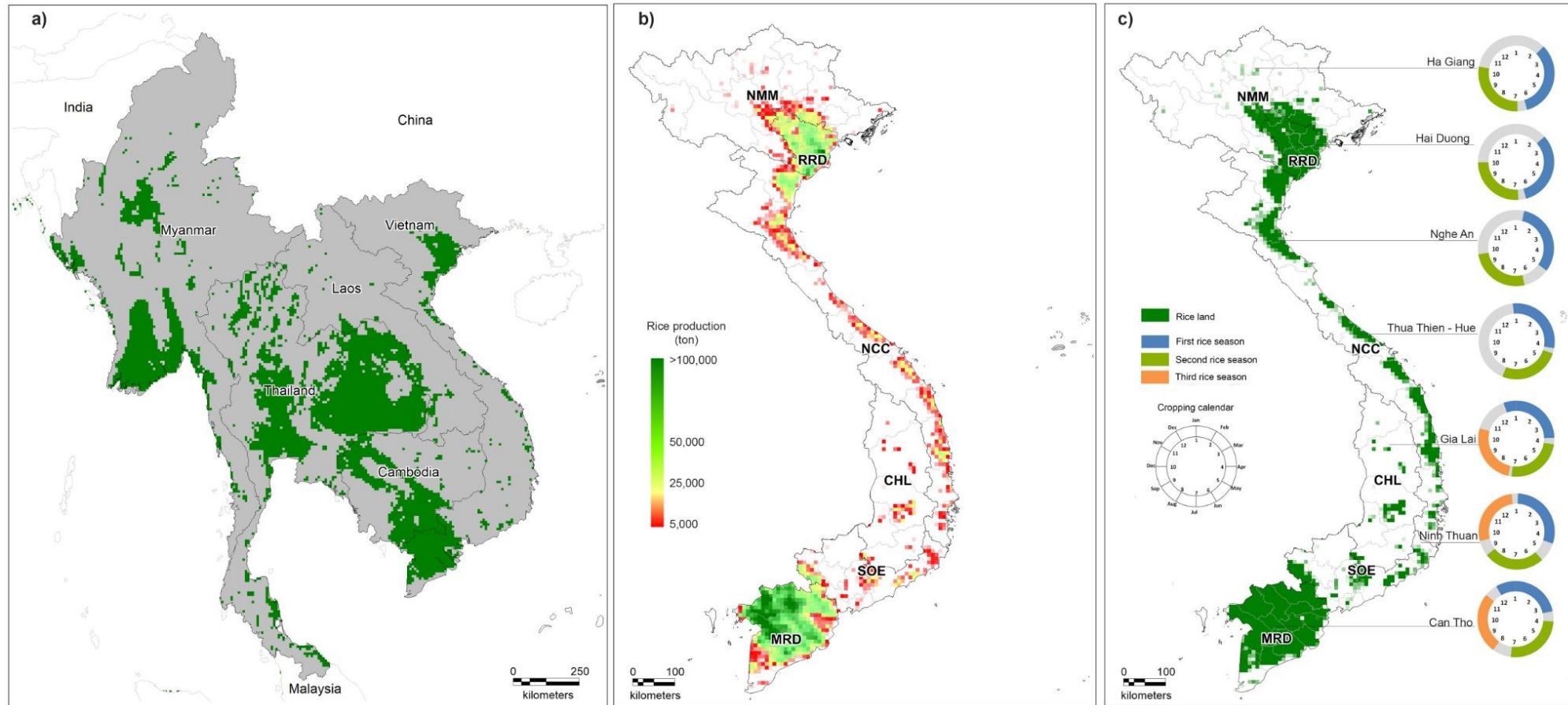


Rice in Space and Time

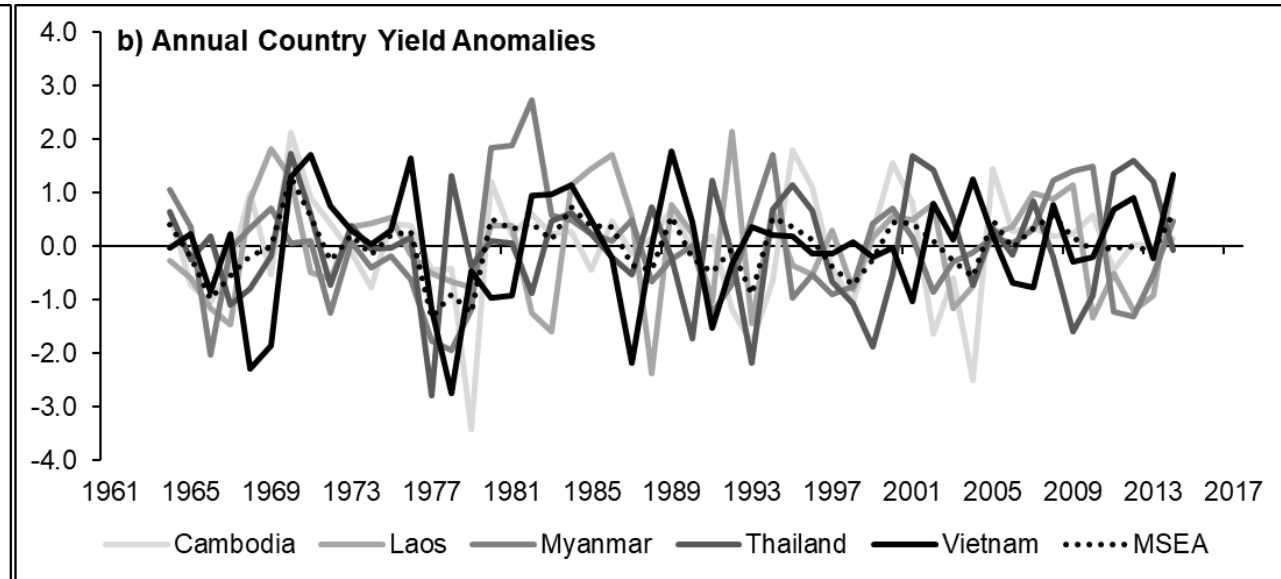
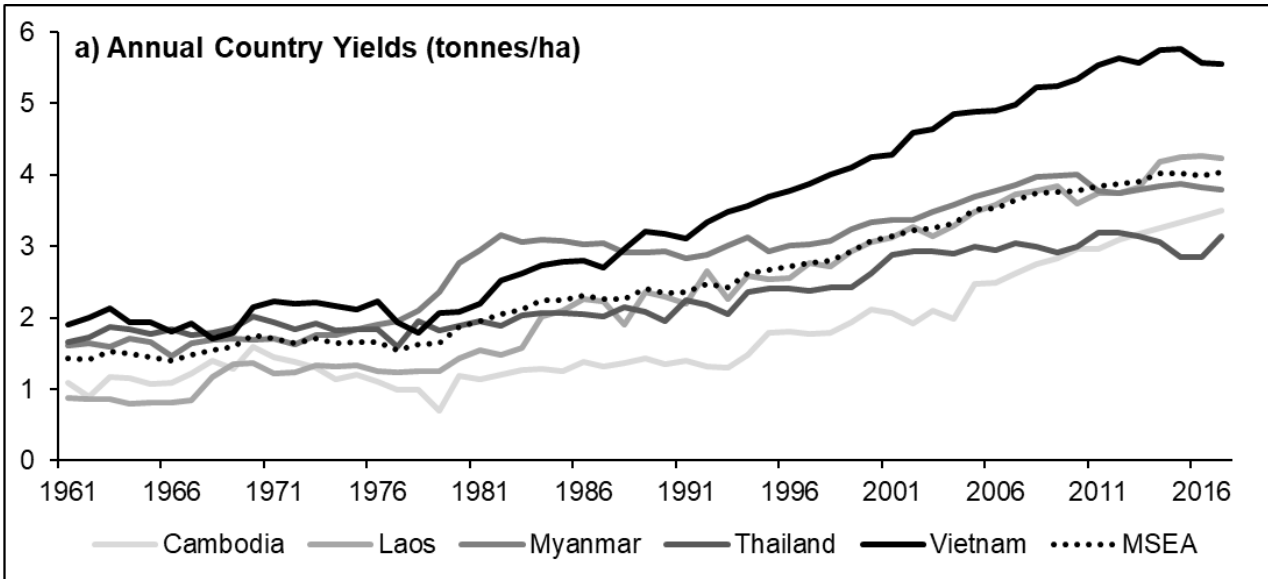
Data Sources

- FAO rice yield
- National level level Statistics yield statistics
- Provincial Level Statistics yield statistics
- Monthly precipitation (mm/day) from NOAA
- Monthly sea surface temperature (SST; °C; 1°x1° grids) data were obtained from the Hadley Centre Global Sea Ice and Sea Surface Temperature (HadISST)
- Monthly wind data (0.25° x 0.25° grids) for 1979-2019 came from the ERA5 Reanalysis Data,

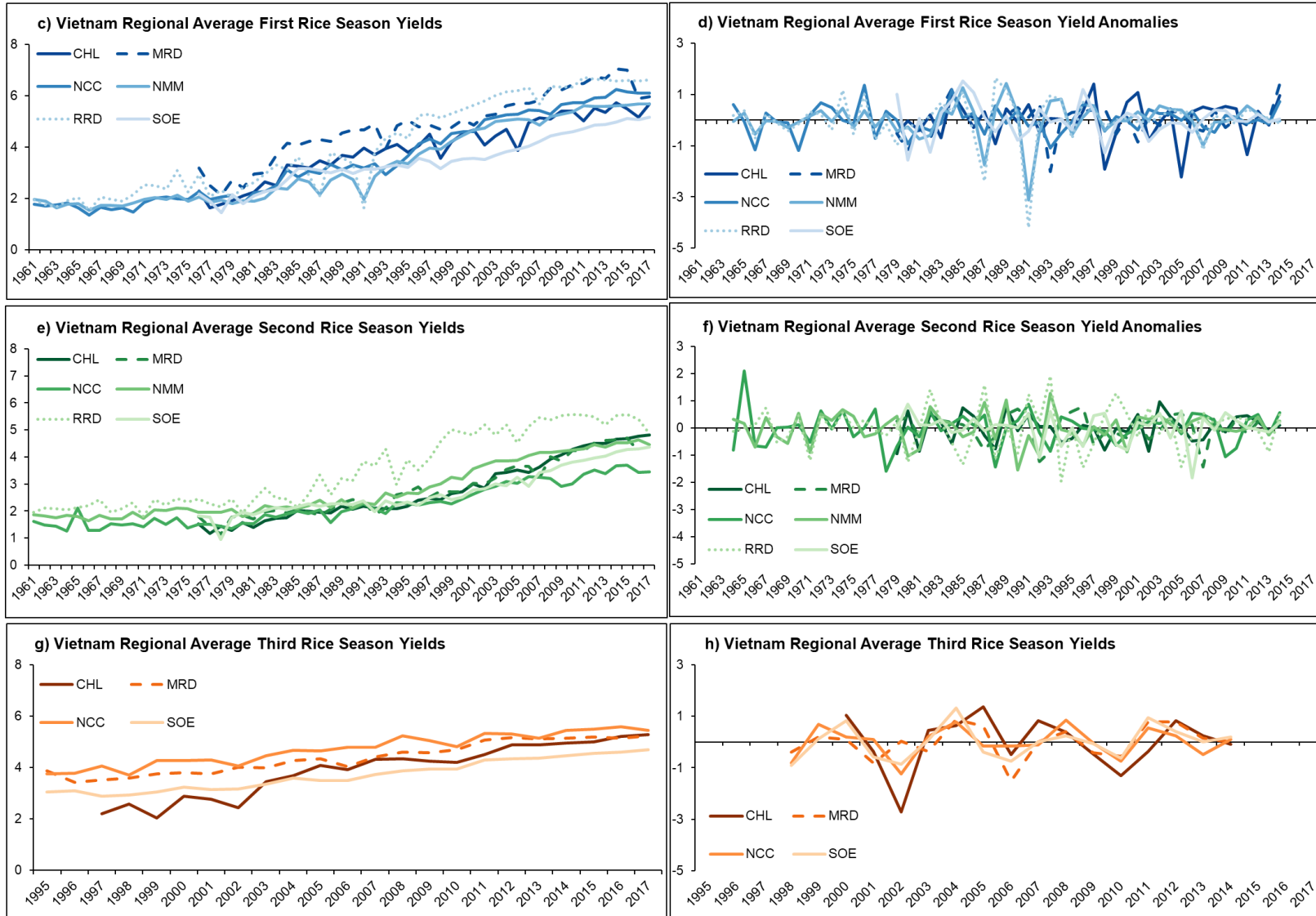
Rice and South-East Asia



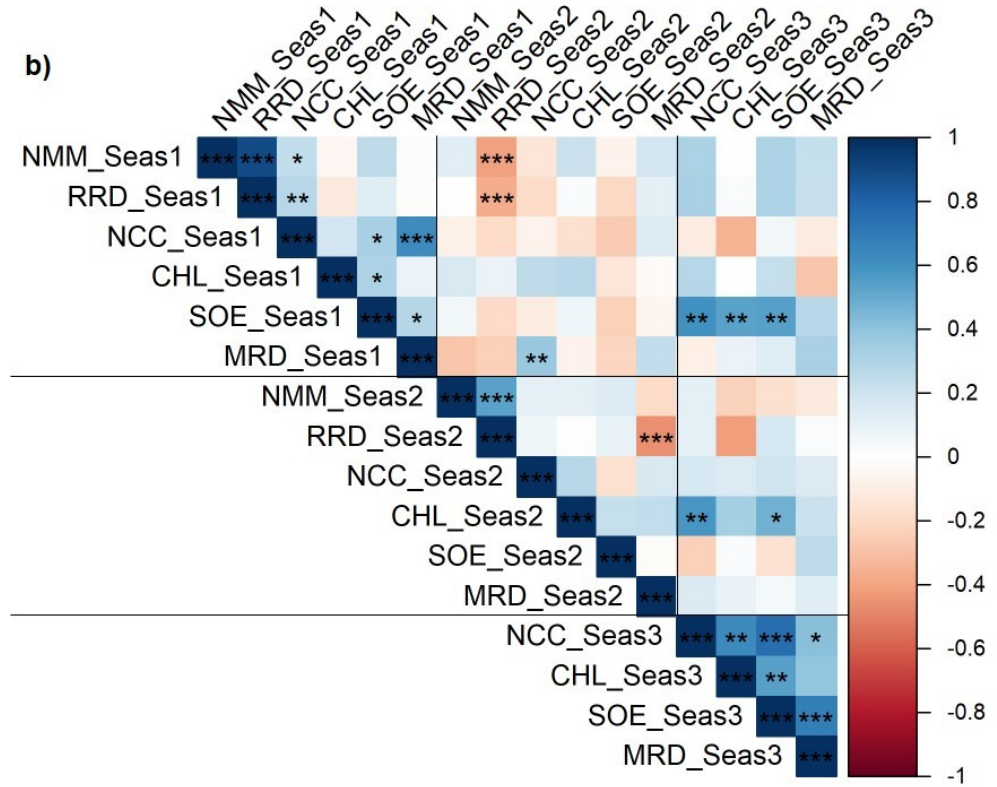
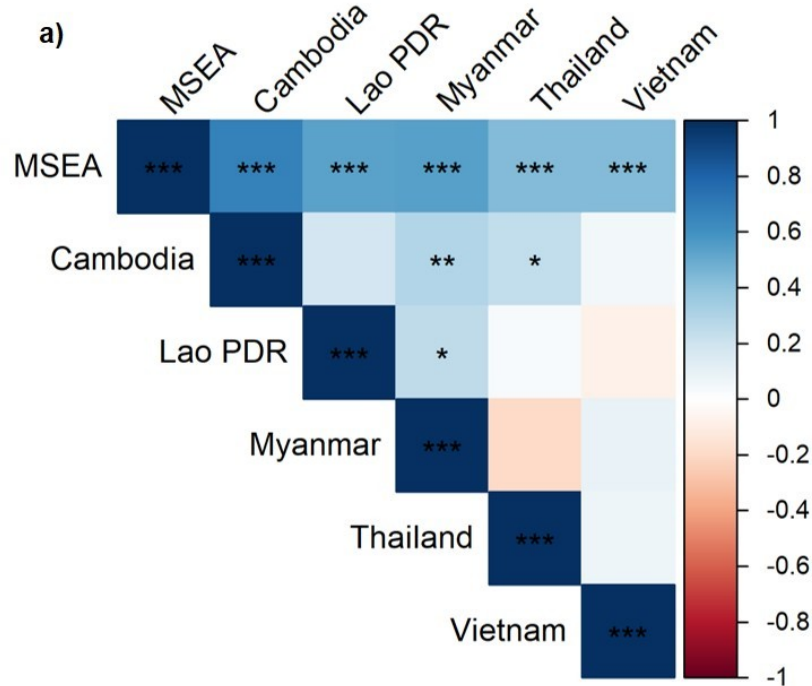
Yield over time in South-East Asia



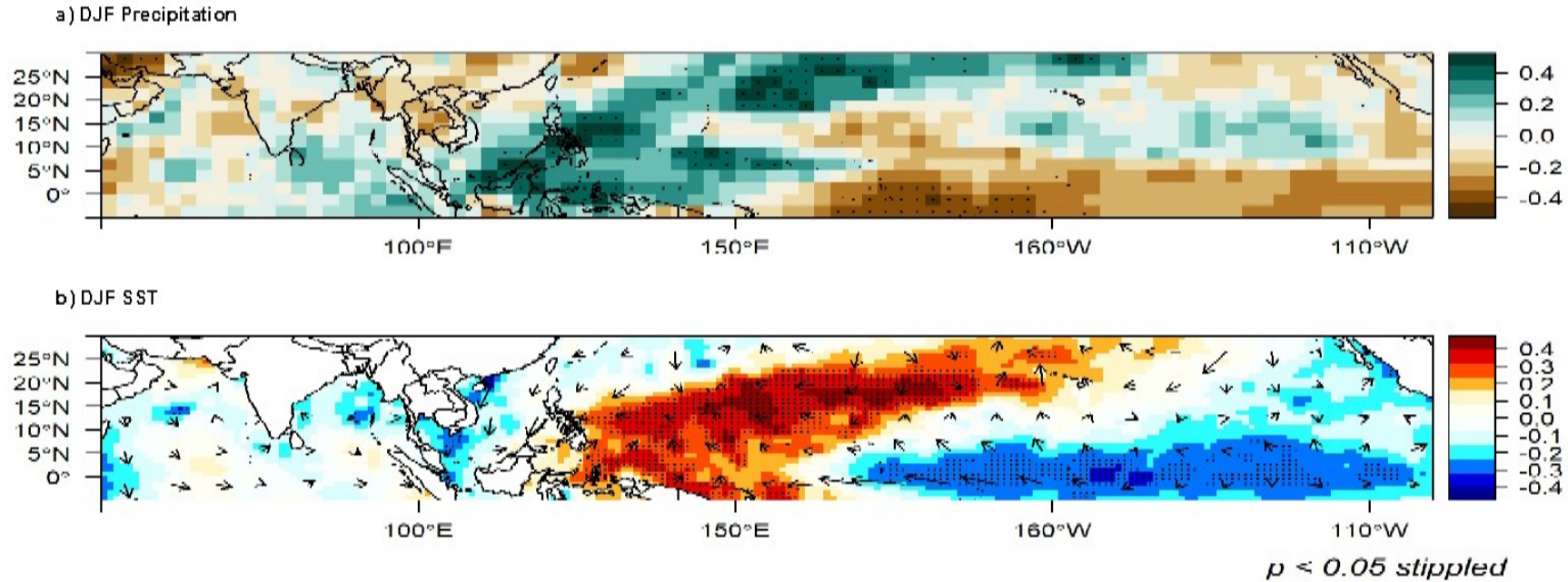
Yield over time in South-East Asia



Relationships between Scales

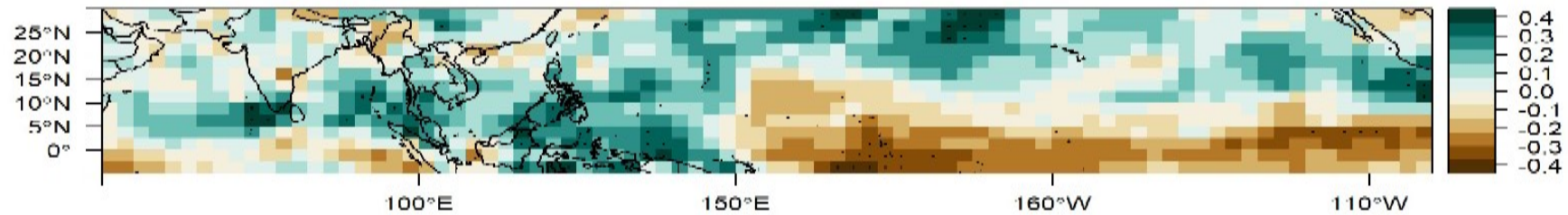


Exploring the Cropping Cycle

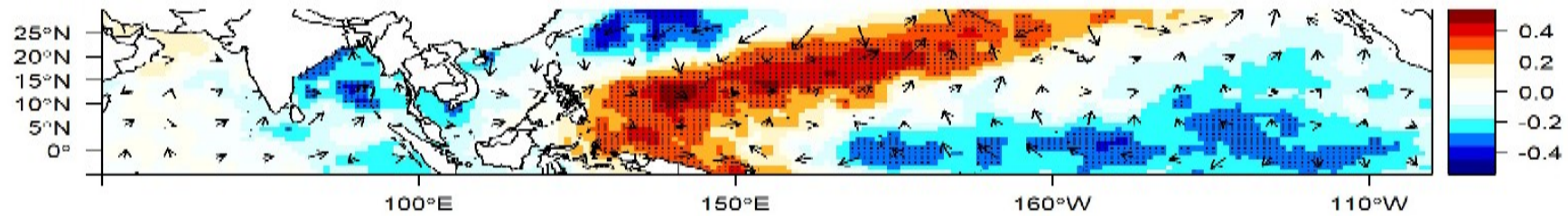


Exploring the Cropping Cycle

c) MAM Precipitation

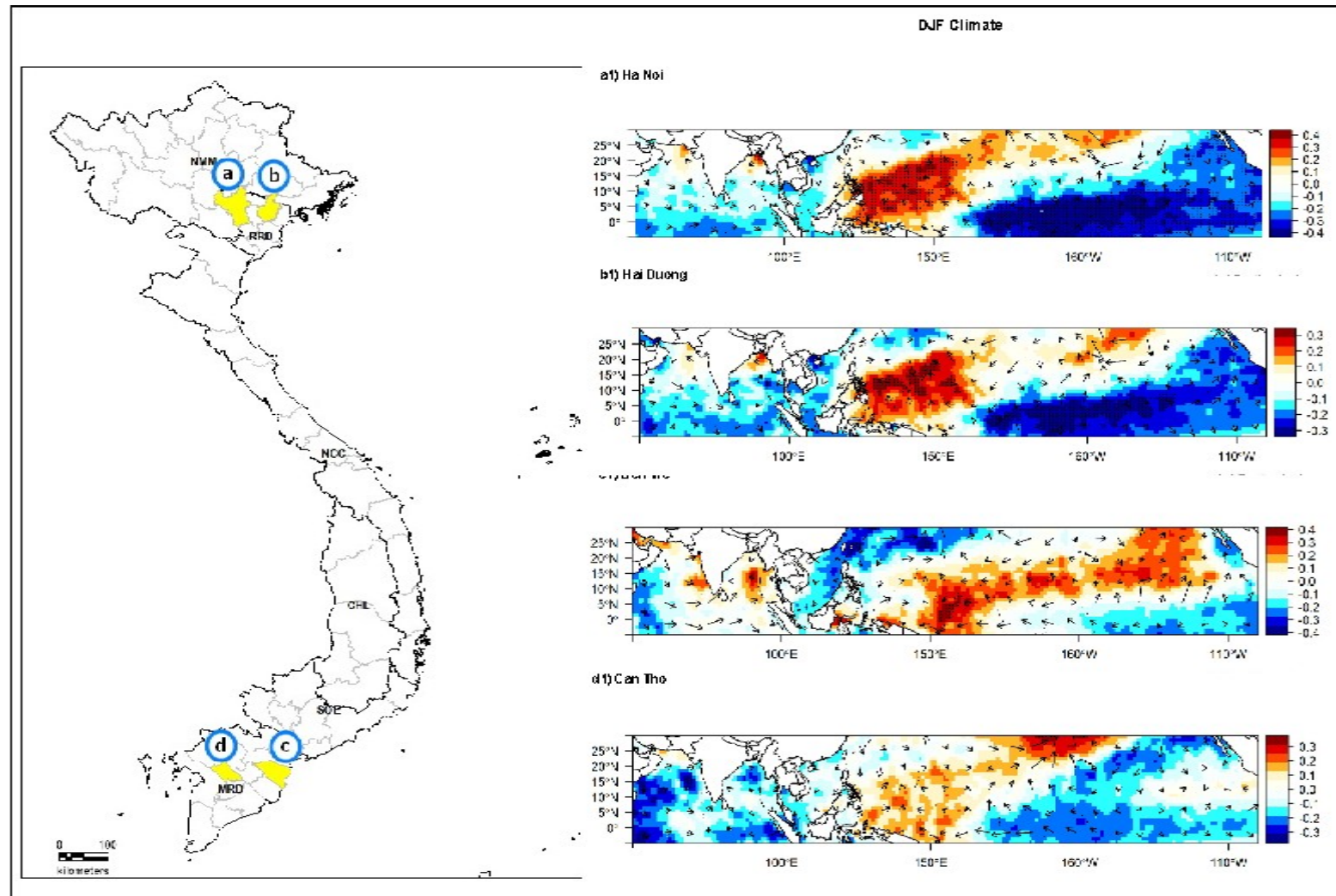


d) MAM SST

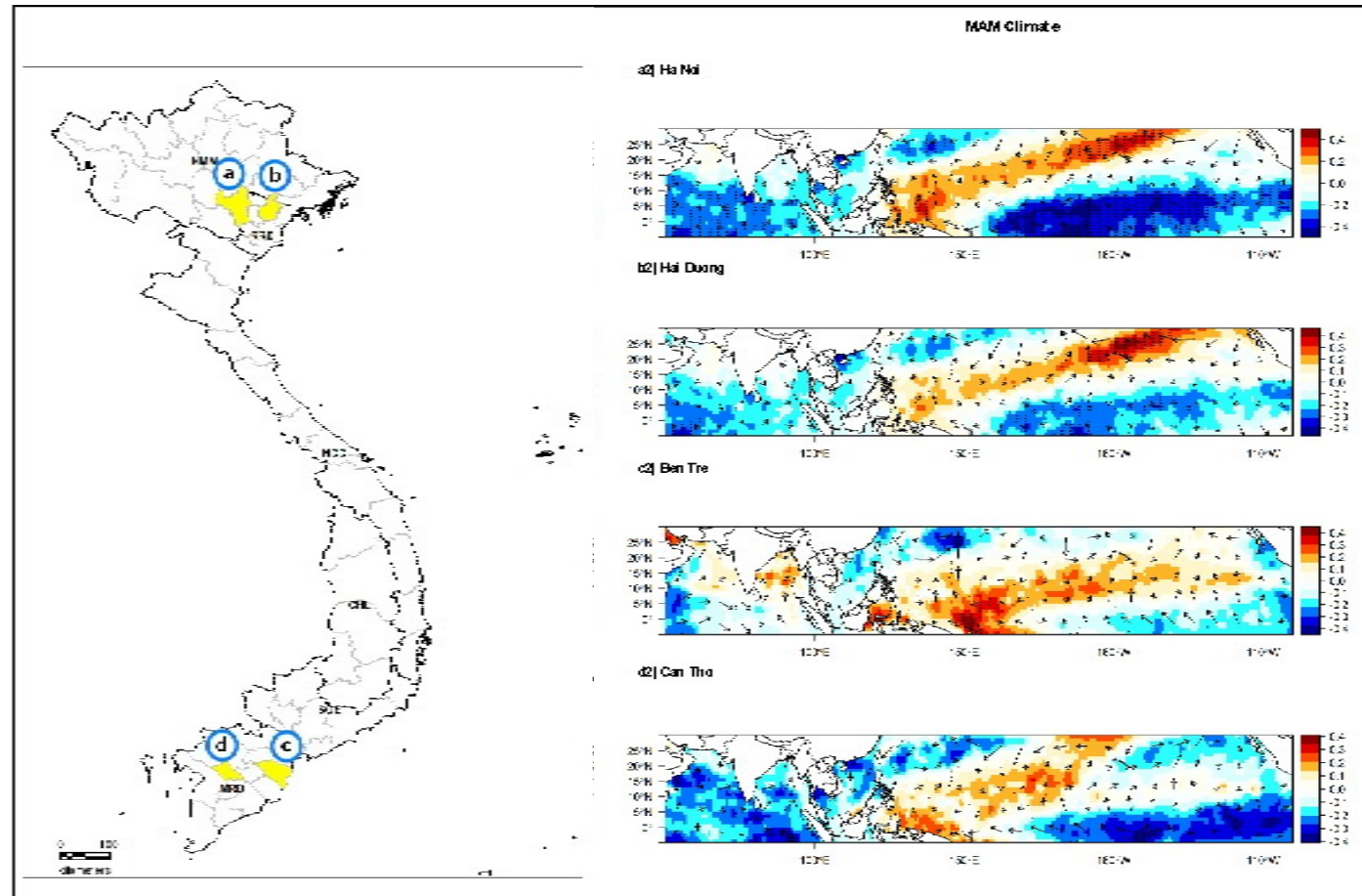


p < 0.05 stippled

Exploring different scales



Exploring different scales



Take homes Message

- Climate has impacted cropping calendars
- Yield is increasing
- Socio-political factors impact yields as much as climate, genetics and management

Questions?