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**Terrestrial vs Aquatic Biomes**

	<u>Terrestrial</u>	<u>Aquatic</u>
Buoyancy		
Viscosity		
Temperature		
Autotrophs		
Oxygen		
Limits to NPP		

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- Consequences of living in water**
- High buoyancy
  - High viscosity
  - Constancy of temperature
  - Autotrophs are

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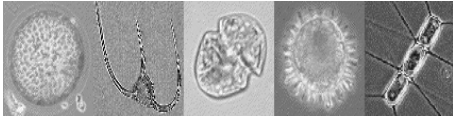
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### Three categories of aquatic organisms

- Plankton –

Phytoplankton - cyanobacteria & free-floating algae



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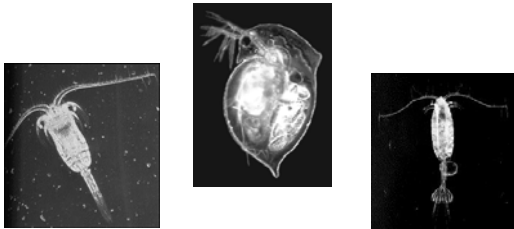
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- Plankton –

Zooplankton - Protozoans & small animals



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- Nekton -



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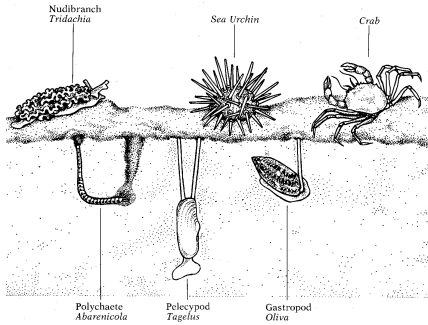
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• **Benthos** -



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**Marine habitats are classified on the basis of :**

- Depth & the distance from the shore.
- Open water or bottom.
- The ability of light to penetrate.

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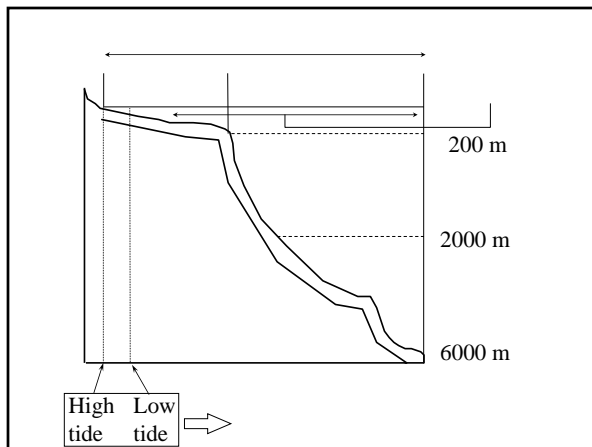
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### Ocean Biome

Intertidal - stressful

Neritic - highly productive WHY???

Oceanic - ~ 88% of ocean

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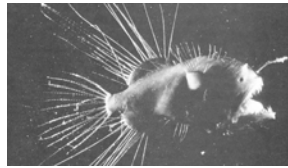
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### Creatures from the Abyss



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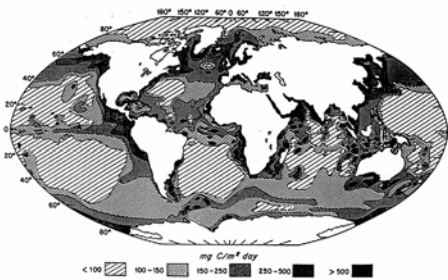
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### Productivity of the oceans



Highest productivity per unit area: coastal & upwelling areas.

However, open ocean accounts for 76% of total.

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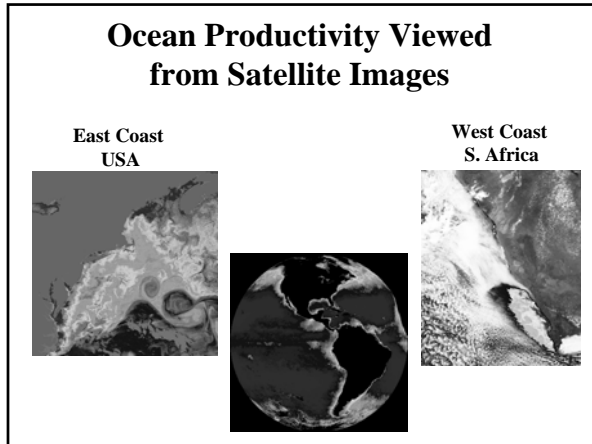
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### Biomes Provide a Useful Classification For Global Estimates

**Table 5.2** Primary Production and Biomass Estimates for the World\*

Ecosystem	Area (10 <sup>6</sup> m <sup>2</sup> )	Mean plant biomass (kg C/m <sup>2</sup> )	Carbon in vegetation (10 <sup>15</sup> g)	Mean net primary production (g C/m <sup>2</sup> /yr)	Net primary productivity (10 <sup>15</sup> g/yr)
Tropical wet and moist forest	10.4	15	156.0	800	8.3
Tropical dry forest	7.7	6.5	49.7	620	4.8
Temperate forest	9.2	8	73.3	650	6.0
Boreal forest	15.0	9.5	143.0	430	6.4
Tropical woodland and savanna	24.6	2	48.8	450	11.1
Temperate steppe	15.1	3	43.8	320	4.9
Desert	18.2	0.3	5.9	80	1.4
Tundra	11.0	0.8	9.0	130	1.4
Wetland	2.9	2.7	7.8	1300	3.8
Cultivated land	15.9	1.4	21.5	760	12.1
Rock and ice	15.2	0	0.0	0	0.0
<b>Global total</b>	<b>145.2</b>		<b>558.8</b>		<b>60.2</b>

\* From Houghton and Skole (1990).

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