Project Profiles: Enhancing communication among scientists and program managers

Peter C. Griffith, Amy Morrell, & Lisa Wilcox
Carbon Cycle & Ecosystems Office
NASA Goddard Space Flight Center

2007 NACP Meeting
Yet another view: where we are (nearly) now

Thematic Data Centers

- Remote Sensing
- Atmospheric measurements
- Regional Intensives
- Flux Networks
- Extensive Inventories
- Oceans / Coastal
- Modeling and Synthesis
- Project / PI Holdings

Data Central?

NACP User Community
(and others)

NACP Office
(Index of Projects/PIs)

2007 NACP Meeting
## Project Profiles are metadata about a project

### The Definition of an NACP Project

**Search Profiles**

<table>
<thead>
<tr>
<th>Project Leader</th>
<th>Project Title (View profile)</th>
<th>Funding Agency</th>
<th>Project Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allan, Deborah</td>
<td>Carbon and nitrogen dynamics: storage and losses in upper Midwest cropping systems (view)</td>
<td>USDA CSREES</td>
<td>Core</td>
</tr>
<tr>
<td>Andrews, Arlyn, Sweeney, Colm, Tans, Pieter</td>
<td>NOAA ESRL GMD Tall Tower and Aircraft Network (view)</td>
<td>NOAA</td>
<td>Core</td>
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<tr>
<td>Archer, Steve</td>
<td>Ecosystem carbon and nitrogen pools in managed reangeland: a spatial accounting of management influences (view)</td>
<td>USDA CSREES</td>
<td>Core</td>
</tr>
<tr>
<td>Arkebauer, Timothy</td>
<td>Controls on Soil Surface CO2, N2O and CH4 Fluxes, Ecosystem Respiration and Global Warming Potentials in Great Plains Agricultural Ecosystems (view)</td>
<td>DOE</td>
<td>Core</td>
</tr>
<tr>
<td>Asner, Gregory</td>
<td>Regional Carbon Storage Responses to Woody Encroachment in Western Pinyon-Juniper Systems (view)</td>
<td>NASA</td>
<td>Core</td>
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<tr>
<td>Baidocchi, Dennis</td>
<td>Quantifying Understanding Interannual Variability of Carbon, Water, and Energy Exchange of an Oak Savanna &amp; Annual Grassland Ecosystem AmeriFlux Site (view)</td>
<td>DOE, NSF</td>
<td>Core</td>
</tr>
<tr>
<td>Baiser, Teri</td>
<td>Evaluating changes in soil carbon cycling in reed canary grass invaded soils subject to elevated atmospheric CO2 and increased soil nitrogen (view)</td>
<td>DOE</td>
<td>Core</td>
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<tr>
<td>Baiser, Teri</td>
<td>CAREER: approaches to integrating microbiology and ecosystem functioning in global change ecology (view)</td>
<td>NSF</td>
<td>Core</td>
</tr>
<tr>
<td>Bender, Michael</td>
<td>Variations in the O2:N2 and Ar/N2 ratio of air: implications for the global carbon cycle (NSF) (view)</td>
<td>NOAA</td>
<td>Affiliated</td>
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<tr>
<td>Berry, Joseph (Joe)</td>
<td>Monitoring CO2 Flux and isotope exchange between the atmosphere and the terrestrial biosphere from tall towers (view)</td>
<td>NOAA</td>
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<td>Birdsey, Richard</td>
<td>Linking Landscape Scale Carbon Monitoring and Forest Management (view)</td>
<td>NASA, USDA FS</td>
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<tr>
<td>Blair, John</td>
<td>Effects of Altered Rainfall Timing and Warming on Soil Processes and Plant Responses in a Grassland Ecosystem (view)</td>
<td>DOE</td>
<td>Core</td>
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<tr>
<td>Boden, Thomas</td>
<td>AmeriFlux and FACE Data Management Architecture, Products, and Services (view)</td>
<td>DOE</td>
<td>Core</td>
</tr>
</tbody>
</table>
OPTION 1: Google Search of NACP Project Profiles

*** PLEASE BEWARE! Because Google may not re-index NACP projects every day, it may not find recent profile updates. ***

{} synthesis

Google Search
NACP-Cook-02 Profile
Project Title: NACP Data Center for Modeling and Synthesis. Project Leader: Robert (Bob) Cook, ORNL DAAC. Project Type: Core Project ...
www.nacarbon.org/cgi-nacp/web/investigations/inv_pgp.pl?pgid=261 - 21k -
Cached - Similar pages

NACP-Schmid-01 Profile
6) Assembly of data products required for the bottom-up/top-down approaches and associated synthesis activities. 7) Provide guidance to future intensives. ...
www.nacarbon.org/cgi-nacp/web/investigations/inv_pgp.pl?pgid=276 - 23k -
Cached - Similar pages

NACP-Verma-01 Profile
6) Assembly of data products required for the bottom-up/top-down approaches and associated synthesis activities. View MCI Objectives Addressed by Other ...
www.nacarbon.org/cgi-nacp/web/investigations/inv_pgp.pl?pgid=172 - 21k -
Cached - Similar pages

NACP-Cook-01 Profile
6) Assembly of data products required for the bottom-up/top-down approaches and associated synthesis activities. Additional Objectives: ...
www.nacarbon.org/cgi-nacp/web/investigations/inv_pgp.pl?pgid=173 - 22k -
Cached - Similar pages

NACP-Tian-02 Profile
... in Climate and Atmospheric Composition on Terrestrial Ecosystem Structure and
## Searching Profiles 2

**Free-text search:** (of project titles, keywords, abstracts, data url descriptions)

- synthesis

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### Defined Keywords:

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<thead>
<tr>
<th>Measurement Approaches</th>
<th>Program Themes</th>
<th>GHG Compounds</th>
<th>Spatial Extents of Study</th>
<th>Project Associates</th>
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</thead>
<tbody>
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<td>Remote Sensing</td>
<td>Carbon Budgets</td>
<td>Carbon Dioxide</td>
<td>Site</td>
<td>Ameriflux</td>
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<tr>
<td>Airborne Sampling</td>
<td>Carbon Dynamics</td>
<td>Carbon Monoxide</td>
<td>Subregional Intensive</td>
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<td>Tall Tower Measurements</td>
<td>Carbon Processes</td>
<td>Methane</td>
<td>Region</td>
<td></td>
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<tr>
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<td>Carbon Management</td>
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<td>Continent</td>
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<td>Land</td>
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<td>Coastal Waters</td>
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<td></td>
<td></td>
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<td>Oceans</td>
<td></td>
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### Sponsoring Agencies:

- DOE NICCR
- NASA Applied Sciences
- NOAA ESRL
- NSF
- USDA CSREES
- DOE OBER
- NASA Terrestrial Ecology
- NOAA GCCP
- USDA ARS

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### Intensive Field Campaign(s):

- Mid-Continent Intensive (MCI) Campaign
<table>
<thead>
<tr>
<th>Project Leader</th>
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<tr>
<td>Bolstad, Paul</td>
<td>Testing the Flux Tower Upscaling Hypothesis at a Regional Scale in a Complex Landscape (view)</td>
<td>NASA</td>
<td>Core</td>
</tr>
<tr>
<td>Cook, Robert (Bob)</td>
<td>NACP Data Center for Modeling and Synthesis (view)</td>
<td>NASA</td>
<td>Core</td>
</tr>
<tr>
<td>Denning, Scott; Zupanski, Dusanka (Duska)</td>
<td>Mesoscale Carbon Data Assimilation for NACP (view)</td>
<td>NASA</td>
<td>Core</td>
</tr>
<tr>
<td>Fung, Inez</td>
<td>Towards Detection and Attribution of North American Carbon Sources and Sinks by Synthesis of In-Situ FluxNet and CO2 Observations and Satellite Observations in Coupled Carbon-Climate Models (view)</td>
<td>NASA</td>
<td>Core</td>
</tr>
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<td>Griffis, Timothy (Tim)</td>
<td>Investigation of Carbon Cycle Processes within a Managed Landscape: An Ecosystem Manipulation and Isotope Tracer Approach (view)</td>
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</tr>
<tr>
<td>Gu, Lianhong</td>
<td>AmeriFlux Data Assimilation (view)</td>
<td>DOE</td>
<td>Affiliated</td>
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<tr>
<td>Houghton, Richard (Skee)</td>
<td>Sources and Sinks of Carbon from Land Use Change, Management, and Disturbance in the U.S.: Steps Toward a Synthesis (view)</td>
<td>NASA</td>
<td>Core</td>
</tr>
<tr>
<td>McDonald, Kyle</td>
<td>Satellite Monitoring of Landscape Freeze-Thaw State and Associated Constraints to the North American Carbon Budget (view)</td>
<td>NASA</td>
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</tr>
<tr>
<td>Middleton, Elizabeth (Betsy)</td>
<td>Direct Satellite Inference of Ecosystem Light Use Efficiency for Carbon Exchange using MODIS on Terra and Aqua (view)</td>
<td>NASA</td>
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</tr>
<tr>
<td>Ollinger, Scott</td>
<td>Scaling and evaluation of ecosystem carbon uptake through integration of multi-scale remote sensing with AmeriFlux and NACP field observations. (view)</td>
<td>NASA, USDA FS</td>
<td>Core</td>
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</table>
Example Profile
NACP-Cook-02 Project Profile

Project Title: NACP Data Center for Modeling and Synthesis

Project Leader: Robert (Bob) Cook, ORNL DAAC

Project Type: Core Project

Sponsoring Agency: NASA Terrestrial Ecology

Project Duration: 08/2006 - 07/2009

Abstract: The North American Carbon Program (NACP) is designed to quantify the magnitudes and distributions of carbon sources and sinks, explain the processes controlling them, and produce a consistent analysis of North America's carbon budget. To accomplish these ambitious goals, NACP requires an integrated data and information management system that will...

Keywords:

- Measurement Approaches:
  - Remote Sensing
  - Tall Tower Measurements
  - Flux Tower Measurements
  - In Situ Measurements

- Program Themes:
  - Carbon Dynamics
  - Carbon Processes

- Spatial Extents of Study:
  - Region
  - Continent
  - Air
  - Land

Project Associations:

- Ameriflux

Funding Agencies: U.S. National Aeronautics and Space Administration (NASA)

Participants:

- Robert (Bob) Cook, ORNL DAAC
- Wilfred (Mac) Post, Oak Ridge National Laboratory
- Roger Thornton, National Center for Atmospheric Research
- Bruce Wilson, Oak Ridge National Laboratory

Send an email to all NACP-Cook-02 participants at nacp-cook-02@mail.nacarbon.org

Associated Intensive Field Campaigns:

- Mid-Continent Intensive (MC) Campaign:
  - View All Projects Associated with Intensive Field Campaigns

Research Objectives:

- MCI Secondary Objectives:
  - Assembly of data products required for the bottom-up/top-down approaches and associated synthesis activities.

  - View MCI Objectives Addressed by Other Projects

MCI Topic Participation:

- MCI Topic 2: Region-wide Inversion Analyses (top-down) participants
- MCI Topic 3: Ecosystem Region-Wide Inventory Analyses (bottom-up) participants
- MCI Topic 4: Comparisons between Sub-regional and Regional Scale Analyses participants
- MCI Topic 5: Comparisons between Inversion and Ecosystem Inventory Results (top-down vs. bottom-up) participants

Project Website URL: http://nacp.ornl.gov/mast-dc/

Data URLs:

- Advanced search of data products at MAST-DC
  - http://mercury.ornl.gov/mastdc/ (Data Center)
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Example Profile

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Example Profile

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Please direct comments and questions to NACP Support.
Searching for Data

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**NACP-Cook-01**: ORNL DAAC: Data Support for NACP Activities
- North American Carbon Program: Data at the ORNL DAAC: [http://daac.ornl.gov/NACP/nacp.html](http://daac.ornl.gov/NACP/nacp.html) (Data Center)

**NACP-Davis-Denning-02**: Data fusion to determine North American sources and sinks of carbon dioxide at high spatial and temporal resolution
- Well-calibrated atmospheric CO2 measurements collected at eddy-covariance flux towers: [http://www.amerifluxco.psu.edu](http://www.amerifluxco.psu.edu) (Data Center)

**NACP-Gower-01**: Applications of MODIS to resolve the effects of global change on boreal forest C dynamics: Disturbance Versus Climate Warming?
- all data: [http://forestecology.forest.wisc.edu/modis/index.html](http://forestecology.forest.wisc.edu/modis/index.html) (Dataset)

**NACP-Griffis-01**: NSF CAREER: Measurement and Modeling of Land-Atmosphere Isotopic CO2 exchange in the Upper Midwest, United States
- [http://www.biometeorology.umn.edu/data_archive.htm](http://www.biometeorology.umn.edu/data_archive.htm) (Data Center)

**NACP-Kimball-01**: Regional Assessment of Arctic Vegetation Productivity and soil respiration environmental controls using MODIS and AMSR-E: A New Approach for Satellite Monitoring of Pan-Arctic Terrestrial Net CO2 Exchange
- ArcticRIMS data server: [http://rims.unh.edu/data.shtml](http://rims.unh.edu/data.shtml) (Data Center)
- WALE data server: [http://wale.unh.edu/data.shtml](http://wale.unh.edu/data.shtml) (Data Center)

**NACP-Law-01**: The effects of disturbance and climate on carbon storage and the exchanges of CO2, water vapor and energy exchange of evergreen coniferous forests in the Pacific Northwest: integration of eddy flux, plant and soil measurements at a cluster of supersites
- [http://public.ornl.gov/ameriflux/](http://public.ornl.gov/ameriflux/) (Data Center)

**NACP-Matamala-01**: Carbon Sequestration Potential in Midwest Agricultural Land and Restored Grasslands
- [http://public.ornl.gov/ameriflux/data-access-select.shtml](http://public.ornl.gov/ameriflux/data-access-select.shtml) (Data Center)
- [http://www.atmos.anl.gov/FERMI/Data/index.html](http://www.atmos.anl.gov/FERMI/Data/index.html) (Other)
NACP-Davis-Denning-02: Data fusion to determine North American sources and sinks of carbon dioxide at high spatial and temporal resolution

- Well-calibrated atmospheric CO2 measurements collected at eddy-covariance flux towers: [http://www.amerifluxco2.psu.edu](http://www.amerifluxco2.psu.edu)
(Data Center)
**NACP-Kimbball-01**: Regional Assessment of Arctic Vegetation Productivity and soil respiration environmental controls usig MODIS and AMSR-E: A New Approach for Satellite Monitoring of Pan-Arctic Terrestrial Net CO2 Exchange

- ArcticRIMS data server: [http://rims.unh.edu/data.shtml](http://rims.unh.edu/data.shtml) (Data Center)
- WALE data server: [http://wale.unh.edu/data.shtml](http://wale.unh.edu/data.shtml) (Data Center)

**NACP-Law-01**: The effects of disturbance and climate on carbon storage and the exchanges of CO2, water vapor and energy exchange of evergreen coniferous forests in the Pacific Northwest: integration of eddy flux, plant and soil measurements at a cluster of supersites

- [http://public.ornl.gov/ameriflux/](http://public.ornl.gov/ameriflux/) (Data Center)
Section 4 of 5: Identify Objectives of NACP-Cook-01

Please see the Overview of the NACP Profile Update Tool and Outline of Individual Sections for an orientation to the profile update tool.

Please indicate at least one objective. You can create your own objective or associate it to your project AND/OR add your objectives in the Additional Objectives text box.

For Mid-Continent participants, indicate your role with respect to the Mid-Continent science plan (e.g. objectives, methods, spatial scales, temporal scales, locations).

MCI Primary Objectives:

- 1) Provide top-down and bottom-up flux estimates and associated uncertainties for the MCI study region at seasonal to annual time scales, including a separate analysis for the fossil fuel component.
- 2) Provide independent validation data and error analysis for both approaches.
- 3) Evaluate discrepancies between the two approaches, diagnose problems, and iteratively improve estimates for both approaches through mutual learning.

MCI Secondary Objectives:

- 4) Provide the basis for optimization of field, satellite and atmospheric sampling schemes.
- 5) Provide methods for determining mechanisms driving regional net fluxes patterns across seasonal to decadal time spans.
- 6) Assembly of data products required for the bottom-up/top-down approaches and associated synthesis activities.
- 7) Provide guidance to future intensives.

Additional Objectives:
The Oak Ridge National Laboratory Distributed Active Archive Center (ORNL DAAC) assembles, distributes, and archives data for research, education, and policy formulation in terrestrial biogeochemistry and the ecosystem dynamics of global environmental change. As part of its mission the ORNL DAAC provides data support to the NACP.
Section 5 of 5: Identify MCI Topic Group Participation for NACP-Cook-01

- Please see the [Overview of the NACP Profile Update Tool and Outline of Individual Sections](#) for an orientation to the profile update tool.
- In order to accomplish the plans and analyses that will follow moving forward with implementing the science plan and coordinating activities in the NACP, it is important for you to identify your participation in the following topic groups. Please select each topic group in which your project group would like to participate. Then, select a point of contact from your group for each topic.
- To remove your group from participation in a topic, simply un-check the box next to the topic name.
- If the desired point of contact is not listed with your project group, please [contact the Project Office](#) for assistance.

<table>
<thead>
<tr>
<th>Topic Groups</th>
<th>Topic Point of Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MCI Topic 1: Sub-regional Intensive Studies participants</strong></td>
<td>(select one)</td>
</tr>
<tr>
<td>MCI Topic 2: Region-wide Inversion Analyses (top-down) participants</td>
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<td>(select one)</td>
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</tbody>
</table>
What you can do

• Submit your project as core/affiliated

• Keep your project profile updated
  • Title
  • Abstract
  • Participants
  • Keywords (defined and free-text)
  • Data you will produce (and share)

• Plan for the future
  • Working Group/IFC support
  • What features do YOU want?
  • Geographic tag(s) for each project
  • Publications (submit DOI’s)

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What we will do
(NACP Coordinator Responsibilities)

• Promote cooperation and coordination among the individual agency-funded research investigations … to facilitate achievement of the integrative science goals of NACP.

• Identify opportunities for collaboration and/or coordination among NACP investigations and related activities, including field studies, remote sensing, modeling, and analyses, and act to encourage and facilitate those interactions….

• Plan and manage the NACP Office’s activities to meet the responsibilities …[as assigned by] …the CCIWG…

• Provide liaison with program data systems … to make the most effective use of data system resources sponsored by the participating agencies

• Provide liaison to related programs within the U.S. Climate Change Research Program as well as other U.S. and international projects and programs….
Biographical Information
Peter C. Griffith, Ph.D.

Dr. Griffith is the founding director of NASA’s Carbon Cycle & Ecosystems Office, supporting the North American Carbon Program (www.nacarbon.org), a component of the U.S. Climate Change Science Program designed to quantify continental-scale carbon sources and sinks in North America; LBA-ECO (www.lbaeco.org), NASA’s component of the Large-Scale Biosphere-Atmosphere Experiment in Amazonia, a cooperative international project seeking to create a predictive understanding of the relationships between deforestation in Amazonia and changes in regional and global climate; and the Carbon Cycle & Ecosystems Focus Area at NASA HQ (ccse.gsfc.nasa.gov).

He received his Ph.D. in Ecology from the University of Georgia, his M.S. in Marine, Estuarine, and Environmental Science from the University of Maryland, and a B.S. with honors in Botany and Zoology from Duke University. As Principal or co-investigator with funding from NSF, Sea Grant, Department of Energy, and Office of Naval Research, Peter has authored more than 40 peer-reviewed papers, published abstracts, and technical reports. He has designed, built, programmed, and deployed computer-controlled in situ oceanographic instrumentation while investigating microbial transformations of dissolved and particulate organic carbon in estuarine and coastal waters.

His experience includes work as the General Manager of the U.S. office of CLS, worldwide operator of the Argos environmental satellite system. He directed business development and operations in North and South America for oceanographic and weather buoy monitoring, hazardous cargo tracking, volcano and pipeline monitoring, fishing vessel tracking for treaty enforcement, and a variety of governmental transportation interests. Peter was also the first First Mate of the Marsys Resolute, a 100’ research vessel belonging to the Smithsonian Institution, where he led teams of crew members, SCUBA divers, research technicians, visiting scientists, and volunteers, while conducting research in the waters of the North Atlantic and Caribbean.

Peter is fluent in Portuguese and tries hard to speak Spanish. He is a volunteer SCUBA diver for the National Aquarium in Baltimore and a member of the Board of Visitors of the Nicholas School of the Environment and Earth Sciences at Duke University. He feels privileged to have been able to labor in Gulfport, Mississippi, during the weeks immediately following Hurricane Katrina, helping folks extract their lives from the rubble of their homes.

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