Validation of Different NARCCAP-RCMs in the Southern Part of the Domain

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NARCCAP 3rd Users´Meeting
Boulder, Colorado

SEMARNAT

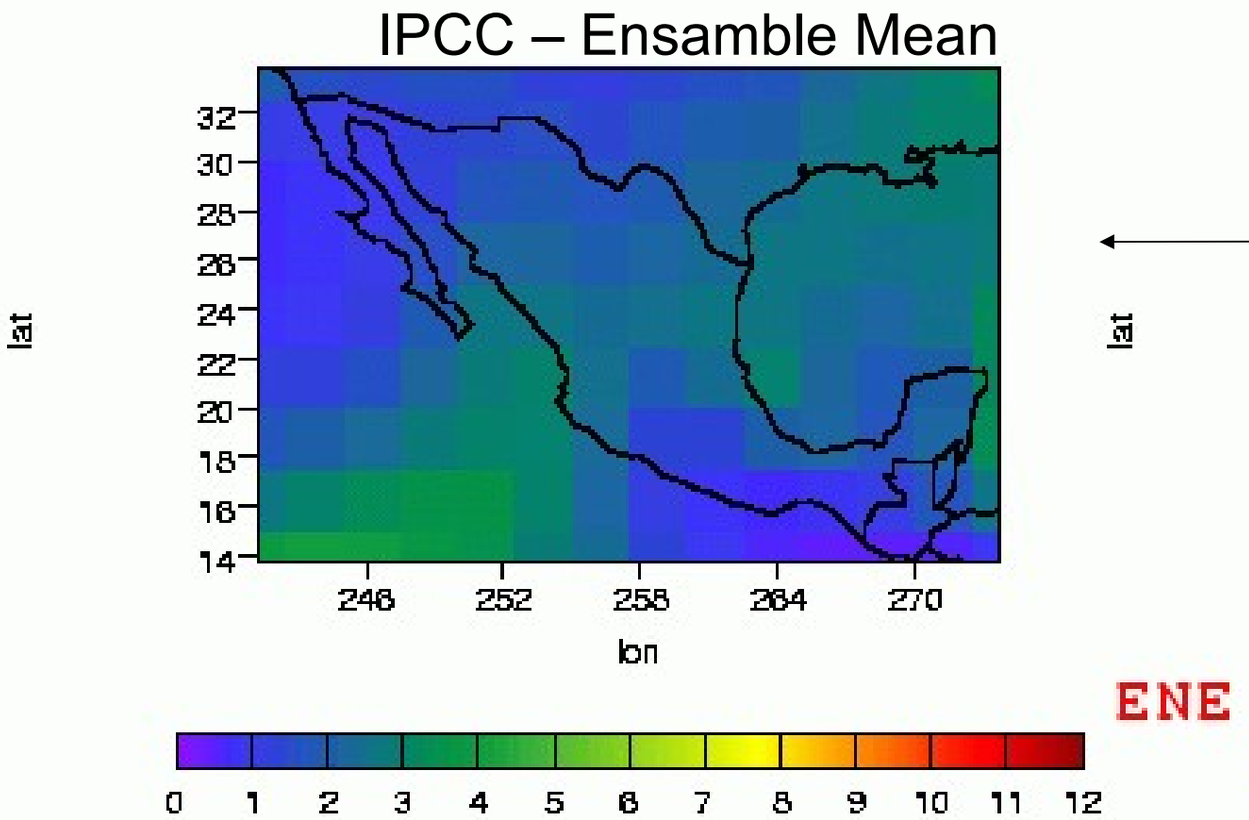
Content

- Datasets

  NARCCAP (phase I) and CRU (obs)

- Results: **Srf Temp & Precip** (DJF & JAS)
  - Bias (%)
  - Climatology Correlation
  - Temporal Correlation (Yr to Yr)
  - RCMs Trends
  - Bias Trend

- Final Comments

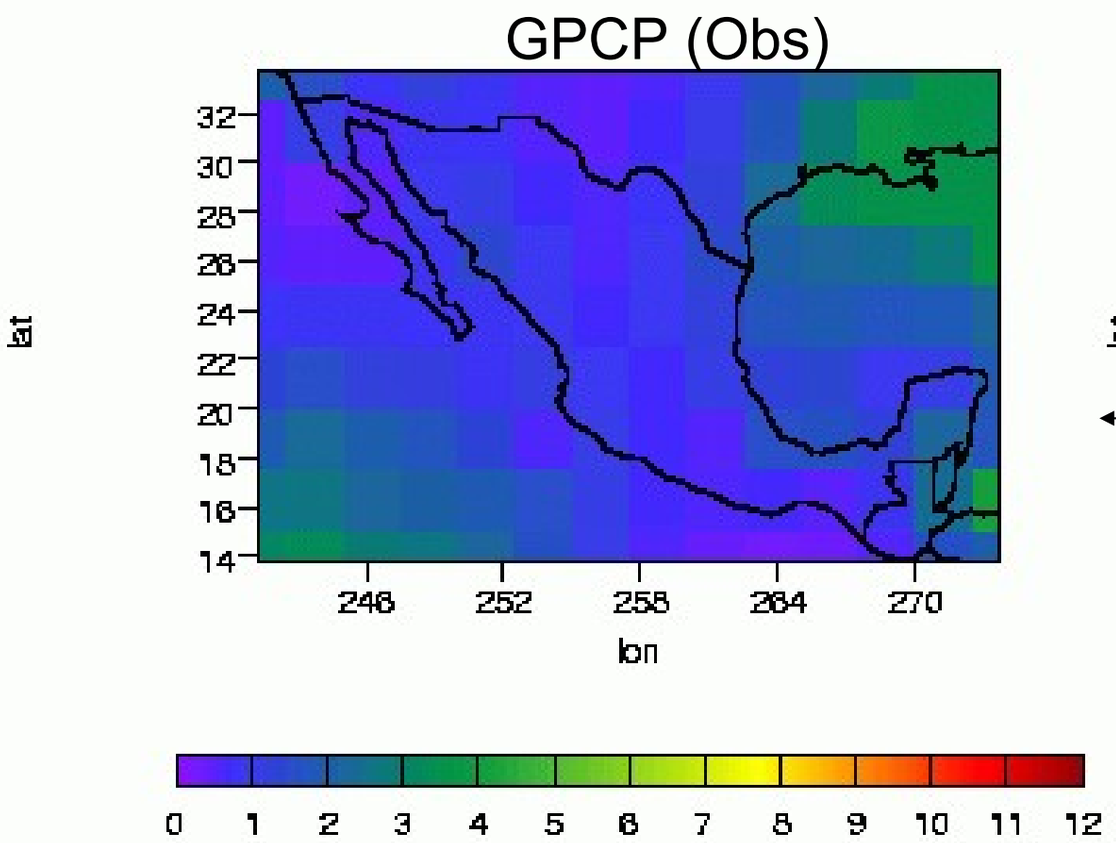


Models
16 IPCC Model Avg

CLIMATOLOGY

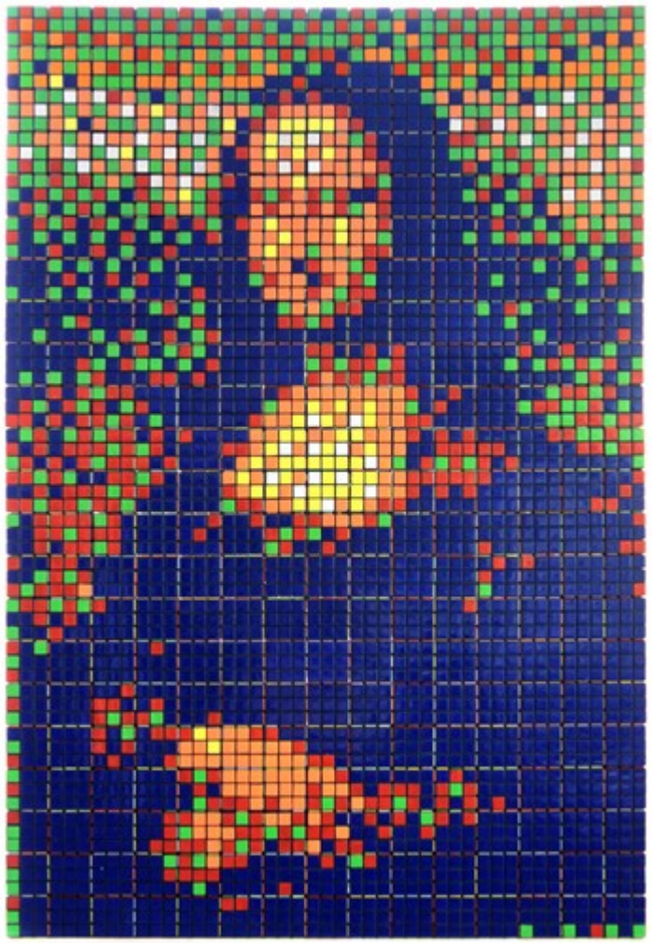
1980-1989

Precipitation
(mm/d)



Observations
GPCP, Global Precipitation
Climate Project

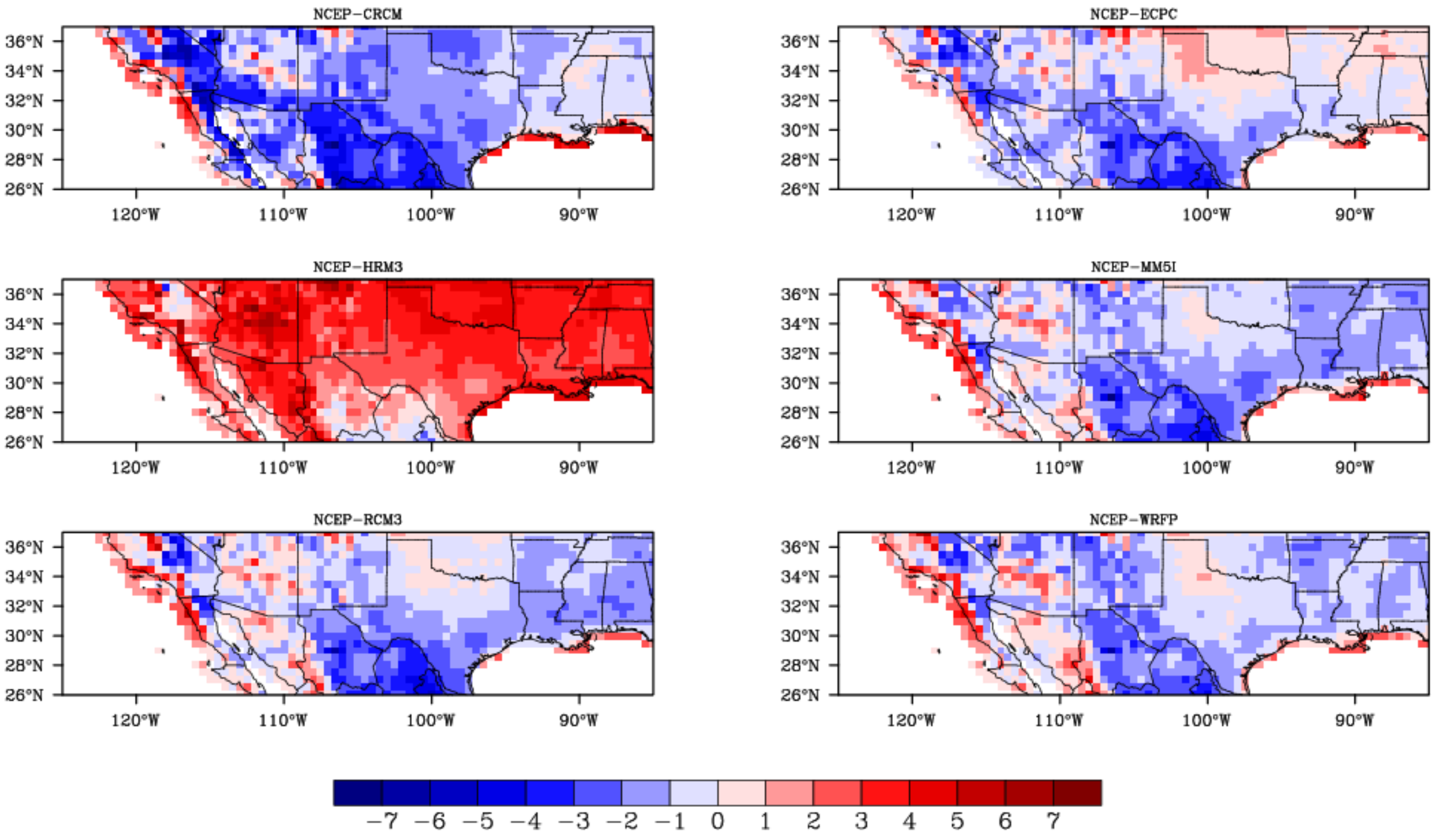
What downscaling should do?



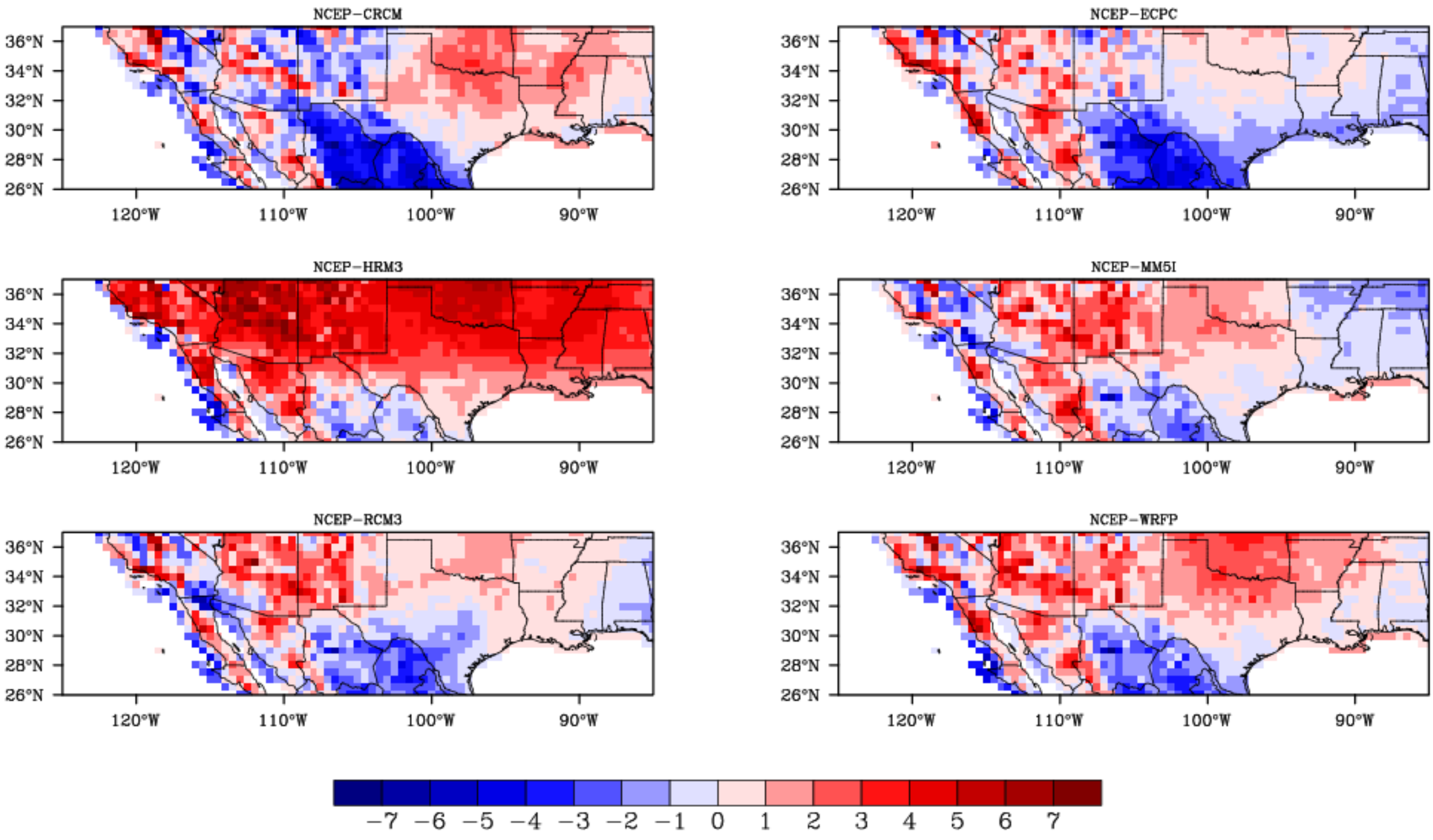
Downscaling

Not exactly right any more …

Surface Temperature Bias (%), DJF, NCEP-RCM vs CRU, 1981-2000

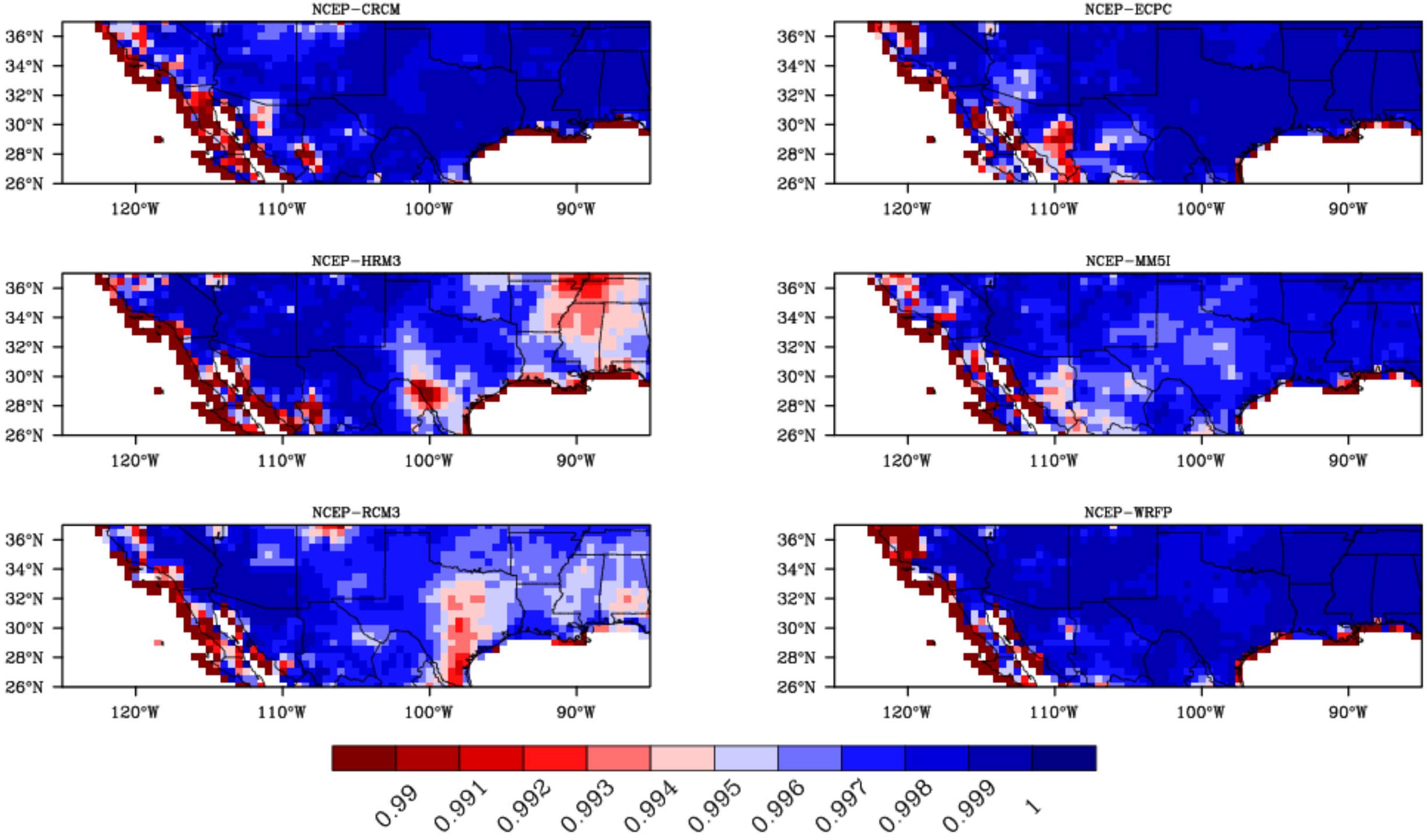


Surface Temperature Bias (%), JAS, NCEP-RCM vs CRU, 1981-2000



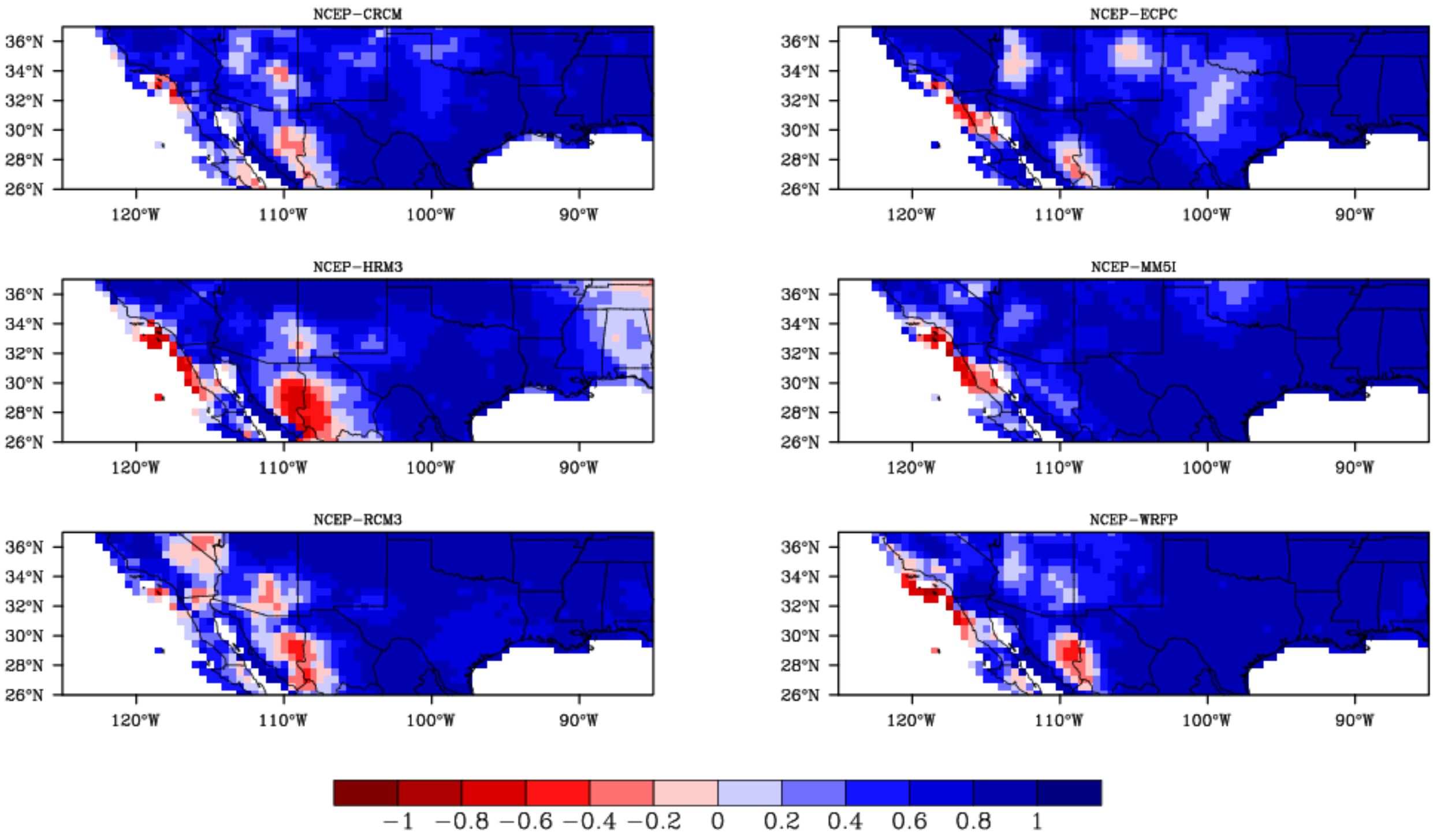
Climatology correlation vs CRU

1981-2000



TS Temporal Correlation (Yr to Yr)

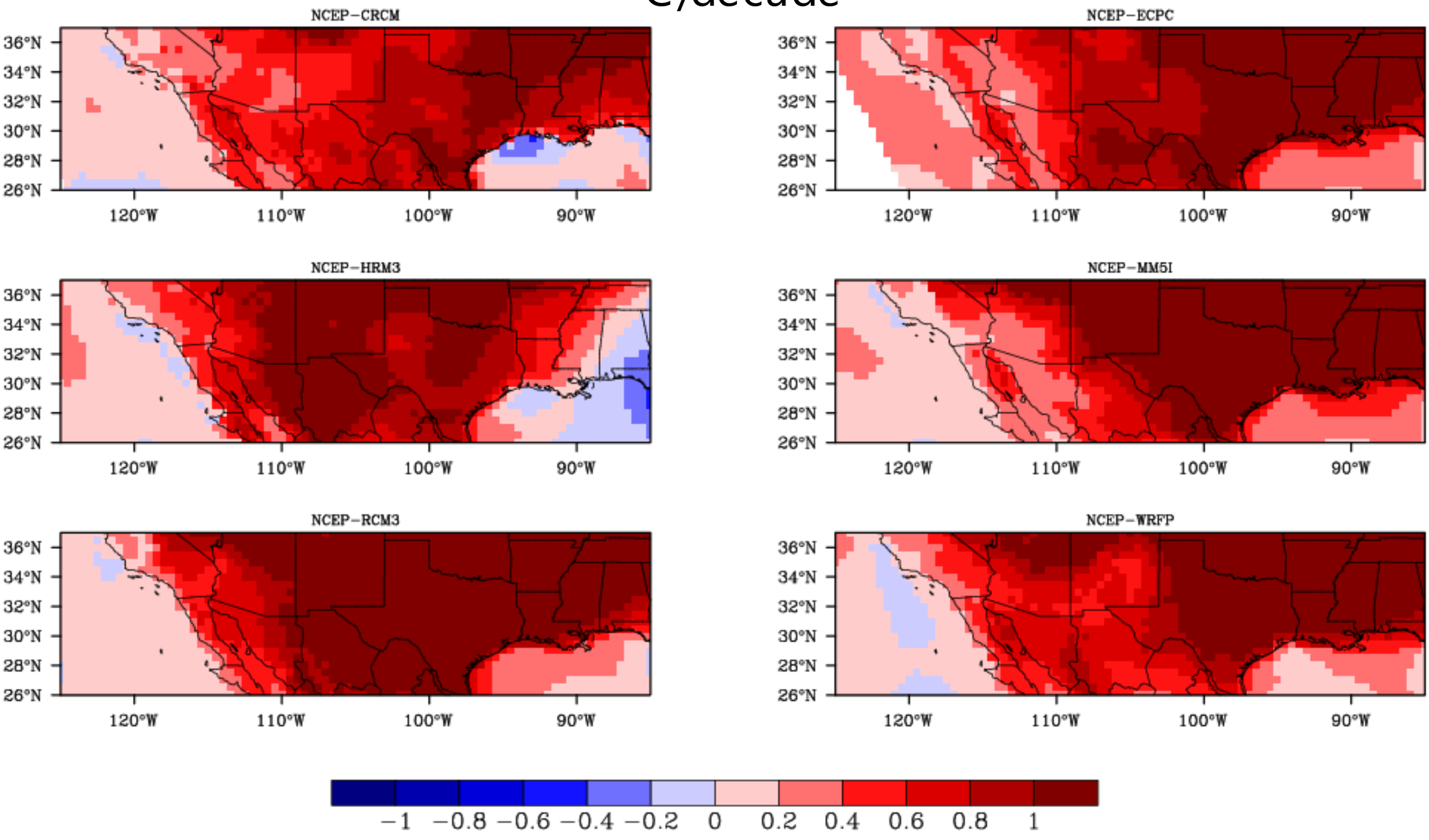
NCEP-RCM vs CRU



Trends NCEP-RCM

DJF, 1981-2000

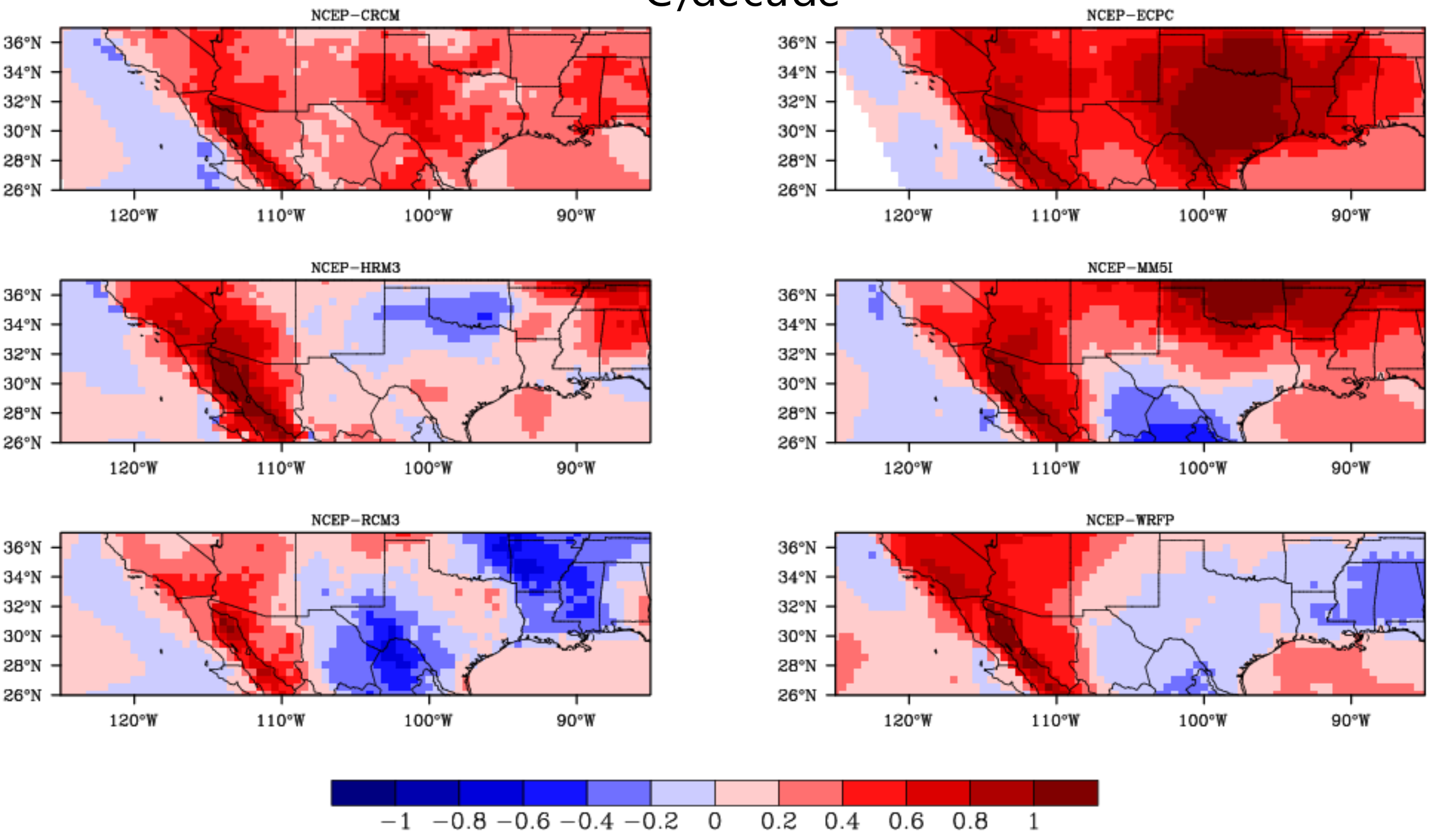
C/decade



Trend NCEP-RCM

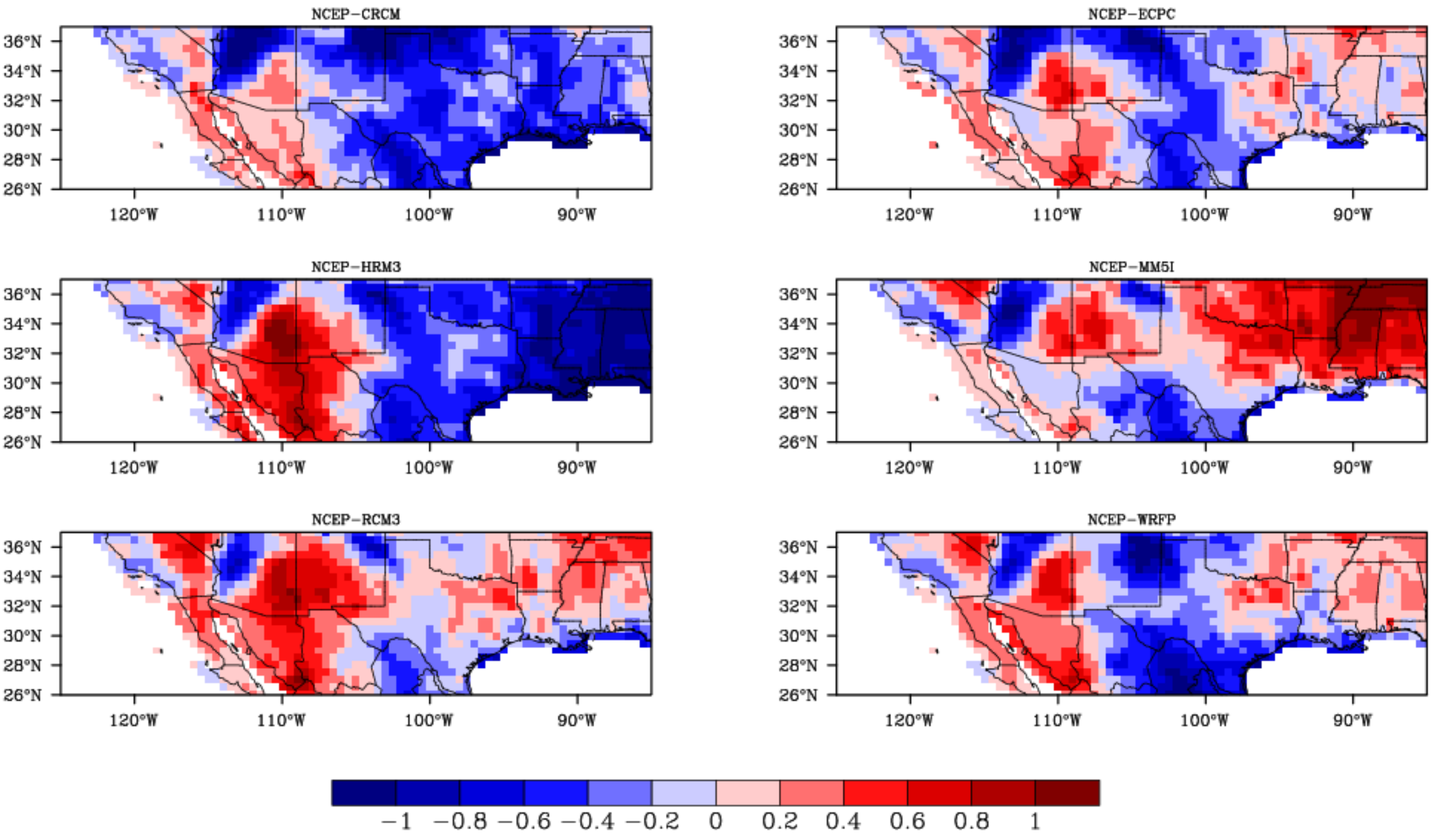
JAS, 1981-2000

C/decade



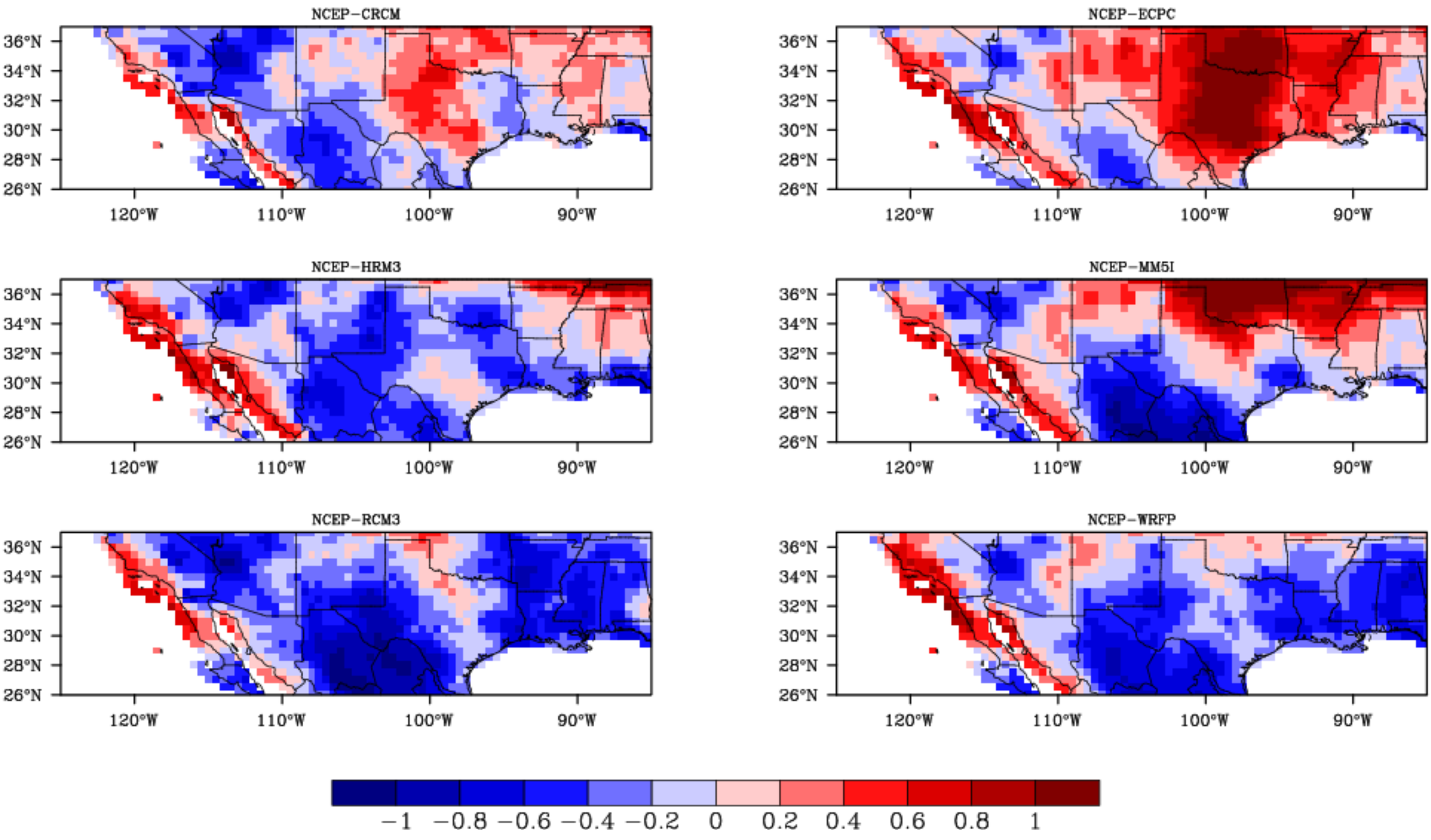
Bias = ((TrendMod - TrendCRU)/TrendCRU)

DJF, 1981-2000

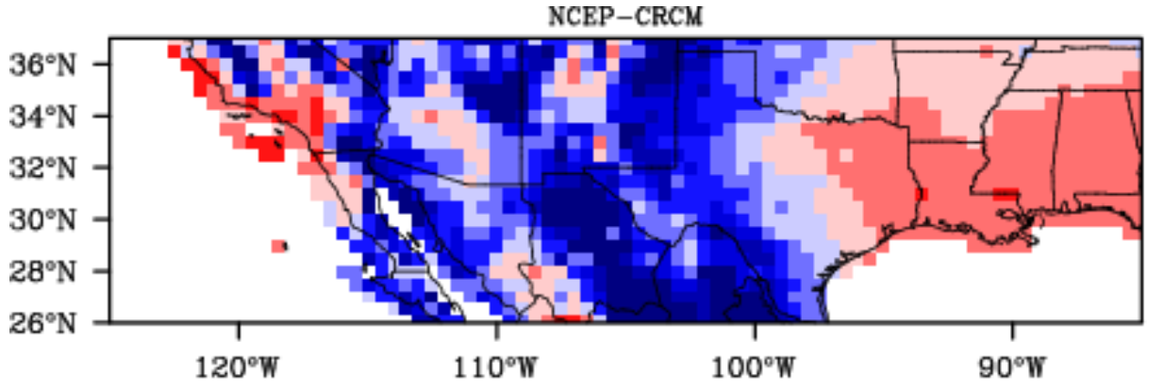


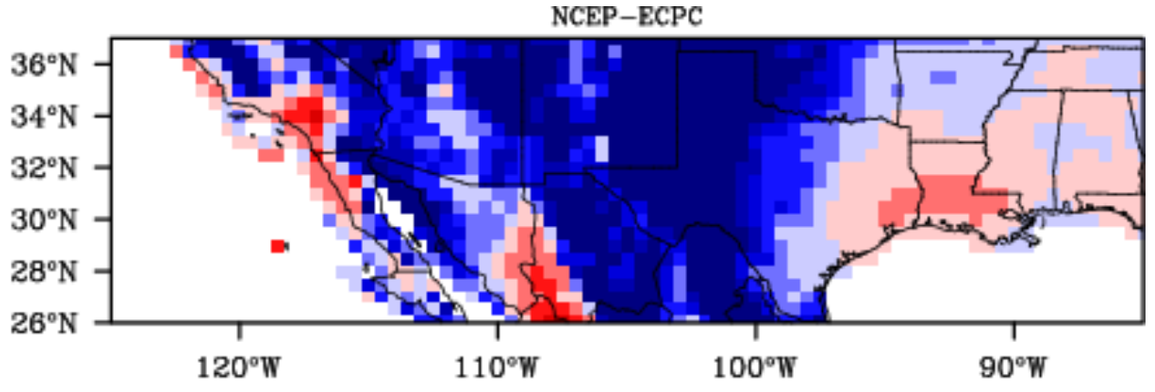
Bias = ((TrendMod - TrendCRU)/TrendCRU)

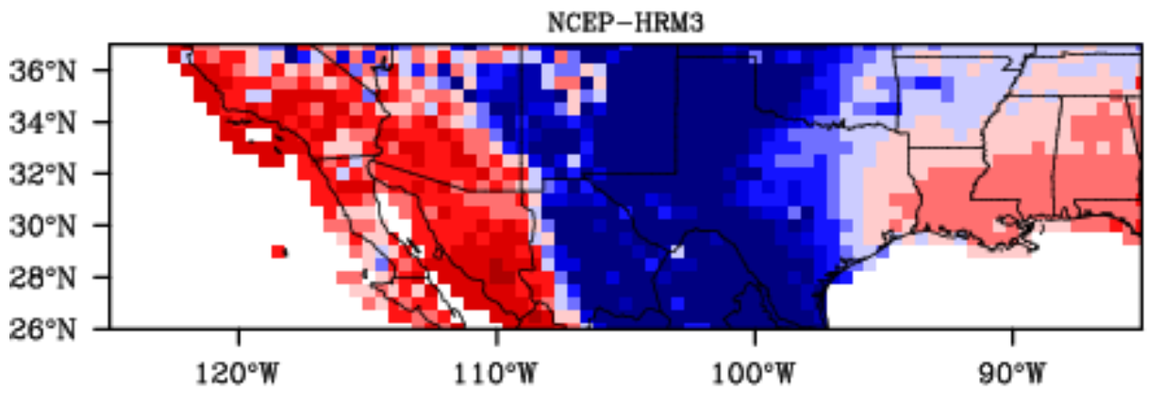
JAS, 1981-2000

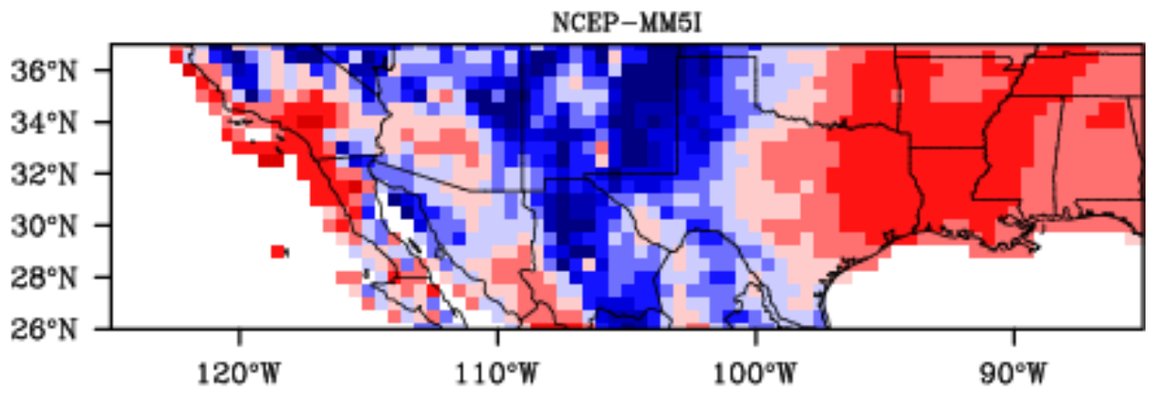


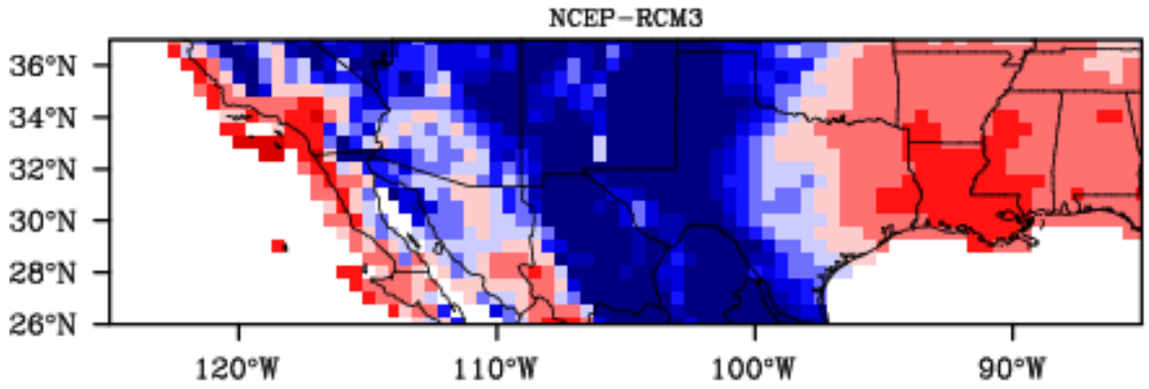
Precipitation Bias (%), DJF, NCEP-RCM vs CRU, 1981-2000

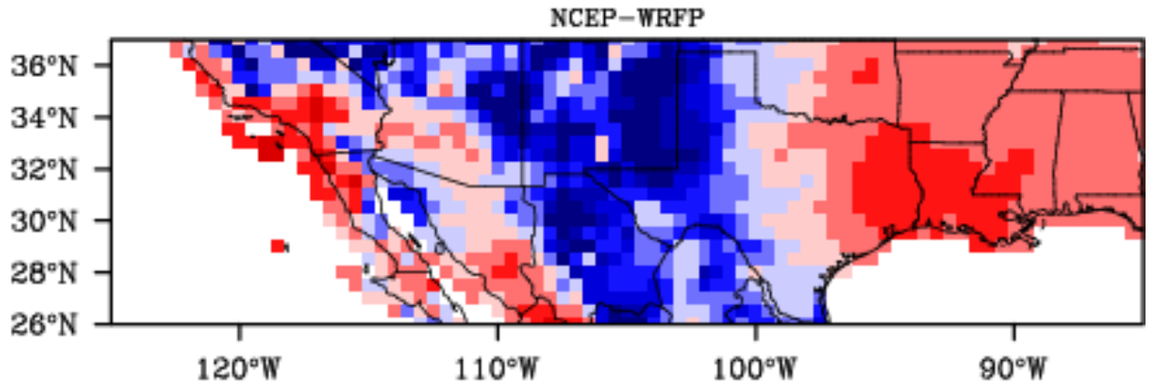


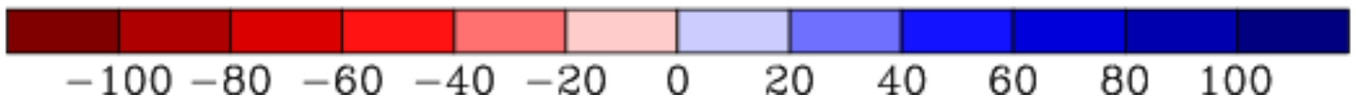




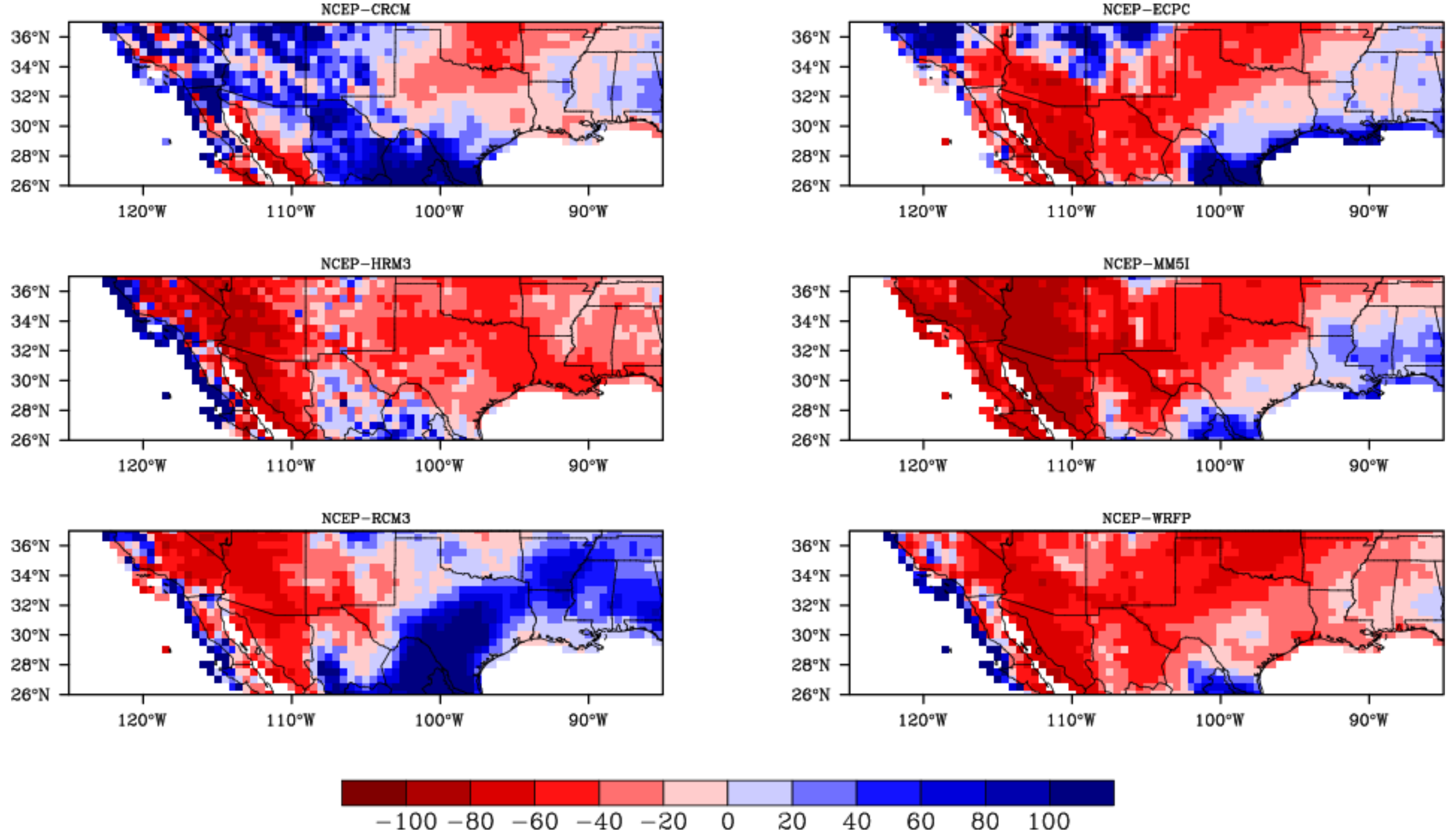






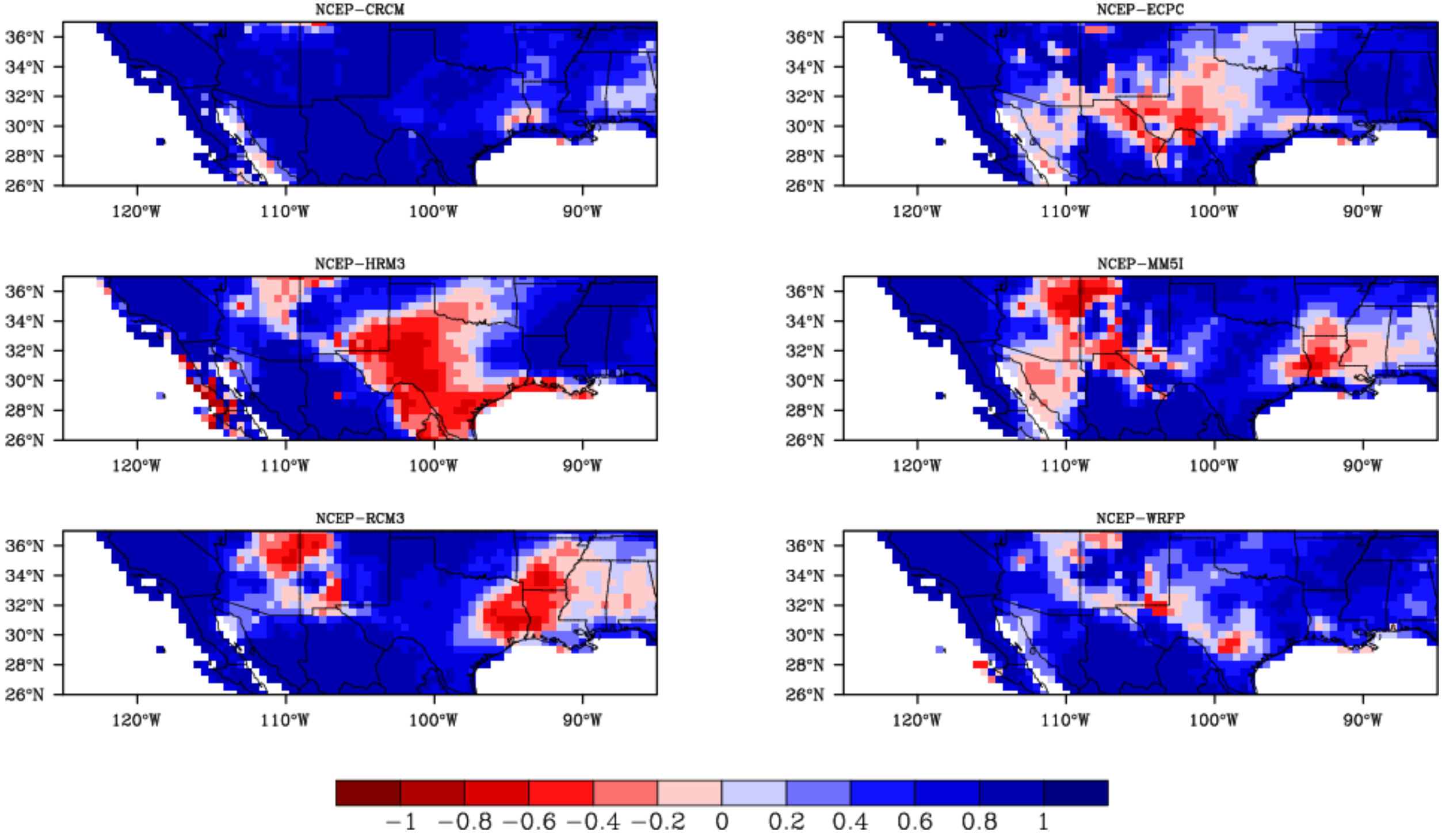


Precipitation Bias (%), JAS, NCEP-RCM vs CRU, 1981-2000



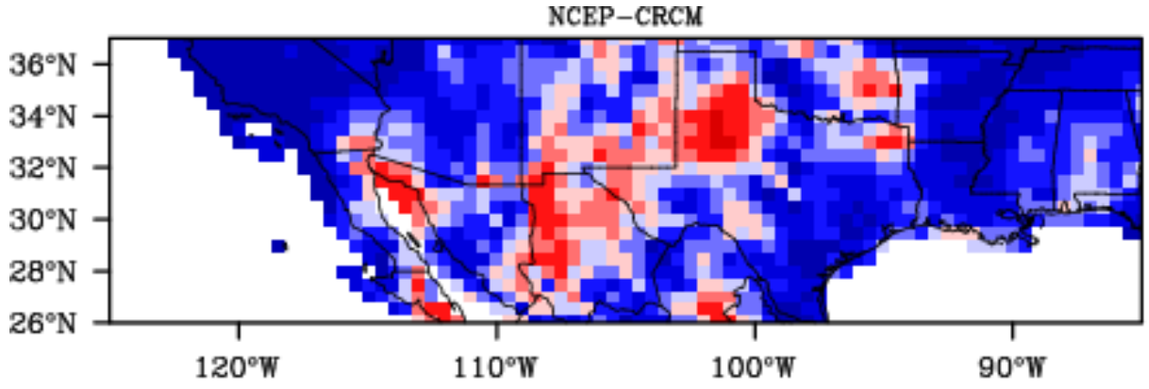
Climatology correlation vs CRU

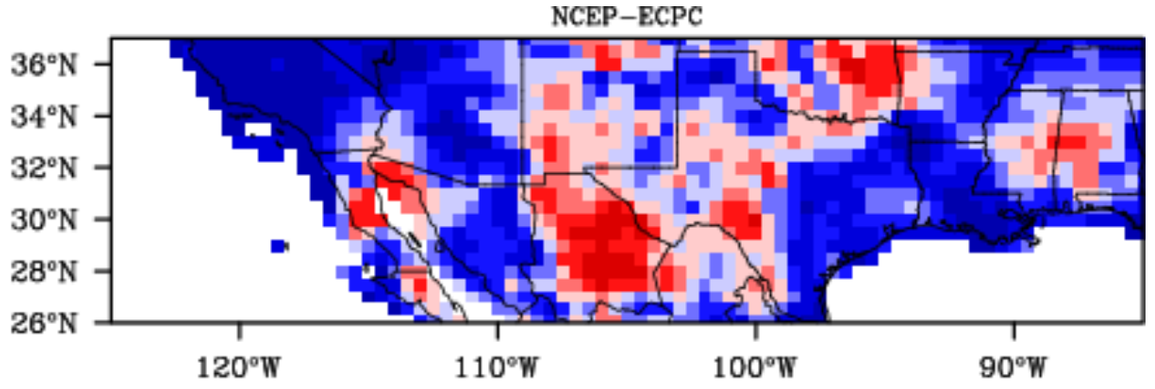
1981-2000

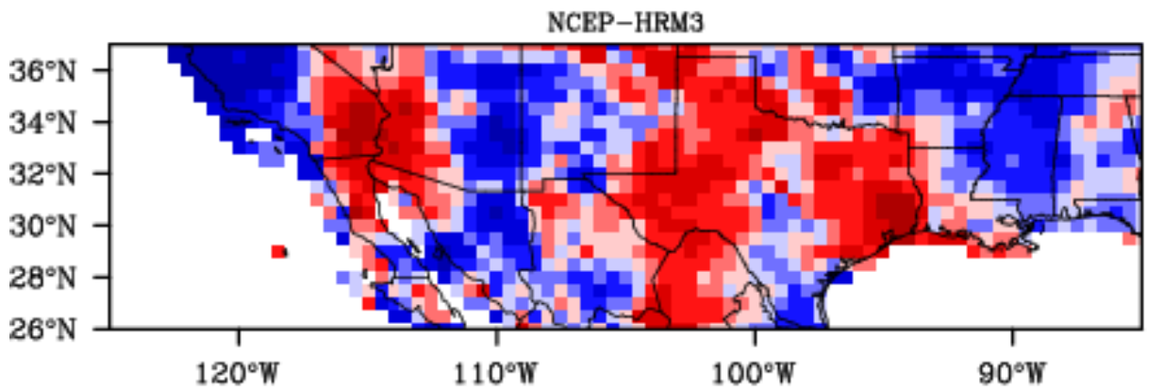


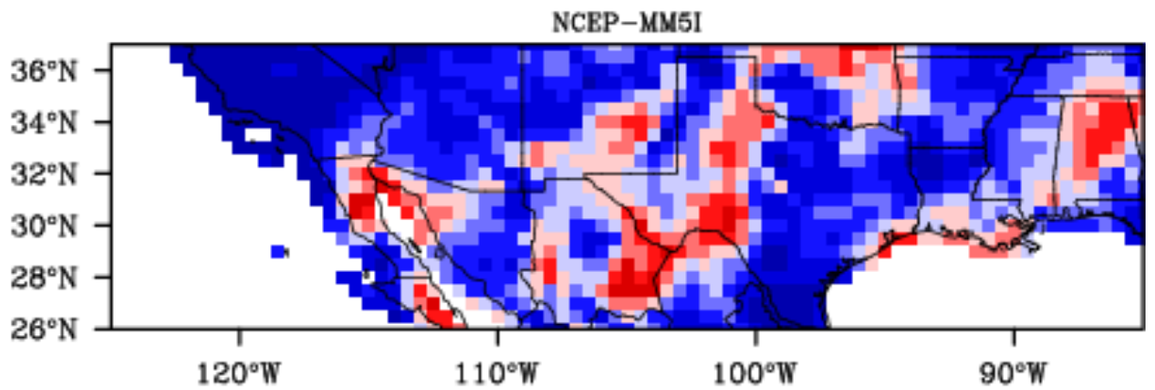
Precip Temporal Correlation (Yr to Yr)

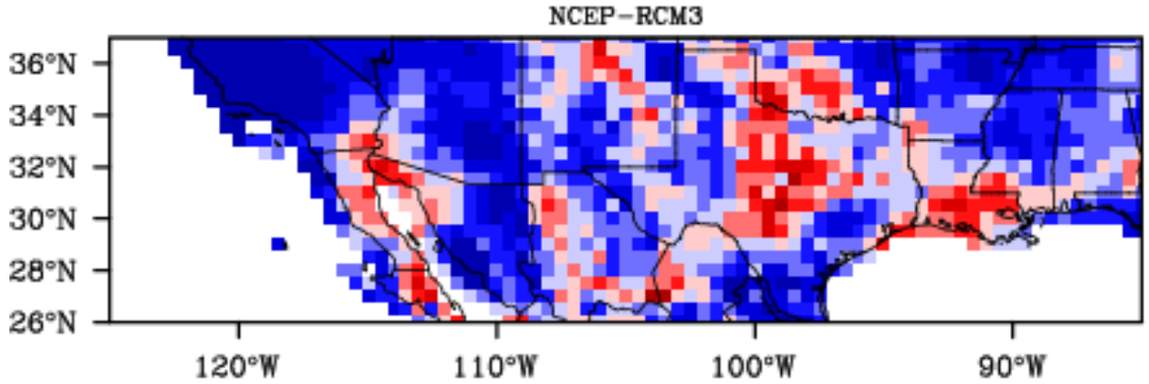
NCEP-RCM vs CRU

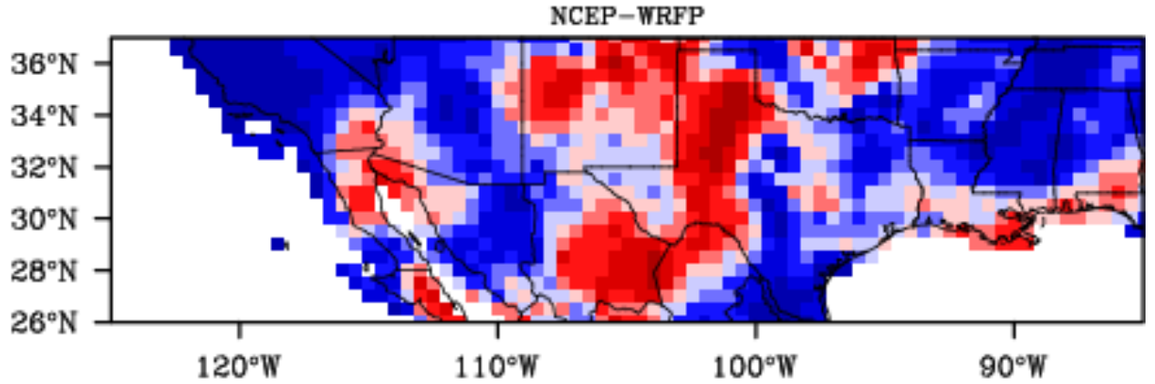


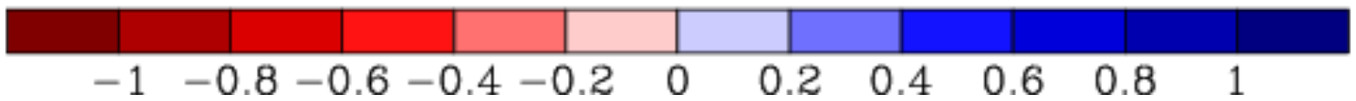






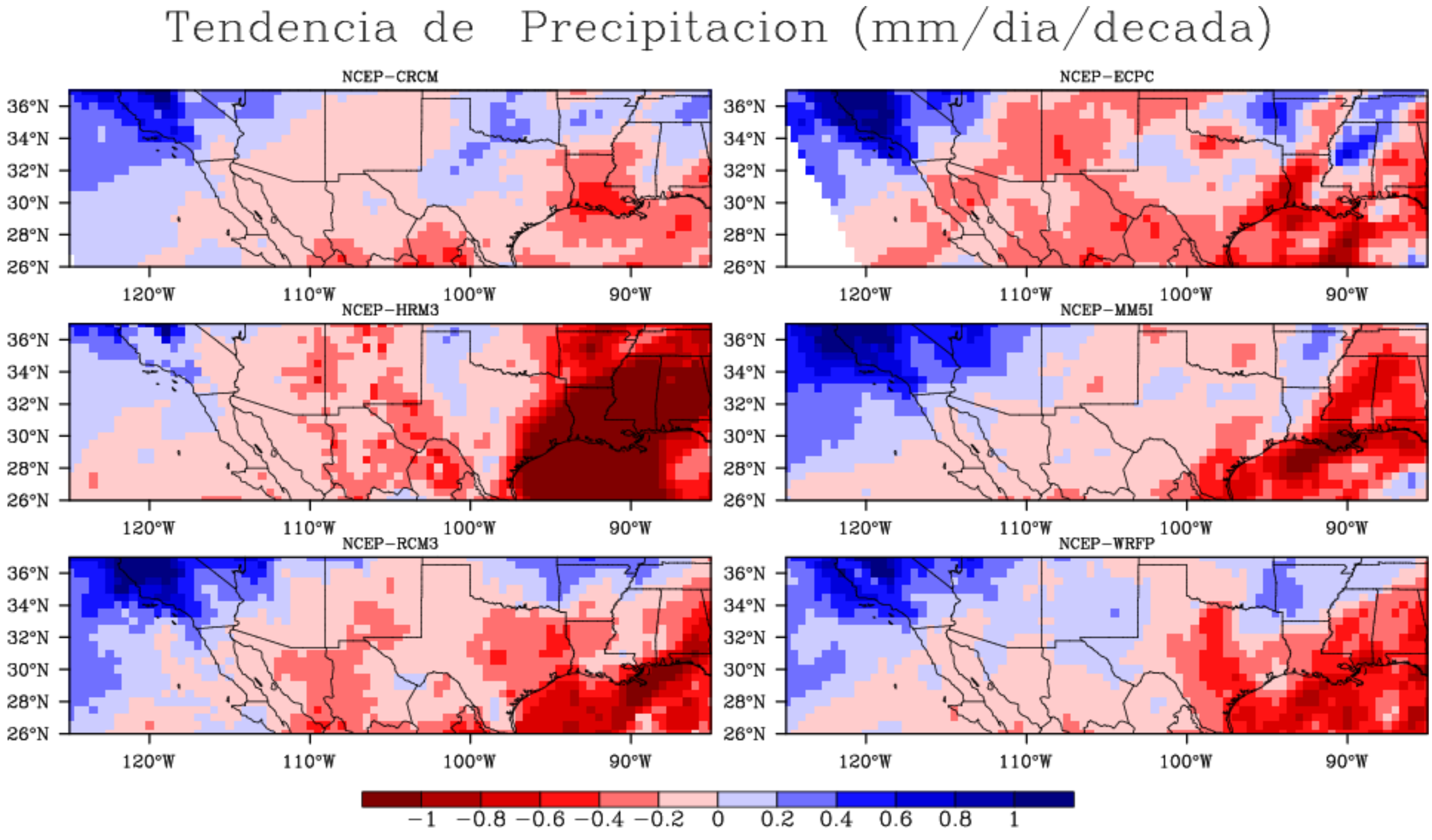






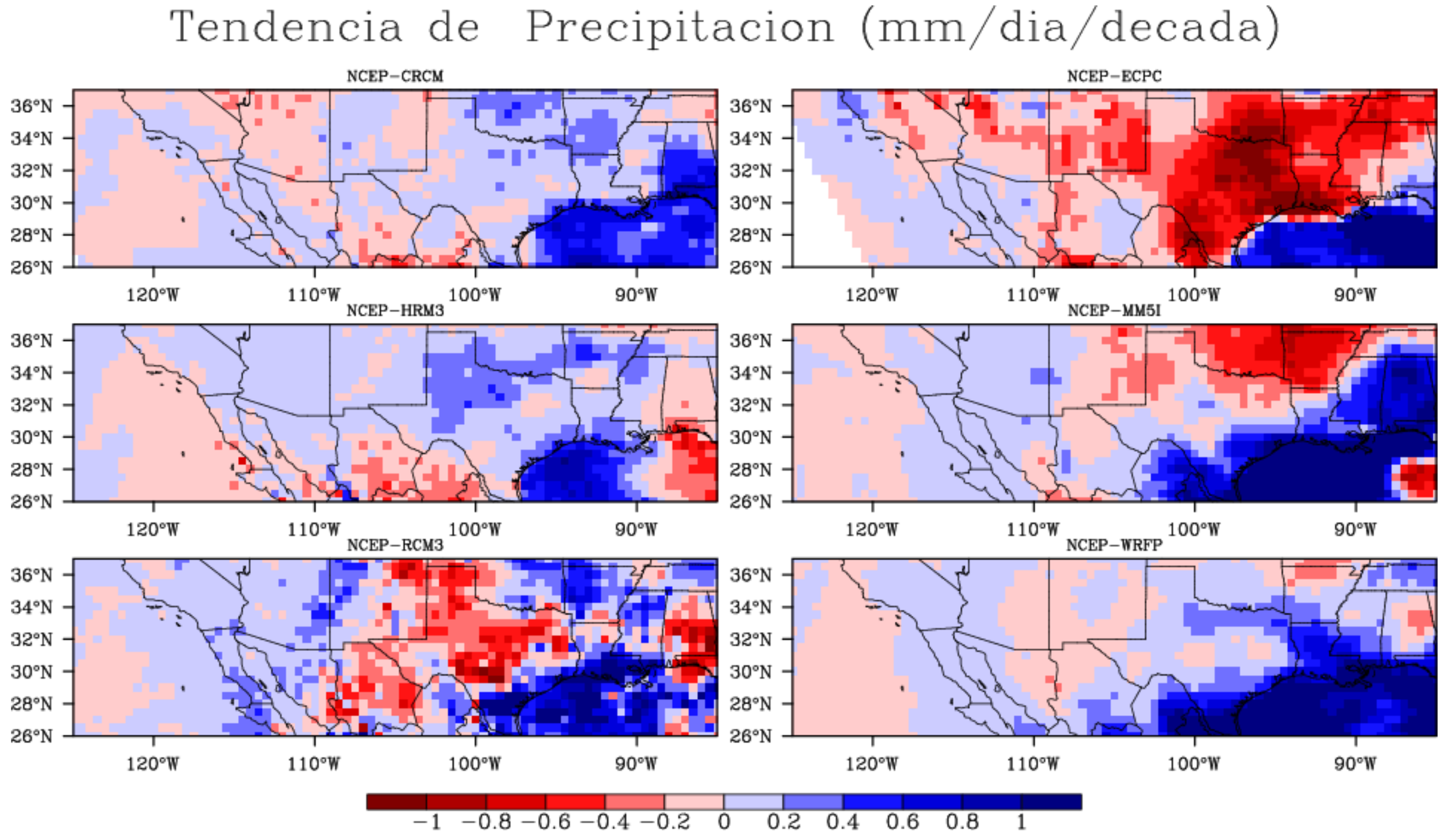
Trends NCEP-RCM

DJF, 1981-2000



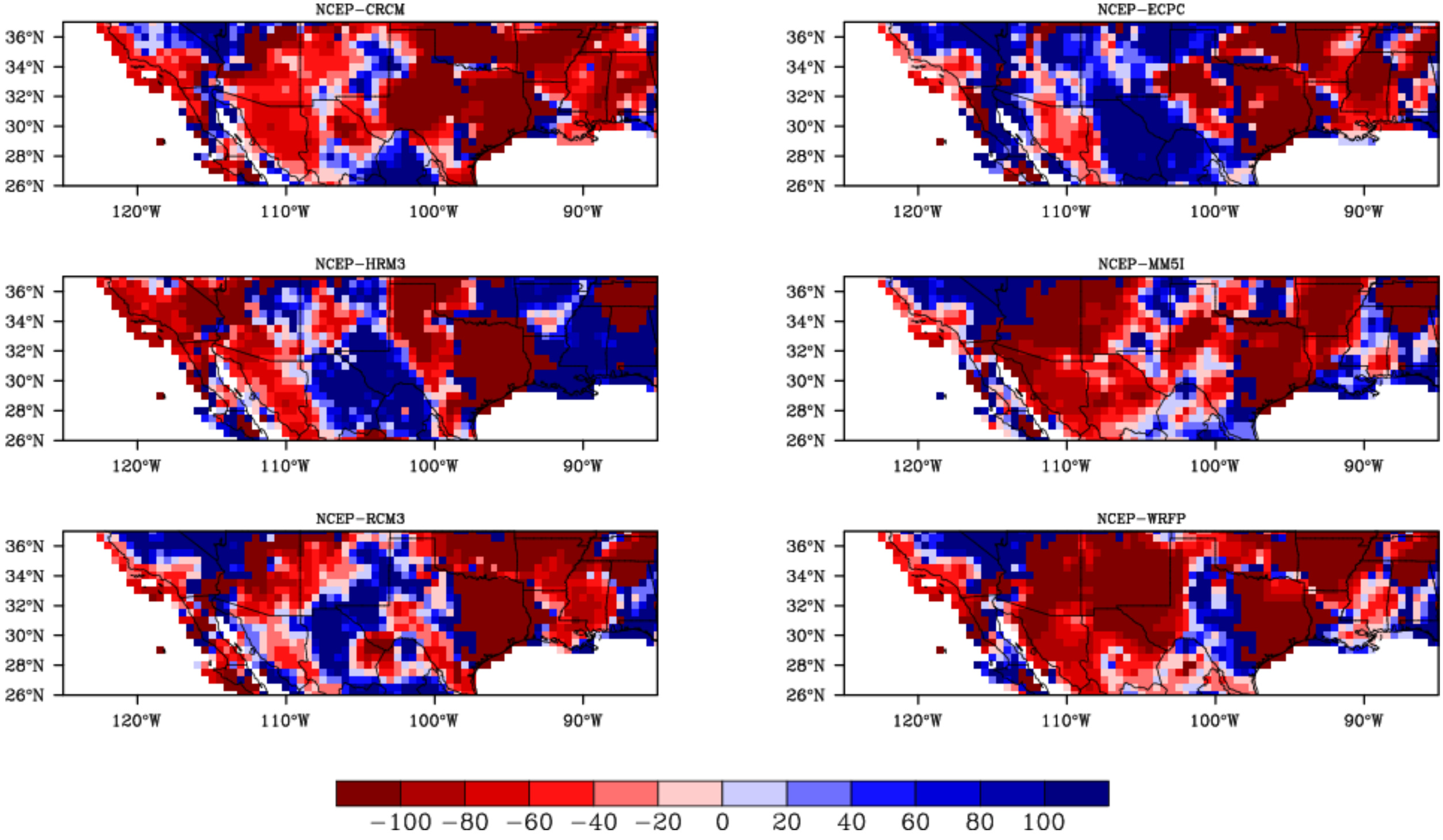
Trend NCEP-RCM

JAS, 1981-2000



Bias = ((TrendMod - TrendCRU)/TrendCRU)*100

DJF, 1981-2000



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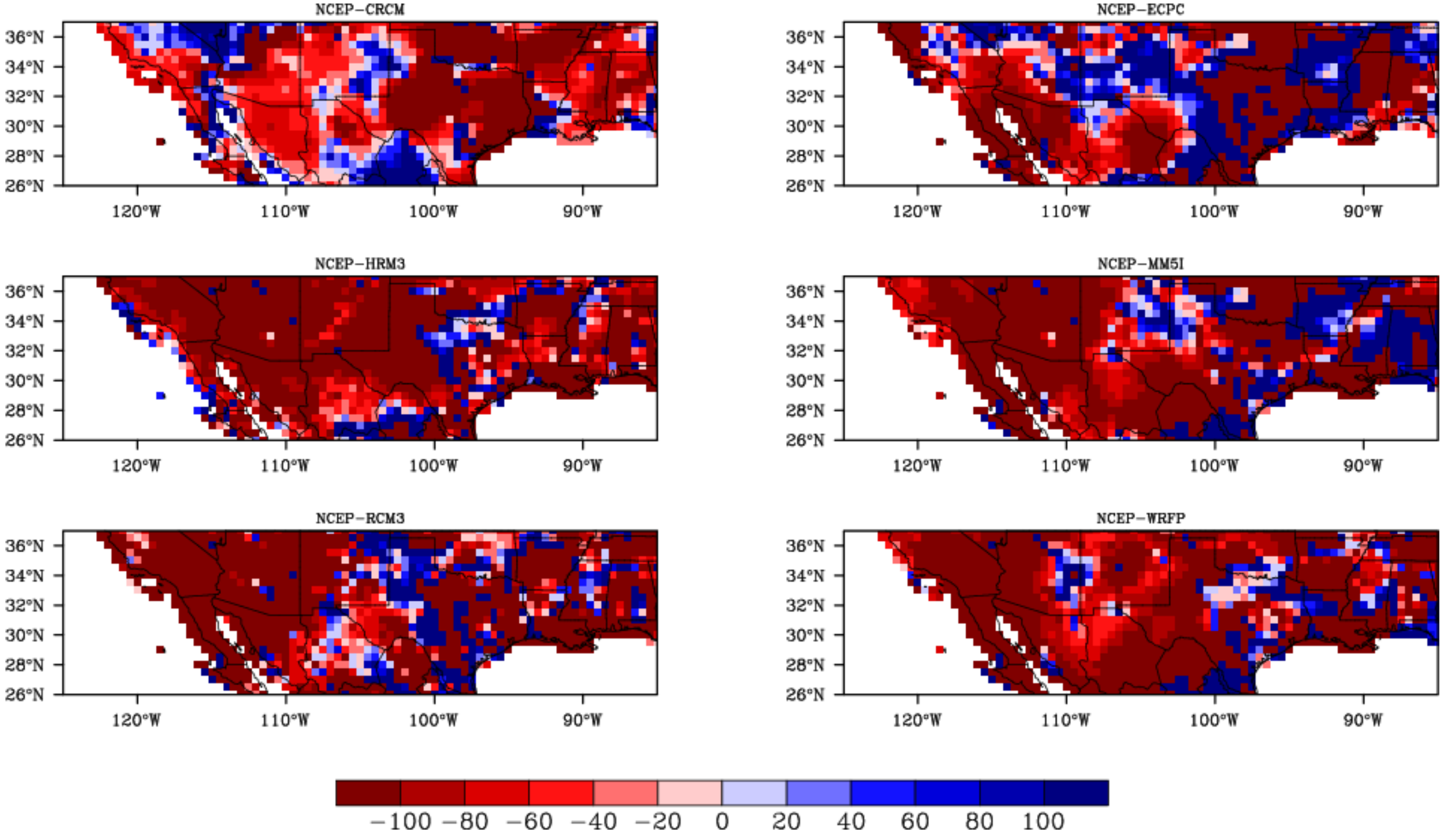
JAS, 1981-2000



Final comments …

- As expected, similarities among surface temperature are larger than those for precipitation.
- In the whole run, similarities overpass discrepancies among the different RCMs.
- However, in some cases there are clearly important differences among RCMs that need to be taken into account in some way...
- Particularly, I am more on to looking for a weighted ensemble average when you try to get a final number (with uncertainty included of course) to be given to the end user.