

Waves in fluids

Fluid Mechanics, P. K. Kundu and I. M. Cohen, 4th edition, Academic Press
chap. 7 : gravity waves

Hydrodynamique physique, E. Guyon, J.-P. Hulin and L. Petit, EDP SCIENCES
chap. 6 : écoulements potentiels

The National Committee for Fluid Mechanics Films movie series
chap. 14 : Waves in fluids
<https://www.youtube.com/playlist?list=PL96364257FFBC4A3A>

Waves in fluids

Examples



ocean swell



wake behind a boat



impact of a stone on water



in the kitchen



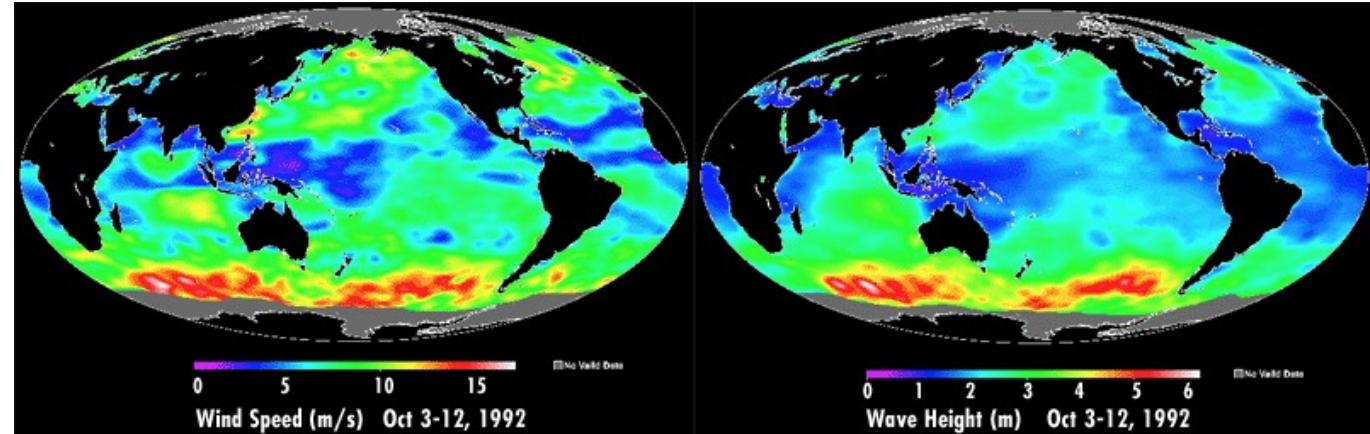
breaking wave



tsunami wave train

Waves in fluids

Perturbations : wind, obstacle, impact, underwater disturbances
(earthquakes)



satellite measurements



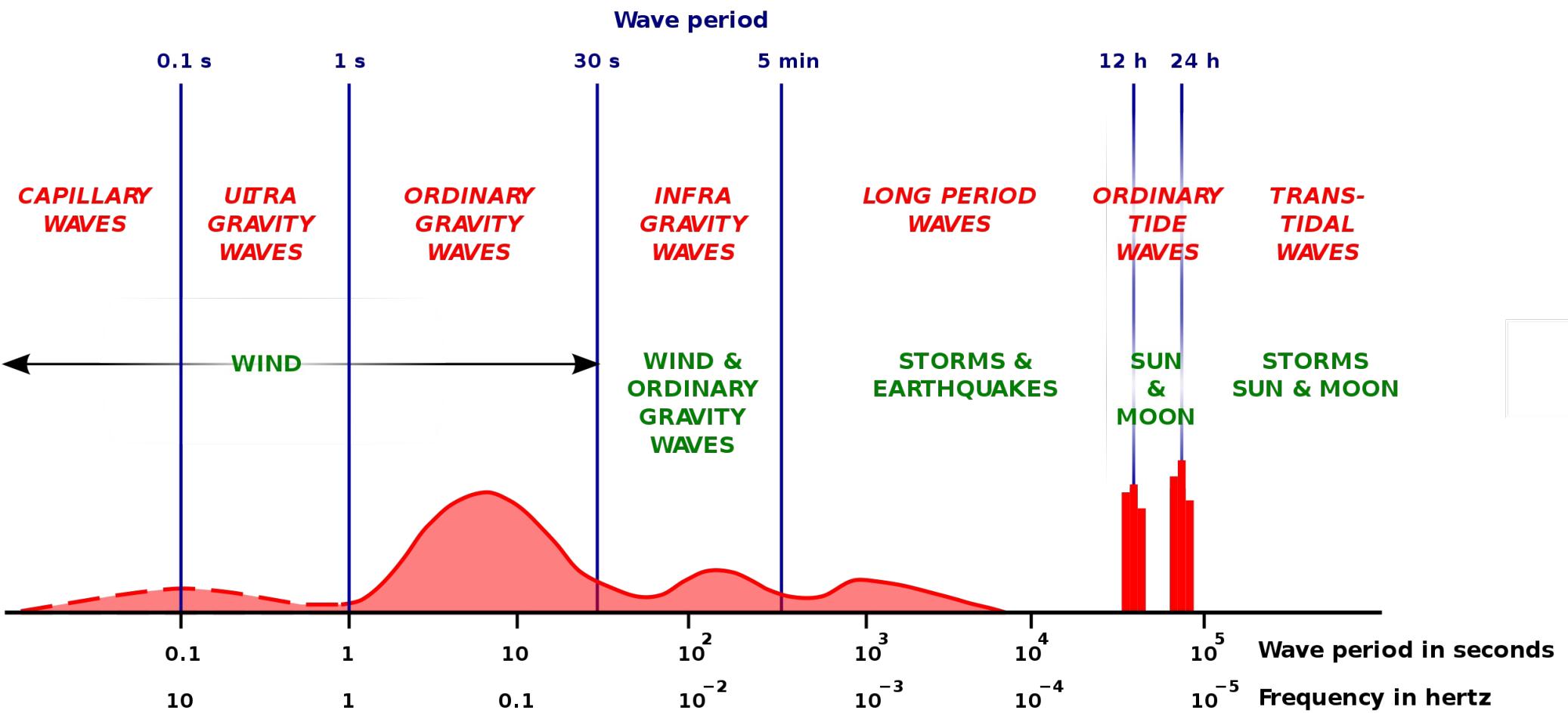
impacts



obstacle

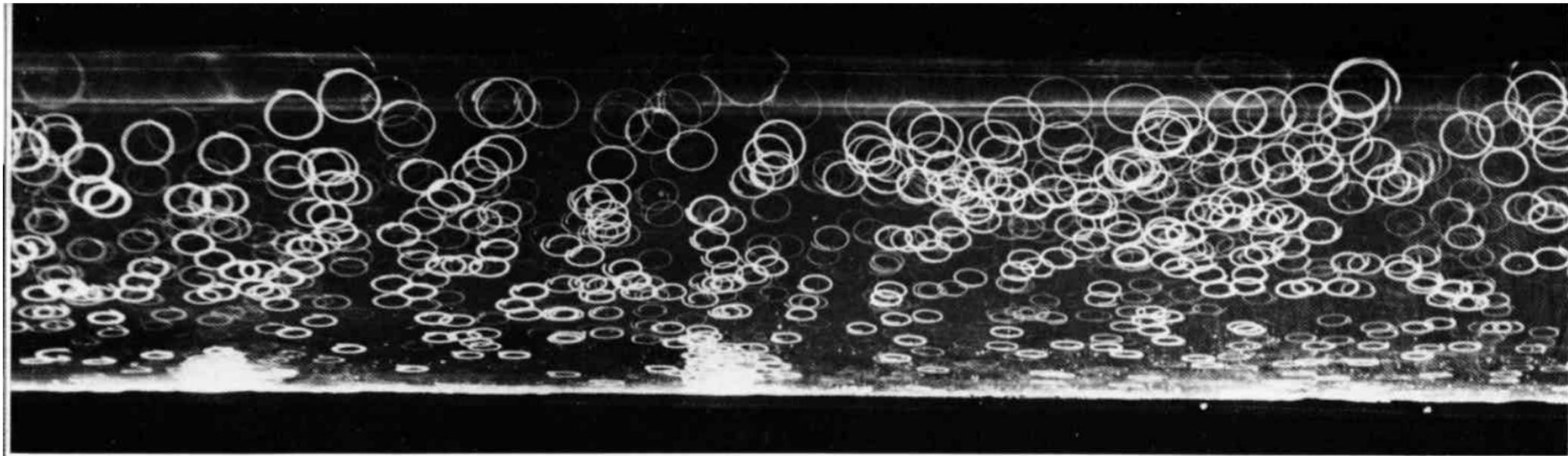
Waves in fluids

Space-time features



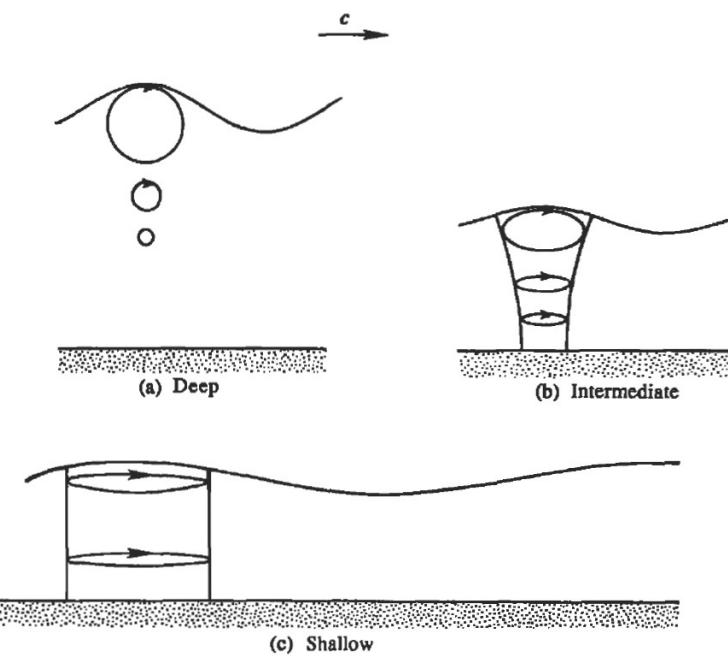
Waves in fluids

pathlines



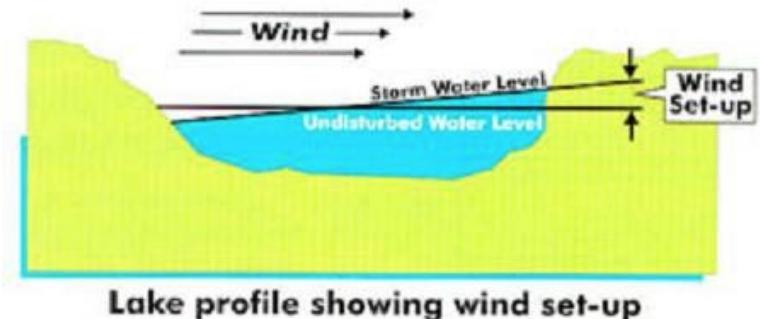
No reflection: pure progressive waves

an album of fluid motion, Van Dyke 1982

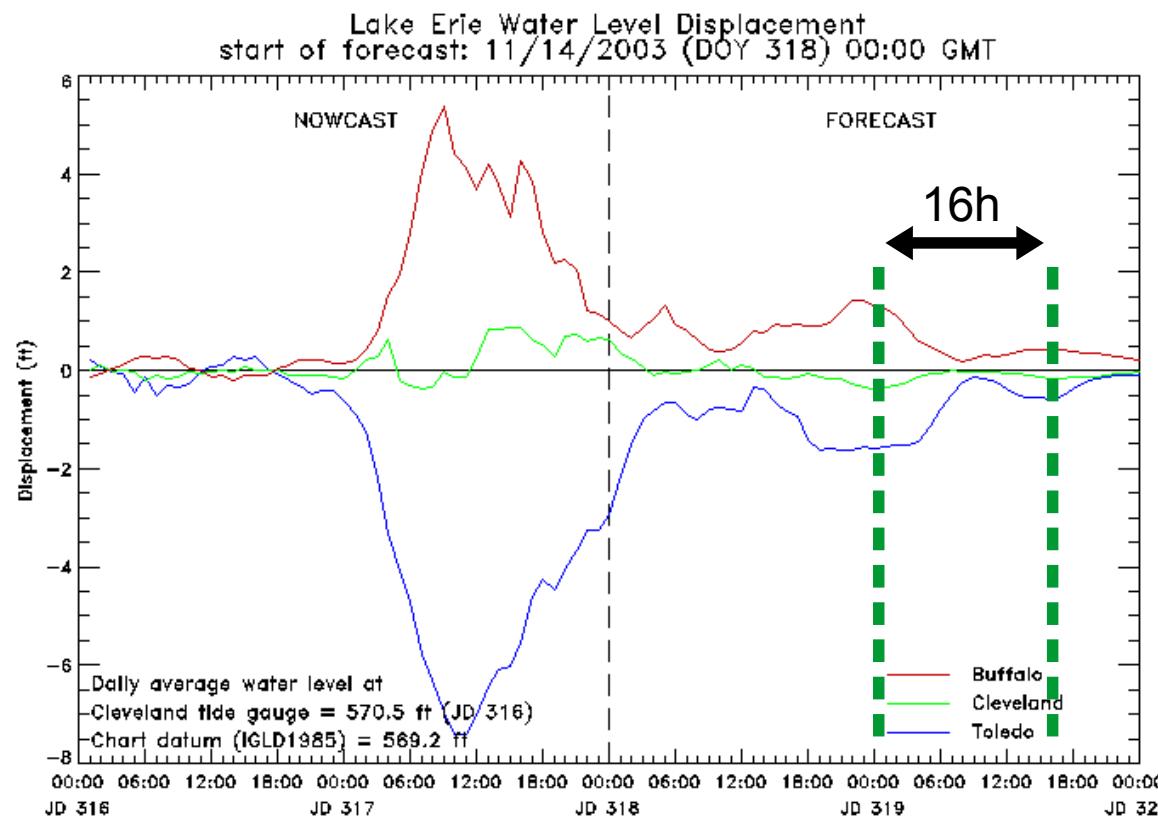


Waves in fluids

Standing waves : seiche in lake Erie



Lake profile showing wind set-up



NOAA Great Lakes Coastal Forecasting System
Great Lakes Environmental Research Laboratory
National Weather Service