



*Supplement of*

## **Investigating the response of leaf area index to droughts in southern African vegetation using observations and model simulations**

**Shakirudeen Lawal et al.**

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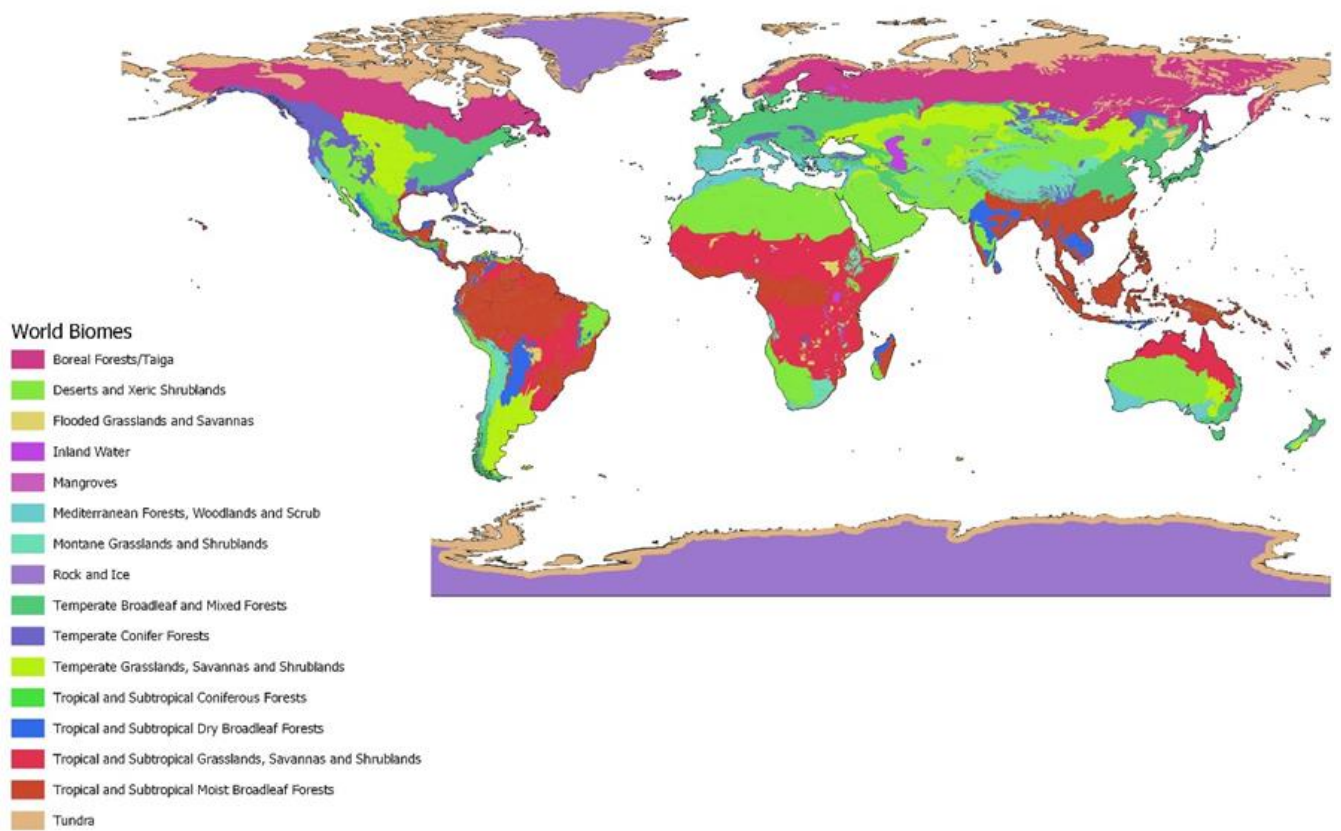


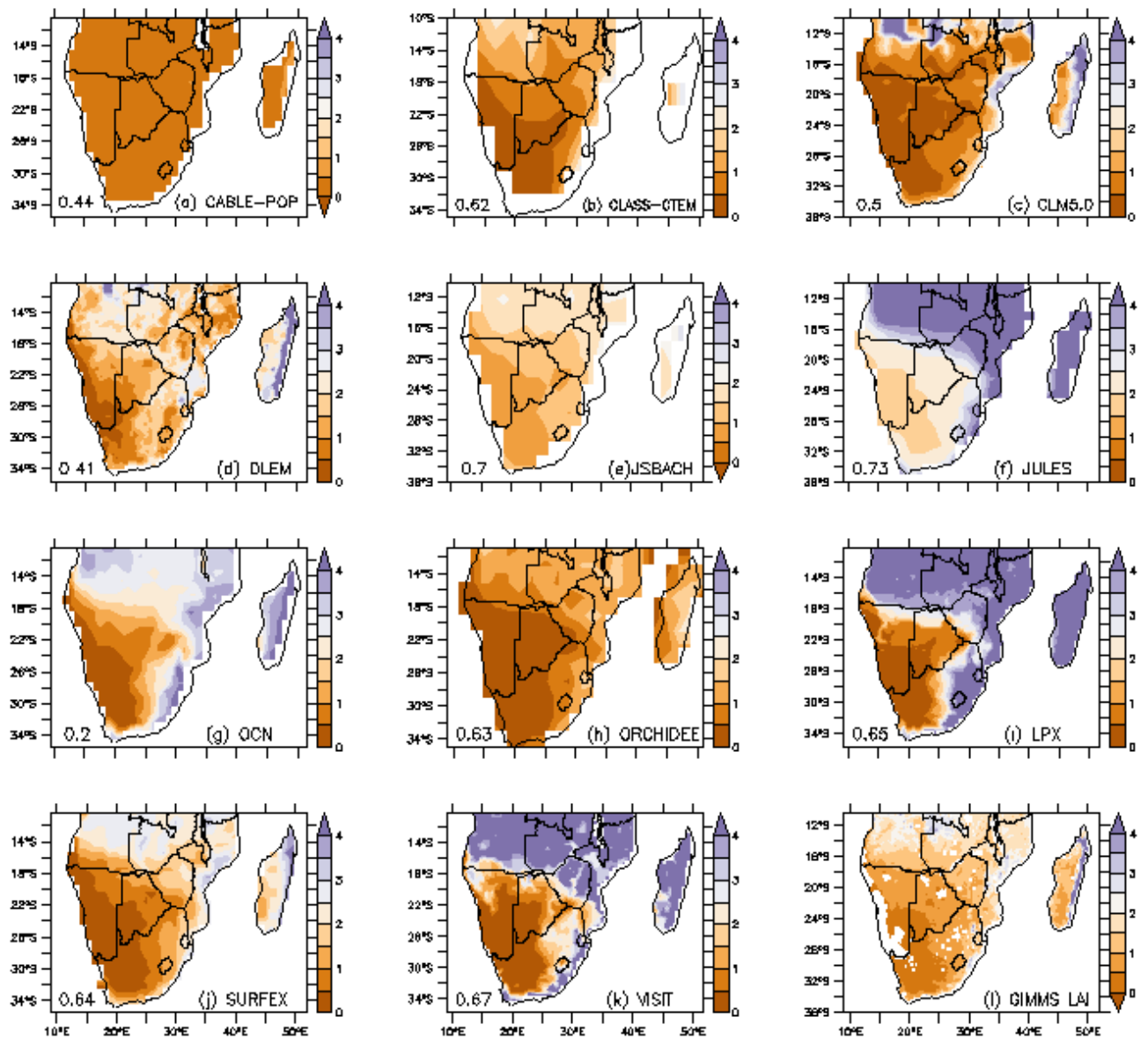
Figure S1. Major global vegetation biomes

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70 Figure S2. Spatial distribution of observed and simulated LAI over southern Africa; for the period 1982 – 2011. The spatial correlation values between models and GIMMS are indicated inside the panels.

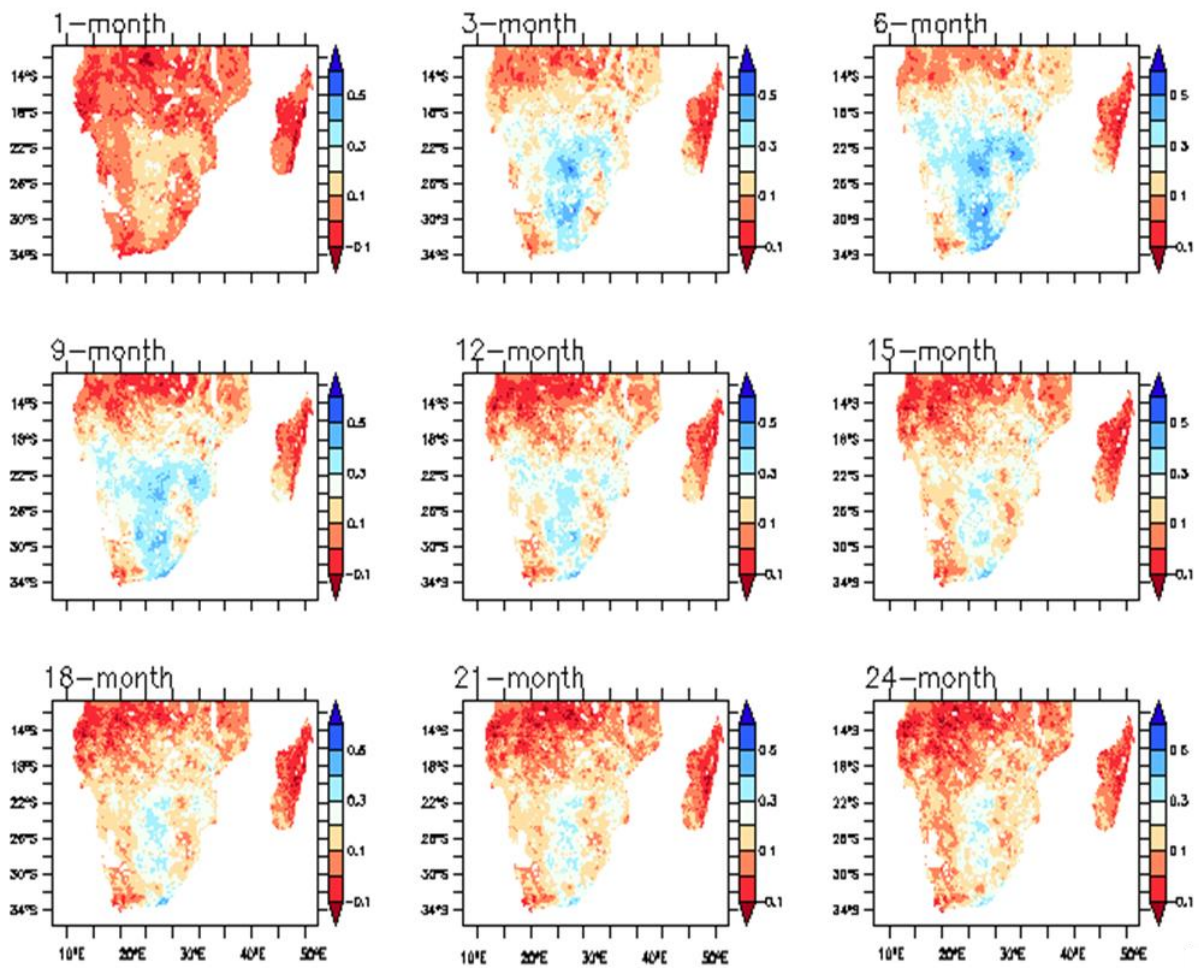


Figure S3. Spatial distribution of observed correlations at 1- to 24-month timescales over southern Africa for the period 1982 – 2011.

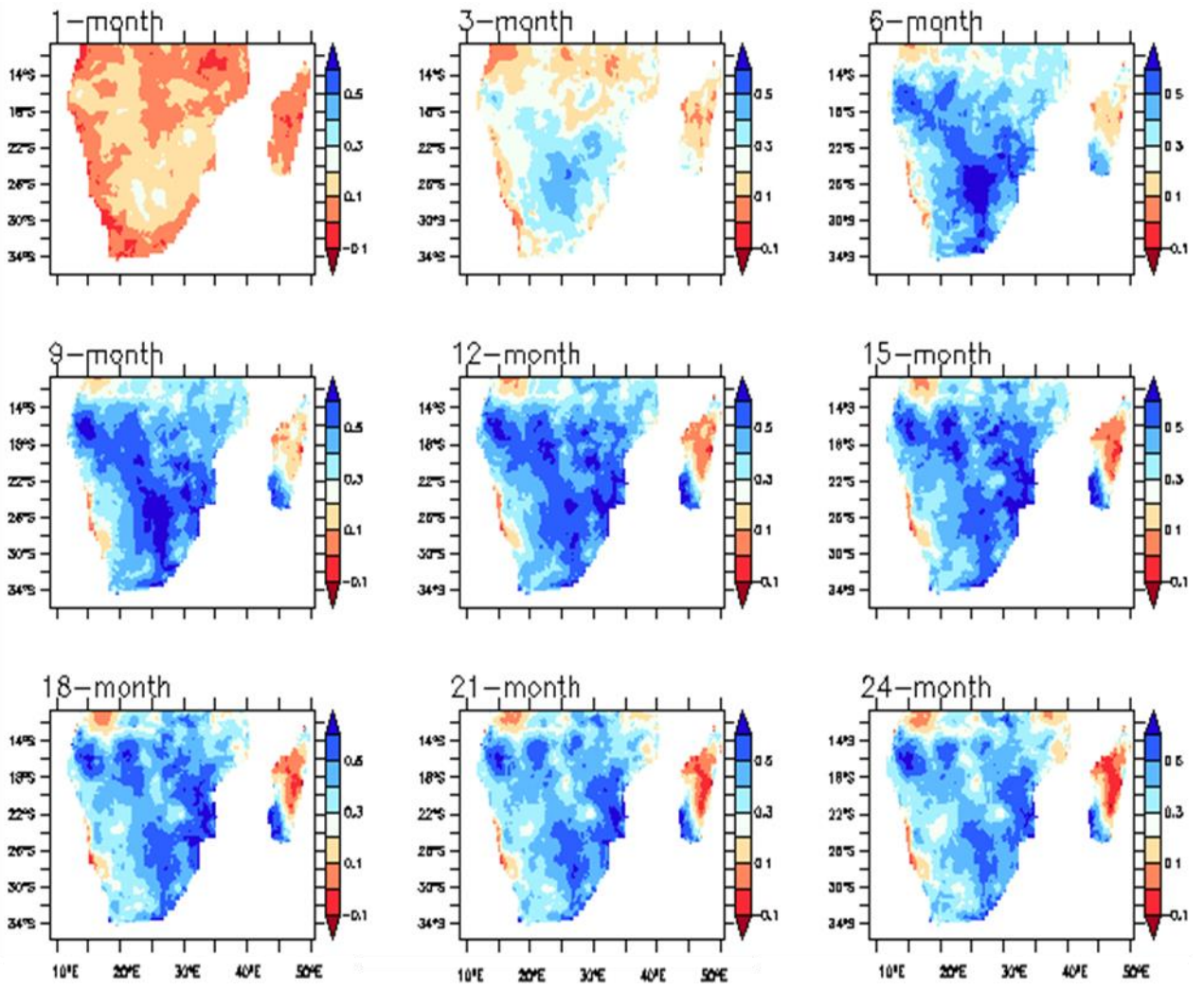


Figure S4. As in Fig. S3 but for the model ensemble median

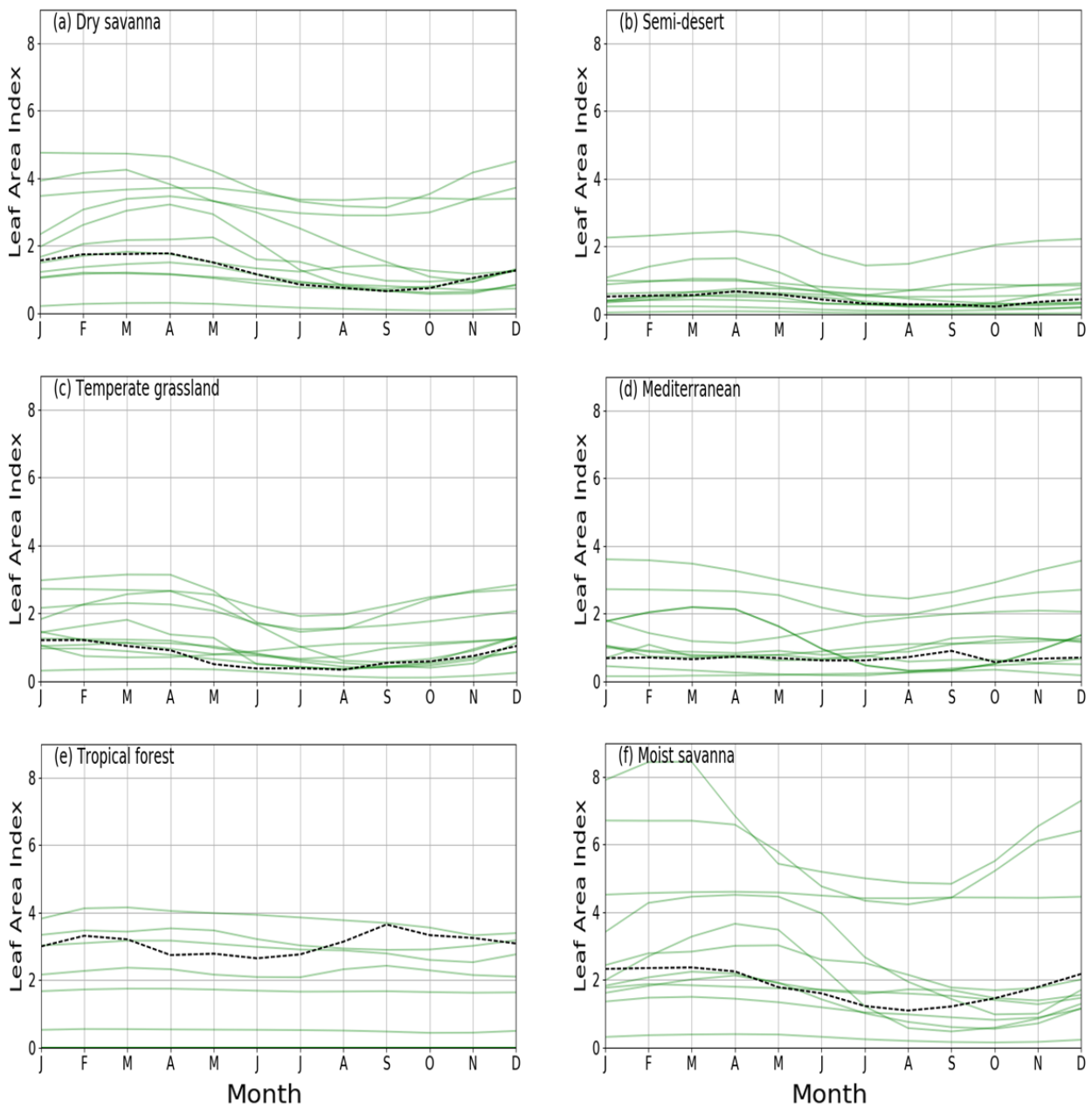


Figure S5. Annual cycle of LAI for observation and models (TRENDY) across six biomes over southern Africa for the period 1982 – 2011. The dash black line is observation while single light green lines represent each different models.

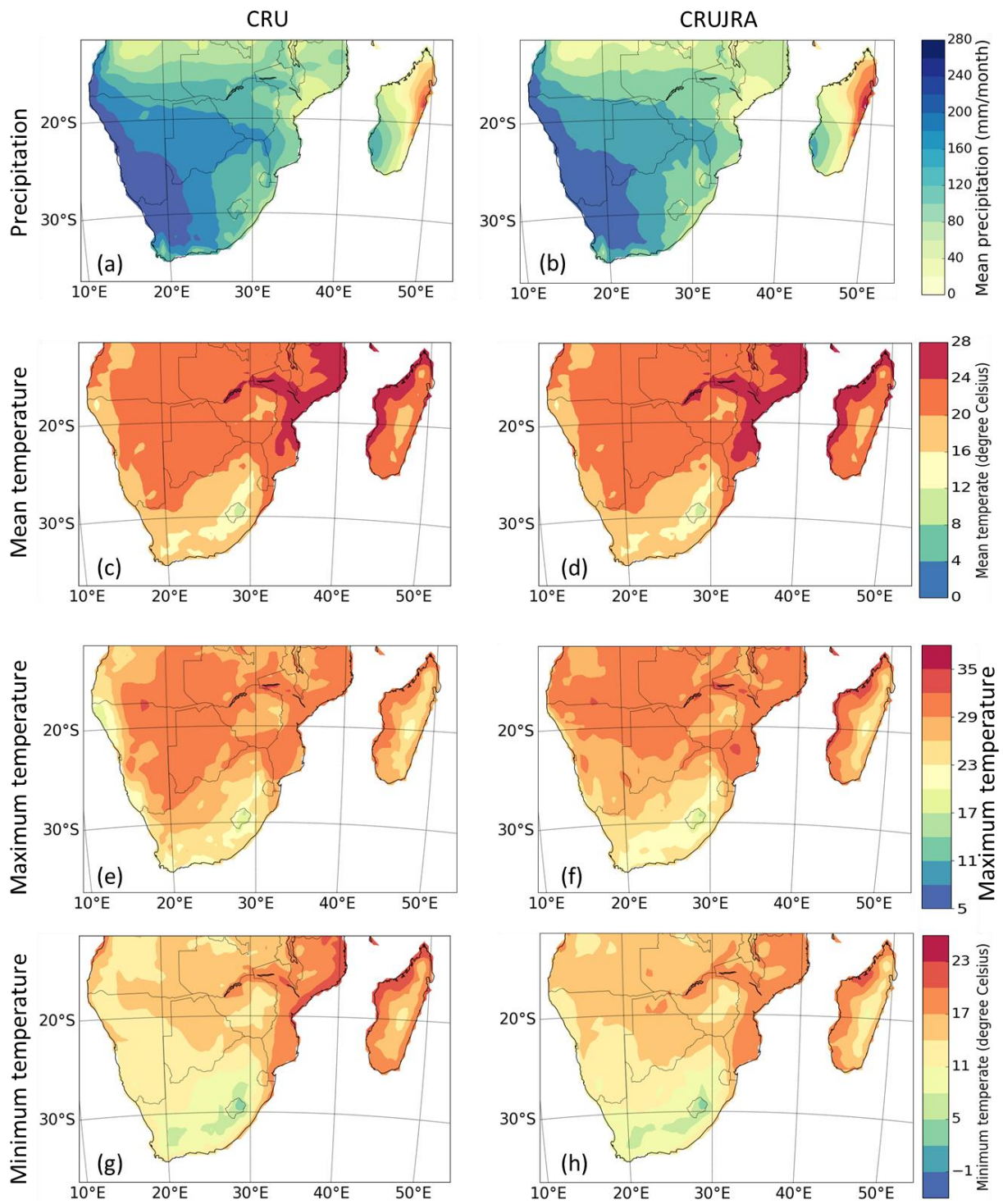
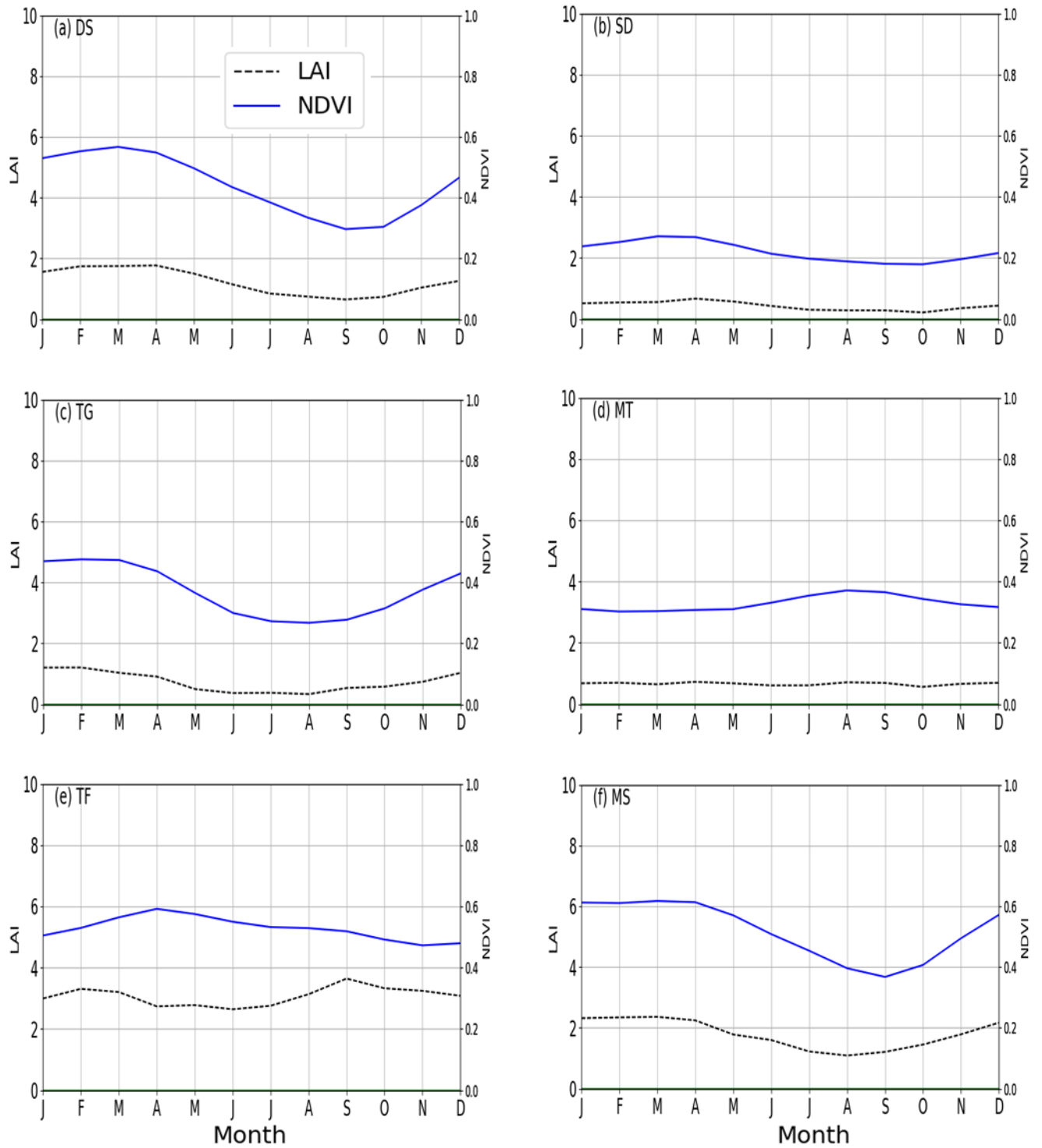


Figure S6. Spatial distribution of precipitation, mean temperature, maximum temperature and minimum temperature over southern Africa in CRU and CRUJRA; for the periods 1982 – 2011.



120 Figure S7. Annual cycle of observed LAI and NDVI across six biomes over southern Africa for the period 1982 – 2011.



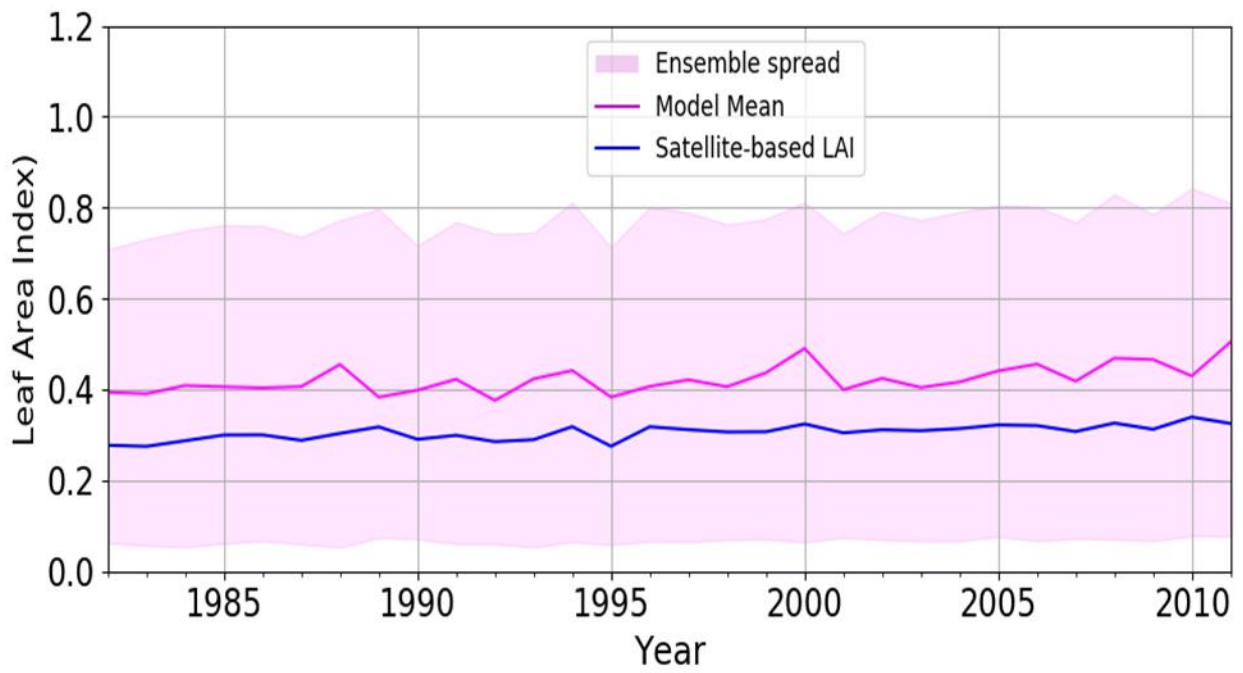
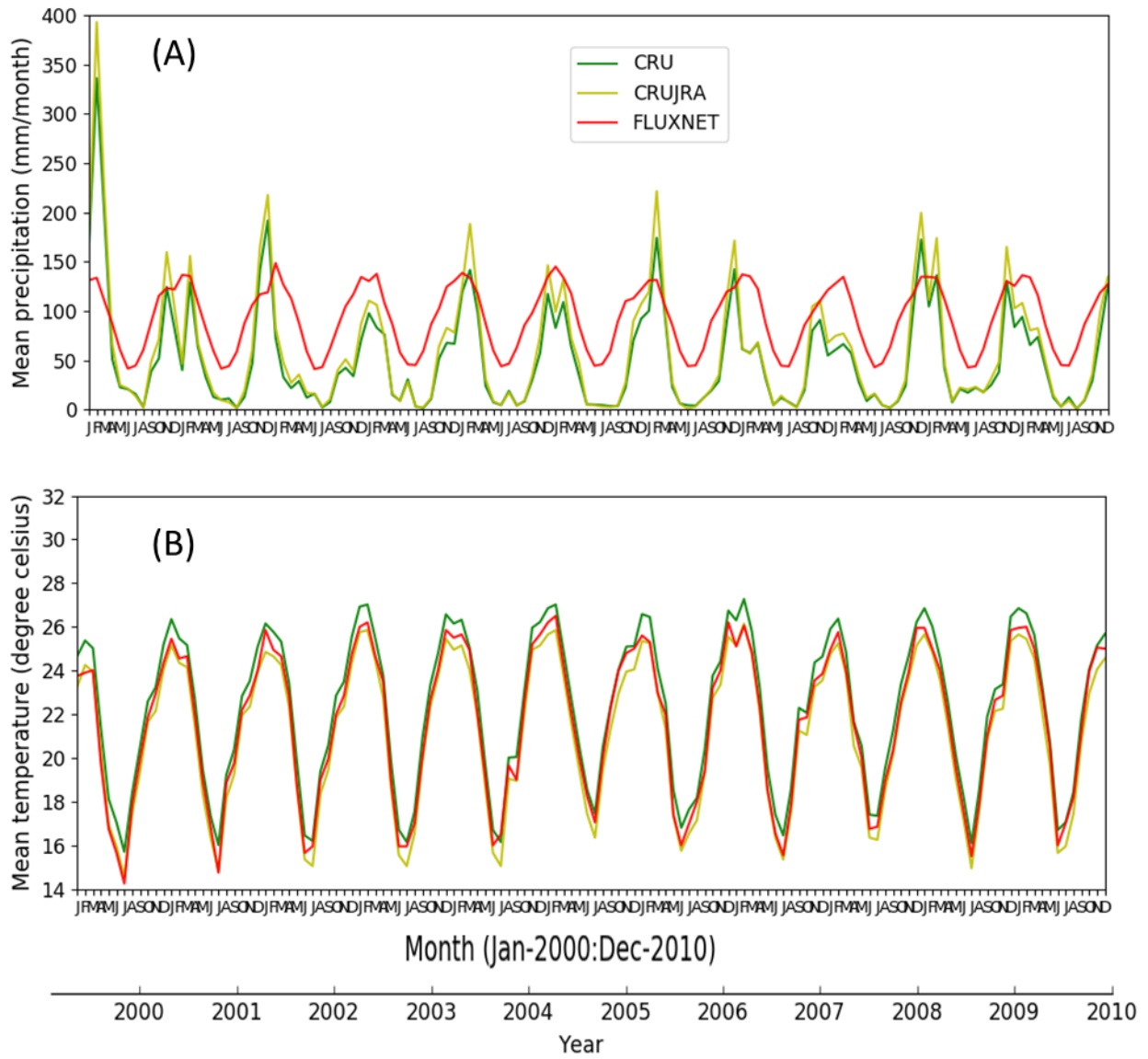


Figure S8. Inter-annual variability of satellite-calculated and modelled LAI (deseasonalized) for the period 1982 – 2011.



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Figure S9. Monthly distribution of (a) precipitation (mm/month) and (b) mean temperature ( $^{\circ}\text{C}$ ) for eddy covariance (measured observation) over the Skukuza tower site, CRU and CRUJRA (latitude: -25.02, longitude: 31.50). The variables were plotted for the period 2000 – 2010.

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