

CAIE Geography Pre-U

1A - Hot Arid and Semi-Arid Environments

Flashcards

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What does aridity mean?



What does aridity mean?

The lack of moisture, especially having insufficient rainfall to support most trees or woody plants.



What is the aridity index?



What is the aridity index?

The aridity index is the average annual precipitation divided by the annual potential evapotranspiration.



What is the aridity index for a hyper-arid region?



What is the aridity index for a hyper-arid region?

Less than 0.05



How much rainfall does a hyper-arid region receive annually?



How much rainfall does a hyper-arid region receive annually?

Rarely exceeds 100mm.



What is the aridity index for an arid region?



What is the aridity index for an arid region?

Between 0.05 and 0.2



How much rainfall does a arid region receive annually?



How much rainfall does a arid region receive annually?

Rarely exceeds 250mm.



What is the aridity index for a semi-arid region?



What is the aridity index for a semi-arid region?

Between 0.2 and 0.5



How much rainfall does a semi-arid region receive annually?



How much rainfall does a semi-arid region receive annually?

Rarely exceeds 500mm.



What is desertification?



What is desertification?

The process of land degradation in arid and semi-arid regions as a result of various factors both climatic and from human activities.



What are pluvials?



What are pluvials?

Periods marked by increased rainfall.



What are interpluvials?



What are interpluvials?

Periods marked by decreased rainfall.



What is the evidence for past changes in aridity?



What is the evidence for past changes in aridity?

Archaeological such as rock paintings, observing landscapes and formations, biological evidence and ocean sediments.



How much is the Sahara advancing each year?



How much is the Sahara advancing each year?

2km to 5km.



What are the 5 causes of aridity?



What are the 5 causes of aridity?

Relief and the rainshadow effect, global atmospheric circulation, cold ocean currents, offshore winds and continentality.



What is an extreme rainfall event?



What is an extreme rainfall event?

When there is more rain than the yearly average rainfall in a few hours.



What is evapotranspiration?



What is evapotranspiration?

The total loss of water from evaporation from the ground and transpiration from plants.



Why is precipitation effectiveness low in arid regions?



Why is precipitation effectiveness low in arid regions?

Rapid rates of evaporation and transpiration, bare surfaces which limit infiltration and low interception rates.



What are the three natural sources of water in arid regions?



What are the three natural sources of water in arid regions?

Aquifers, coastal mist and fog, and dew.



What is weathering?



What is weathering?

The process of breaking down a rock. It is the mechanism that leads to rock decomposition or degradation, and the production of sediment.



What are the 5 types of weathering that occur in arid region?



What are the 5 types of weathering that occur in arid region?

Frost shattering, thermal fracture, salt weathering, wetting and drying, and chemical weathering.



What is erosion?



What is erosion?

The wearing away and/or removal of rock particles and other materials by a moving force.



What are the 4 erosion processes that occur in arid regions?



What are the 4 erosion processes that occur in arid regions?

Deflation by wind, abrasion by wind, sheet runoff by water and abrasion by water.



What are the 3 types of wind transportation?



What are the 3 types of wind transportation?

Suspension, saltation and surface creep.



What are the four types of water transportation?



What are the four types of water transportation?

Solution, suspension, bedload saltation,
bedload traction.



What are the 4 types of landscapes in arid regions?



What are the 4 types of landscapes in arid regions?

Mountain, stony, sandy and shield deserts.



What are the 5 types of wind erosion landforms?



What are the 5 types of wind erosion landforms?

Deflation hollows, ventifacts, rock pedestals, zeugen and yardangs.



What is a deflation hollow?



What is a deflation hollow?

Large, enclosed, surface depressions.



What are ventifacts?



What are ventifacts?

Cobbles or pebbles with smooth sides separated by sharp edges.



What are rock pedestals?



What are rock pedestals?

Mushroom-shaped rocks.



What is a zeugen?



What is a zeugen?

A narrow ridge of land that has a protective cap of rock above it.



What is a yardang?



What is a yardang?

Sculptured rocks which are streamlined, steep-crested, linear ridges of clay rock or silt.



What are the 8 water erosion landforms?



What are the 8 water erosion landforms?

Wadis, canyons, mesas, buttes, pediments, arroyos, inselbergs and surface crusts.



What are wadis?



What are wadis?

Dry river beds which form temporary channels after periods of rain.



What are canyons?



What are canyons?

Desert gorges and are much deeper versions of wadis.



What are mesas?



What are mesas?

Elevated areas of land with flat tops and steep sides.



What are buttes?



What are buttes?

Isolated hill with vertical sides and a small flat top that were once parts of a mesa a plateau.



What are pediments?



What are pediments?

Gently sloping erosional rock surfaces.



What are arroyos?



What are arroyos?

Dry riverbeds or seasonally active creeks.



What are inselbergs?



What are inselbergs?

Isolated relic hills which are rounder versions of mesas or buttes.



What are surface crusts?



What are surface crusts?

Extensive areas of flat desert surfaces which are covered by a hard crust of fine material which reduces infiltration.



What are the 5 types of wind deposition landforms?



What are the 5 types of wind deposition landforms?

Barchan/crescent dunes,
seif/linear/longitudinal dunes, transverse
dunes, star dunes and draa dunes.



What are the 5 types of water transport and deposition landforms?



What are the 5 types of water transport and deposition landforms?

Alluvial fans, bajadas, playas, salt flats and washes.



What are alluvial fans?



What are alluvial fans?

Where sediment is deposited at the end of a wadi forming a fan shape.



What are bajadas?



What are bajadas?

Series of alluvial fans joined together.



What are playas?



What are playas?

Salt lakes



What are salt flats?



What are salt flats?

Flat expanses of ground which are encrusted with salt crystals and other minerals.



What are washes?



What are washes?

Drainage areas in desert terrains.



What are the opportunities and constraints for human activity?



What are the opportunities and constraints for human activity?

Climate, alluvium deposits, hydroponics, advanced irrigation systems, natural water sources, desalination, mining, tourism and renewable energy.



What are the contributions of humans to desertification?



What are the contributions of humans to desertification?

Overgrazing, overcultivation, deforestation, water collection and storage, salinisation, mineral extraction, population pressures, poverty, climate change, urban development and policy errors.



What are the consequences of desertification?



What are the consequences of desertification?

Rates of soil degradation and soil erosion increase, increased global warming due to dust particles, migration of people and loss of traditional skills.



Managing issues associated with settlement, transport and development.



Managing issues associated with settlement, transport and development.

Contour bunds, zai, prioritising areas for restoration, outplanting, planting trees, building high tech transport systems and taking advantage of renewable energy.



When will oil reserves in Dubai be exhausted by?



When will oil reserves in Dubai be exhausted by?

2025



What does sustainable development need to encompass?



What does sustainable development need to encompass?

Sustainable tourism, conservation projects and sustainable mineral extractions.



How many people live in the Sahel?



How many people live in the Sahel?

50 million



What is the Green Wall initiative?



What is the Green Wall initiative?

Belt of trees planted along the Sahara transition zone.



How much did production of millet increase after diguettes were improved in Burkina Faso?



How much did production of millet increase after diguettes were improved in Burkina Faso?

50%



What are the benefits of tourism in the Valley of the Kings?



What are the benefits of tourism in the Valley of the Kings?

Provides employment, improves infrastructure and provides foreign earnings.



What are the negatives of tourism in the Valley of the Kings?



What are the negatives of tourism of the Valley of the Kings?

Coaches emit exhaust fumes which pollute the area and paved paths that lead into the tombs act as conduits for water.



How much lower would the water and energy consumption be in Masdar city?



How much lower would the water and energy consumption be in Masdar City?

40% lower than the average building in Abu Dhabi.



Who are the Tuareg?



Who are the Tuareg?

Nomadic pastoralists that live in the Sahara.



How is Tearfund helping the Tuareg?



How is Tearfund helping the Tuareg?

Establishing fixation sites which help the Tuareg develop social infrastructure and access to education, training, health and pasture management projects.



Who are the Maasai?



Who are the Maasai?

Rely on livestock as they roam 160,000 square km in Kenya and Northern Tanzania.



How are NGOs helping the Maasai?



How are NGOs helping the Maasai?

Allowing members to settle onto small plots of land and being taught how to farm.



Who are the Fulani?



Who are the Fulani?

Largest semi-nomadic group and herd their animals across west and central Africa.



How many people lost their lives in 2014
due to clashes between Fulani and
farmers?



How many people lost their lives in 2014 due to clashes between Fulani and farmers?

1,200



In 2011 how much of UAE's budget did oil account for?



In 2011 how much of UAE's budget did oil account for?

77%



How much of the UAE's income comes from tourism, property and music shops?



How much of the UAE's income comes from tourism, property and music shops?

95%



In 2018 how much of the UAE's budget went to social protection and healthcare?



In 2018 how much of the UAE's budget went to social protection and healthcare?

AED4.5 billion

