Geophysical Research Abstracts
Vol. 20, EGU2018-18618, 2018
EGU General Assembly 2018

Assessing the last decade of carbon cycle science and strategy for the next decade

Gyami Shrestha (1), Nancy Cavallaro (2), Jim Butler (3), Zhiliang Zhu (4), Laura Lorenzoni (5), and the SOCCR-2 Team

(1) U.S. Carbon Cycle Science Program , UCAR, USGCRP , Washington D.C. United States (gshrestha@usgcrp.gov), (2) USDA National Institute of Food and Agriculture (NIFA), Washington D.C. United States (ncavallaro@nifa.usda.gov), (3) NOAA Earth System Research Laboratory Global Monitoring Division, Boulder, Colorado (james.h.butler@noaa.gov), (4) U.S. Geological Survey, Reston, United States (zzhu@usgs.gov), (5) NASA HQ, Washington D.C. United States (laura.lorenzoni@nasa.gov)

The 2nd State of the Carbon Cycle Report (SOCCR-2), a U.S. government-led interagency sustained assessment report due to be completed in mid-2018, assesses the last decade of carbon cycle science focused on North America in the context of global changes and interactions. The newly released 2nd Decadal Strategy for Earth Observation from Space (U.S. National Academies of Sciences 2018) highlights how 'Earth science and applications are a key part of the nation's information infrastructure and calls for NASA, NOAA, and USGS, in collaboration with other interested U.S. agencies, to ensure efficient and effective use of U.S. resources by strategically coordinating and advancing a robust, resilient, and appropriately balanced U.S. program of Earth observations from space'. A common feature of both these reports is the attention to the understanding of the sources and sinks of carbon dioxide and methane, and potential future changes in response. In this presentation, we highlight the observations that have facilitated the last 10 years of carbon cycle science advances across North America, leading to the consequent science-based actions that have shaped decisions across multiple stakeholder levels in the region. While providing an overview of the process to develop SOCCR-2, we discuss the modeling capabilities that have been integrated with such observational capabilities, and comment on the pertinent research cross-agency priorities, research needs and capabilities addressed in the 2018 U.S. National Academy of Sciences Decadal Strategy for Earth Observations.