Project:

1. Adding temperature.

will be discussed this Friday.

1. Calculate sea surface area

In google map roughly evaluate it.

1. Thin dam

* Mostly add dry dam for those half and half point.
* can add thin dam and depends on what kind of flow you want to simulate and flow direction.
* Add them along boundary.

1. Layers to run

* Only 1 layer because 2D model

1. Correlation

* Water level fits well while velocity has issue(should explain)
* Verification : heat verification
* Explain why you think this model is fine enough

1. Observation

* Explain why these observation points are chosen
* Adding observation points enough to explain issues
* Observation10 will be explained this Friday
* The other should be explained because of land shape
* Adjacent point may be different flow pattern
* Water depth control as first consideration while velocity as second consideration

AS3

part1

1. Stepwise wind

* Linea model : gradually increasing (interpolation) slightly difference for cold start and warm start
* Block model: stepwise (for second part it breaks up) warm start and cold start should have the same impact as you plot

1. 10 layers

* As extend grids in the boundary vertical gradient still dominates, hydrostatic consistency maintains. Vertical flux is much larger than horiz. flux because A decreases V increases. If change to deeper case, that would be different.
* What we do is to reduce hydrostatic inconsistency issue

1. Mass flux

* We only extend grid and horiz. flux is the same. Vert..velocity changes a bit check whether velocity decreases
* With given bathymetry, the slope will help to hold hydrostatic consistency

Part 2

1. Parameters to vary

* vertical eddy diffusivity, 1e-5 to 1e-8 (3 values to exhibit)
* vertical viscosity corresponding change with diffusivity. 1e-3 and 1e-5
* Length scale. Holds for 0.05 or 0.2.

1. Test all extreme values for three parameters
2. Eddy viscosity changes as velocity
3. eddy viscosity can be considered as diffusion for momentum equations. Diffusion takes away the transport of the flow because of mixing and breaking stratification

* if set viscosity very low, all the eddy viscosity on the top, it is fully mixed because it is stabilized and only wind imposed on the top. It is not flow causing mixing whereas random diffusion
* increasing viscosity and diffusivity correspondingly can slow down mixing

1. end product

* why choose these variables
* to slow down mixing, explain the reason why these parameters go down or up.
* Explain physical process that Ozmidov length can do
* Refer to momentum equation alone and transport equation
* Understand both physics and numerical solutions
* Once set up all these, next thing is to turn on filters (do I have artificial damping happening? Do I have problems with the codes)
* Logical explanation why reset variable.