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Prelims PYQ, Mains model answers, and copy evaluation. Write to the desk for this paper, a doubt, or the AI waitlist.

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Q8

How does the cryosphere affect global climate?

UPSC Civil Services Mains 2017 · GS I · 10 marks · Geophysical Phenomena

Important Geophysical phenomena such as earthquakes, tsunami, volcanic activity, cyclone etc., geographical features and their location-changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes.

Facts & figures for this PYQ only.

Numbers move. Confirm the latest Budget, Economic Survey or census round. This sheet is for revision, not a substitute for the model answer.

<https://wrapexams.com/upsc/mains-answers/gs-1/2017/how-does-the-cryosphere-affect-global-climate/>

Albedo feedback

Ice reflects sunlight; melt exposes darker surfaces that absorb more heat.

Greenland and Antarctica

Continental ice sheets whose melt is the main long-term driver of global sea-level rise.

Arctic sea ice

Frozen seawater that affects heat exchange and does not itself raise sea level when it melts.

Permafrost carbon

Frozen soils that can emit CO₂ and methane after thaw.

Himalayan cryosphere

Snow and glaciers that help seasonality of South Asian rivers.

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