Average annual rainfall over the Kingdom increases by 62.92 millimeters in 2023

The average annual rainfall recorded 152.46 millimeters over the kingdom in 2023, representing an increase of 62.92 millimeters compared to the annual average rainfall for the reference period (1991-2020) of 89.52 millimeters. Thus, it's considered the highest annual average rainfall during the period (2010-2023) while the year 2012 scored the lowest average with 57.14 millimeters.

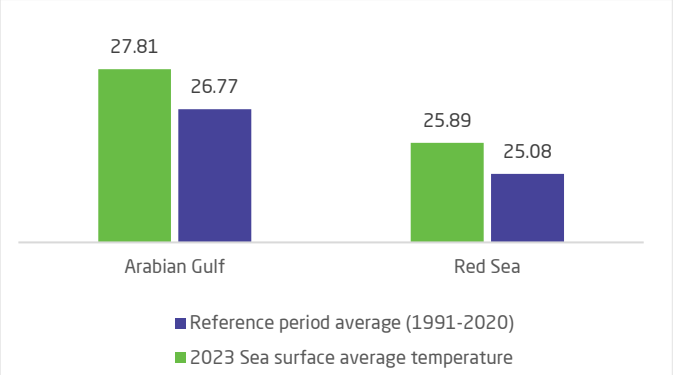
Annual sea level change

In 2023, the annual sea level change in the Red Sea increased to reach approximately 0.14 meters, also the annual sea level change in the Arabian Gulf showed an increase of 0.11 meters compared to the reference period average (1993-2020).

Sea surface temperature

The data indicates that the average sea surface temperature of the Red Sea increased by 0.81°C, while the average sea surface temperature of the Arabian Gulf increased by 1.04°C in 2023 compared to the reference period average (1991-2020) (Figure 1).

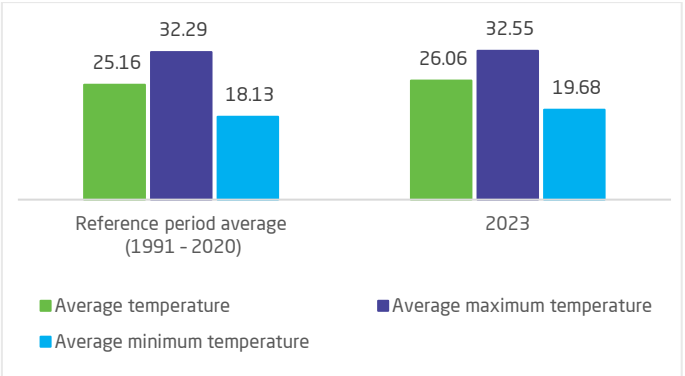
Figure 1. Average change in sea surface temperature (°C)



Average temperature

The average temperature for 2023 was recorded at approximately 26.06°C, compared to the reference period (1991-2020) average of 25.16°C, representing an increase of 0.90°C. The average minimum temperature for 2023 was around 19.68°C, compared to the reference period average of 18.13°C, marking an increase of 1.55°C. Meanwhile, the average maximum temperature in 2023 was 32.55°C, compared to the reference period average of 32.29°C, with an increase of 0.26°C (Figure 2).

Figure 2. Saudi Arabia's average temperature for 2023 compared to the reference period average (°C)



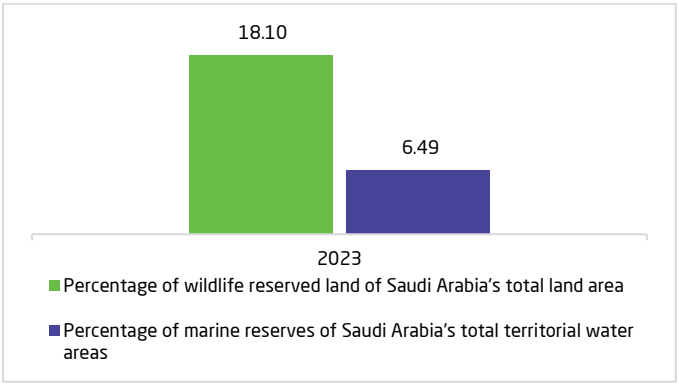
Primary energy production from fossil fuel

According to 2023 climate change statistics, crude oil production reached 478,352 thousand tons of oil equivalent while the production of natural gas recorded 88,749 thousand tons of oil equivalent. Thus, the total production of primary energy from fossil fuels in 2023 was 567,101 thousand tons of oil equivalent, 7% less than 2022's primary energy production from fossil fuel which was 610,024 thousand tons of oil equivalent.

Protected lands

The percentage of wildlife reserved land was 18.10% of Saudi Arabia's total land area in 2023, while the percentage of marine reserves was 6.49% of the Kingdom's total territorial water areas in 2023 (Figure 3).

Figure 3. Percentage of protected areas 2023 (%)



Key Indicators of Climate Change Statistics

Indicators	Unit	2023
Annual change in the Red Sea level compared to the reference period*	Meter	0.14
Annual change in the Arabian Gulf Sea level compared to the reference period*		0.11
Average change in the surface temperature compared to the reference period*	Degree Celsius	0.9
Average change in the Red Sea surface temperature compared to the reference period*		0.81
Average change in the Arabian Gulf Sea surface temperature compared to the reference period*		1.04
Rainfall average change compared to the reference period*	Millimeter	62.94
Total primary energy production from fossil fuel	Thousand Tons of Oil Equivalent	567,101
Net energy imports as a percentage of total energy supply	Percentage	12.43%
Percentage of the protected land area relative to the total land area of the Kingdom		18.10%

Source: Tables

*Statistics are provided to measure the rate of change in climate change indicators based on most accurate average values for the longest reference period.

Methodology and quality

The Climate Change Statistics Publication has been prepared according to the statistical framework of the Global Group on Climate Change Statistics and Indicators, under the United Nations Statistics Division. The publication covers all areas related to climate change (drivers, impacts, vulnerability, mitigation and adaptation) and includes all environmental, social, and economic sectors. It relies on several sources, including statistics from the Saudi General Authority for Statistics, administrative record statistics from the Ministry of Environment, Water, and Agriculture, and its affiliated centers, as well as the Ministry of Energy. Methodology and Quality Report