Quasigeostrophic fluids and resonant interactions

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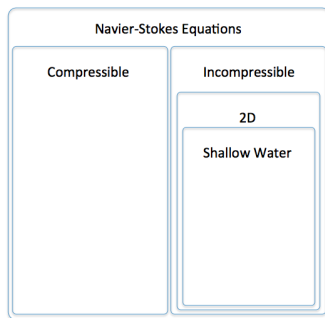   Quasigeostrophic Model
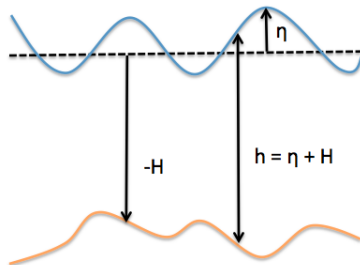   Hamiltonian Equations

Main Work

References

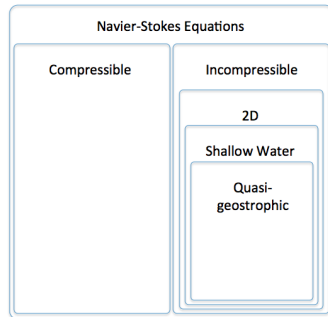# Shallow Water Model

Shallow Water Model

$$0 = \nabla \cdot \vec{u}$$

$$0 = \frac{\partial h}{\partial t} + \frac{\partial}{\partial x}(hu) + \frac{\partial}{\partial y}(hv)$$

Geostrophic Model

Quasigeostrophic Model

$$0 = \frac{\partial q}{\partial t} + J(\psi, q)$$

$$J(a, b) = \frac{\partial a}{\partial x}\frac{\partial b}{\partial y} - \frac{\partial a}{\partial y}\frac{\partial b}{\partial x}$$

References

1. Reference