

**ADDRESSES:** Formal applications referencing Program Notice DE-FG01-03ER03-22 must be sent electronically by an authorized institutional business official through DOE's Industry Interactive Procurement System (IIPS) at: <http://e-center.doe.gov> (see also <http://www.sc.doe.gov/production/grants/grants.html>). IIPS provides for the posting of solicitations and receipt of applications in a paperless environmental environment via the Internet. In order to submit applications through IIPS your business official will need to register at the IIPS Web site. The Office of Science will include attachments as part of this notice that provide the appropriate forms in PDF fillable format that are to be submitted through IIPS utilizing no more than four files. Color images should be submitted in IIPS as a separate file in PDF format and identified as such. These images should be kept to a minimum due to the limitations of reproducing them. They should be numbered and referred to in the body of the technical scientific application as Color image 1, Color image 2, etc. Questions regarding the operation of IIPS may be E-mailed to the IIPS Help Desk at: [HELPPDesk@pr.doe.gov](mailto:HELPPDesk@pr.doe.gov), or you may call the help desk at: (800) 683-0751. Further information on the use of IIPS by the Office of Science is available at: <http://www.sc.doe.gov/production/grants/grants.html>.

If you are unable to submit the application through IIPS, please contact the Grants and Contracts Division, Office of Science at: (301) 903-5212, in order to gain assistance for submission through IIPS or to receive special approval and instruction on how to submit printed applications.

**FOR FURTHER INFORMATION CONTACT:** Dr. Roger C. Dahlman, Program Manager, SC-74, OBER/Germantown Bldg, U.S. Dept of Energy, 1000 Independence Ave, SW., Washington, DC 20585-1290 (301) 903-4951, E-mail: [roger.dahlman@science.doe.gov](mailto:roger.dahlman@science.doe.gov), fax: (301) 903-8519. The full text of Program Notice DE-FG01-03ER03-22 is available via the Internet using the following Web site address: <http://www.sc.doe.gov/production/grants/grants.html>.

Applicants are strongly encouraged to match their research applications to the terms of scope for this announcement, and therefore preapplications are not required. Brief questions for clarification can be addressed to Dr. Dahlman, by e-mail, [roger.dahlman@science.doe.gov](mailto:roger.dahlman@science.doe.gov).

**SUPPLEMENTARY INFORMATION:** The North American Carbon Program (NACP) is a

framework for providing scientific information on sources and sinks of CO<sub>2</sub>, CH<sub>4</sub> and CO for North America. It is a planned field program of experiments, flux measurements, data analysis, and modeling that will be implemented by various Federal Agencies. The NACP is discussed briefly as an element of Carbon Cycle Chapter of the Climate Change Research Program Strategic Plan posted on the Web site, <http://www.climate-science.gov/Library/straplan2003/ccspstratplan2003-11nov2002.pdf> (pp 100-111), and reviewed by the December 2002 Workshop in Washington DC. A discussion of NACP is available from the U.S. Global Change research Office (see reference below). The initial phase of NACP will start in the 2003-2006 time frame, and will include measurement and modeling of carbon sources and sinks of North America. The NACP is an important component of U.S. Federal Agencies' research on carbon cycle science.

Carbon dioxide flux measurement is one key approach for estimating net carbon gain or loss by terrestrial ecosystems of North America. Such measurements are currently carried out at a network of AmeriFlux sites that are partially representative of different ecosystems of North America. As described in the NACP Report (2002), AmeriFlux measurements are expected to contribute significantly to the goals of NACP, and a "high priority enabling development" calls for the "transformation of the AmeriFlux network into an integrated, near-real time network" that will support goals of the NACP. With upgraded instrumentation and advanced measurement technology, it is anticipated that atmospheric CO<sub>2</sub> concentration can also be determined at an accuracy and precision that can augment real-time and flask sampling networks. Augmented measurement capability offers the potential of substantially increasing knowledge of terrestrial carbon budgets and atmospheric CO<sub>2</sub> concentration for important regions of North America.

The intent of this solicitation therefore is to augment the AmeriFlux network and enhance CO<sub>2</sub> and carbon measurement capabilities in support of the NACP. This solicitation requests applications that will address the following technical requirements.

(1) *Creation of selected new AmeriFlux sites for obtaining micrometeorological data on the exchanges of CO<sub>2</sub> and energy using the eddy covariance technique, where it is determined that new sites would*

*provide essential and critical support for initial field program(s) of NACP.* New AmeriFlux sites must be compatible with observation and intensive field programs of NACP, which are designed to measure and understand sources and sinks of CO<sub>2</sub> and CH<sub>4</sub> in North America. Expanded AmeriFlux research will also support development and testing of intensive field program methodologies, and will participate in different approaches for estimating CO<sub>2</sub> and fluxes and carbon sinks. An initial phase of NACP intensive research is planned for the upper Midwest region of the USA, which is approximately bounded by Minnesota/Wisconsin on the north, Missouri/Oklahoma on the south, Indiana on the east and Nebraska on the west. It is possible that NACP field programs may be restricted to only a portion of this region. This solicitation is requesting applications for new AmeriFlux research in the Midwest region.

The NACP envisions a number of intensive field studies possibly at other geographical locations in the south east, north east, and western United States, and ultimately decisions on location and phasing of future intensives will guide the selection of new AmeriFlux sites. Strong consideration in the selection of new sites will be based on potential contributions to NACP priorities, particularly those that fill geographical or biogeographical gaps within the region of the first intensive field program, and with critical biomes and/or climatic zones that currently lack coverage. Pending availability of funds, applications for creating new sites at other geographical locations of the U.S. may be supported in Fiscal Year 2004 or later.

New-site applications must, of course, be based on representative vegetation, and demonstrate that sites possess appropriate physical attributes amenable to producing high-quality net ecosystem exchange (NEE) or CO<sub>2</sub> data. Diversity of regional ecosystem types, and the inclusion of types that theoretically represent terrestrial carbon sinks are important considerations for new site selection. New-site selections that involve agricultural ecosystems will be coordinated with the U.S. Department of Agriculture (USDA) because a companion Agriflux intramural program has been proposed by USDA as another component of NACP. Applicants are strongly encouraged to review the current extent and properties of AmeriFlux sites, and proposed new sites responsive to these criteria. Information about current research strategy of the AmeriFlux