

PLANKTON

AND DIEL VERTICAL MIGRATION

What are plankton?

While you may know of some types of plankton, did you know that it is a broad term covering thousands of species of animals, plants, bacteria and other organisms?

Basically, "plankton" describes any organism that cannot control its movements against the ocean currents. As such, they are the ocean drifters.

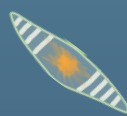
What is DVM?

(Diel Vertical Migration)



Every single day, the largest daily movement of organisms takes place in our seas. Many species of plankton follow specific levels of light. So when surface waters brighten during daylight, the organisms avoid light by moving downwards. This response also occurs when other sources of light (like moonlight or light pollution) illuminate the water.

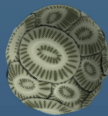
The organisms here are **not** shown to scale. At one extreme end, cyanobacteria are up to tens of micrometres in scale and thus not visible to the naked eye, while diatoms can be a few millimetres in size (and thus visible to the human eye). Jellyfish, at the other extreme, can be many metres long.



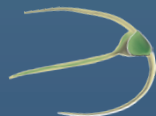
Diatoms



Cyanobacteria



Coccolithophores



Dinoflagellate

Phytoplankton



Photo: ©ESA

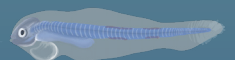
Plankton are so numerous that when they bloom, they may appear on satellite images taken from space. The photo above shows blooms of phytoplankton called coccolithophores off the coast of Norway taking advantage of nutrient-rich and sun-lit surface waters.

The photo was taken from space by the Envisat satellite.

Zooplankton



Jellyfish



Fish larvae



Copepod

Why are they important?

The many ways that types of plankton respond to natural and artificial light can tell us how ecosystems respond to light pollution. This is further critical to understand as the marine food chain rests on these tiny organisms, and so does much of our food supply.