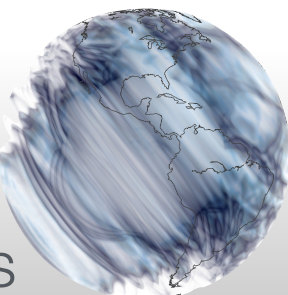
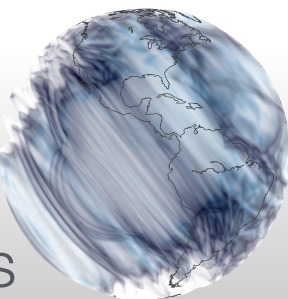


# Shallow-water equation



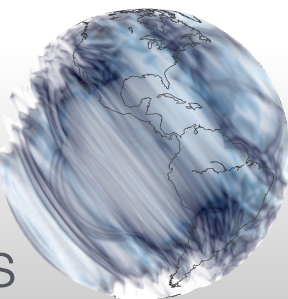
# Tsunami







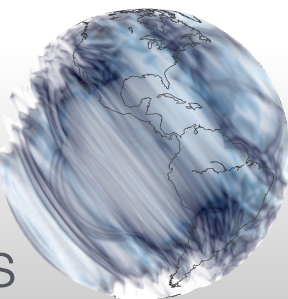
# Storm Surge







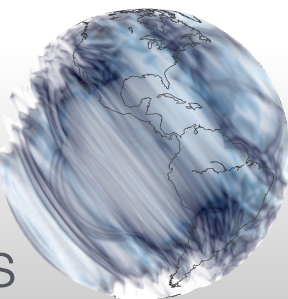
Dam break



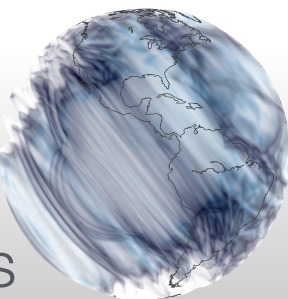




Atmospheric flow



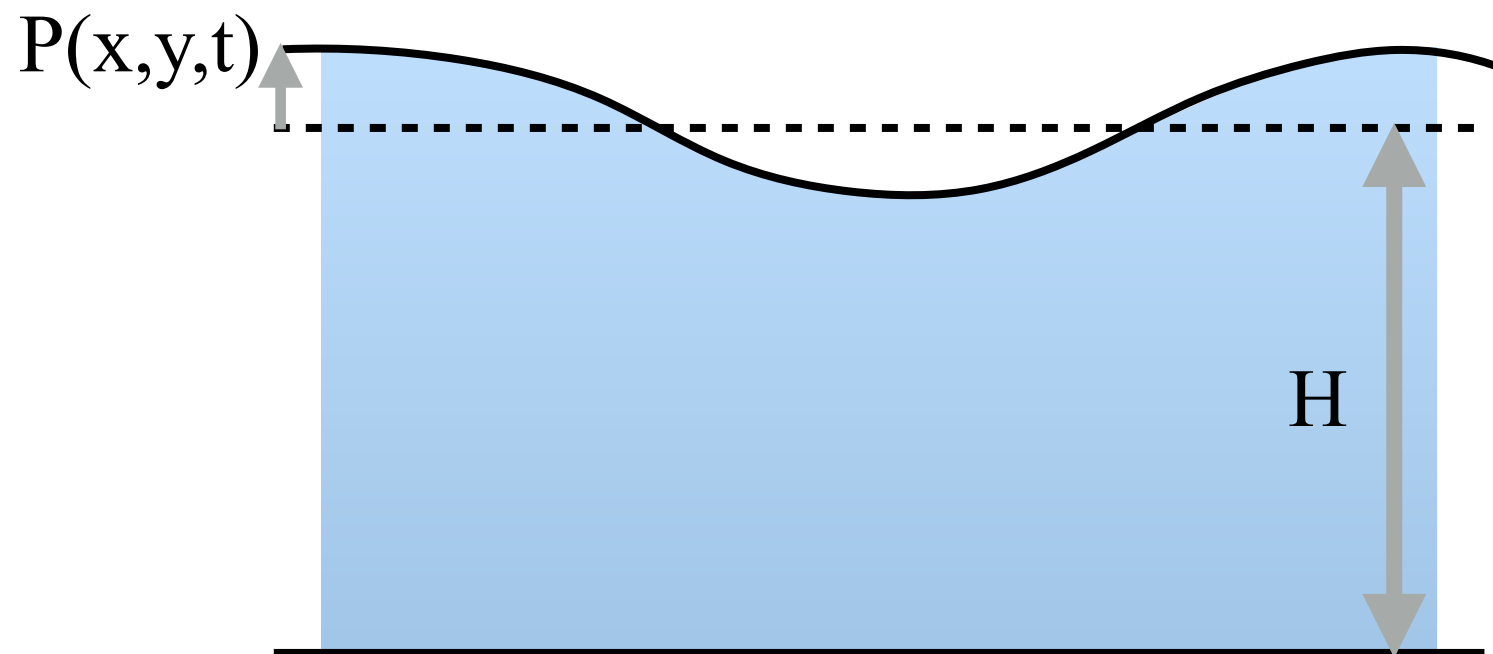
# Planetary flows





# Shallow-water equation

$$\partial_t^2 P = \nabla \cdot (v^2 \nabla P)$$



tsunami wave height  $P = P(x, y, t)$

wave speed  $v = \sqrt{gH(x, y)}$

↑  
ocean depth

