

B12B - Coastal Wetland Carbon and Nitrogen Cycles: Recent Advances in Measurements, Modeling, and Syntheses I Oral



Monday, 12 December 2022



10:00 - 11:30



McCormick Place - S501a (South, Level 5)

Coastal marshes, mangroves, and seagrass sequester significant amounts of “blue carbon” in soils, sediments, and biomass. They have potential as a negative emissions technology. With the increasing policy focus on climate change mitigation, we need to understand and accurately predict wetland carbon cycling processes. Complex interactions of climate, land use, sea level, nitrogen pollution, and human management regulate the strength of the carbon sink and the greenhouse gas balance (including CO₂, CH₄, and N₂O). Our ability to measure and model vertical and lateral exchanges, as well as the soil and sediment processes, at the land-ocean interface is limited. We aim to bring together researchers from various disciplines to discuss coastal carbon and nitrogen pools and fluxes, and their roles in global biogeochemical cycling and climate change mitigation. We also aim to report advances in eddy flux, lateral flux, field experiments, remote sensing, modeling, and synthesis that support coastal wetland carbon accounting.

Type

Oral

Primary Convener

[Omar I. Abdul-Aziz](#)

West Virginia University

Conveners

[Jianwu Tang](#)

MBL

[Kevin D Kroeger](#)

USGS

[Lisamarie Windham-Myers](#)

U.S. Geological Survey

Chairs

[Jianwu Tang](#)

MBL

[Kevin D Kroeger](#)

USGS

Lisamarie Windham-Myers

U.S. Geological Survey

Index Terms

Ask a question or comment on this session (not intended for technical support questions).

Have a question or comment? Enter it here.

8 Papers

🕒 10:00

B12B-01

Lateral exports of inorganic carbon and air-water CO₂ fluxes from intertidal saltmarshes in the lens of Blue Carbon capacity

Aleck Zhaohui Wang

(Invited)

📍 *McCormick Place - S501a (South, Level 5)*

🕒 10:12

B12B-02

Simulating Coastal Wetland Hydro-Biogeochemistry in a Land Surface Model: Tidal Flows, Redox Dynamics, and Vegetation Interactions

Benjamin N Sulman

📍 *McCormick Place - S501a (South, Level 5)*

🕒 10:24

B12B-03

Implications of Microbial Taxonomic Turnover Along an Elevation Gradient on Greenhouse Gases

Pamela Weisenhorn


📍 *McCormick Place - S501a (South, Level 5)*

🕒 10:36

B12B-04

Biogeochemical Cycling of Blue Carbon in Coastal Wetlands Under Rising Seas

Sean Fettrow


 McCormick Place - S501a (South, Level 5)


 10:48

B12B-05

Interactive Effects of Salinity, Warming, and Sea Level Rise on Methane Emissions and Porewater Biogeochemistry of a Sedge Dominated Marsh

Alia Al-Haj


 McCormick Place - S501a (South, Level 5)

 11:00

B12B-06

Salt Marsh Nitrogen Cycling: Retention or Loss Under Global Change

Sophie Comer-Warner

 McCormick Place - S501a (South, Level 5)


CANCELLED


 11:12

B12B-07


Greenhouse Gas Fluxes and Long-Term Nutrient Sequestration in a Temperate Lake-Coastal Wetland Are Determined by Long- and Short-Term Hydrological Changes and Vegetation Patch Types

Gil Bohrer

 McCormick Place - S501a (South, Level 5)

 11:24

Discussion

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Category: Biogeochemistry (terrestrial and marine)

Section: Biogeosciences

Neighborhoods: 3. Earth Covering

Type: Oral

Cross-Listed: H - Hydrology

Cross-Listed: GH - GeoHealth

Cross-Listed: GC - Global Environmental Change

Cross-Listed: A - Atmospheric Sciences