

Short Essay: Coastal Processes

Directions: Type your answer to the question in the space below the question. Then compare your answer to the sample answer.

Questions

1. Why do shorelines have both erosion and deposition landscape features?

2. Explain the difference between swash and backwash. Which one is most responsible for erosion? Which one predominately causes deposition?

3. Describe the difference between destructive and constructive waves, their effects on the shoreline, and the conditions under which they develop.

Sample Answers

1. Waves and wind remove coastal sediment from some places and deposit it in others, creating both erosion and deposition features along shorelines. Erosion areas are high-energy environments; deposition areas are environments of lower energy, where materials are allowed to settle out of water.
2. Swash is the water that washes over the shoreline when a wave breaks on the coast. Backwash is the water that falls back out to sea. Swash carries sediment with it and builds the beach up. Backwash carries sediment away from the shoreline and back out to sea.
3. Destructive waves form under storm conditions with strong winds. They are tall in proportion to their length and have high energy. They have a strong backwash and cause coastal erosion. Constructive waves form in calm conditions; they have low height in proportion to their length and low energy. They have a strong swash and build up the shoreline by depositing sediment.