%%

clear;clc;clf

%% Read data and skip heading lines (for loop method)

% No salinity data for Argo 2902975

% 1 : PLATFORM

% 2 : ARGOS\_ID

% 3 : DATE (YYYY-MM-DDTHH:MI:SSZ)

% 4 : LATITUDE (degree\_north)

% 5 : LONGITUDE (degree\_east)

% 6 : PRES (decibar)

% 7 : TEMP (degree\_Celsius)

% 8 : PSAL (psu)

% 9 : QC

% 10 : STATION\_PARAMETERS

% 11 : VERTICAL\_SAMPLING\_SCHEME

% 12 : CONFIG\_MISSION\_NUMBER

% 13 : PROFILE\_NUMBER

argo = dir('argo-profiles-\*');

for i = 1:4

ds{i} = datastore(argo(i).name);

argo\_profiles{i} = read(ds{i});

% argo\_profiles\_cell{i} = table2cell(argo\_profiles{i}(:,:));

% argo\_profiles\_array{i} = cell2array(argo\_profiles\_ds{i});

eval(['xlon\_' argo(i).name(15:end-4) '= table2array(argo\_profiles{i}(:,5));']);

eval(['ylat\_' argo(i).name(15:end-4) '= table2array(argo\_profiles{i}(:,4));']);

eval(['p\_' argo(i).name(15:end-4) '= table2array(argo\_profiles{i}(:,6));']);

eval(['t\_' argo(i).name(15:end-4) '= table2array(argo\_profiles{i}(:,7));']);

end

%% Get Variable ( ÅÜ¼Æ¤@­Ó¤@­Ó®³ )

% xlon\_2902975 = table2array(argo\_profiles{1}(:,5));

% ylat\_2902975 = table2array(argo\_profiles{1}(:,4));

% p\_2902975 = table2array(argo\_profiles{1}(:,6));

% t\_2902975 = table2array(argo\_profiles{1}(:,7));

%% Read data and skip heading lines

% filename = 'argo-profiles-2902990.csv';

% fid = fopen(filename, 'r');

% argo\_profiles\_2902990 = textscan(fid, '%f %f %s %f %f %f %f %f %f %s %s %f %f',...

% 'headerLines', 1,'Delimiter',',');

% fclose(fid);

% xlon\_2902990 = argo\_profiles\_2902990{:,5};

% ylat\_2902990 = argo\_profiles\_2902990{:,4};

% p\_2902990 = argo\_profiles\_2902990{:,6};

% t\_2902990 = argo\_profiles\_2902990{:,7};

%

% filename = 'argo-profiles-2903186.csv';

% fid = fopen(filename, 'r');

% argo\_profiles\_2903186 = textscan(fid, '%f %f %s %f %f %f %f %f %f %s %s %f %f',...

% 'headerLines', 1,'Delimiter',',');

% fclose(fid);

% xlon\_2903186 = argo\_profiles\_2903186{:,5};

% ylat\_2903186 = argo\_profiles\_2903186{:,4};

% p\_2903186 = argo\_profiles\_2903186{:,6};

% t\_2903186 = argo\_profiles\_2903186{:,7};

%

% filename = 'argo-profiles-2902975.csv';

% fid = fopen(filename, 'r');

% argo\_profiles\_2902975 = textscan(fid, '%f %f %s %f %f %f %f %f %s %s %f %f',...

% 'headerLines', 1,'Delimiter',',');

% fclose(fid);

% xlon\_2902975 = argo\_profiles\_2902975{:,5};

% ylat\_2902975 = argo\_profiles\_2902975{:,4};

% p\_2902975 = argo\_profiles\_2902975{:,6};

% t\_2902975 = argo\_profiles\_2902975{:,7};

%

% filename = 'argo-profiles-2903193.csv';

% fid = fopen(filename, 'r');

% argo\_profiles\_2903193 = textscan(fid, '%f %f %s %f %f %f %f %f %f %s %s %f %f',...

% 'headerLines', 1,'Delimiter',',');

% fclose(fid);

% xlon\_2903193 = argo\_profiles\_2903193{:,5};

% ylat\_2903193 = argo\_profiles\_2903193{:,4};

% p\_2903193 = argo\_profiles\_2903193{:,6};

% t\_2903193 = argo\_profiles\_2903193{:,7};

% cd('C:\Users\user\Google ¶³ºÝµwºÐ\¬v¬yÆ[´ú¤ÀªR\_1082\coding')

%% T-P diagram (·Å«×¡B²`«×) Plot temperature profiles

figure(1)

for i = 1:4

eval(['tp\_profiles\_' argo(i).name(end-10:end-5) '= plot(t\_'...

argo(i).name(end-10:end-4) ',p\_'...

argo(i).name(end-10:end-4) ',''.-'');']);

hold on;

end

hold off;

set(gca,'ydir','reverse', 'ylim',[0,1000])

title('Temperature v.s Pressure','Interpreter','none')

xlabel('Temperature(^{\circ}C)');ylabel('Depth(m)')

% for i = 1:4

% eval(['legend({' 'tp\_profiles\_' argo(i).name(end-10:end-5) ...

% '},''argo-profiles-' argo(i).name(end-10:end-5)...

% ''',''Location'',''best'');']);

% end

% legend({tp\_profiles\_290297},'argo-profiles-','Location','best');

print('W13\_class01\_argo\_profiles','-dpng')

%% Plot Argo locations

figure(2)

LATLIM = [23:2.5:28];

LONGLIM = [125:2.5:133];

m\_proj('miller','lon',[LONGLIM(1) LONGLIM(end)],'lat',[LATLIM(1) LATLIM(end)]); % Ã¸»s®ü­±(¥Õ¦â)

m\_plot(xlon\_2902990(1,1),ylat\_2902990(1,1),'Marker','^','Markersize',10,'MarkerFaceColor','r');hold on;

m\_plot(xlon\_2902975(1,1),ylat\_2902975(1,1),'Marker','\*','Markersize',10,'MarkerFaceColor','r');hold on;

m\_plot(xlon\_2903186(1,1),ylat\_2903186(1,1),'Marker','s','Markersize',10,'MarkerFaceColor','r');hold on;

m\_plot(xlon\_2903193(1,1),ylat\_2903193(1,1),'Marker','h','Markersize',10,'MarkerFaceColor','r')

m\_gshhs\_h('patch',[0.7 0.7 0.7],'edgecolor','k'); %Ã¸»s³°¦a

m\_grid('linewi',1,'linestyle','none','tickdir','out',...

'xtick',LONGLIM,'ytick',LATLIM,...

'XaxisLocation','bottom','YaxisLocation','left','box','fancy');

title('Location of Profiles','Interpreter','none')

print('W13\_class02\_argo\_profiles','-dpng')

%% Downwelling from section

Tall=t\_2902990(1:80); Pall=p\_2902990(1:80);xall=xlon\_2902990(1:80);

Tall=[Tall t\_2903193(1:80)]; Pall=[Pall p\_2903193(1:80)];xall=[xall xlon\_2903193(1:80)];

Tall=[Tall t\_2903186(1:80)]; Pall=[Pall p\_2903186(1:80)];xall=[xall xlon\_2903186(1:80)];

Tall=[Tall t\_2902975(1:80)]; Pall=[Pall p\_2902975(1:80)];xall=[xall xlon\_2902975(1:80)];

figure(3)

contourf(xall,Pall,Tall,'linecolor','none')

cb = colorbar;

caxis([0 32]);

cb.Label.String = 'Temperature(^{\circ}C)';

set(gca,'ydir','reverse','ylim',[0 1000])

title('');xlabel('Longitude(^{\circ}E)');ylabel('Depth(m)')

print('W13\_class03\_argo\_profiles','-dpng')