1. What value to use in diffusivity?

* Once start averaging, you need to worry about the order of the scale.
* Ran 3D-averaged depth , vertical diffusivity is the one that controls

1. How to describe turbulence?

* Simply homogenous turbulence
* Viscous flow (statistical description)
* Energy cascade (goes from large to small) lose little energy
* Enhances mixing and moment transport
* Kinetic energy transfer to heat (epsilon: dispersion rate)
* Length scale: define sth to smooth out this equation. Depends on dissipation rate
* Larger eddy the longer the period time() lower correlation to eddies
* Diffusion along the channel is proportional to shear velocity at the bottom

1. Turbulence closure models

* LES: averaging with space
* RANS: averaging with time (momentum equation)
* Stratification is controlled by length scale