

HOMEWORK #4

Submarine debris flows (slides) have been linked to the formation of tsunamis, particularly those that hydroplane. Where most slides occur, the slope of the seabed is an indicator of how rigid the seabed is, such that the yield strength is proportional to the bed slope...

$$\tau_o = 4000S^{1/5} \text{ Pa}$$

Determine the slope at which hydroplaning will occur. Assume a wide failure 10 m deep, with a viscosity of 500 Pa-s. Is this a reasonable slope? That is, will many flows hydroplane?