

Abstract No: A-167

**CARBON STORAGE AND ECOSYSTEM SERVICES BY PUBLICALLY MANAGED  
WETLANDS**

Zhiliang Zhu<sup>1</sup> and Chris Lowie<sup>2</sup>

<sup>1</sup>*U.S. Geological Survey, USA*

<sup>2</sup>*U.S. Fish and Wildlife Service, USA*

*\*Corresponding author: zzhu@usgs.gov*

In a recently completed national assessment of ecosystem carbon sequestration, wetlands (including both freshwater and tidal water, woody and emergent) in the continental United States (CONUS) were found to account for about 4 percent of the total land area, but 8.8 percent of the terrestrial carbon stock and 9.3 percent of the total terrestrial carbon sink. On average, the CONUS wetlands contain 14 Kg of carbon per square meter, and sequester 0.126 Kg of carbon per square meter per year. Using the social cost of carbon discounted to year 2015 at a rate of 3 percent as a simple indication of the value of the ecosystem service provided by wetlands in the CONUS, the total annual avoided carbon dioxide emissions by wetlands in the CONUS would value 5.17 billion USD. Over time, the wetland area in the CONUS is expected to remain stable and the carbon sink strength is projected to increase to an average of 13.3 percent of the overall terrestrial sink, on the basis of a set of scenarios for both the climate change and land use change, including effective public land management. In this presentation, we describe a conceptual approach for assessing carbon sequestration among multiple ecosystem services by publically protected wetlands.

**Keywords:** -