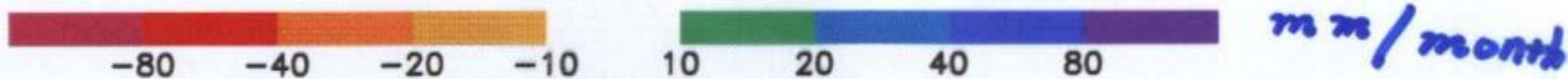
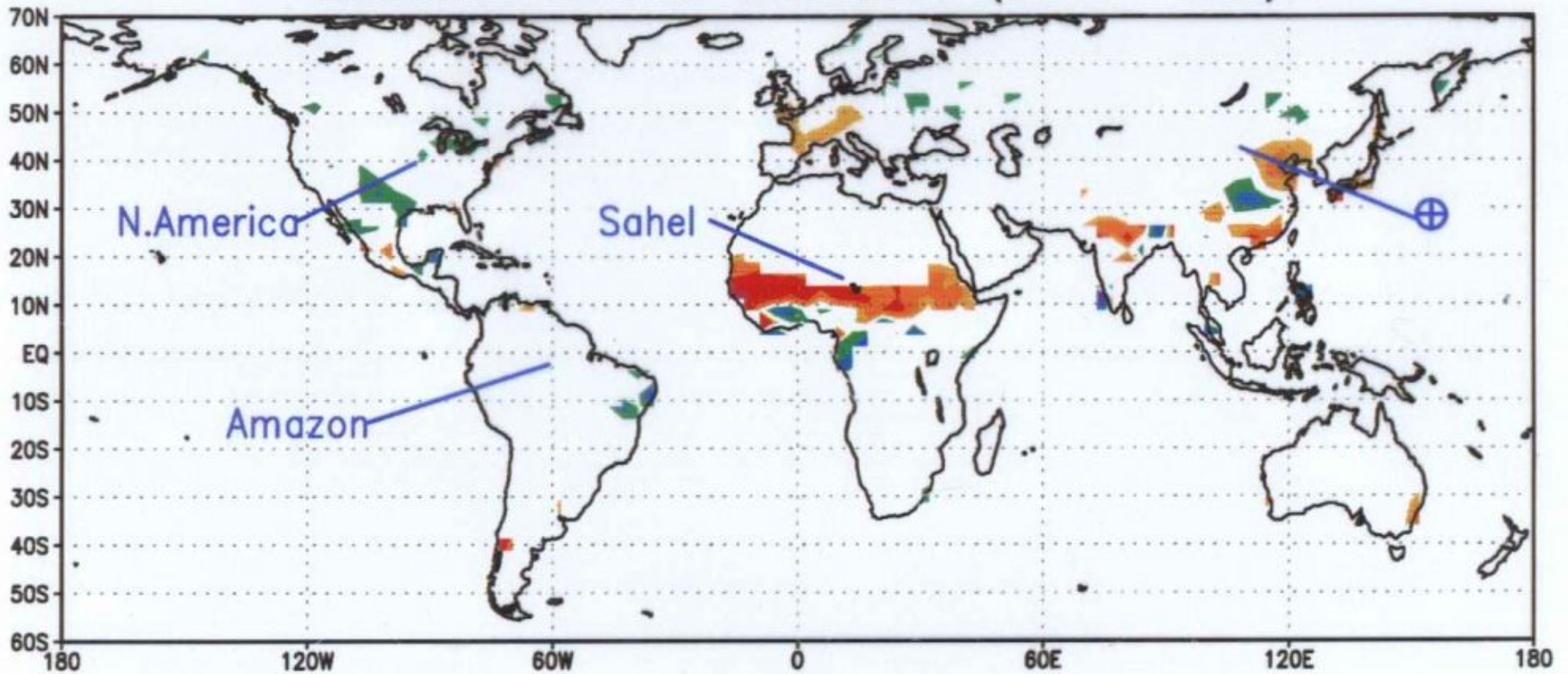


Observed rainfall difference (80s - 50s) *JJA*



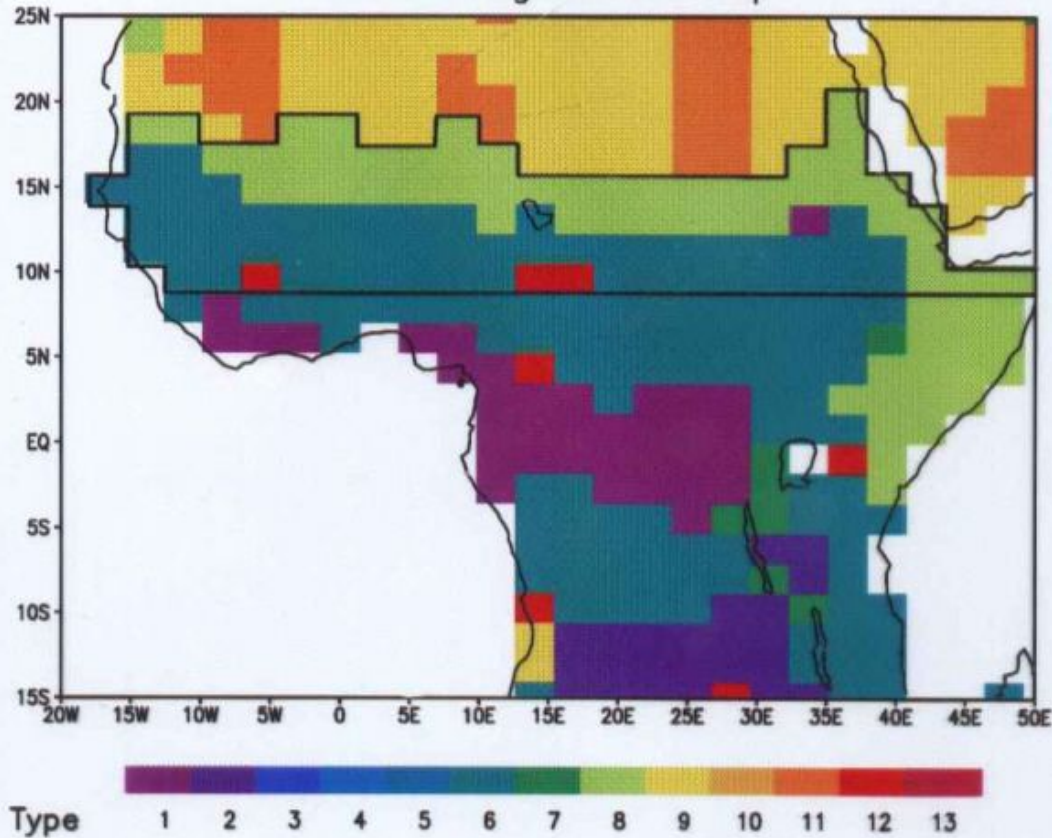
⊕ Mongolian and Inner Mongolian Grassland

*Based on Hulme's data*

# Sahel drought & desertification



# Africa Vegetation Map



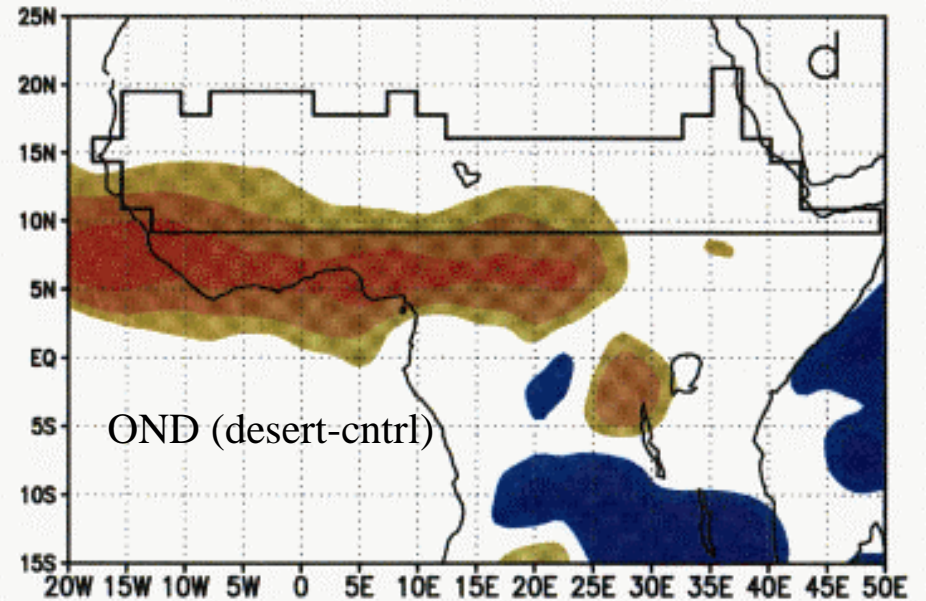
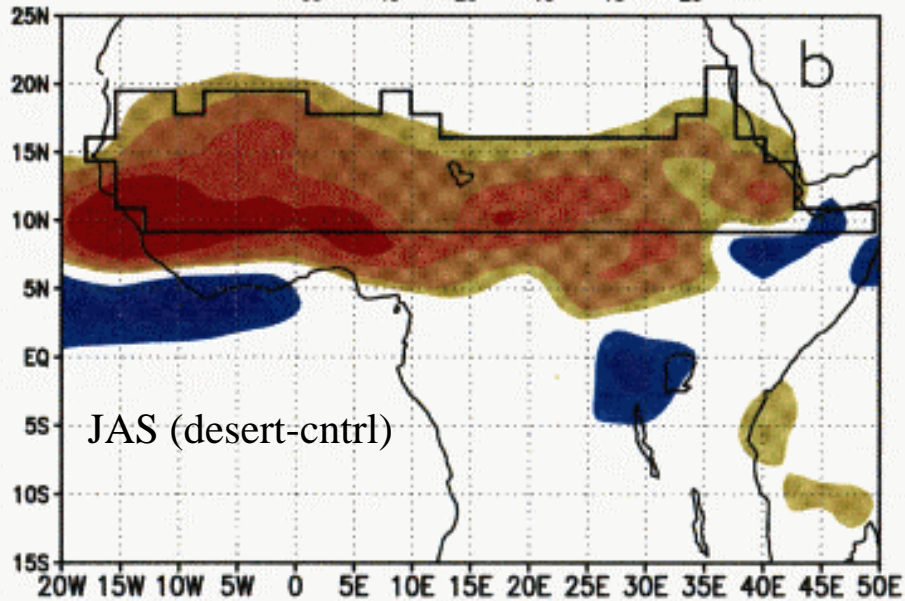
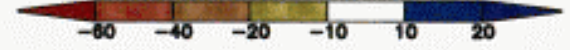
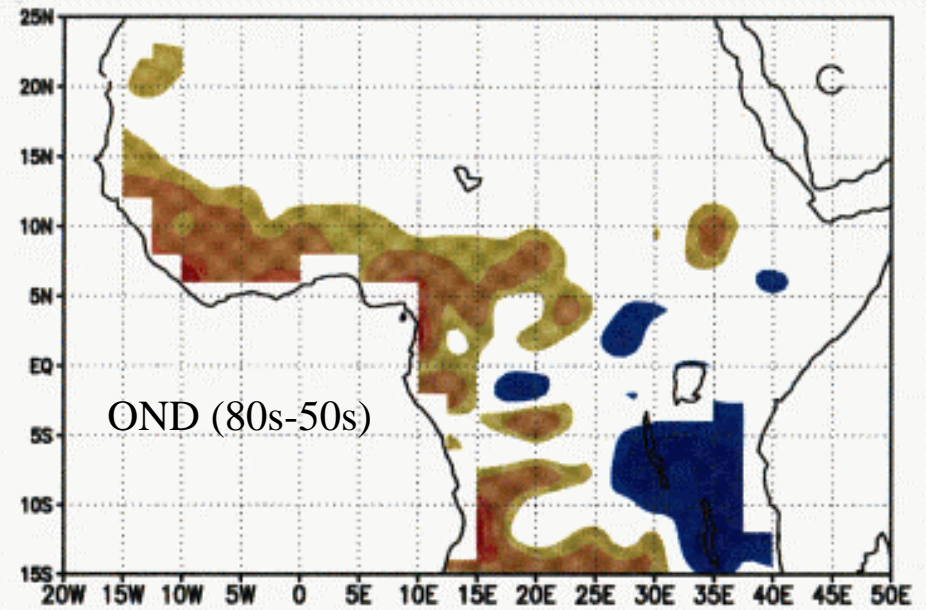
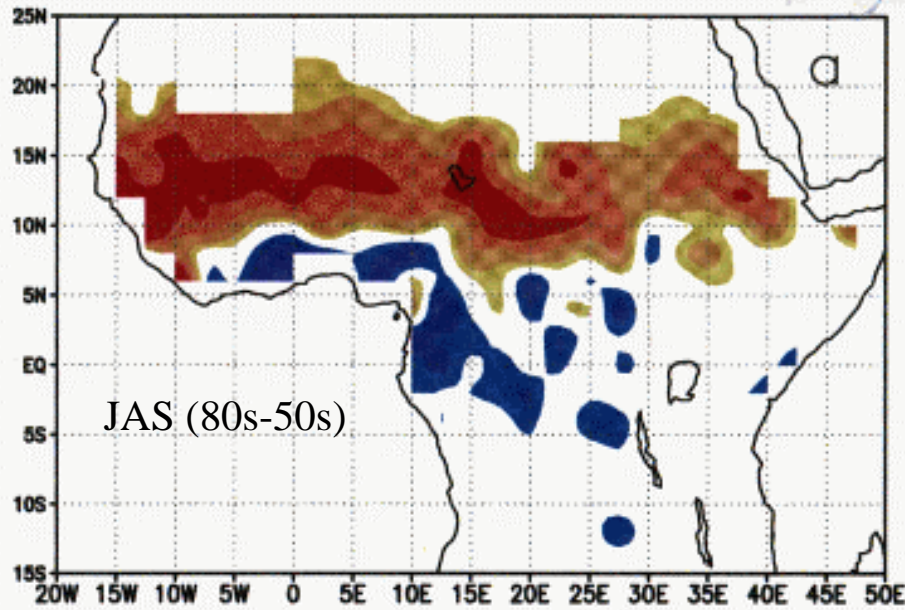
Type 6: savannah

Type 8: shrubs with ground cover

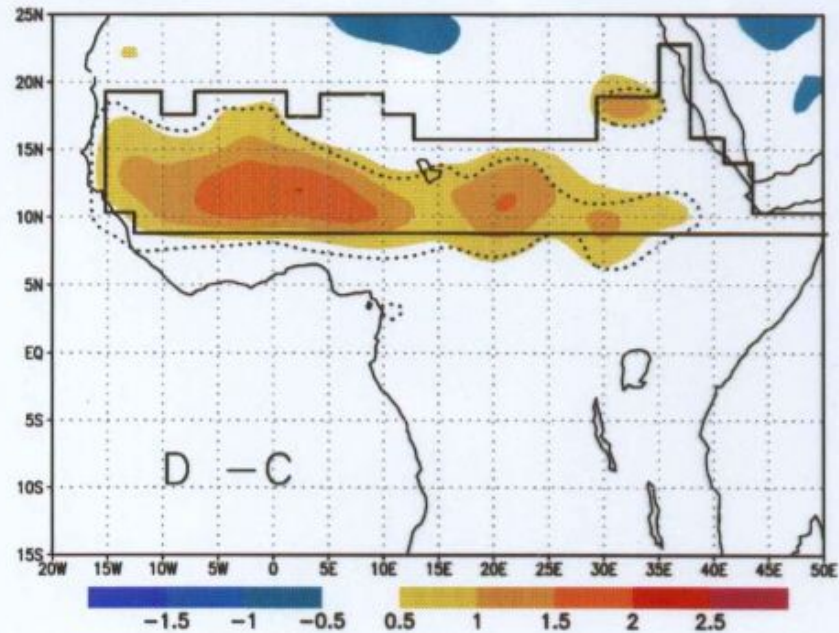
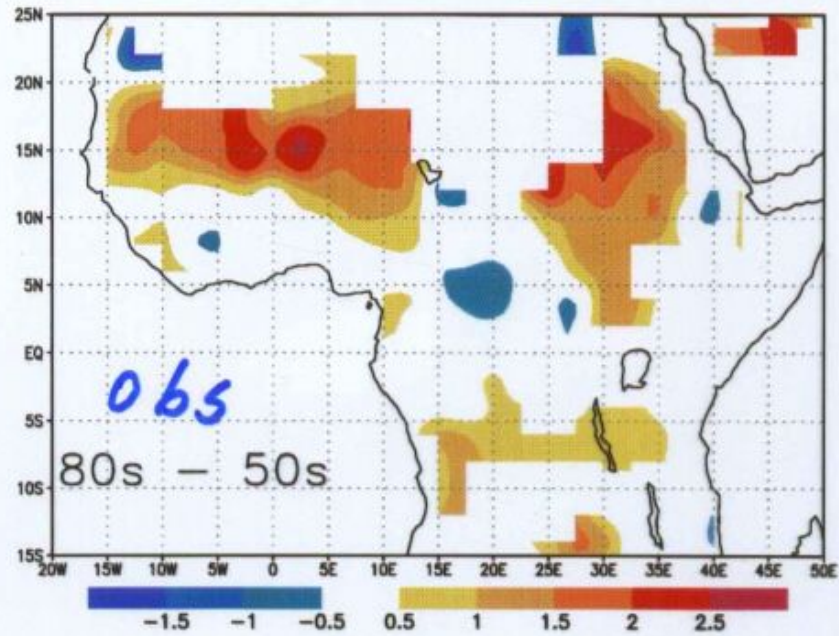
Type 9: shrubs with bare soil

In the degraded simulations the vegetation types were changed to type 9

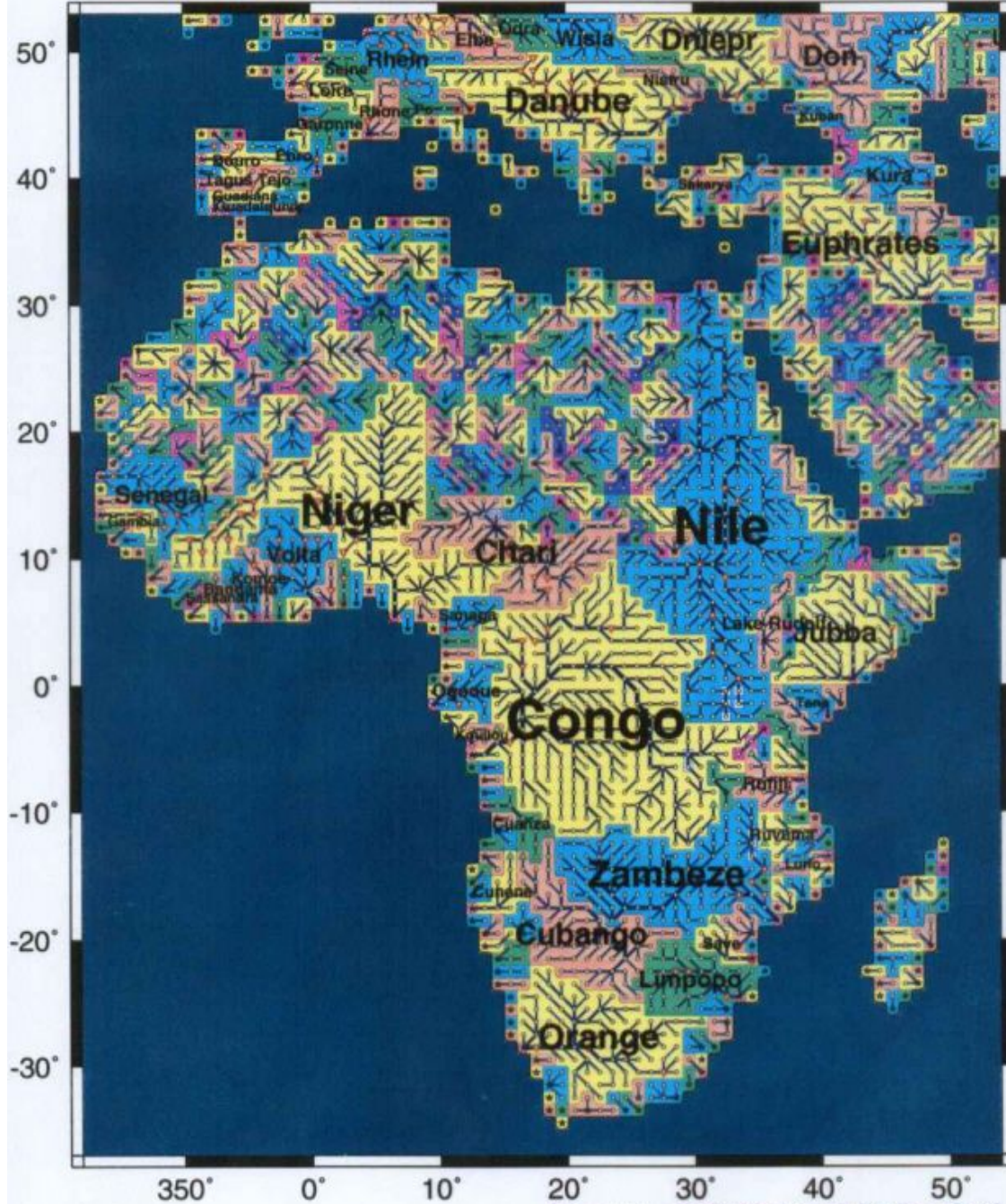
# Observed and simulated precipitation anomalies (mm/mon)



# Mean surface air temperature difference (K)

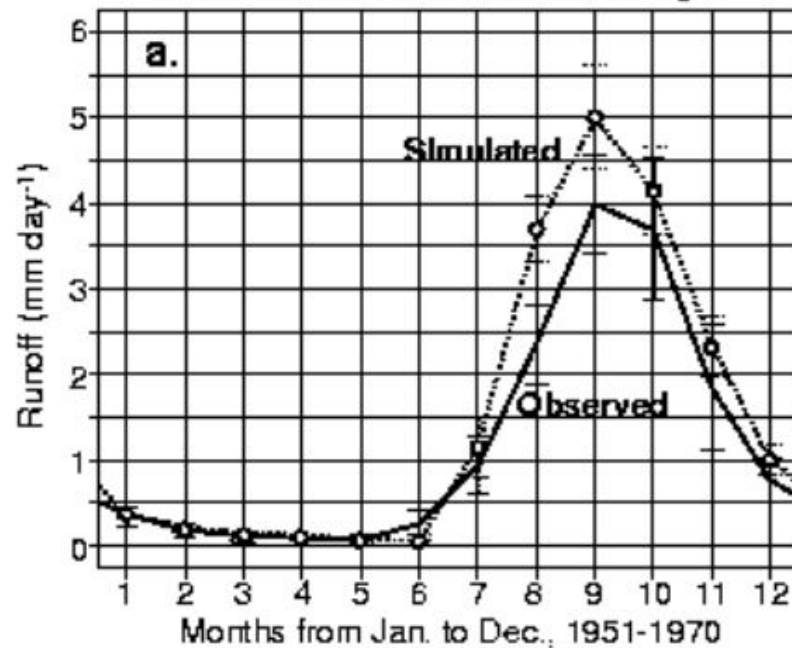


# Rivers in Africa on TRIP in 1°x1° mesh

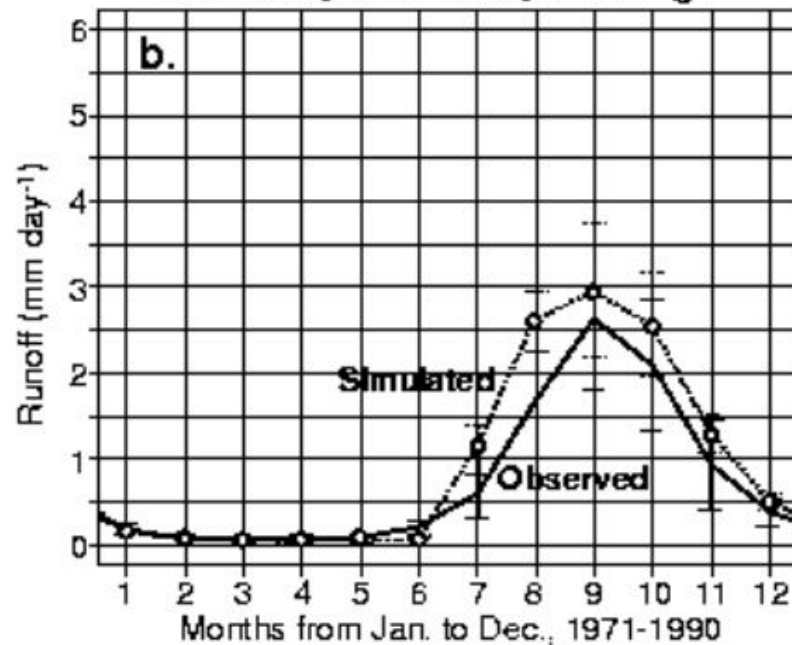


[Version 970522 by Taikan Oki]

### Koulikoro [352.5E12.5N] In the Niger

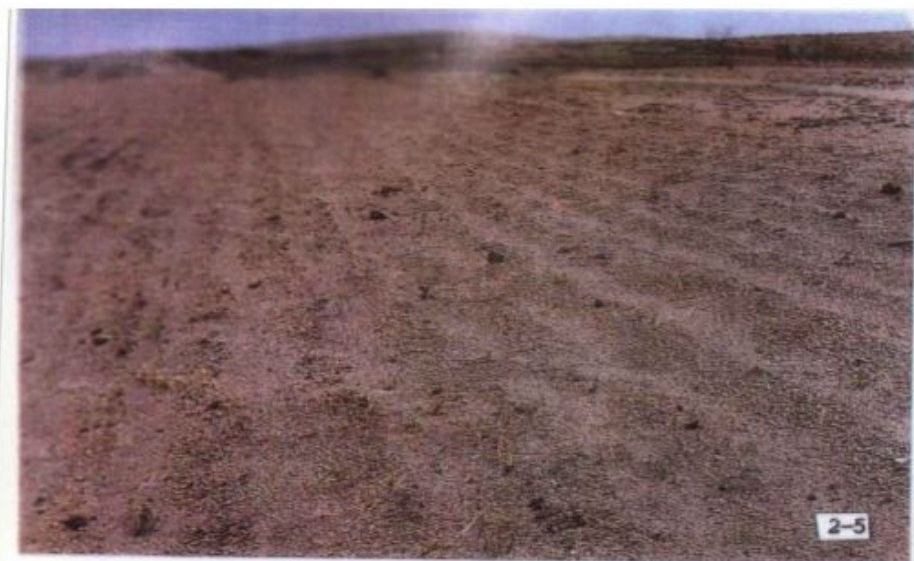


### Koulikoro [352.5E12.5N] In the Niger



- East Asian climate anomaly and desertification





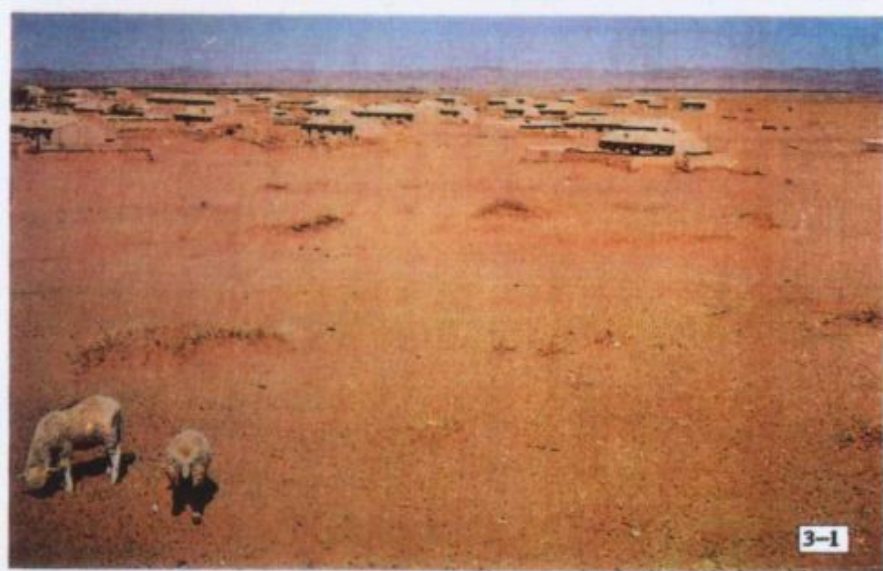
2-5



2-6

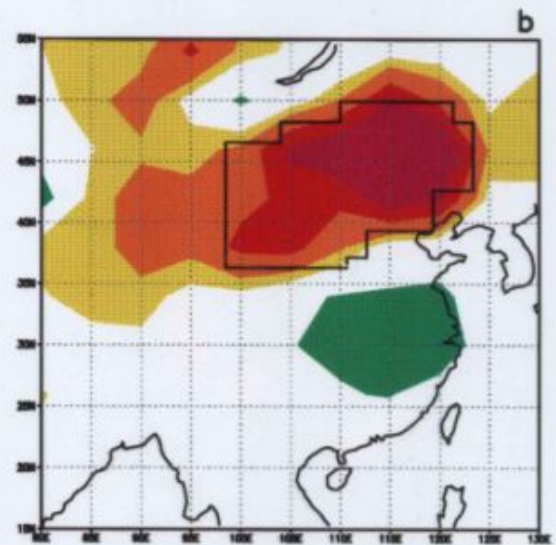
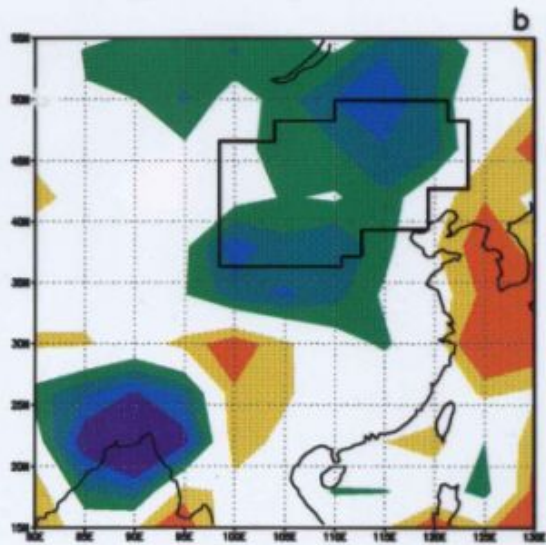
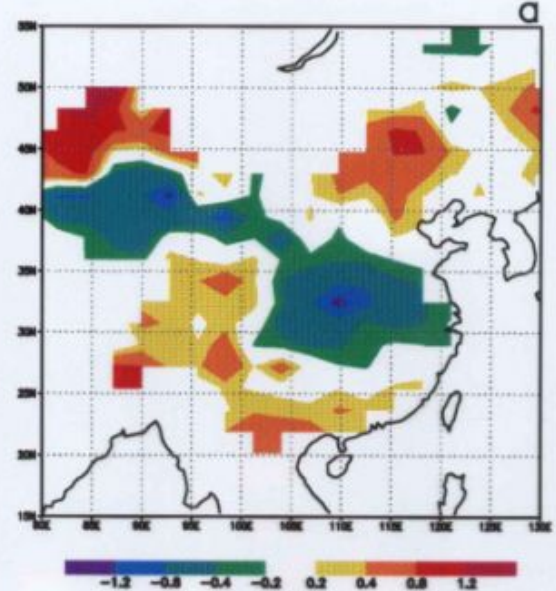
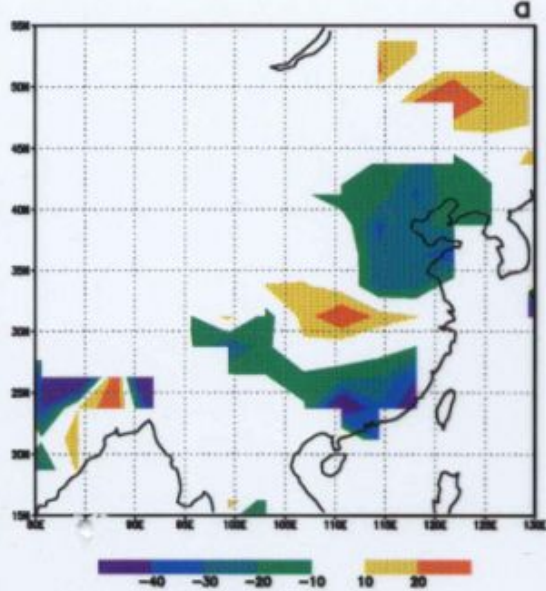


2-7



3-1

2-5 耕地砾质化(内蒙古化德); 照片 2-6 草场戈壁化(内蒙古化德); 照片 2-7 风蚀劣地(内蒙古商都); 照片 3-1 居民点附近呈片状流沙(内蒙古化德)



Figur1: JJA mean precipitation (mm/month) for (a) observed difference between 1980s and 1950s, (b) ensemble D minus ensemble G. The desertification area is enclosed with thick line.

Figur2: JJA mean surface temperature (K) for (a) observed difference between 1980s and 1950s, (b) ensemble D minus ensemble G. The desertification area is enclosed with thick line.

**Sources:**

Slide 1: Xue, 2006 (Dryland Ecohydrology)

Slides 3-5: Xue, 1997 (Quart. J. Roy. Met. Soc)

Side 6: Oki and Sud, 1998 (Earth Interactions)

Slides 7: Xue et al., 2004 (Vegetation, Water, Humans and the Climate)

Slide 9: Zhu et al., 1988 (Desertification and rehabilitation in China)

Slide: 10: Xue, 1996 (J. Climate)