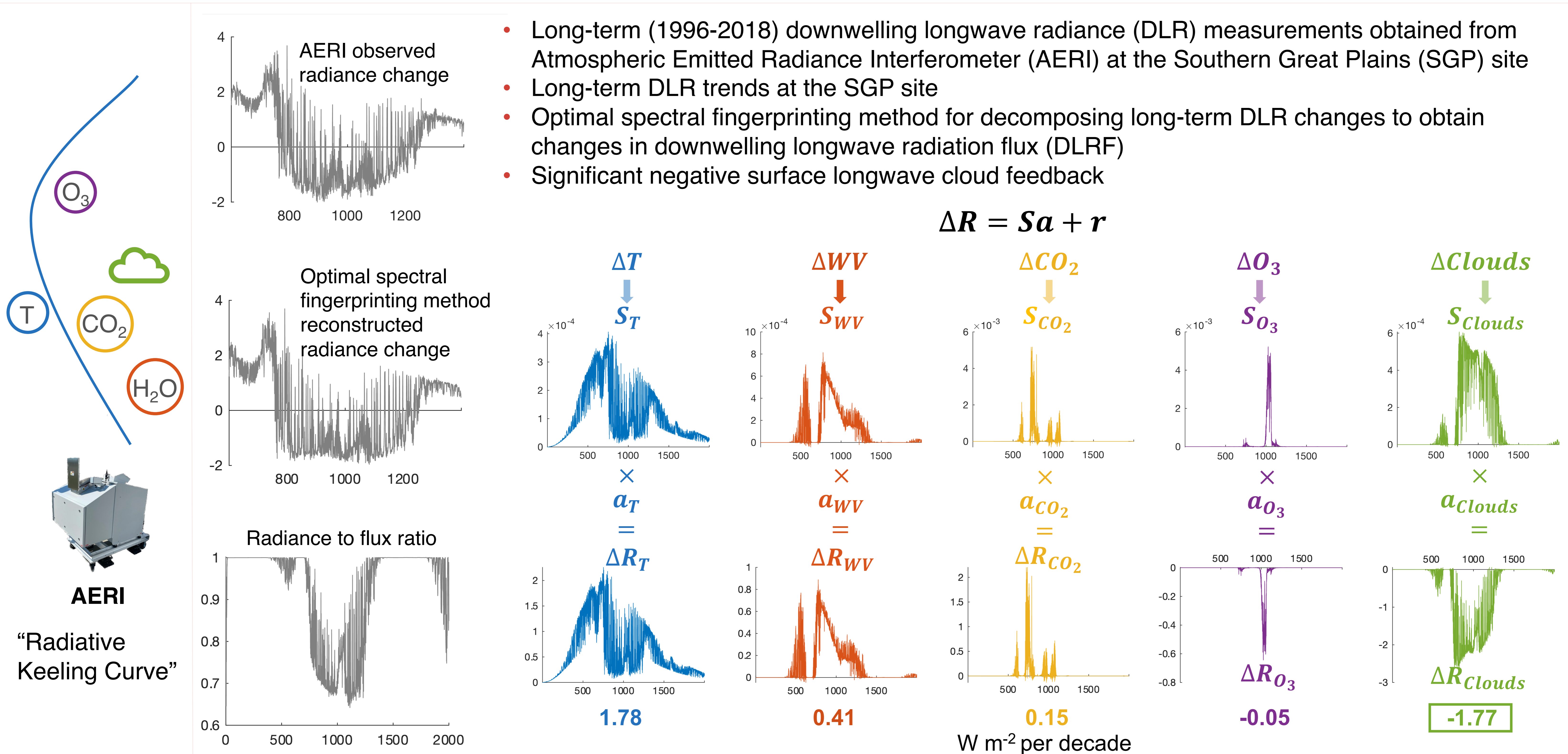


The Climate Trends in Observed Long-term Downwelling Longwave Spectrally-resolved Radiance at the Southern Great Plains and its Comparison with Global Climate Models

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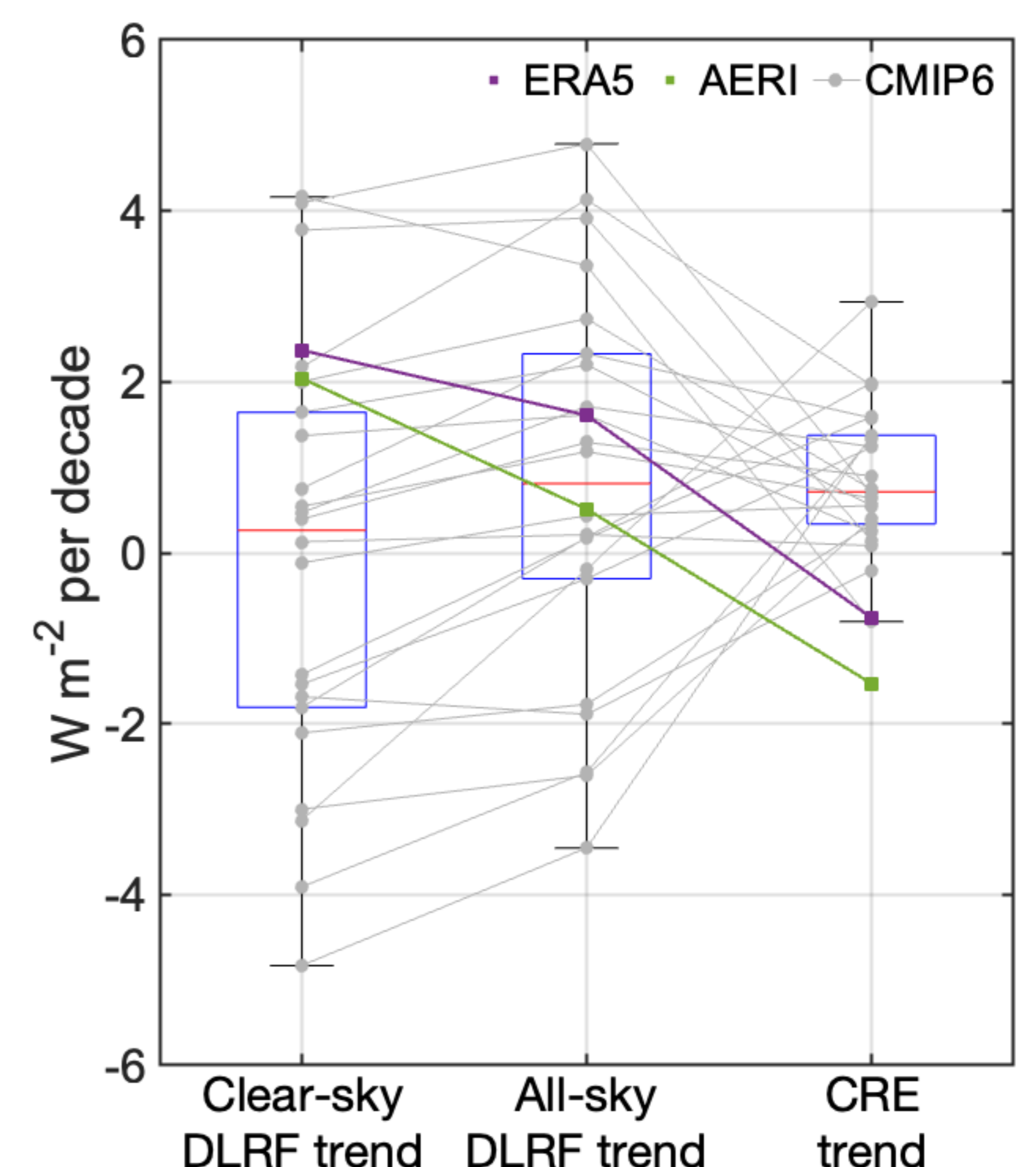
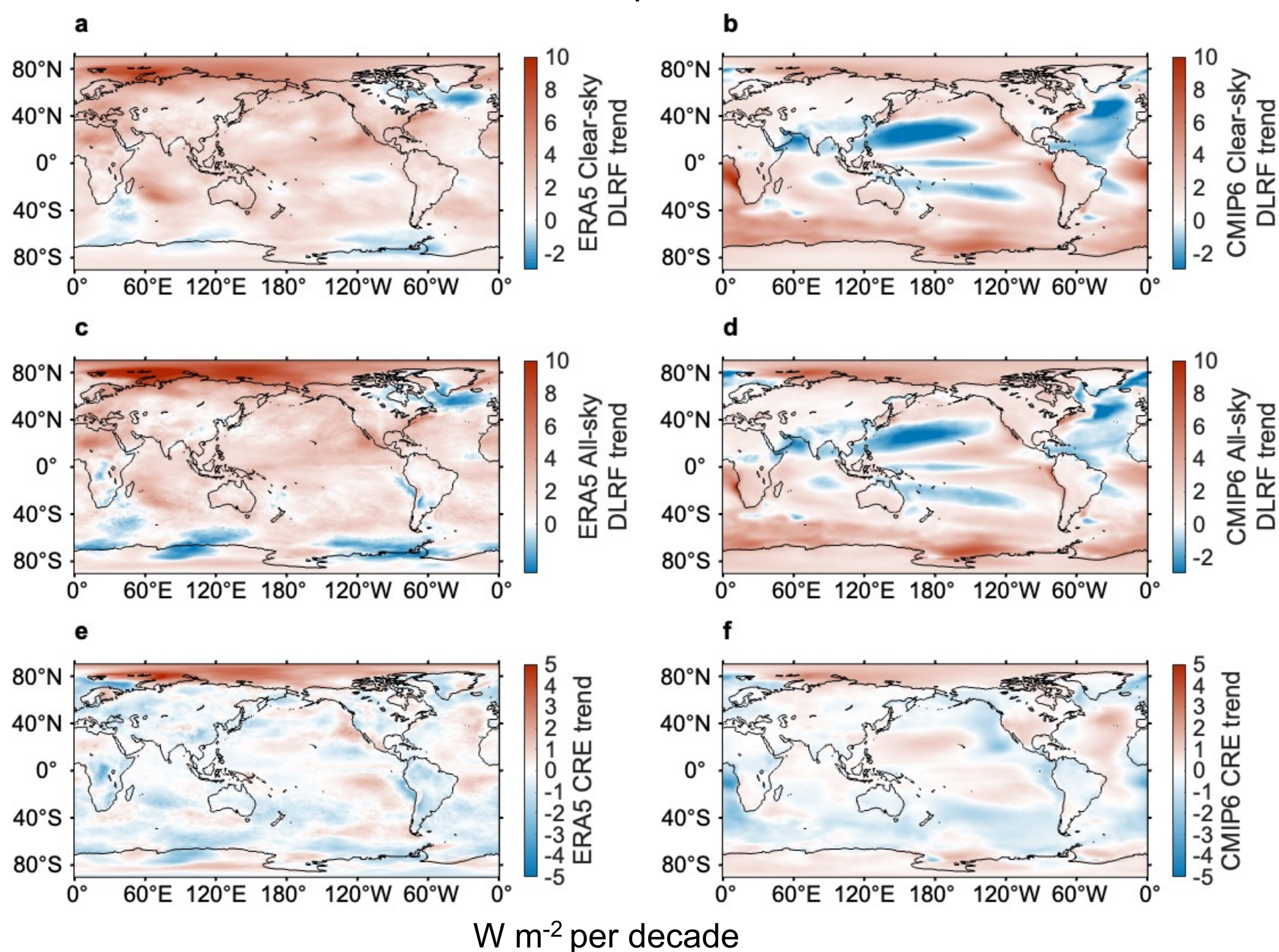
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1. Ground Radiative Observations @ SGP



2. CMIP6 Evaluation AMIP (1996-2014) + SSP370 (2015-2018)

- ERA5 exhibits negative Cloud Radiative Effect (CRE) trends over land.
- The CMIP6 model mean underestimates both clear-sky and all-sky increases in DLRF over land compared to ERA5.
- Most CMIP6 models fail to capture the radiative impact of cloud changes at the SGP site.



References

Liu, L., Huang, Y., Gyakum, J. R., Turner, D. D., & Gero, P. J. (2022). Trends in downwelling longwave radiance over the Southern Great Plains. *Journal of Geophysical Research: Atmospheres*, 127, e2021JD035949. <https://doi.org/10.1029/2021JD035949>



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