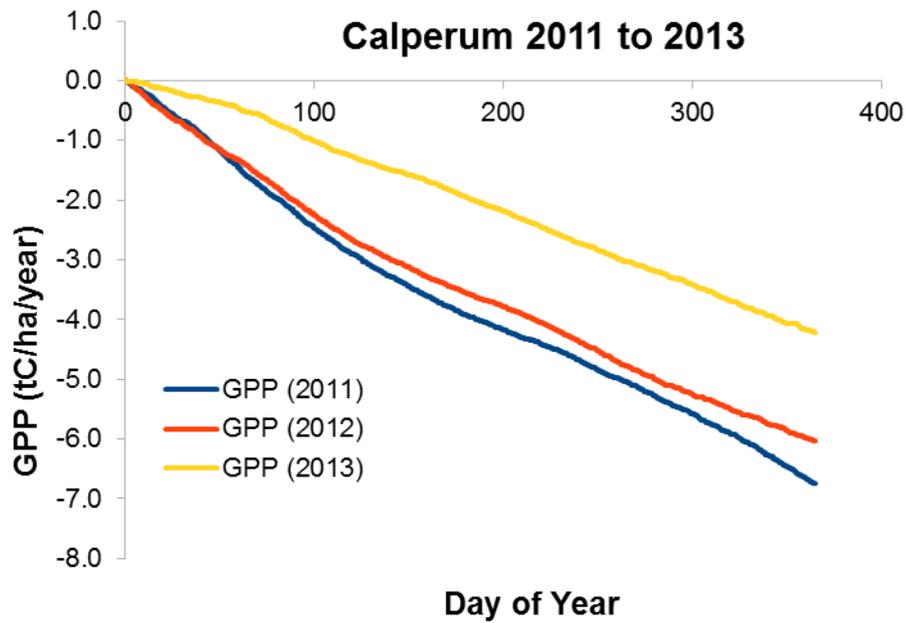
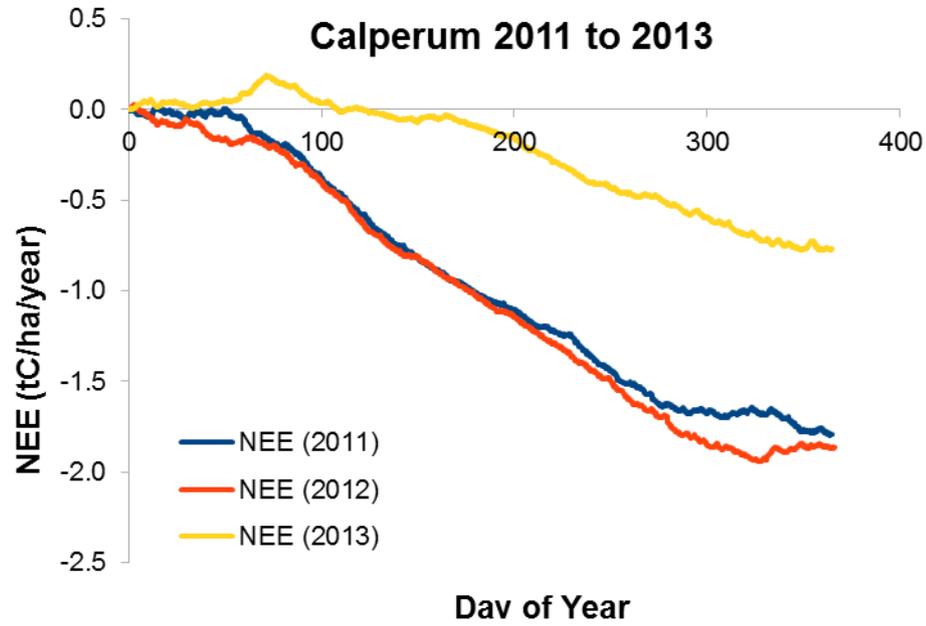
SOLO: Fluxes; Calperum 2012-01-01 to 2013-01-01

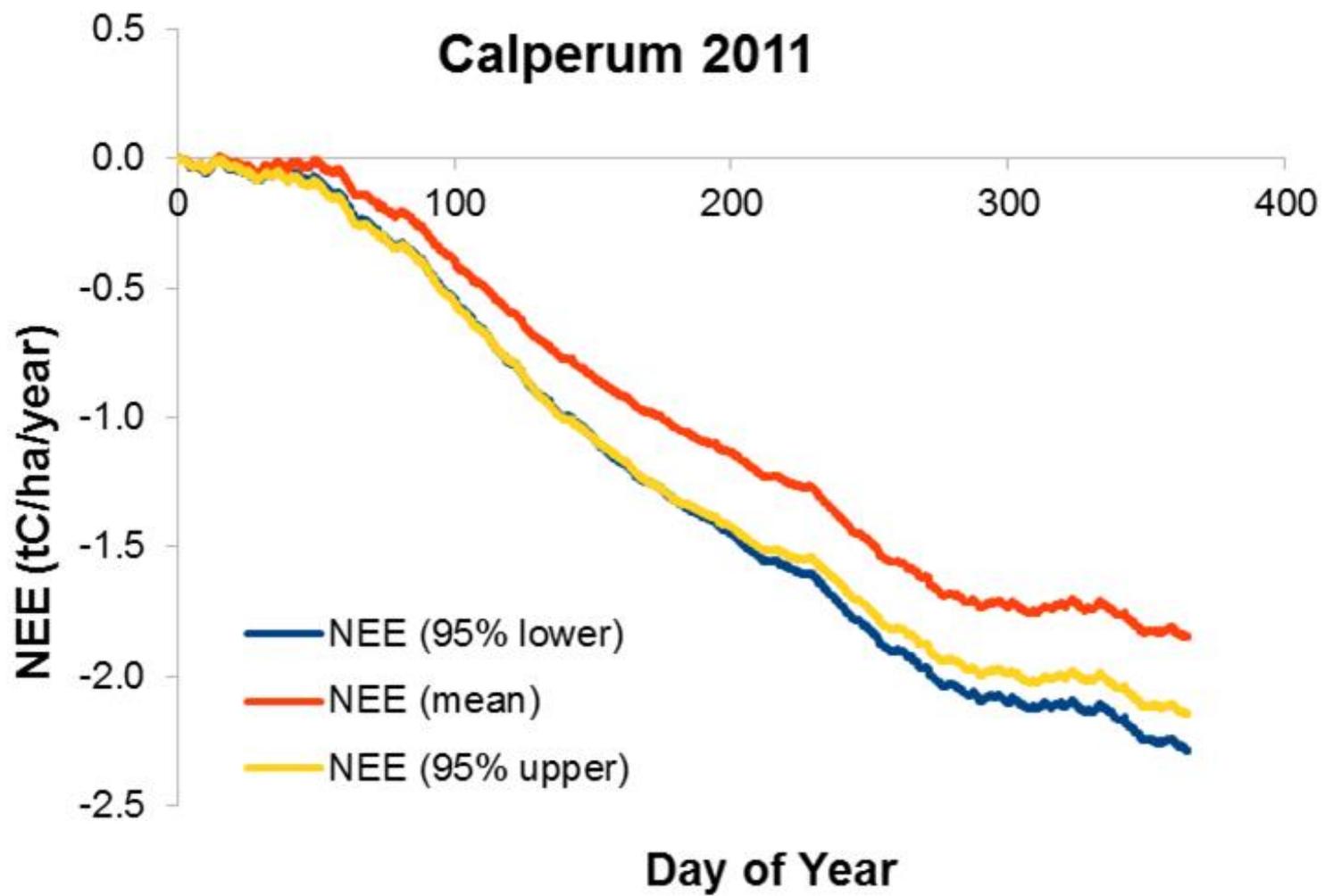


OzFluxQC

- Partitioning (L6)
 - split NEE into GPP and Fre
 - perhaps the area where we have the most work to do
 - u^* filter on nocturnal Fc to estimate Fre
 - ANN (SOLO or FFNET) trained on Fre
 - typical drivers are Ts, Sws, Ta ...







Possibilities for next 12 months

- Complete submission to FluxNet
- Complete implementation of THREDDS server
- Implement alternative respiration methods in OzFluxQC;
 - Lloyd-Taylor and Lasslop et al
 - Cleverly et al (2013)
 - van Gorsel (2009)
- Processing of nocturnal fast data to check effect of removing non-stationary conditions