

Memorandum of Understanding

between

The Regents of the University of California

and

Ecosystem Thematic Center of the Integrated Carbon Observation System

**Concerning Cooperation on Environmental Measurements Collected by AmeriFlux and
Integrated Carbon Observation System Networks**

This Memorandum of Understanding (MOU) is between The Regents of the University of California, in its capacity as the manager and operator of the Lawrence Berkeley National Laboratory (LBNL), and Ecosystem Thematic Center of the Integrated Carbon Observation System (ICOS-ETC). LBNL is a U.S. Department of Energy National Laboratory managed and operated by The Regents of the University of California pursuant to Contract No. DE-AC02-05CH11231. ICOS-ETC is a research facility headquartered at University of Tuscia, Viterbo, Italy, and is a part of ICOS, a European research infrastructure network whose goal is to provide long-term observations of atmospheric-biosphere carbon, water and energy fluxes to better understand the present global climate system and predict future climate behavior, the global carbon cycle, and greenhouse gases emissions. ICOS is funded by the European Commission, with 17 European countries participating and providing research facilities.

For purposes of this MOU, LBNL and ICOS-ETC are collectively herein referred to as “Participants” or separately as “Participant.”

1. Objective

The objective of this MOU is to provide the framework for potential future cooperation between the Participants on environmental observations and related activities, such as data collection, processing and distribution methods, and to promote standardizing the environmental data collected by ICOS-ETC and AmeriFlux networks so researchers world-wide can easily assess and use the data.

2. Proposed Areas of Cooperation

The Participants express their intention to collaborate in these general areas:

A. *In-situ* measurements, such as:

- Setup, analysis and comparison of measurement systems
- Development of novel sensors and technologies
- Standardization and calibration measurements, and assessment of uncertainties
- Improvement of quality controls

B. Data products, such as:

- Shared code, workflows, and analytical tools for data products management
- Joint strategies for engaging the community in the use of data products in science, resource management, and decision-support

C. Data interoperability, such as:

- Standard data and metadata format
- Best practices for data management related to data curation, re-processing of data, provenance tracking, data quality descriptors, and versioning of data
- Emerging community of practices related to data publication, data citation, and data product algorithms' publication

3. Proposed Forms of Cooperation

The Participants expect to cooperate through the exchange of information, visits and exchanges of researchers and experts, and future collaborative research, with any such future collaborative research to be undertaken pursuant to an appropriate contract.

4. Proposed Mechanisms of Cooperation

- A. To administer the implementation of this MOU, each Participant should designate one principal coordinator in charge of the collaboration, through whom all requests and plans of that Participant are to be made.
- B. The designated representatives may hold meetings when necessary to discuss matters related to cooperation under this MOU.
- C. The designated representative for LBNL is Margaret Torn, the LBNL AmeriFlux Management Project lead, or another LBNL-designated principal coordinator. The designated representative for ICOS-ETC is Dario Papale, Director of the Ecosystem Thematic Center, or another designee as may be appointed by ICOS-ETC.

5. Commencement, Modification and Discontinuation

- A. Cooperative activities under this MOU may commence upon signature of the Participants and continue for a five (5) year period, unless discontinued in accordance with Paragraph B of this Section 5.
- B. The Participants may discontinue this MOU at any time in writing. A Participant that wishes to discontinue its participation in this MOU should endeavor to provide at least thirty (30) days written notice to the other Participant.
- C. This MOU may be modified in writing by mutual consent of the Participants, and may be extended for additional periods.


6. General Considerations


- A. This MOU does not create any legally binding obligations.
- B. Each Participant should conduct the cooperation contemplated by this MOU in accordance with all applicable laws, regulations and other requirements to which it is subject, including, without limitation, export control laws and environment, health and safety laws and regulations.
- C. The conduct of cooperative activities contemplated by this MOU is subject to the availability of funding, personnel, and other resources.
- D. Each Participant is to be responsible for the costs it incurs in participating in cooperative activities under this MOU.

Signed in duplicate.

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

ECOSYSTEM THEMATIC CENTER OF THE INTEGRATED CARBON OBSERVATION SYSTEM

By: 

By: 

Name: Dr. A. Paul Alivisatos

Name: Dario Papale

Title: Director, Lawrence Berkeley National Laborator

Title: Scientific Director, Ecosystem Thematic Center of the Integrated Carbon Observation System

Date: May 15, 2014

Date: 4 JUNE 2014