extreme weather events is a core component of a climate service that will provide regular updates on monitoring, explanation, and prediction, with a strong link between an event-attribution activity and seasonal and decadal forecasting. This will require increased near–real time numerical experimentation activity. Understanding the past is key to developing trust in forecasts of what is likely to happen in future. Scientists interested in the challenging issue of event attribution are invited to join in the development of this program of research.

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An Alaska Soil Carbon Database

Database Collaborator's Meeting; Fairbanks, Alaska, 4 March 2009

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Soil carbon pools in northern high-latitude regions and their response to climate changes are highly uncertain, and collaboration is required from field scientists and modelers to establish baseline data for carbon cycle studies. The Global Change Program at the U.S. Geological Survey has funded a 2-year effort to establish a soil carbon network and database for Alaska based on collaborations from numerous institutions.

To initiate a community effort, a workshop for the development of an Alaska soil carbon database was held at the University of Alaska Fairbanks. The database will be a resource for spatial and biogeochemical models of Alaska ecosystems and will serve as a prototype for a nationwide community project: the National Soil Carbon Network (http://www.soilcarb.net). Studies will benefit from the combination of multiple academic and government data sets. This collaborative effort is expected to identify data gaps and uncertainties more comprehensively. Future applications of information contained in the database will identify specific vulnerabilities of soil carbon in Alaska to climate change, disturbance, and vegetation change.

Workshop attendees defined a protocol for cooperatively gathering, storing, and retrieving soils data that are important to soil carbon cycling studies. The attendees' goal is to establish a "living" database in which easy archiving, accessing, and updating of relevant data will ensure its frequent use and revision. The design of the database will borrow from approaches already used by other ecodatabases (e.g., Natural Resources Conservation Service, FLUXNET, VegBank) but will be unique in that its structure will allow for rapid inquiries to estimate soil carbon pools at various spatial scales and soil depths. Thus, the database will be more than a simple repository of soils data because it will combine common measurements and site observations across data sets in a meaningful and usable way.

Much of the workshop discussion focused on identifying which parameters should be included in the database (e.g., percent carbon, bulk density, vegetation classification, stand maturity, landform, drainage class, geocoordinates, complete metadata, and contact information). This necessarily entailed clearly defining the parameters and using existing standards where available. Agreement on these key details facilitates a more effective compilation of the data and encourages its potential as a permanent resource.

To contribute to the Alaska Soil Carbon database, please contact Kris Johnson (ffkdj@uaf.edu). The full text of this meeting report and a list of participants can be found in the electronic supplement to this *Eos* issue (http://www.agu.org/eos_elec/).

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BOOK REVIEWS

Dynamic Planet: Mercury in the Context of Its Environment

Pamela Elizabeth Clark
Springer; 2007; xvi + 219 pp.; ISBN 978-0-387-48210-1: $130.95

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Mercury, the Sun's nearest neighbor, is tantalizingly close to the Earth yet is one of the least explored objects in our solar system. The planet's proximity to the Sun makes Earth-based observations extremely difficult, and the harsh environment presents a significant challenge to spacecraft. Nevertheless, we are currently on the verge of a new era of exploration of this fascinating, mysterious, and largely uncharted world.

Much of our knowledge about Mercury has come from just three flybys by NASA's Mariner 10 spacecraft in the mid-1970s. This mission sent back stunning images of about 45% of the planet's surface and made the truly puzzling discovery of a magnetic field, the source of which is still unknown. Currently, NASA's Mercury Surface, Space Environment, Geochemistry, and Ranging (MESSENGER) mission is beginning to explore Mercury and aims to answer many unresolved questions about the structure, composition, magnetic field, and history of this incredible world. To date, MESSENGER has conducted two flybys and is expected to go into orbit around Mercury in March 2011. Later, in 2013, the European Space Agency's BepiColombo mission, which uses a twin spacecraft approach, will head for the planet to understand the detail of this dynamic system.

At the dawn of this new era of exploration and discovery, *Dynamic Planet* seeks to collate pre-MESSENGER knowledge about Mercury, lay the foundation for the next generation of scientific results, and contribute to the planning of future missions. The book walks the reader through an understanding of the Mercury environment, beginning by introducing the planet and the space missions, then discussing the physics of the interior, surface, exosphere, and magnetosphere. The book reviews the research in each of these areas, discusses key questions that remain unanswered, and places these questions in the wider context of solar system science. *Dynamic Planet* concludes by discussing future space missions and how these will attempt to advance our knowledge before the author argues eloquently for a further mission to conduct flybys of Mercury.

At just more than 200 pages, this book achieves its aims concisely and magnificently. The length precludes a detailed