Activity 4 – Run an idealized ocean basin with topography

Building on the previous case (turbulent gyre):

1. Impact of topography

- Edit the file ana_grid.F and add a zonal slope at the western boundary.

```
# elif defined BASIN
      do j=JstrR,JendR
        do i=IstrR,IendR
          h(i,j)=depth * ( 1. -  exp(-10.*(xr(i,j)/xl)))
```

- Check the barotropic vorticity balance. What is now the dominant balance at the western boundary?

- Plot a vertical section of temperature across the domain

2. Impact of topography again

- Edit the file ana_grid.F and add a seamount (or a chain of seamounts) in the middle of your domain

- Plot a horizontal section of velocity or relative vorticity at the depth of the seamounts