

Biodiversity and Carbon – Towards a research programme to define linkages.
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Symposium information

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Title Biodiversity and Carbon – Towards a research programme to define linkages
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Abstract Background and goal

There are significant overlapping concerns between the global erosion of biodiversity and the stabilization of the human perturbation on the carbon cycle, yet so far they have not been addressed in a synthetic way. Research on the linkages between biodiversity and ecosystem function have advanced over the past few years, at the same time there has been a growing concern of the potential impacts on biodiversity and feedbacks resulting from managing the carbon cycle, both on land and in the ocean. While there is some evidence that a fundamental understanding of the determinants of net primary productivity may be useful in predicting the global distribution of plant species richness, there is little work relating ecosystem species richness at local scales to measures of carbon sequestration and carbon cycling. Greater knowledge of paleodiversity and matching historical changes in global carbon balance can yield new understanding in future shifts in biodiversity in a higher CO₂ atmosphere. Further, increased pressure on the biosphere through the interest in carbon sequestration and bioenergy production requires a better understanding of the function and resilience of productive and natural species ensembles. We aim through this workshop to synthesize these various perspectives in a coherent research programme to define predictive linkages between biodiversity and carbon.

Results and discussion

With key participants we aim to explore the main recent advances in these fields with respect to critical data and models now available to explore linkages, and key questions and research gaps that restrict

current understanding. These will result in a perspective-type publication and a defined research programme.

Conclusions

A new research agenda to further explore the role of biodiversity in the earth system as a contribution to the Earth System Science Partnership and its joint Global Carbon Project.

Comments This is a workshop that seeks to advance linkage between the Diversitas and Global Carbon Project activities of the ESSP

Submission status

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