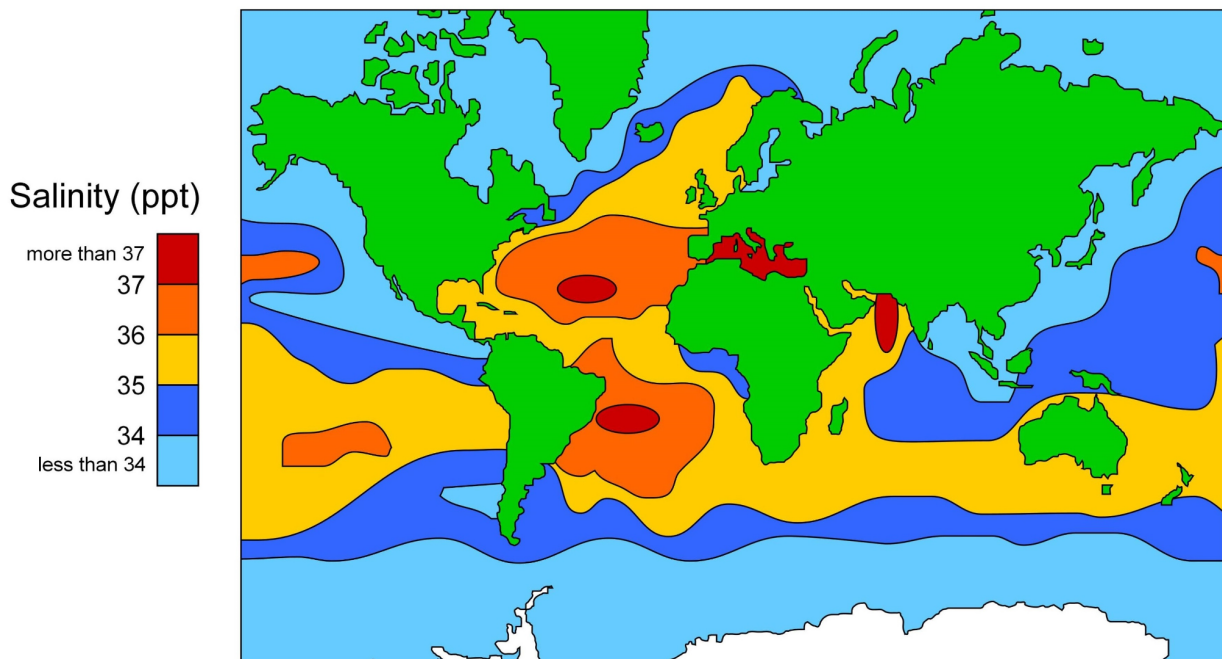


H. Salinity In The Ocean

Salinity In The Ocean

Have you ever wondered why the ocean water tastes salty when you accidentally swallow some at the beach? The reason for this salty taste is called "salinity." Salinity refers to the amount of salt dissolved in water, and it plays a crucial role in the health and balance of the ocean.



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What is Salinity?

Salinity is a measure of how salty water is. It is usually expressed as the amount of salt in parts per thousand (ppt). In other words, if you have one liter of ocean water, and it contains 35 grams of salt, its salinity is 35 ppt.

Sources of Salt

There are several sources of salt in the ocean. One of the main sources is the weathering of rocks on land. Over millions of years, rainwater, rivers, and streams slowly dissolve rocks, and the dissolved minerals, including salt, are carried into the ocean. Volcanic activity is another source of salt, as it releases minerals into the ocean when volcanoes erupt.

Salt from the Earth's Crust

The Earth's crust also contains a lot of salt, and sometimes, large underground salt deposits are eroded and washed into the ocean. Ocean vents, which are openings in the seafloor, release hot water that is rich in minerals, including salt, into the ocean.

Salinity and Evaporation

One of the most important factors affecting salinity is evaporation. When the sun shines on the ocean, it causes the water to evaporate, turning it into water vapor that rises into the atmosphere. However, salt is left behind and becomes more concentrated in the remaining water. This is why areas with high evaporation rates, such as tropical regions, tend to have higher salinity.

Salinity and Precipitation

On the other hand, precipitation, which is rain, snow, or hail falling from the atmosphere, reduces salinity. When it rains over the ocean, fresh water from the clouds mixes with the salty seawater, lowering the overall salinity. This is why regions with heavy rainfall, such as near the equator, tend to have lower salinity.

Salinity and Ocean Currents

Ocean currents also play a role in determining salinity. Some currents carry water with higher salinity, while others carry water with lower salinity. These currents can mix together and create areas with different salinity levels in the ocean.

Importance of Salinity

Salinity is essential for marine life. Some marine organisms, like certain types of fish and plants, have adapted to live in areas with higher salinity, while others thrive in regions with lower salinity. Salinity also affects ocean circulation and climate patterns.

1. What is salinity?
 - A) The temperature of ocean water
 - B) The amount of salt dissolved in water
 - C) The amount of oxygen dissolved in water
 - D) The color of ocean water
2. How is salinity usually expressed?
 - A) In degrees Celsius
 - B) In parts per thousand (ppt)
 - C) In kilometers per hour (km/h)
 - D) In millimeters (mm)
3. What is one of the main sources of salt in the ocean?
 - A) Rainwater and rivers

- B) Volcanic activity
 - C) Human activities
 - D) Ocean currents
4. What happens to salinity when water evaporates from the ocean?
- A) Salinity increases
 - B) Salinity decreases
 - C) Salinity stays the same
 - D) Salinity becomes zero
5. How does precipitation affect salinity?
- A) It increases salinity
 - B) It decreases salinity
 - C) It has no effect on salinity
 - D) It makes the ocean water taste salty
6. Which regions tend to have higher salinity due to high evaporation rates?
- A) Polar regions
 - B) Tropical regions
 - C) Equatorial regions
 - D) Temperate regions
7. What happens to salinity when fresh water from rain mixes with seawater?
- A) Salinity increases
 - B) Salinity decreases
 - C) Salinity stays the same
 - D) Salinity becomes zero
8. How do ocean currents affect salinity?
- A) They have no effect on salinity
 - B) They mix together to create higher salinity
 - C) They mix together to create lower salinity
 - D) They carry water with the same salinity
9. Why is salinity important for marine life?
- A) It makes the water taste salty
 - B) It provides oxygen to marine organisms
 - C) It affects the color of marine organisms
 - D) Different marine organisms thrive in different salinity levels
10. How does salinity affect ocean circulation and climate patterns?
- A) It has no effect on ocean circulation and climate

- B) It causes hurricanes and storms
- C) It affects the temperature of the ocean water
- D) It influences the movement of ocean currents



ANSWERS & EXPLANATIONS

1. B - The amount of salt dissolved in water.
 - Salinity is a measure of how salty water is, referring to the amount of salt dissolved in water.
2. B - In parts per thousand (ppt).
 - Salinity is usually expressed as the amount of salt in parts per thousand (ppt).
3. A - Rainwater and rivers.
 - One of the main sources of salt in the ocean is the weathering of rocks on land, carried into the ocean by rainwater and rivers.
4. A - Salinity increases.
 - When water evaporates from the ocean, it leaves the salt behind, increasing the salinity of the remaining water.
5. B - It decreases salinity.
 - Precipitation, such as rain, reduces salinity by mixing fresh water with salty seawater.
6. B - Tropical regions.
 - Regions with high evaporation rates, such as tropical regions, tend to have higher salinity.
7. B - Salinity decreases.
 - When fresh water from rain mixes with seawater, it lowers the overall salinity.
8. C - They mix together to create lower salinity.
 - Ocean currents can mix together and create areas with different salinity levels in the ocean.
9. D - Different marine organisms thrive in different salinity levels.
 - Salinity is essential for marine life, as some organisms have adapted to live in areas with higher salinity, while others prefer lower salinity.
- 10.D - It influences the movement of ocean currents.
 - Salinity affects ocean circulation and climate patterns, influencing the movement of ocean currents and climate conditions around the world.