

Physical causes of ocean layering essay

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Ocean layering is the division of various depth ranges of the ocean according to their characteristic traits into zones so as to enable scientists to study it better. There are five major zones that the ocean is divided into. These are:

- The epipelagic zone also known as the light zone.
- The mesopelagic zone also known as the twilight zone.
- The bathypelagic zone also known as the midnight zone.
- The abyssopelagic zone, also known as the abyss.
- And the hadalpelagic zone also known as the trenches.

It is apparent that the ability of light to reach these zones is a key factor in their naming. This is observable by the names adopted for the various zones likening them to various times of the day. However, the main physical traits that influence ocean layering are,

- Water temperature
- Water density
- Water salinity
- Water pressure

Water temperature is affected mainly by the ability of the sun rays to penetrate the water and warm it up. So the readily the sun is able to penetrate the water, the warmer the water is likely to be. Water density on the other hand is co-dependent on both temperature and salinity. Warm water rises while cold water sinks. Additionally the more saline the water is, the denser it is and hence the further down the zones it will occur. Water pressure is affected by the depth of the water and the gravitational pull on the water factors. The deeper the water the more pressure it exerts.

The major ocean layers are determined by the conditions that can be found

in them, these conditions are the ones that give them their classification.

The light zone is found up to the depths of 200 meters from the ocean surface. This is where most of the natural light is found and relatively warmer waters due to the sun rays. Most ocean life is found here.

The twilight zone experiences minimal light from the sun and the waters are much colder here. It is here that bioluminescent fish is found.

The midnight zone experiences no light at all from the sun and most creatures that are found here are either black or red due to lack of light.

The abyssopelagic zone a zone where very little life is found and no light at all from the sun. Most of the ocean floor is found in this zone.

The deepest zone is the hadelpelagic zone. This zone is characterized by depths beyond 6000 meters deep. The pressure is an incredible eight tons per square inch in the deepest parts. The temperature is just above freezing and very little life, if any, can be found at these forbidding depths.

References

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