Call for papers and contributions (joint AGU-CGU-GAC-MAC):

Deadline for all submissions is 14 January 2015, 11:59 ET

(http://ja.agu.org/2015/)

Session Title: Global Methane Cycles of Wetlands: Observation, Modeling, and Future Challenge and Direction

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0414 Biogeochemical cycles, processes, and modeling [BIOGEOSCIENCES]

Session Description:

Methane (CH4), an important chemically stable and long-lived greenhouse gas, contributes to about 20% global warming. Although most sources and sinks of methane have been identified, the relative contributions of wetlands to atmospheric methane levels are highly uncertain. Wetlands are the single largest source of atmospheric CH4. Therefore, better understanding of the CH4 budget of wetlands will reduce the uncertainties for future climate change projection. Over the last decades, three approaches have generally been used in estimating CH4 wetland emissions across different scales, including: (1) extrapolation from direct flux measurements and observations, (2) process-based modelling (bottom-up approach), and (3) inverse modelling and satellite observations (top-down approach). We will invite, review state-of-the-art observation and modeling approaches, highlight recent research progress, identify key research needs and future challenges to quantify global methane budget of wetlands, and predict the consequence and impacts of climate change and human activities on methane cycle of wetlands.