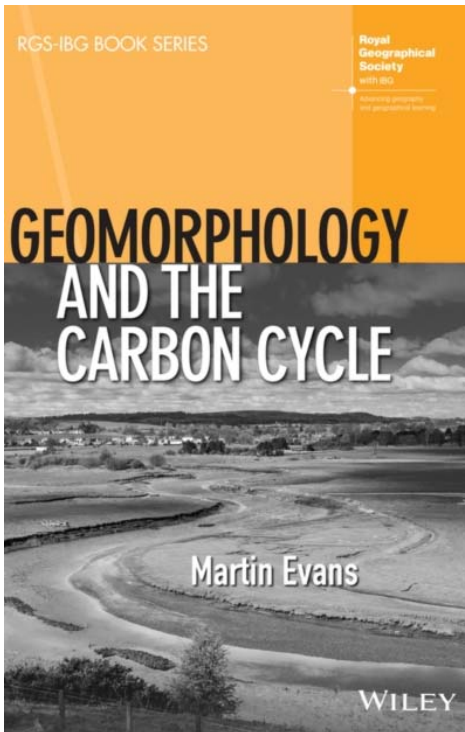


The Literacy Lowdown: Geomorphology and the carbon cycle



A level geography students, remember, you should:

- undertake wider reading
- use factual texts, discursive / creative material

Summary

The book explores the way geomorphology, ecology and microbiology can contribute to a fuller understanding of the processes controlling the fluxes of terrestrial carbon.

Drawing on the sediment cascade, and sediment and carbon budgets, it offers new insights into how to understand and quantify the sources, transformations, and sinks of carbon in land-systems across the world.

This framework and analysis not only provide insights into how carbon is moved between major terrestrial stores but also how human activities can impact these processes.

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Specification links

AQA 3.1.1 Water and carbon cycles.
Edexcel Area of study 3, Topic 6: The Carbon Cycle and Energy Security.
OCR Topic 1.2 – Earth's Life Support Systems.
WJEC Section A: Global Systems. Water and Carbon Cycles.

Key quotes

“The organizational principle of the book is the sediment cascade...describing the flux of water and sediment through the landscape, from production on the hillslopes to deposition in oceans and estuaries.” (p8)

“Carbon is cycled through the terrestrial system at a range of time and space scales...The slow carbon cycle, which occurs over thousands of years, cycling between the lithosphere, oceans and atmospheres, through processes of weathering and sedimentation, and the fast carbon cycle, which operates at timescales of seconds to millennia, and involves the transfer of carbon between soils, vegetation and the atmosphere, controlled by biological processes.” (p12)

“Hillslope systems are very significantly under human management...our focus should be on modification of management processes to maximise soil carbon storage.” (p135)

“Floodplain systems are significant stores of organic carbon. However, they are not passive receptors or organic material. Floodplains actively cycle carbon under the control of biological and geomorphological processes...Floodplains are possible hotspots of carbon turnover...So their understanding is very important.” (p165)