

The Arabian Desert and Green Arabia Hypothesis

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The Arabian Desert and Green Arabia Hypothesis Latest News

A recent study published in Nature presents evidence of recurring humid periods in the Arabian Desert, currently the largest expanse of dunes on Earth.

Geography of the Arabian Desert

- Spans around **900,000 square miles**, making it the **second-largest desert in the world** (after the Sahara).
- Located across **Saudi Arabia, UAE, Yemen, and Oman**, and stretches into **Iraq, Jordan, Qatar, and Kuwait**.
- Composed of **three main deserts**:
 - **Rub'al-Khali (Empty Quarter)** – the largest dune desert.
 - **Ad-Dhana Desert** – central corridor.
 - **An-Nafud Desert** – northern zone.

Climatic Features

- The region is **hyper-arid**, with **less than 33 mm of annual rainfall**.
- **Extreme temperature variations**: above **50°C during the day**, dropping sharply at night.
- Frequent **sandstorms**, including seasonal **Shamals** and whirlwinds called **Dust Devils**, reduce visibility and affect human movement.

Flora and Fauna

- **Plant life** is scarce but includes **Date palms**, **adenium (desert rose)**, **acacia**, **ghaf trees**, **salt-bush**, and **juniper**.
- **Animal species**:
 - Large mammals like the **Arabian oryx**, **camels**, and **gazelles**.
 - Predators like **striped hyenas**, **Arabian wolves**, and **caracals** (now rare).
 - Reptiles like **dhub lizards**, **horned vipers**, and **cobras**.
 - Birds like **falcons**, **vultures**, and **doves**.
 - Insects including **scarab beetles**, **ants**, and **wasps**.

Green Arabia Key Discoveries

- **Speleothems (Stalagmites & Stalactites)**: Found deep within caves in the **Arabian Peninsula**, these mineral deposits form only with **consistent rainfall**, **vegetation**, and **soil**.
 - Their existence points to **multiple “green phases”** in the region over the **last 8 million years**.
- **Uranium dating**: Used to accurately determine the **age of speleothem formations**, providing one of the **oldest continuous climate records** for Arabia.
- **Oxygen isotope analysis**: Helped estimate **past rainfall levels** and **periods of humidity**, confirming that **Arabia was not always a desert**.
- **Archaeological evidence**: In the **Baynunah Formation (UAE)**, fossils dating back **7 million years** show the presence of: **Hippos, Elephants, Giraffes & Primates**.
 - These fossils indicate that **Green Arabia served as a migratory route** for animals and hominids.

Source: **SCN**

Source: <https://vajiramandravi.com/current-affairs/the-arabian-desert-and-green-arabia-hypothesis/>

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