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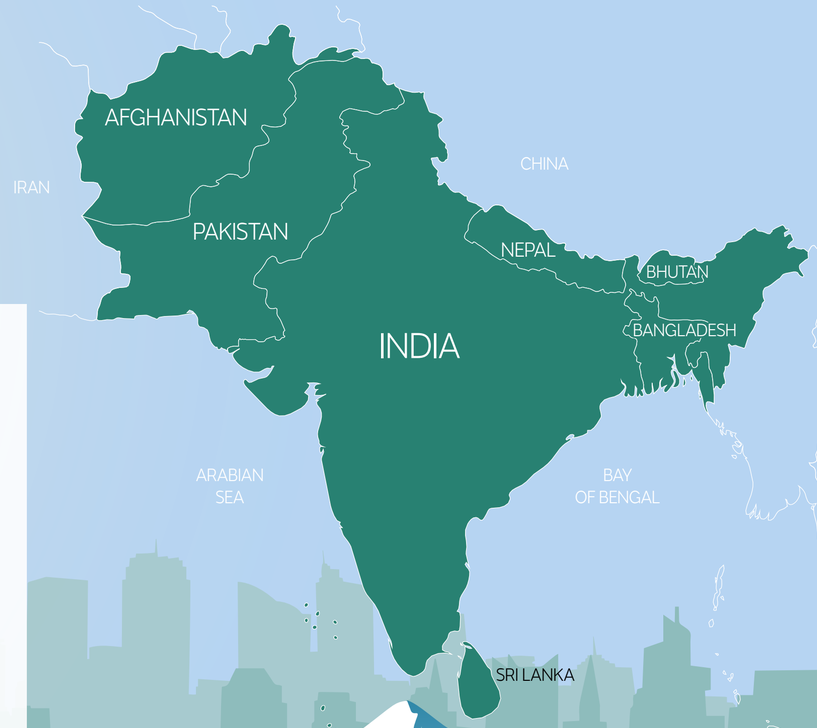
Central and South Asia Climate Risk Report – South Asia

HEADLINE CLIMATE STATEMENTS



Most of South Asia has warmed by around 0.1 to 0.2°C per decade during 1980 to 2015, with Pakistan and Afghanistan warming 0.4 to 0.5°C per decade.

By the 2050s*, northern regions of South Asia (Pakistan, northern Nepal, northwest India, southern Afghanistan) will warm more (2 to 6°C under high emissions; 1 to 4°C under medium emissions) than southern regions (southern Nepal, Bhutan, southern India, Bangladesh, Sri Lanka, Maldives) (1.5 to 3.5°C under high emissions; 1 to 2.5°C under medium emissions) relative to a 1981-2010 baseline.

By the 2050s, the intensity, number, and duration of heat extremes, heatwaves, and droughts will increase across South Asia, particularly in northwest India, northeast Pakistan, southern India and Sri Lanka.

By the 2050s, all South Asia will become significantly wetter in the monsoon season (June to September), particularly in southern Pakistan and western India.

By the 2050s, the eastern Himalayas, northern India, southern Nepal, and Bhutan will become drier in winter.

In the high mountain areas of South Asia, rainfall will continue to replace snowfall causing earlier snowmelt and a shift in seasonality of downstream river flow.

Extreme rainfall will become more intense and frequent, especially in the eastern Himalayas of South Asia during the monsoon period (June to September).

On average, the number of tropical cyclones per year are not likely to increase, but they will become more intense, particularly in the Bay of Bengal, amplified by higher sea surface temperatures.

South Asian river flow will increase due to greater monsoon rainfall (June to September) after the 2050s.

By the 2050s, average annual sea surface temperatures in the oceans surrounding South Asia will increase by 1.2 to 1.4°C under a high emission scenario, relative to a 1971-2014 baseline.

More frequent and intense marine heatwaves are expected in the oceans surrounding South Asia, especially during the pre-monsoon and monsoon seasons.

*The 2050s refer to the 2041-2060 time period.
**pH refers to the acidity or alkalinity of a solution with lower values indicating higher acidity.