91243R



Level 2 Geography 2022

91243 Apply geography concepts and skills to demonstrate understanding of a given environment

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RESOURCE BOOKLET

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Relevant geographic concepts

Environments

May be natural and/or cultural. They have particular characteristics and features, which can be the result of natural and/or cultural processes. People's actions can alter the characteristics and features of the natural and/or cultural environment. The particular characteristics of an environment may be similar to and/or different from another. A cultural environment includes people and/or the built environment.

Perspectives

Ways of seeing the world that help explain differences in decisions about, responses to, and interactions with environments. Perspectives are bodies of thought, theories, or worldviews that shape people's values and have built up over time. They involve people's perceptions (how they view and interpret environments) and viewpoints (what they think) about geographic issues. Perceptions and viewpoints are influenced by people's values (deeply held beliefs about what is important or desirable).

Processes

A process is a sequence of natural and/or cultural actions that shapes and changes environments, places, and societies. Some examples of geographic processes include erosion, migration, desertification, and globalisation.

Patterns

May be spatial: the arrangement of features on the Earth's surface; or temporal: how characteristics differ over time in recognisable ways.

Interaction

Involves elements of an environment affecting each other and being linked together. Interaction incorporates movement, flows, connections, links, and interrelationships, which work together and may be one- or two-way interactions. Landscapes are the visible outcome of interactions. Interaction can bring about environmental change.

Change

Involves any alteration to the natural or cultural environment. Change can be spatial and/or temporal. Change is a normal process in both natural and cultural environments. It occurs at varying rates, at different times and in different places. Some changes are predictable, recurrent or cyclic, while others are unpredictable or erratic. Change can bring about further change.

Sustainability

Involves adopting ways of thinking and behaving that allow individuals, groups, and societies to meet their needs and aspirations without preventing future generations from meeting theirs. Sustainable interaction with the environment may be achieved by preventing, limiting, minimising or correcting environmental damage to water, air, and soil, as well as considering ecosystems and problems related to waste, noise, and visual pollution.

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RESOURCE A: The Dead Sea

The Dead Sea, a saltwater lake, lies within the Jordan Rift Valley located between Israel and Jordan. The valley was formed by earthquake activity and is below sea level – the Dead Sea is 430 metres below sea level and its shore is the Earth's lowest point. Since 1930, the surface area of the Dead Sea has been shrinking, due to water being taken for a variety of uses. The lake level is falling by a metre a year and it is now divided into two basins. The Northern Basin is still a lake, while the Southern Basin is now reduced to a number of ponds in which salt water is collected and then evaporated, leaving salt that is harvested.

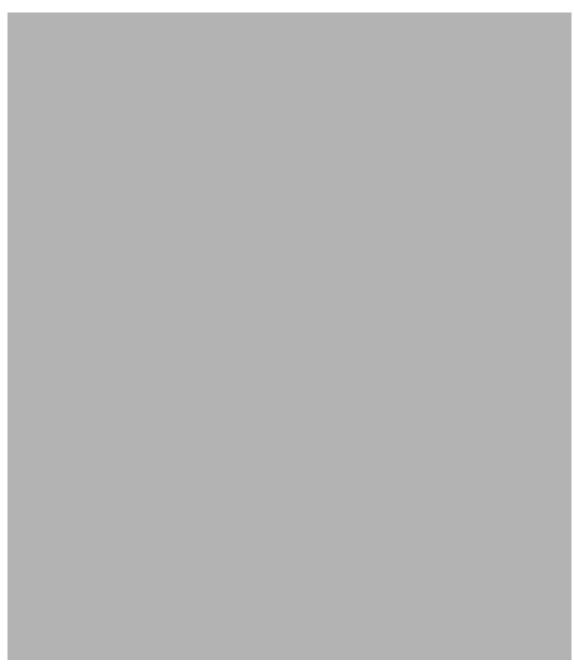


Figure 1: Satellite image of the present-day (2022) extent of the Dead Sea

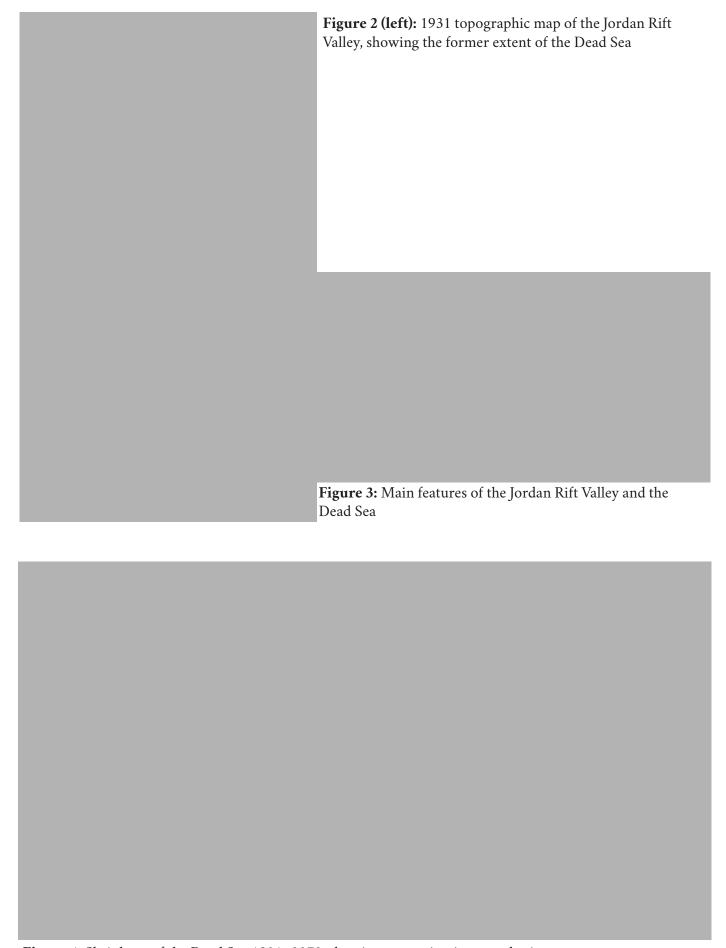


Figure 4: Shrinkage of the Dead Sea 1931–2070, showing separation into two basins

RESOURCE B: Climate and the Dead Sea environment

Although below sea level and with no outlet, the Jordan Rift Valley does not fill up with water. This is due to the arid (dry) climate, with low rainfall and high evaporation. The high evaporation rate results in the Dead Sea having an extremely high concentration of salt – ten times that of ordinary sea water.



Figure 5: The arid landscape and salt deposits around the shoreline of the Dead Sea

Climate statistics for Sedom and Wellington

Climate			Sedom (Dead Sea)	Wellington (New Zealand)
Temperature	Record high	${\mathbb C}$	47.0	30.3
	Daily mean	${\mathbb C}$	26.1	12.7
Precipitation	Average annual rainfall	mm	42	1,250
	Average annual rain days	no.	16	124
	Average humidity	%	32	82
Sunshine	Annual mean	hours	3,520	2,058

Figure 6: Comparison of the climate of Sedom (Dead Sea) to Wellington, New Zealand

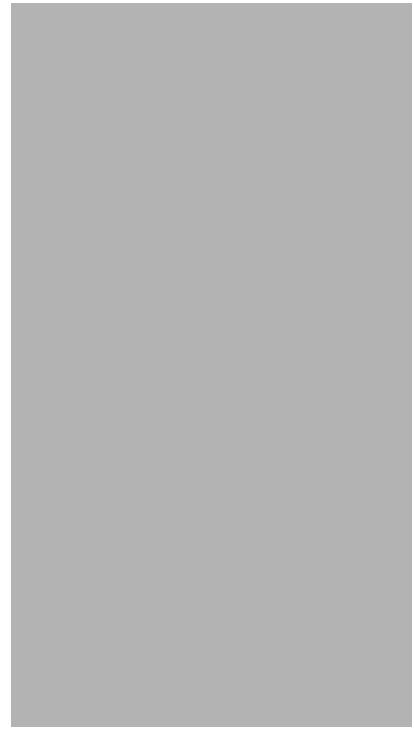


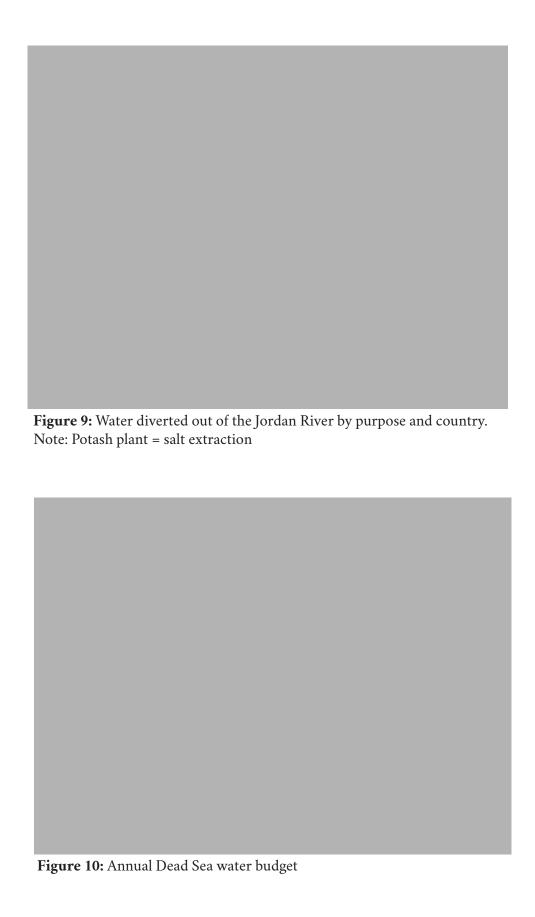
Figure 7: Distribution of rainfall (mm) within the Dead Sea catchment (drainage area, shown in grey shading). The Jordan River flows from the north to the Dead Sea in the south.

RESOURCE C: Shrinkage of the Dead Sea

In 1930, the first dam was built on the Jordan River. Today, there are more than 50 dams and water schemes diverting water from the Jordan River and its tributaries.



Figure 8: Level of the Dead Sea 1900 to 2012



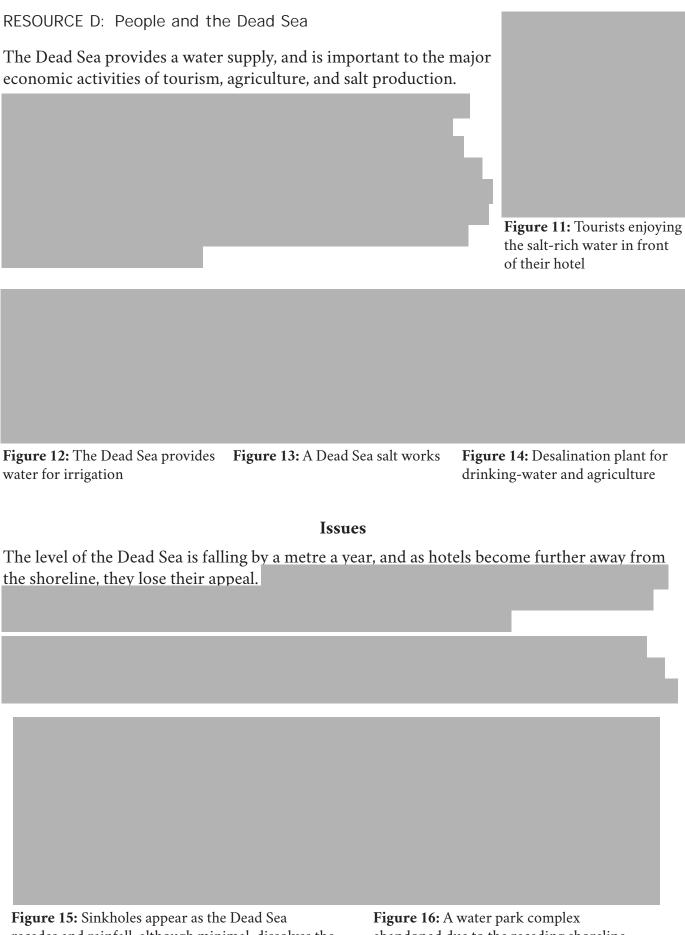
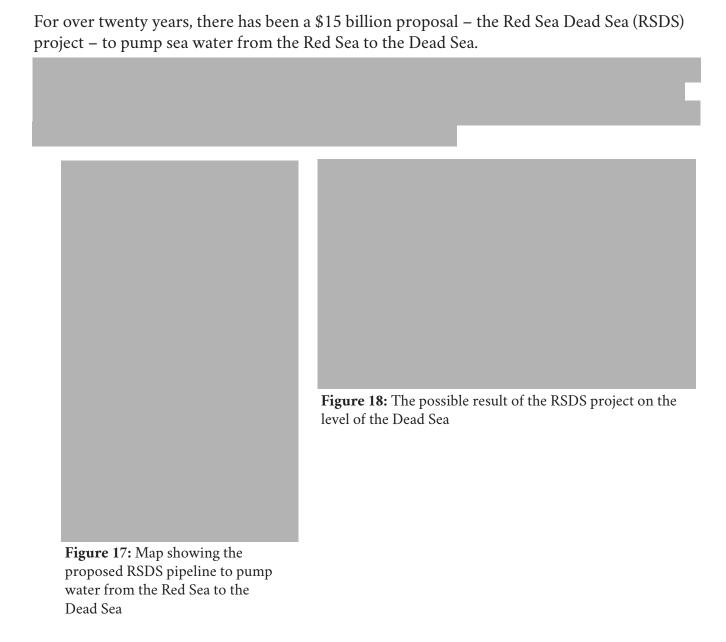


Figure 15: Sinkholes appear as the Dead Sea recedes and rainfall, although minimal, dissolves the underlying salt layers

abandoned due to the receding shoreline and sinkholes

Possible solution



Acknowledgements

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