

1.

Answer following questions based on Resource ABC from report by WMO in *State of the Climate in Asia 2025*. Where appropriate, use geographical reasoning to support your answer.

Resource A

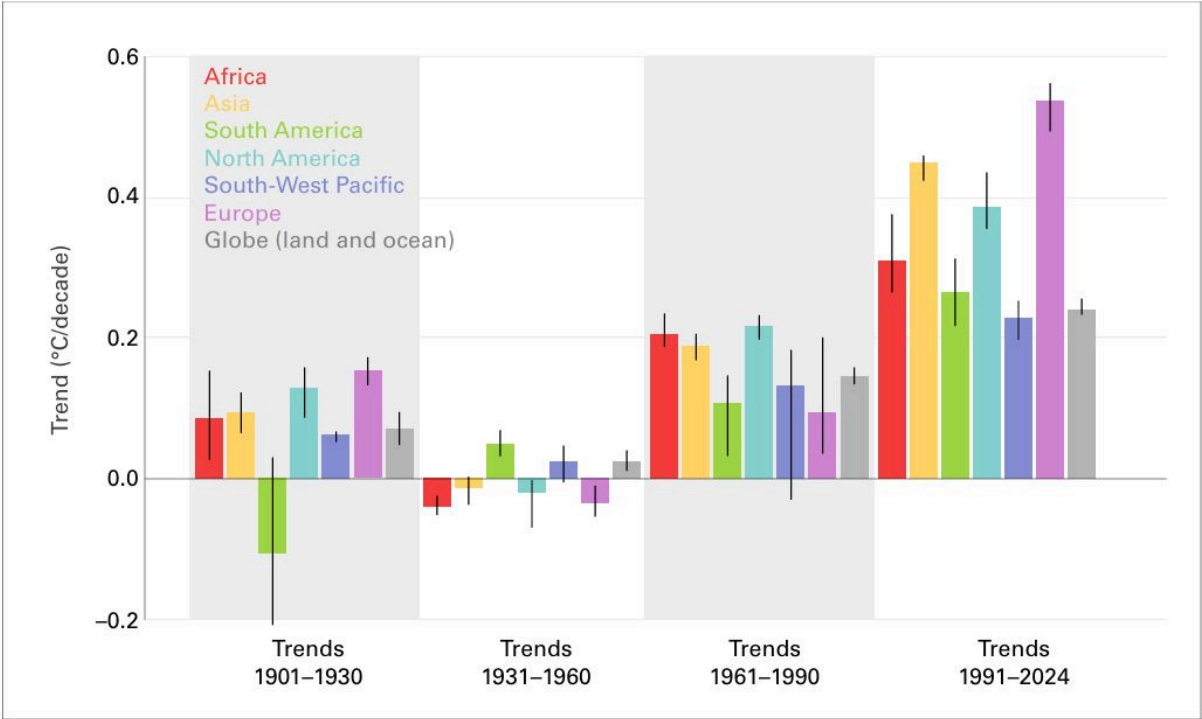


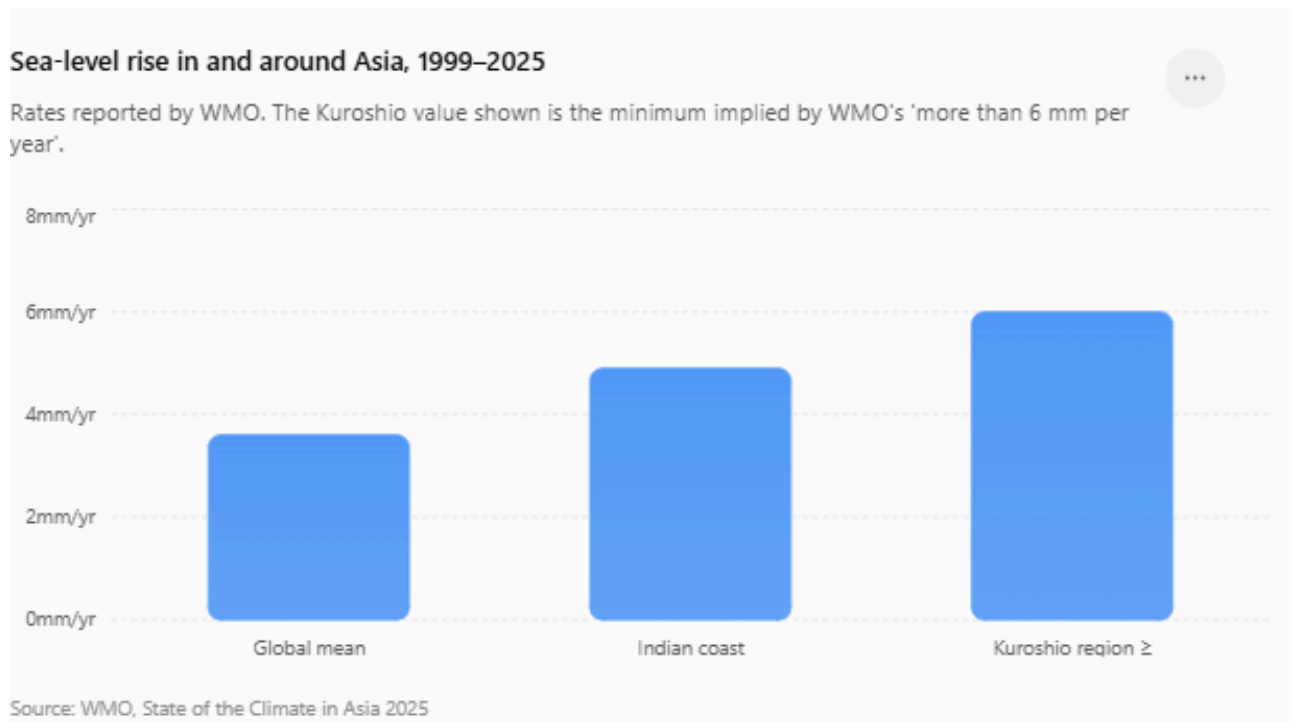
Figure 4. Area-averaged temperature trends in °C/decade for four subperiods (1901–1930, 1931–1960, 1961–1990 and 1991–2024). The coloured bars show the mean trend for each region, and the black vertical lines indicate the range of different estimates.

Resource B

Indicator/event	WMO observation
Asia, 2025	Mean temperature anomaly: $+0.96 \pm 0.08^{\circ}\text{C}$ relative to 1991–2020
Asian warming trend	1991–2025 warming rate was approximately twice that of 1961–1990
High Mountain Asia	All 23 monitored glaciers lost mass in 2025
Global mean sea-level rise, 1999–2025	approximately 3.6 mm yr^{-1}
Indian Ocean coast of Asia	approximately 4.9 mm yr^{-1}

Indicator/event	WMO observation
Kuroshio Current region	$>6 \text{ mm yr}^{-1}$
Pakistan, 2025	Monsoon flooding associated with $>1,000$ deaths and >3 million people requiring assistance
Viet Nam, 2025	Flooding: ≥ 200 deaths, about US\$1.9 billion in economic losses
Sri Lanka, Cyclone Ditwah	About 10% of typical annual rainfall fell in 24 h; >640 deaths; $>200,000$ displaced; losses $\approx 4\%$ of GDP

Resource C



Intergovernmental Panel on Climate Change (IPCC) evidence

The IPCC reports that the intensity of heavy precipitation at the global scale increases by approximately 6–7% for each 1°C of global surface warming. There is high confidence that tropical-cyclone rainfall increases in a warmer climate. However, evidence for a long-term increase in the global frequency of all tropical cyclones is much less certain.

- a) 1. Study Resource A. Identify TWO features of the graph that indicate that recent warming in Asia cannot reasonably be described simply as a continuation of the early twentieth-century trend. Support both observations with evidence from the graph.

Answer:

2p

- b) Using Resource B, calculate:

- a) by approximately what percentage the rate of sea-level rise along the Indian coast exceeds the global mean;
- b) the minimum percentage by which the rate in the Kuroshio region exceeds the global mean.

Answer:

2p

- c) A student makes the following statement:

“More than 1,000 people died in Pakistan’s 2025 floods. Therefore, the data prove that climate change caused the disaster.”

Using Resources B and C, explain TWO problems with this conclusion.

Answer:

2p

- d) In Sri Lanka, approximately 10% of the typical annual rainfall occurred within 24 hours during Cyclone Ditwah. Explain why the temporal concentration of rainfall, rather than annual rainfall amount alone, is important in determining flood and landslide hazard. Your answer must include TWO physical processes.

Answer:

2p

- e) According to the UNDRR framework, disaster risk results from the interaction of hazard, exposure, vulnerability and capacity. Using one of the Pakistan, Viet Nam or Sri Lanka cases, identify:

- one additional dataset that would be required to assess exposure, and
- one different dataset that would be required to assess vulnerability.

For each dataset, explain briefly why it is needed.

Answer:

2p