Method 1

Surface temperature evolution as a function of latitude and time for zeroing out noncondensing greenhouse gases with 250m of ocean mixed layer depth with .65 of ice albedo (discretizing the data)

```
clear all
close all
lat = ncread('data/noGHG_250m.atmos.nc','lat');
tsurf = ncread('data/noGHG_250m.atmos.nc','t_surf');
year = [1:1:200];
tsurf_ann=squeeze(mean(reshape(tsurf,[90 12 400]),2));
tsurf_ann_cel = tsurf_ann-273.15;

color_lim = [-87; -40; -25; -10; -1; 1; 2; 5; 10; 20; 36];
color_val = [95 161 213; 117 199 236; 163 214 237; 202 230 238; 255
 255 253;...
    246 240 128; 246 212 100; 237 171 79; 222 110 57; 210 55 53]./255;
tsurf_ann_cel_sub = tsurf_ann_cel(:,[1:200]);
color_matrix = zeros(size(tsurf_ann_cel_sub));
for i = 1:10
    color_matrix(tsurf_ann_cel_sub > color_lim(i) & tsurf_ann_cel_sub
 <= color_lim(i+1)) = i;
end
contourf(year, lat, color_matrix);
axis ([0 200 -90 90 ]);
set (gca, 'YLim',[-90 90]);
set (gca,'YTick',(-90:30:90));
ylabel('Latitude','FontSize',16);
xlabel('Year','FontSize',16);
ax = gca;
ax.FontSize = 12;

colormap(color_val); caxis([0.5 10.5]);
colorbar('Ticks', 0.5:10.5, 'TickLabels',
 color_lim,'Location','southoutside');
title('Annual Mean Surface Temperature (^{\circ}C)');
set(get(gca,'title'),'Position',[100 -200 -10]);
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