

Assignment 2

Coherent writing

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November 30, 2023

Assignment 2: Coherent writing

The huge uncertainties in the global carbon (C) budget are related to the terrestrial C cycle. Reducing these uncertainties requires improving the accuracy of estimating C flux between the atmosphere and terrestrial ecosystems. Soil respiration (R_s) is the second-largest C flux between the atmosphere and terrestrial ecosystems, at 75–100 Pg C yr⁻¹, it is roughly 9 times larger than anthropogenic C emissions. It is well known that R_s plays a key role in regulating the atmospheric carbon dioxide (CO₂) concentration and climate feedback. A slight change in annual R_s flux may cause a significant alteration in global CO₂ concentration. Over the past decades, R_s has shown an increasing trend due to continuous climate warming. Considering its significance in the global C cycle, clearly accurate measurement of R_s is a key issue for the assessment of the feedback between terrestrial ecosystems and climate change, and subsequently, the establishment of models. However, how to accurately measure the R_s is still under debate and development. If soil CO₂ emissions cannot be accurately measured, predictions of long-term dynamic soil C pools using process representations in models will remain in error.

General principles for coherent writing

Key points for coherent writing:

- Maintain thematic coherence and logic flow;
- Trim unnecessary information from writing;
- Create connections between sentences.

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Here is an example of writing following the three general principles.

Terrestrial carbon (C) budget is a major source of uncertainty in global carbon budget. Reducing this uncertainty requires improving the accuracy of estimating C flux between the atmosphere and terrestrial ecosystems. As the second largest flux between the atmosphere and terrestrial ecosystem, soil respiration (R_s) emits 75–100 Pg C yr⁻¹ and is roughly 9 times larger than anthropogenic C emissions. Therefore, accurate measurements of R_s is crucial for quantifying global C budget. However, it remains debatable what is the most accurate method for R_s measurements. Without accurate measurements of R_s , our understanding of global carbon budget will remain uncertain.