ASA, CSSA, and SSSA
2010 International Annual Meetings

Oct. 31-Nov. 4 | Long Beach, CA

Green Revolution 2.0: Food+Energy and Environmental Security

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111-1 The Pathways and Processes Utilized to Develop the Critical Zone Observatories.

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Monday, November 1, 2010: 8:15 AM
Hyatt Regency Long Beach, Regency Ballroom A, Third Floor

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Donald Sparks, *Plant & Soil Sciences, University of Delaware, Newark, DE*

The term "Critical Zone" was first coined in a National Research Council Report (2001) entitled, "Basic Opportunities in Earth Science". The critical zone is defined as: "the heterogeneous, near-surface environment in which complex interactions involving rock, soil, water, air, and living organisms regulate the natural habitat and determine the availability of life-sustaining resources". In the critical zone there are integrated and coupled biological, chemical, and physical processes that occur over a range of spatial (atomic to global) and temporal (sub-seconds to eons) scales. The importance of critical zone science, and the eventual creation and funding of Critical Zone Observatories (CZOs), was catalyzed by a number of community led initiatives including the formation of a Critical Zone Exploration Network and a landmark workshop, "Frontiers in Exploration of the Critical Zone". Since that time, six NSF funded CZOs have been established at sites around the USA. Additionally, CZOs have been established in Europe and others are planned in Australia and in other parts of the world. This presentation will discuss the pathways and processes that led to the development of CZOs.

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