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# A Symposium on 'Controls on Soil Resoration: Implications for Climate Change'; October 27-28, 1997; Anaheim, CA

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**Final Report for Period:** 08/1997 - 07/1998

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**Principal Investigator:** Rustad, Lindsey E.

**Award ID:** 9712545

**Organization:** University of Maine

A Symposium on 'Controls on Soil Respiration: Implications for Climate Change'; October 27-28, 1997; Anaheim, CA

### **Participant Individuals**

#### **Senior Personnel**

**Name:** Rustad, Lindsey

**Worked for more than 160 Hours:** No

**Contribution to Project:**

#### **Post-doc**

#### **Graduate Student**

#### **Undergraduate Student**

### **Partner Organizations**

#### **United States Geological Survey**

The USGS provide financial support to help defray the cost of the invited speaker's travel.

#### **USDA Forest Service - Northeastern Forest Experiment Station**

The USDA Forest Service Northern Global Change Program provided financial assistance to help defray the cost of travel for the invited speakers.

#### **Environmental Defense Fund**

The Environmental Defense Fund provided financial assistance to help defray the cost of travel for the invited speakers.

#### **Soil Science Society of America**

The Soil Science Society of America provided both financial support and also provided the facility in which the 2 day symposium was held.

### **Other Collaborators**

### **Activities and Findings**

#### **Research Activities:**

We organized a symposium on 'Controls on Soil Respiration: Implications for Climate Change', which was held at the annual Soil Science Society of America meetings in Anaheim, CA, October 27-28, 1997. The symposium included 14 invited talks and 17 volunteered talks on topics ranging from controls on soil respiration, state-of-the-art methods for evaluating soil respiration, modeling soil respiration, and implications for management and policy.

#### **Research Findings:**

There was a general consensus that it is possible to reduce CO<sub>2</sub> emissions from agricultural soils by following best management practices and that it is important to consider rates of C efflux from soils when evaluating methods for increasing soil C sequestration in agricultural and/or forest soils.

#### **Research Training:**

**Education and Outreach:****Journal Publications**

W.H. Schlesinger and J.A. Andrews, "Soil Respiration and the Global Carbon Cycle", *Biogeochemistry*, p. , vol. , (.) Submitted  
 P.J. Hanson, N.T. Edwards, G.T. Garten, and J.A. Andrews, "Separating Root Versus Microbial Contributions to Soil Respiration: A Review of Methods and Observations", *Biogeochemistry*, p. , vol. , (.) Submitted  
 A.D. McGuire, J.M. Melillo, D.W. Kicklighter, M. Heimann, J.S. Clein-Curley, R.A. Meir, W. Sauf, and J. Helfrich, "Modeling Cold Season Heterotrophic Respiration Across High Latitudes: Comparisons with Measurements of Atmospheric Carbon Dioxide", *Biogeochemistry*, p. , vol. , (.) Submitted  
 E.A. Davidson, L.V. Verchot, J.H. Cattanio, I.L. Ackerman, and J.E.M. Varvalho, "Effects of Soil Water Content on Soil Respiration in Forests and Cattle Pastures of Eastern Amazonia", *Biogeochemistry*, p. , vol. , (.) Submitted  
 M. Kirschbaum, "Will Changes in Soil Organic Carbon Act as a Positive or Negative Feedback on Global Warming?", *Biogeochemistry*, p. , vol. , (.) Submitted  
 W. Raich and A. Tufekcioglu, "Vegetation and Soil Respiration: Correlations and Controls", *Biogeochemistry*, p. , vol. , (.) Submitted  
 K. Paustian, J. Six, E. Elliott, and H. Hunt, "Management Options for Reducing CO2 Emissions from Agricultural Soils", *Biogeochemistry*, p. , vol. , (.) Submitted

**Books or Other One-time Publications****Web/Internet Sites**

None

**Other Specific Products****Contributions****Contributions within Discipline:**

This symposium highlighted the importance of soil respiration as an important pathway of flux in the global carbon cycle. It further explored the need for better techniques to measure soil respiration and better models to describe soil respiration.

**Contributions to Other Disciplines:****Contributions to Education and Human Resources:****Contributions to Science and Technology Infrastructure:****Beyond Science and Engineering:****Categories for which nothing is reported:**

Activities and Findings: Any Research Training  
 Activities and Findings: Any Education or Outreach  
 Any Book  
 Any Web/Internet Site  
 Any Product  
 Contributions: To Any Other Disciplines  
 Contributions: To Any Education or Human Resource  
 Contributions: To Any Science or Technology Infrastructure  
 Contributions: Beyond Science or Engineering