Precipitation Variability and Land Cover Change in Central Asia

From Glimpses of the Recent Past to Projections of the Near Future

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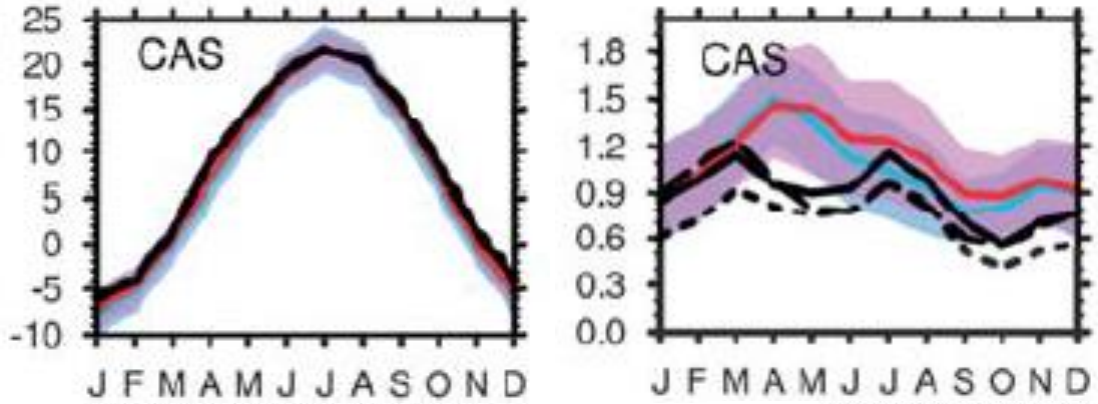
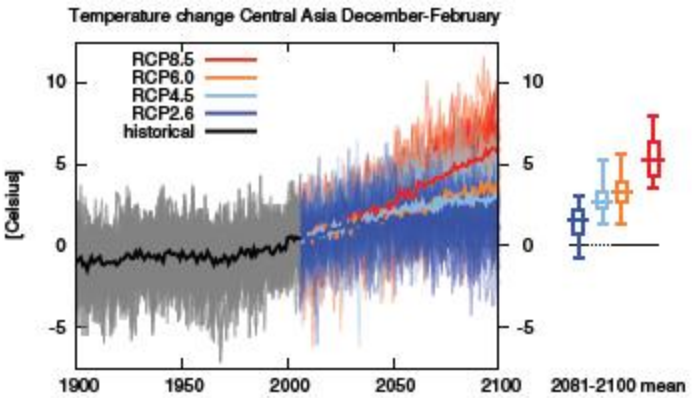
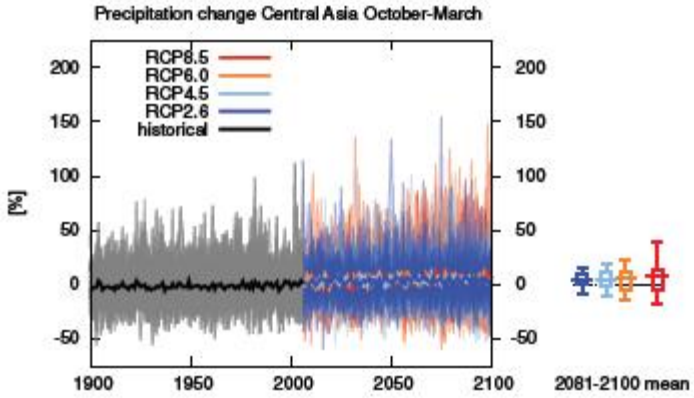
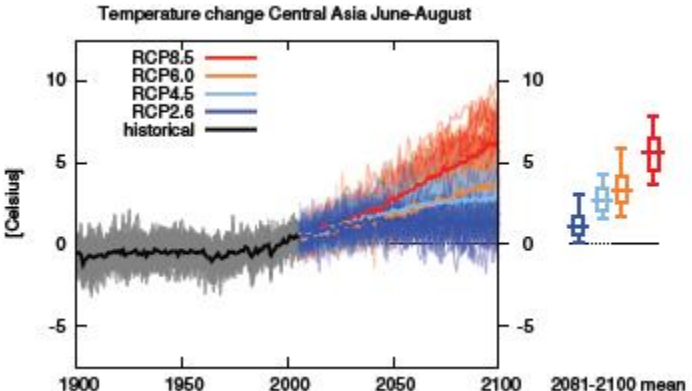
"On the whole, based on analysis of both ensemble means and inter-model spread, there is *high confidence* that the CMIP5 models simulate regional-scale temperature distributions somewhat better than the CMIP3 models did. […] **For precipitation, there is *medium confidence* that there is no systematic change in model performance**." **Source:** AR5 WGI §9.6.1.1

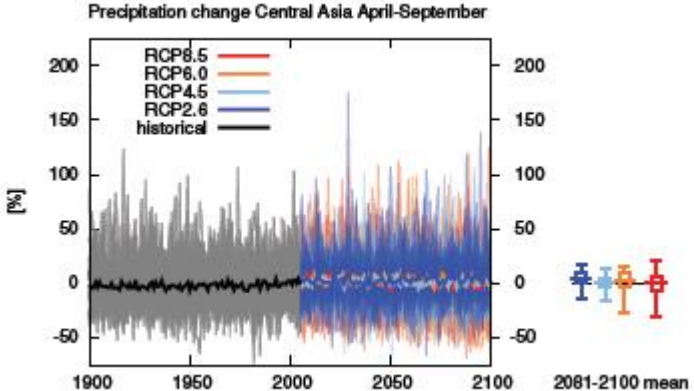
Mean Seasonal Cycle of Temperature (°C) and Precipitation (mm/d) in CAS 1980-1999





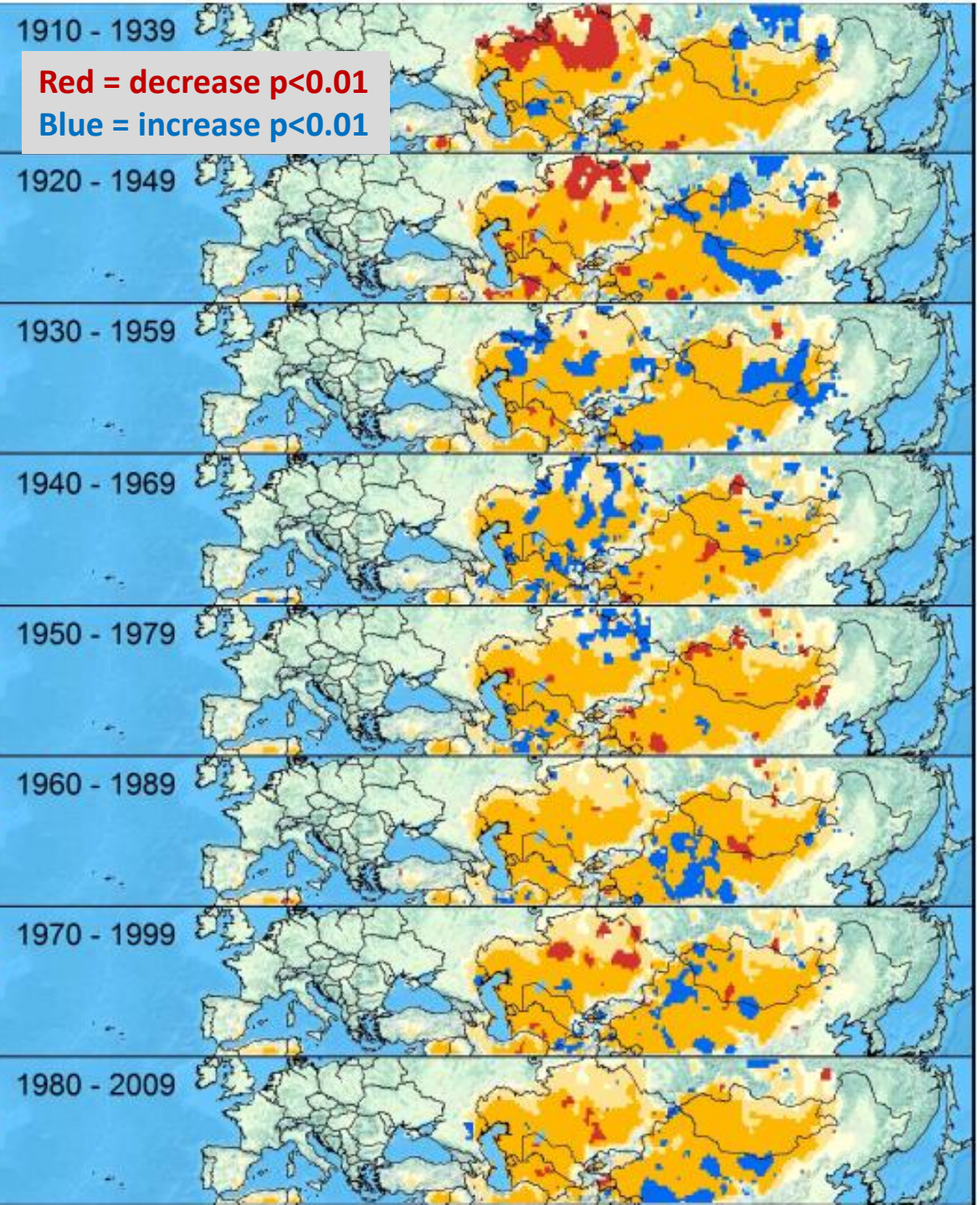






"Significant increases in **TR** [**tropical nights** =days with Tmin > 20 °C] are seen in the extra-tropical Northern Hemisphere, which are most pronounced in south-eastern North America, the Mediterranean and central Asia**. TR increases by as many as 80 days in these regions under RCP8.5, which would mean that almost the entire summer season will have night-time temperatures above 20 °C."**

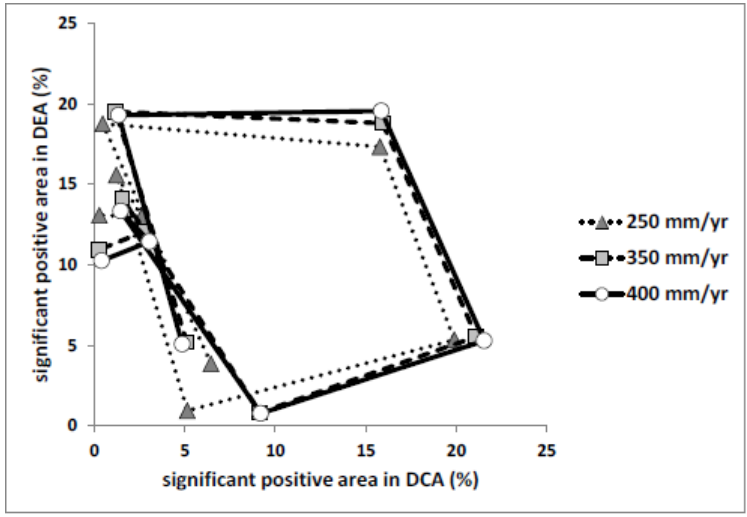
Source: Sillmann et al. 2013. JGR 118: 2473–2493.

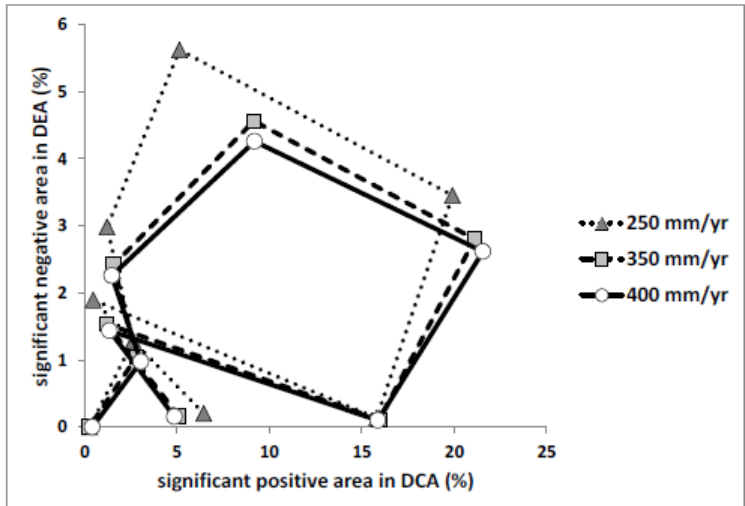


Multi-decadal dipole pattern in drylands precipitation apparent from GPCC data.

Could this pattern be useful for planning & mitigation?

More study needed….



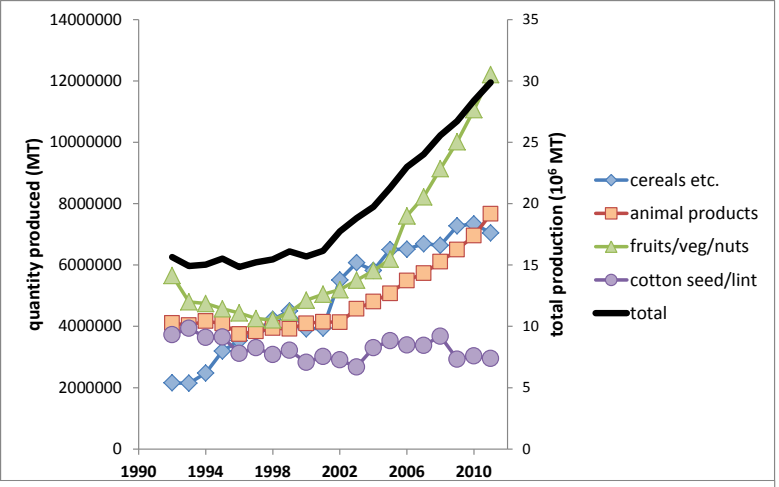


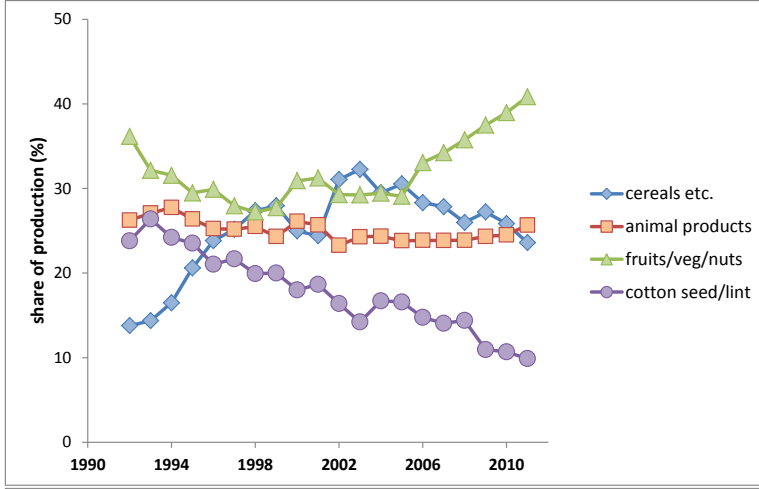
Agricultural Sector Diversification

Uzbekistan

← Production

Proportion →

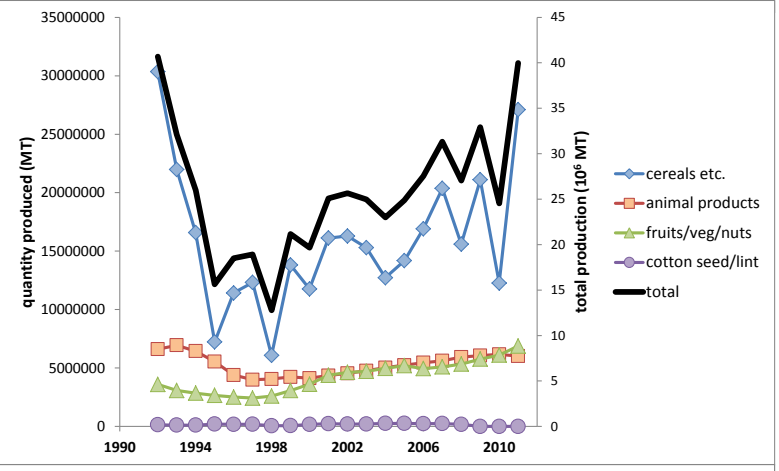


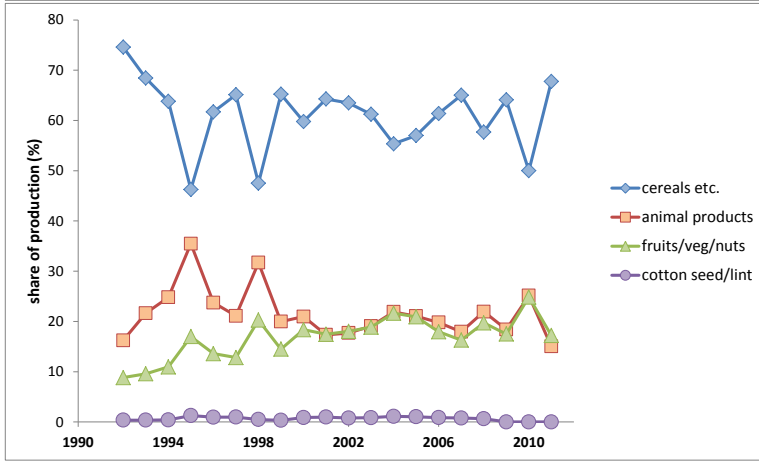


Kazakhstan

← Production

Proportion →

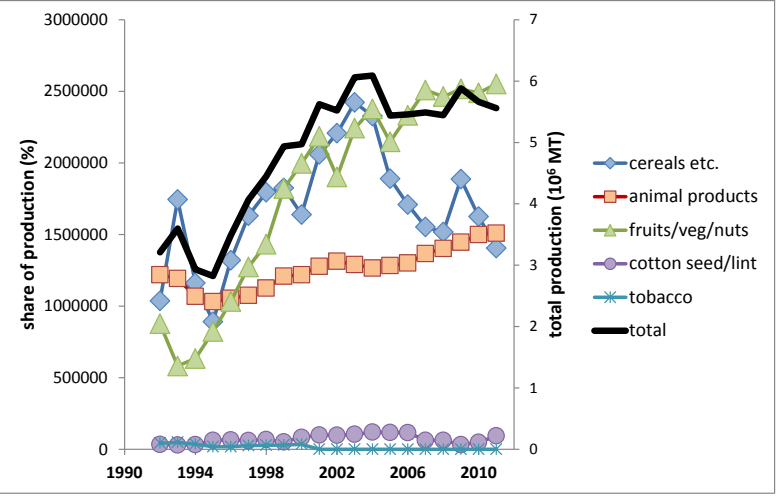


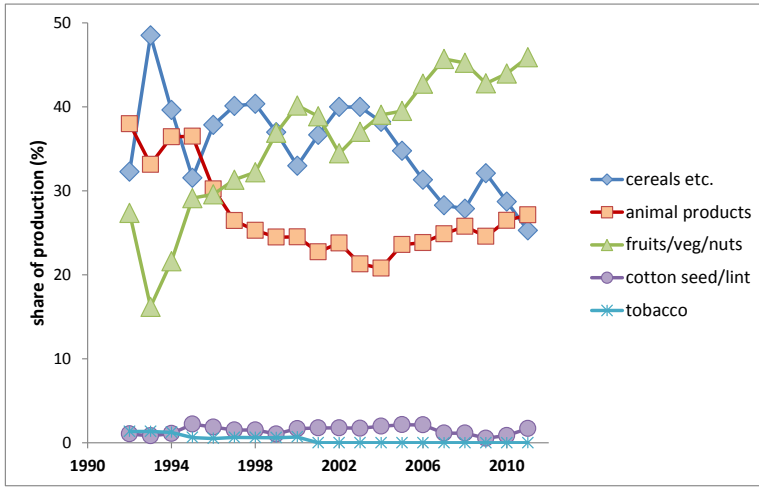


Kyrgyzstan

← Production

Proportion →





Source: FAOSTAT