Supplemental Figure 1: (a) 21-day composite time series of CONUS surface temperature centered around the day of convective precipitation using Livneh data over the 1980-2014 interval. (b) Spatial composite of surface temperature on the day of convective precipitation (c) Spatial composite of surface temperature 5 days after convective precipitation. (d) 21-day composite time series of CONUS precipitation centered around the day of convective precipitation using Livneh data over the 1980-2014 interval. (e) Spatial composite of precipitation on the day prior to convective precipitation (f) Spatial composite of surface temperature 5 days after convective precipitation. (g) 21-day composite time series of CONUS surface temperature centered around the day of frontal precipitation using Livneh data over the 1980-2014 interval. (h) Spatial composite of surface temperature on the day of frontal precipitation. (i) Spatial composite of surface temperature two days after convective precipitation. (j-l) Same as (g-i) but for precipitation.
Supplemental Figure 2: Same as Supplemental Figure 1 but for the nClimGrid-Daily data over 1980-2005.
**Supplemental Figure 3:** Scatterplots of surface temperature and frontal precipitation centered on the day of greatest surface temperature drop for raw CMIP6 models over (red) 1980-2014 and (blue) 2065-2099. A linear regression model (slope indicated by $m$) is fitted using all the different models together over the two periods.
Supplemental Figure 4: 21-day composite time series of CONUS (a) surface temperature and (b) precipitation anomalies centered around the day of convective precipitation using dynamical downscaling of ERA5-Interim data over the 1980-2014 interval. (c-d) Same as (a-b) but for frontal precipitation.
Supplemental Figure 5: 21-day composite time series of CONUS (a) surface temperature and (b) precipitation anomalies centered around the day of convective precipitation using dynamical downscaling of ERA5-Interim data over the 1980-2014 interval. (c-d) Same as (a-b) but for the future interval over 2065-2098 under RCP8.5 forcing.