

1. What makes the Dead Sea a unique geographic feature? How was it formed? Explain.

Approach

Candidates need to write about the Dead sea simply write about the unique geographic feature and it's formation.

Introduction

The Dead Sea, also known as Salt Sea, is located on left side of Jordan and right side of Jerusalem. Scientists have expressed fear that Dead Sea may disappear because water from its only water source (the Jordan River) has been rushing out of the Dead Sea more than it is moving into the Dead Sea.

Body

Dead Sea unique geographic feature:

- Dead Sea is the lowest waterbody on Earth, with the lowest elevation on land. The Dead Sea's water is about 10 times saltier than normal ocean water.
- The rocks and sand shimmer at the water's edge here due to the presence of crystalline sodium chloride.
- The Jordan River is the only major water source flowing into the Dead Sea, although there are small perennial springs under and around the Dead Sea, forming pools and quicksand pits along the edges. There are no outlet streams.
- The rich concentration of minerals in its water and mud, zinc, and oxygen-rich air has been clinically proven in the treatment of psoriasis and other skin diseases, asthma, rheumatism, high blood pressure, and more.

Formation of dead Sea:

- There are contending theories about the Dead Sea formation. About 3.7 million years ago, the area now known as the Jordan River Valley was repeatedly flooded by water from the Mediterranean Sea.
- The waters created a lagoon called the Sedom Lagoon, which connected to the sea through what is currently called the Jezreel Valley. Later on, about 2 million years ago, the land between this lagoon and the Mediterranean Sea rose to such an extent, that the sea could no longer flood the area, leading to the creation of a landlocked lake.
- Shifts in tectonic plates led to the rising and dropping of the floor of the valley, and the harsh desert climate led to gradual evaporation and shrinking of the lake, until finally, about 70,000 years ago, what remained was the Dead Sea with its low elevation.

Conclusion

Dead Sea is a unique ecosystem and a sensitive barometer of the state of the environment in a part of the world. Water remains a precious commodity in the arid region, agriculture upstream will likely continue to overpower the environmental needs of the Dead Sea in the near term. Artificial solutions like the Red-Dead Conveyance project could provide alternative routes to preserving this unique ecosystem.

2. What is the Great Rift Valley and where is it located? Why is it significant geographically? Discuss.

Approach

Students are expected to write about the great rift valley and its location also discuss the significance of great rift valley geographically.

Introduction

A rift valley is a lowland region that forms where Earth's tectonic plates move apart or rift. Faulting due to divergence creates the rift system. For example Great Rift Valley.

Body

Great rift Valley:

The Great Rift Valley is a series of contiguous geographic trenches, approximately 7,000 kilometres in total length, that runs from the Beqaa Valley in Lebanon which is in Asia to Mozambique in Southeast Africa.

Geographic Significance:

- The Rift Valley has been a rich source of fossils that allow study of human evolution, especially in an area known as Piedmont.
- Because the rapidly eroding highlands have filled the valley with sediments, a favourable environment for the preservation of remains has been created.
- Those parts that are grasslands contain a greater concentration of wild animals than any other area of comparable size. Species unique to the Rift Valley include the mountain gorilla that is found on the forested slopes of the Virunga volcanoes and fish that dwell in the alkaline springs.

- The wide variety of terrains from desert to mountain results in adaptation of flora to altitude, temperature, and rainfall totals.
- The African Rift Valley lakes include some of the oldest, largest, and deepest lakes in the world, and many are freshwater ecoregions of great biodiversity, while others are alkaline or soda lakes supporting highly specialized organisms.
- The lakes of the Western or Albertine Rift, together with Lake Victoria, include the largest, deepest, and oldest of the Rift Valley lakes. They are also referred to as the Central African lakes. Lakes Albert, Victoria, and Edward are part of the Nile River basin.
- The volcanic activity at this site and unusual concentration of hotspots has produced the volcanic mountains Mount Kilimanjaro, Mount Kenya, Mount Karisimbi, Mount Nyiragongo, Mount Meru, and Mount Elgon, as well as the Crater Highlands in Tanzania.

Conclusion

The Earth is an ever-changing planet, even though in some respects change might be almost unnoticeable to us. This change is currently happening and East African rift system is a perfect example of it.

3. Briefly explain the geography of the horn of Africa.

Approach-

Candidates need to briefly explain the geography of the horn of Africa.

Introduction:

As the second-largest continent, Africa covers over 30 million square kilometers. Bordered by oceans and seas on nearly all sides, the continent has approximately 30,500 kilometers of coastline. In only one area does Africa border another continent by land, connecting to Asia via the Isthmus of Suez in Egypt. An isthmus is a narrow strip or small area of land connecting two larger landmasses. Bodies of water border an isthmus on two sides with land on the other two sides.

Horn of Africa

Horn of Africa is a peninsula on the eastern coast of Africa that juts into the Arabian Sea and curves around the southern portion of the Arabian Peninsula. It is located to the east of the continent of Africa and south-west of the red sea and consists of four countries; Ethiopia, Eritrea, Djibouti and Somalia.

The geography of the horn of Africa

- The Horn of African is a region that is recognized internationally as comprising Somalia, Ethiopia, Eritrea, and Djibouti.
- This region covers approximately 2 million square kilometers, with Ethiopia as the largest country, covering over half of the region’s area (1.1 million square kilometers).
- The region contains diverse land features, including the Somalian and Eritrean coast, Ogaden desert, and Ethiopian highlands.
- It has coastlines on the Gulf of Aden, Red Sea, and the Indian Ocean.
- The Horn of Africa is separated from the Arabian Peninsula by the Bab el-Mandeb Strait (the strait connecting the Red Sea and the Gulf of Aden).
- Up to 18 million years ago, Yemen and the Horn were a single landmass. However, the Gulf of Aden’s rifting separated the Arabian Peninsula and the Horn region.
- Part of the region, particularly Somalia, sits on the Somali Plate, which also includes the neighbouring Madagascar Island.
- The Horn’s arid lowlands contrast the wet Ethiopian mountains, which receive plenty of rain (over 2,000 mm) throughout the year.
- The lowlands are particularly dry because of the tropical monsoon effects.
- The tropical monsoons originate from the west, resulting in seasonal rains in Sudan and the Sahel. Thus, the monsoons’ moisture is lost before reaching Somaliland and Djibouti. The north-easterly winds, common during winter, provides rain only in Somalia’s mountainous areas.



Conclusion

The climate varies greatly by region, with lowland areas being hotter while plateaus experience a temperate climate. Addis Ababa experiences highs of 79 degrees Fahrenheit and lows of 39 degrees Fahrenheit. The Danakil Desert is an arid region in southern Eritrea, north-eastern Ethiopia, and north-western Djibouti, covering approximately 100,000 square kilometers. It is one of the driest, hottest areas in the Horns, with daily temperatures reaching over 45 degrees Celsius.

