

Session:

Invited talk in "GC013: Advancing greenhouse gas emission inventories in the Agriculture, Forestry, and Other Land Use sector for reporting to the United Nations Framework Convention on Climate Change".

The abstract title is limited to 300 characters and the abstract text is limited to 2000 characters. There is a limit of 2000 characters, excluding spaces but including punctuation, for the text of your submission.

Title:

Accounting for Greenhouse Gas Emissions From Flooded Lands

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Nearly three decades of research has demonstrated that the inundation of rivers and terrestrial ecosystems behind dams can lead to enhanced rates of greenhouse gas emissions, particularly methane. The 2006 IPCC Guidelines for National Greenhouse Gas Inventories includes a methodology for estimating methane emissions from flooded lands, but the methodology was published as an appendix to be used as a 'basis for future methodological development' due to a lack of data. Since the 2006 Guidelines were published there has been a 6-fold increase in the number of peer reviewed papers published on the topic including reports from reservoirs in India, China, Africa, and Russia. Furthermore, several countries, including Iceland, Switzerland, and Finland, have developed country specific methodologies for including flooded lands methane emissions in their National Greenhouse Gas Inventories.

This presentation will include a review of the literature on flooded land methane emissions and approaches that have been used to upscale emissions for national inventories. We will also present ongoing research in the United States to develop a country specific methodology. The research approaches include 1) an effort to develop predictive relationships between methane emissions and reservoir characteristics that are available in national databases, such as reservoir size and drainage area, and 2) a national-scale probabilistic survey of reservoir methane emissions.