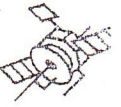
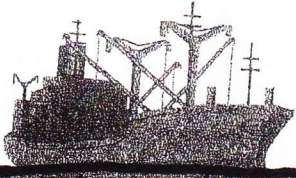


Ocean Water Chemistry And Technology



Depth

Surface Zone

- Extends from surface to ~200m, has most light
- Average temperature worldwide: 17.5°C
- Density less than thermocline and deep zone

Thermocline

- Extends from bottom of surface zone to ~1km
- Temperature rapidly drops to 4°C
- Density is greater than surface zone

SONAR

Deep Zone

- Extends from 1km to ocean floor
- Average temperature is 3.5°C
- Density is greater than surface and thermocline

0.5km

1km

1.5km

2km

2.5km

3km

3.5km

PRESSURE INCREASES

Temperature

- Decreases as you travel from surface to deep zone
- Temperature at surface zone varies by location and season

Salinity

- Lower where fresh water is added (rain, melting ice, rivers)
- Higher during evaporation and freezing
- Sources: erosion rocks minerals, ^{underwater} volcanoes

Density

- Increases from surface to deep zone
- Increase salt = increase density
- Increase density = increase buoyancy

Currents

- Carry warm water to other parts of Earth: helps to cool our planet by moving warmer tropic water toward cooler polar regions

Oxygen and Other Gases

- More oxygen in cold water than in warm water = more oxygen in polar waters than in tropical waters

