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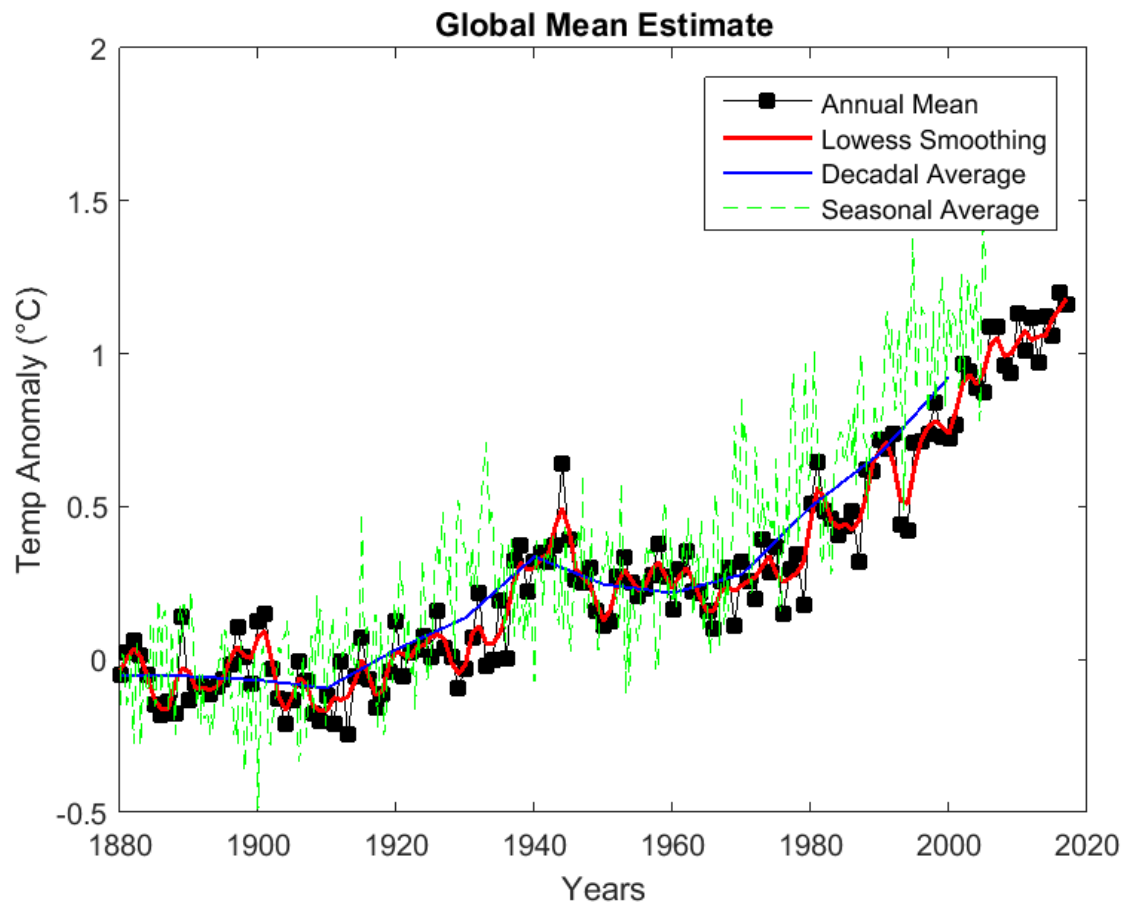
%-----Figures-----%
%-----Global Plot-----%
plot(time2,annual,'-ks','MarkerFaceColor','black')
xlabel('Years')
ylabel('Temp Anomaly (°C)')
title('Global Mean Estimate')
hold
plot(time2,smannual,'r','Linewidth',1.5)
plot(dectime,decadal,'-b','Linewidth',1)
plot(seasontime,seasonal,'--g','Linewidth',0.4)
legend('Annual Mean','Lowess Smoothing','Decadal Average','Seasonal Average')

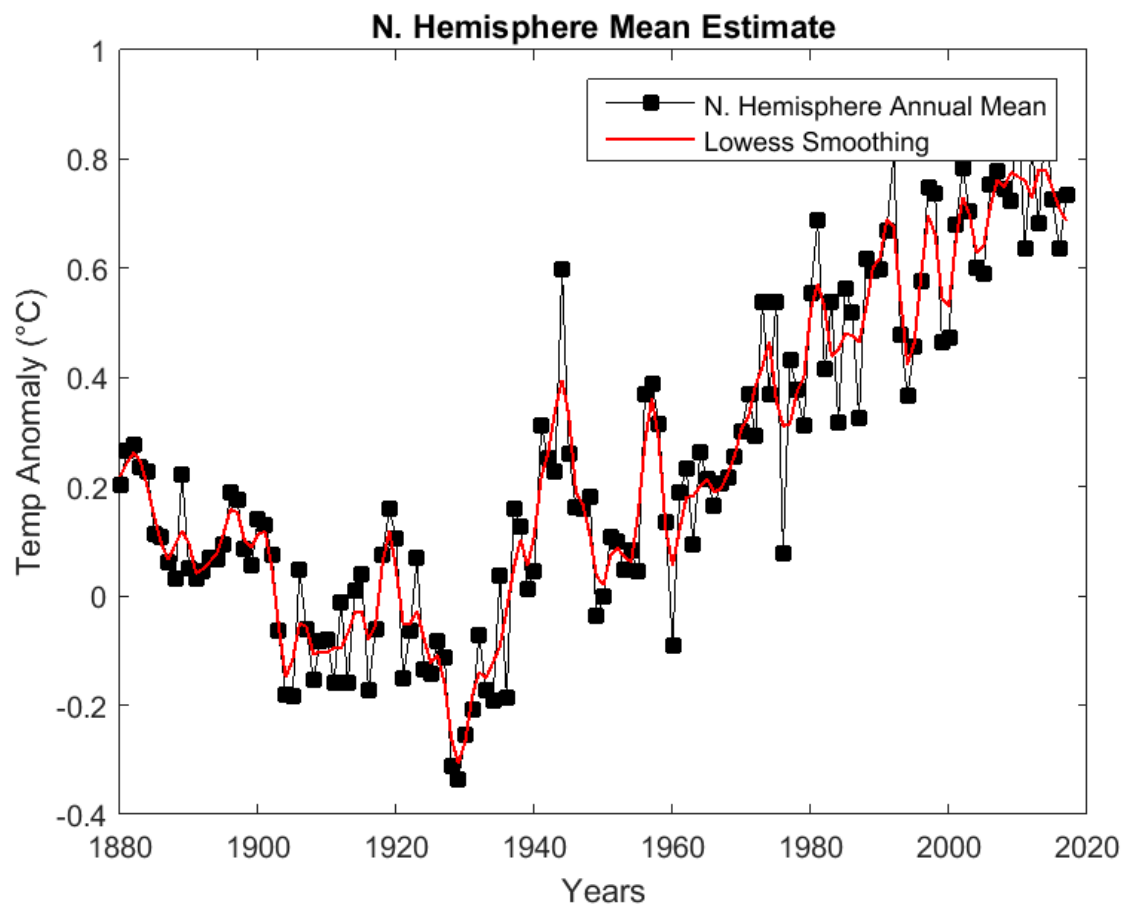
%-----N. Hemisphere Plot-----%
figure
plot(time2,hemannual,'-ks','MarkerFaceColor','black')
xlabel('Years')
ylabel('Temp Anomaly (°C)')
title('N. Hemisphere Mean Estimate')
hold
plot(time2,smhem,'r','Linewidth',1)
legend('N. Hemisphere Annual Mean','Lowess Smoothing')

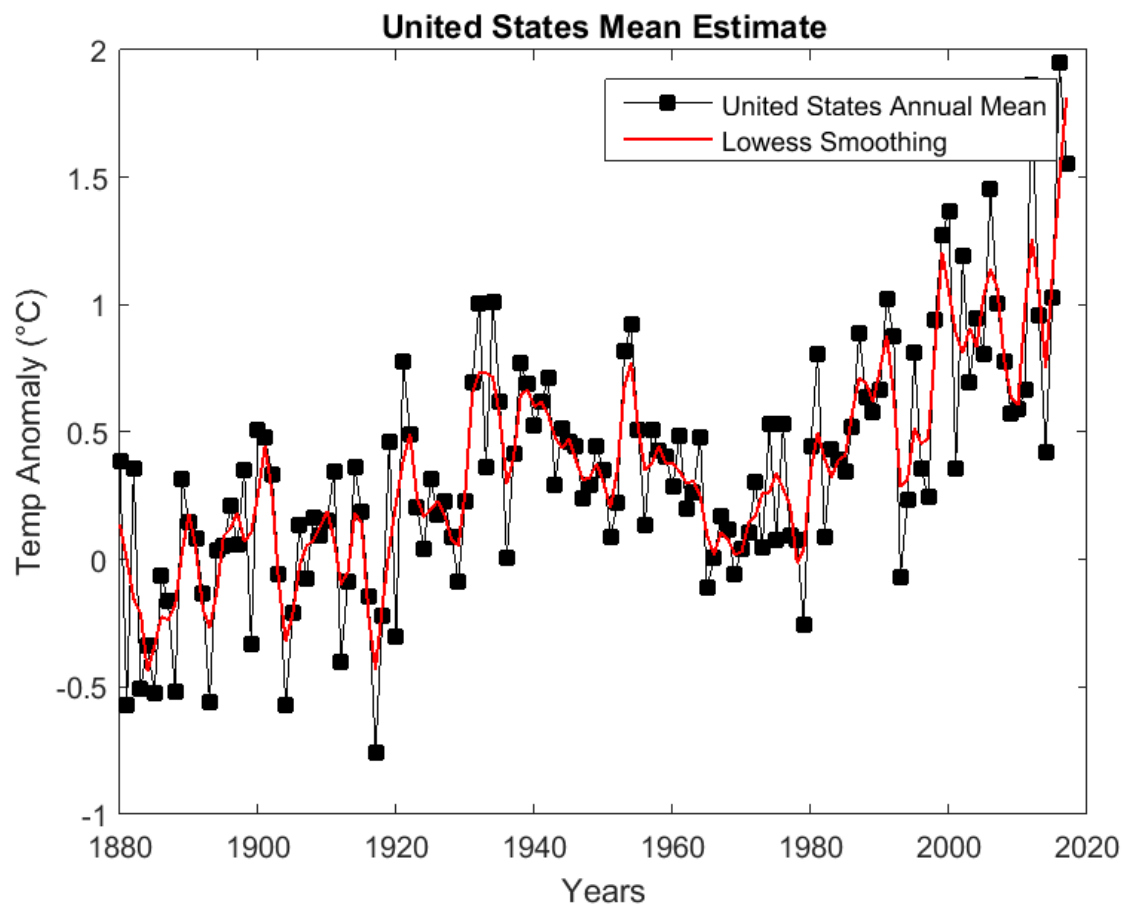
%-----United States Plot-----%
figure
plot(time2,usannual,'-ks','MarkerFaceColor','black')
ushem = smooth(usannual,'lowess');
xlabel('Years')
ylabel('Temp Anomaly (°C)')
title('United States Mean Estimate')
hold
plot(time2,ushem,'r','Linewidth',1)
legend('United States Annual Mean','Lowess Smoothing')
%-----Texas Plot-----%
figure
plot(time2,txannual,'-ks','MarkerFaceColor','black')
xlabel('Years')
ylabel('Temp Anomaly (°C)')
title('Texas Mean Estimate')
hold
plot(time2,txhem,'r','Linewidth',1)
legend('Texas Annual Mean','Lowess Smoothing')

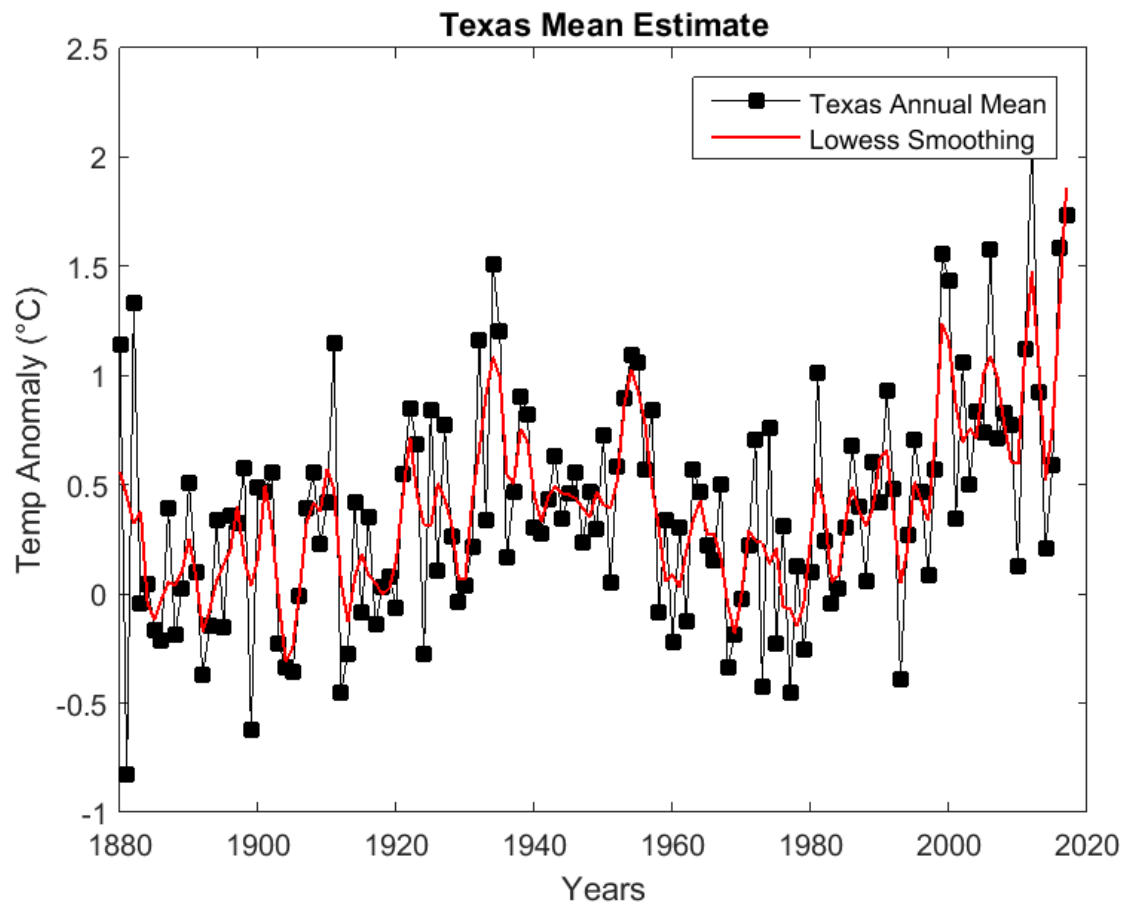
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Current plot held
Current plot held
Current plot held
Current plot held









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%-----Code for producing values to make graphs-----%
%-----Code commented out to prevent publishing problems-----%

%%-----Global Mean Code-----%
% ncdisp('atmodata.nc');
% ncid = netcdf.open('atmodata.nc','NOWRITE');

% lat = netcdf.getVar(ncid,0,0,90);
% lon = netcdf.getVar(ncid,1,0,180);
% time = netcdf.getVar(ncid,2,0,1645);
% time2;
% i=1;
% decadal = [];
% dectime = 1880:10:(length(annual)+1880)-9;
% while i < 138-9
%     decadal = [decadal mean(annual(i:i+9))];
%     i = i+10;
% end
% seasonal = [];
% while i < 1645-9
%     seasonal = [seasonal mean(globav(i:i+3))];
%     i = i+3;
% end
% seasonal;
% seasontime = 1880:.25:(length(annual)+1880)-12.75;
% plot(seasontime,seasonal)

% annual = [mean(globav(1:5))];
% i = 5;
% while i < 1645-9
%     annual = [annual mean(globav(i:i+12))];
%     i = i+12;
% end
% annual = [annual mean(globav(1637:1645))];
%
% time2 = 1880:1:(length(annual)+1880)-1;
% smannual = smooth(annual,'lowess');
% plot(time2,annual,'-ks','MarkerFaceColor','black')
% xlabel('Years')
% ylabel('Temp Anomaly (°C)')
% title('Global Mean Estimate')
% hold
% plot(time2,smannual,'r','Linewidth',1.5)
% plot(dectime,decadal,'-b','Linewidth',1)
% plot(seasontime,seasonal,'.g','Linewidth',1)
% legend('Annual Mean','Lowess Smoothing','Decadal Average','Seasonal Average')

% %-----Hemisphere Mean Code-----%%
% hemav = zeros(1645,1);

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% i = 1;
% while i < 1645
%   tempanomaly2 = netcdf.getVar(ncid,4,[0 0 i],[180 45 1],'double');
%   for p = 1:180
%     for q = 1:45
%       if tempanomaly2(p,q) == 32767
%         tempanomaly2(p,q) = NaN;
%       end
%     end
%   end
%   hemav(i) = 3+(nanmean(nanmean((tempanomaly2-273)*.01)));
%   i = i+1;
% end
%
% hemannual = [mean(hemav(1:5))];
% i = 5;
% while i < 1645-9
%   hemannual = [hemannual mean(hemav(i:i+12))];
%   i = i+12;
% end
% hemannual = [hemannual mean(hemav(1637:1645))];
% plot(time2,hemannual,'-ks','MarkerFaceColor','black')
% smhem = smooth(hemannual,'lowess');
% xlabel('Years')
% ylabel('Temp Anomaly (°C)')
% title('N. Hemisphere Mean Estimate')
% hold
% plot(time2,smhem,'r','Linewidth',1)
% legend('N. Hemisphere Annual Mean','Lowess Smoothing')

%%-----United States Mean Code-----%%

% usav = zeros(1645,1);
% i = 1;
% while i < 1645
%   tempanomaly3 = netcdf.getVar(ncid,4,[28 58 i],[30 13 1],'double');
%   for p = 1:30
%     for q = 1:13
%       if tempanomaly3(p,q) == 32767
%         tempanomaly3(p,q) = NaN;
%       end
%     end
%   end
%   usav(i) = 3+(nanmean(nanmean((tempanomaly3-273)*.01)));
%   i = i+1;
% end
%
% usannual = [mean(usav(1:5))];
% i = 5;
% while i < 1645-9
%   usannual = [usannual mean(usav(i:i+12))];

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%      i = i+12;
% end
% usannual = [usannual mean(usav(1637:1645))];
% plot(time2,usannual,'-ks','MarkerFaceColor','black')
% ushem = smooth(usannual,'lowess');
% xlabel('Years')
% ylabel('Temp Anomaly (°C)')
% title('United States Mean Estimate')
% hold
% plot(time2,ushem,'r','Linewidth',1)
% legend('United States Annual Mean','Lowess Smoothing')

%%-----Texas Mean Code-----%%
% txav = zeros(1645,1);
% i = 1;
% while i < 1645
%   tempanomaly4 = netcdf.getVar(ncid,4,[37 58 i],[7 6 1],'double');
%   for p = 1:7
%     for q = 1:6
%       if tempanomaly4(p,q) == 32767
%         tempanomaly4(p,q) = NaN;
%       end
%     end
%   end
%   txav(i) = 3+(nanmean(nanmean((tempanomaly4-273)*.01)));
%   i = i+1;
% end
%
% txannual = [mean(txav(1:5))];
% i = 5;
% while i < 1645-9
%   txannual = [txannual mean(txav(i:i+12))];
%   i = i+12;
% end
% txannual = [txannual mean(txav(1637:1645))];
% plot(time2,txannual,'-ks','MarkerFaceColor','black')
% txhem = smooth(txannual,'lowess');
% xlabel('Years')
% ylabel('Temp Anomaly (°C)')
% title('Texas Mean Estimate')
% hold
% plot(time2,txhem,'r','Linewidth',1)
% legend('Texas Annual Mean','Lowess Smoothing')

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