

## Wave Types:

1. Capillary Wave: small ripple rim (round crest & trough)

Wind less than 11.4 km

2. Gravity Wave-mass of H<sub>2</sub>O depleted

Sea - clear as glass - no perceptible wind

In lab 6 km needed to generate wave, which in nature only 1.4 km needed

3. Translation Wave - to wave when up on beach

Spilling, Surging, Plunging relation to beach slope and sediment on beach slope

Tidal Bore: Where oncoming wave is confined to a narrow opening or inlet

Wave is produced

1. St. Malo France - 39 feet (Dam & Hydro power here)

2. Bay of Fundy (50 - 66 feet)

Seiche Wave: Wall of H<sub>2</sub>O force up by wind and released

(like a bath tub) phenomenon in large lakes

Lake Geneva and Cherepeake Bay

Methods of Computing Drift

Drift is slower than current

1. Fix position and measure from land

2. Floating object referenced(Floatsam)

3. Drift bottles (wind assist)

4. Ship drift from celestial navigation

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## 5. Ekman Current meter

Speed flow direction

Propeller faces current

Importance of Currents is to Climate and Weather - World Wide moderator and mover

H<sub>2</sub>O greatest heat ability of all liquids except ammonia (NH<sub>3</sub>)

(Cold Benguela current & cold Peru current)

(Lima Peru close to the equator never goes over 90 degrees)

### **Current Change**

In Northern Winter easterly flowing winter current goes from equator to Peru

Warm H<sub>2</sub>O current rather

Than cold: Marine life

Dies: fouls are and I-H<sub>2</sub>O and H<sub>2</sub>S

H<sub>2</sub>S: Ships hulls

"Callao Painter"

Discuss chincha Island Nitrate Beds (Fertilizer & Gunpowder)

"Guano birds die as sea on Chincha Islands as no food"

Kuroshio: Japan Current that is warm

North to northeast (Oyashio is cold Japanese current)

So branch east to Hawaii

No branch mixes with cold Oyashio

Indian Ocean & Monsoon

In summer: winds blow onto India: Currents flow to India

In winter: winds blow dry sand of Gobi desert - currents flow away from continent

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