



Visions for a Sustainable Planet

ASA, CSSA, and SSSA International Annual Meetings
Oct. 21-24, 2012 Cincinnati, Ohio

[Start](#)

[Browse by
Section/Division of
Interest](#)

[Author Index](#)

86-4 The Role of Critical Zone Science in Promoting Environmental and Agricultural Sustainability.

See more from this Division: [ASA Section: Global Agronomy](#)

See more from this Session: [Symposium--Enhancing U.S.-Sino Research Collaborations to Address Environmental Challenges](#)

Monday, October 22, 2012: 2:55 PM

Duke Energy Convention Center, Room 262, Level 2



Donald Sparks, *University of Delaware, Newark, DE*

The Critical Zone is that region of Planet Earth that extends from the top of trees to the groundwater. It sustains life. The critical zone encompasses a range of spatial and temporal scales, and includes coupled physical, chemical, and biological processes. Critical zone science is thus extremely multidisciplinary involving not only soil scientists but also geomorphologists, hydrologists, ecologists, molecular biologists, geochemists, mineralogists, material scientists and engineers, and social scientists. Critical zone science addresses some of our most pressing global challenges including population expansion and food production/security, water quantity and quality, air quality, soil contamination, global climate change, energy sustainability, and biodiversity. There is a growing network of critical zone observatories where exciting science to address these challenges is being conducted. This affords USA and Chinese soil scientists the opportunity to collaborate. Some examples of existing and potential collaborations will be discussed.

See more from this Division: [ASA Section: Global Agronomy](#)

See more from this Session: [Symposium--Enhancing U.S.-Sino Research Collaborations to Address Environmental Challenges](#)

[<< Previous Abstract](#) | [Next Abstract >>](#)