

BASIN

Biogeosphere-Atmosphere Stable Isotope Network

www.basinisotopes.org

BASIN's home Institution is the Department of Integrative Biology & The Center for Stable Isotope Biogeochemistry, University of California at Berkeley

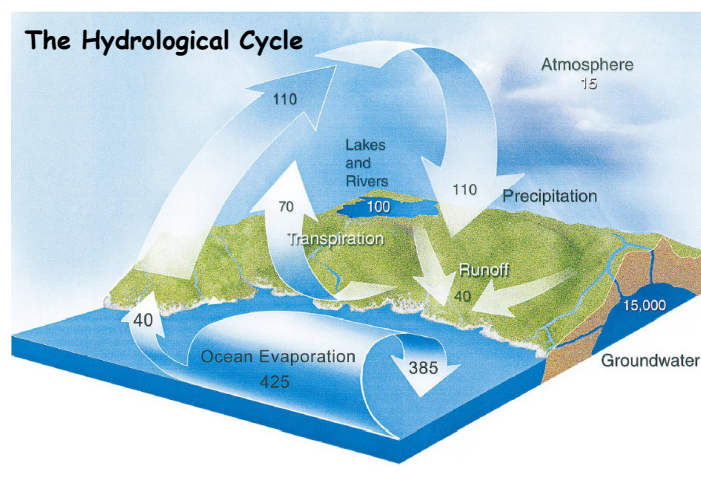
Executive Steering Committee: Todd Dawson (Chair), Kevin Tu (Program Coordinator), Jim Ehleringer, Dave Williams, Gabe Bowen, Renee Brooks, Bruce Vaughn, Carol Kendall, Diane Pataki & Dave Evans

Overview

Stable isotopes inherently trace, record and integrate biogeochemical processes across a range of spatial and temporal scales. The Biogeosphere-Atmosphere Stable Isotope Network (BASIN) is an NSF-supported Research Coordination Network (RCN) aimed at using stable isotopes to improve our understanding of biogeochemical cycles at the ecosystem, regional, and global scales.

Objectives

The second phase of BASIN is expanding upon an established, active and ongoing series of network activities with the goal of fostering, and promoting integration of **stable isotope measurements in the hydrological cycle** with special emphasis on merging what we know and need to know about water cycling with studies at ecosystem, regional, and global scales. A particularly important focus is on water in relation to land-use change, climate change and interactions with other biogeochemical cycles.

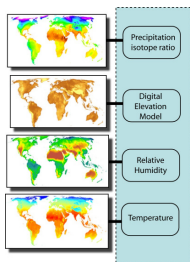


Key Activities

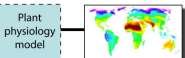
- (1) Lead workshops to build consensus on common methodologies for stable isotope measurements of liquid, vapor and solid waters to facilitate cross-site and cross-study comparisons
- (2) Meta-analyses to yield new insights on how the hydrological cycle has changed or is changing particularly in relation to urbanization, climate and land-use change
- (3) Promote training of the next generation of scientists through workshops aimed at bringing younger and more experienced scientists together
- (4) Coordinate with other networks (e.g., AmeriFlux, NEON, and IAEA-MIBA in North America, Australia and Europe) and help establish new networks (e.g., in the Americas and Africa and Asia)
- (5) Merge stable isotope data with modeling and remote sensing information to generate maps for the purposes of sourcing and spatial-trend analyses (e.g. see www.waterisotopes.org)
- (6) Develop Isotope Aspects of NEON like INEWS (Isotope Network for Ecological Warning Signals); a framework for using stable isotopes as a diagnostic tool for identifying rapid changes in the nation's terrestrial, aquatic and atmospheric conditions
- (7) Enhance web-based data access of stable isotope data for investigations focused on water and land-use change



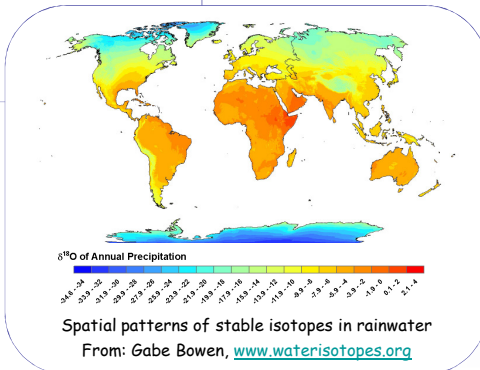
"Isoscapes" Meeting in 2008



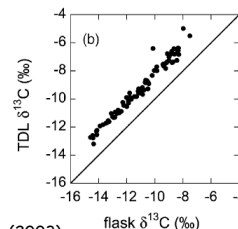
From: Jason West



Workshops, Courses and Symposia sit at the core of BASIN activities and lead to the training of younger scientists as well as new collaborations and data-syntheses

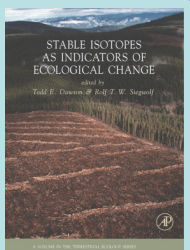


Workshop on: Frontiers in Laser-based Isotope Measurements



BASIN
Biogeosphere-Atmosphere Stable Isotope Network

2007 Synthesis Volume from past Symposium



Funding Sources



neon
NATIONAL ECOLOGICAL OBSERVATORY NETWORK

Website & Contacts

We welcome new BASIN members; contact us . . .

www.basinisotopes.org, tdawson@berkeley.edu, kevintu@berkeley.edu