

# B15F - Coastal Wetland Carbon and Nitrogen Cycles: Recent Advances in Measurements, Modeling, and Syntheses IV Poster



Monday, 12 December 2022



15:45 - 19:15



McCormick Place - Poster Hall, Hall A (South, Level 3)

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 CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O). 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

Poster

## 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

[Omar I. Abdul-Aziz](#)

West Virginia University

[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.*

---

## 22 Papers

---

B15F-1181

Carbon Fluxes From a Rapidly Transgressing Barrier Island Chain

Mary Bryan Barksdale

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1182

Constraining Lateral Carbon Fluxes from a Connecticut Salt Marsh over Multiple Tidal Cycles

Derrick Vaughn

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1183

Sulfurization and pyritization as pathways of carbon preservation in Carpinteria Salt Marsh Reserve, CA

Lena R Capece

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1184

Investigating environmental controls on carbon exchange and predicting gaseous carbon fluxes at a salt marsh in British Columbia, Canada

Tzu-Yi Lu

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1185

Natural and anthropogenic effects on the primary production in Gwanyang Bay, Korea.

*Seunghwa Chae*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1186

Investigating the Seasonal Dynamics of Carbonate Chemistry Parameters in a Mangrove Ecosystem of the Northeastern Coastal Bay of Bengal.

*Nirupama Saini*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

iPoster Only

---

B15F-1187

High Frequency Dissolved CO<sub>2</sub> Measurements in a Louisiana Saltmarsh Tidal Creek and Implications for the Coastal Carbon Budget

*Songjie He*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1188

Should recovery of nitrogen removal in restored and constructed marshes be compared to natural marshes or the degraded ecosystems they replace?

*Behzad Mortazavi*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1189

Process-based Blue Carbon Mapping in the Northeastern US Tidal Marshes Using Optical Remote Sensing

*Wenxiu Teng*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1190

Controls on salt marsh carbon burial along the Oregon coast

*Erin K Peck*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1191

Carbon Stocks and Fluxes of *Hibiscus hamabo* (Mangrove Associate) in Jeju Island, South Korea

*Yoojin Choi*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1192

Increasing Nitrate Loads Reduces Carbon Sequestration, Nitrogen, and Phosphorus Accumulation on a Freshwater, Estuarine Marsh

*Jorge A Villa*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

---

B15F-1193

Using cyclic voltammetry to better characterize sulfur cycling as a pathway for enhanced carbon preservation in mangrove habitats

*Melea Bailey*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1194

Carbon Sequestration Potential of Coastal Restored Wetlands

*Ellen JoAnne Stuart-Haëntjens*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1195

Retreating Salt Marsh Edges Show Increased CO<sub>2</sub> Efflux Before Sediment Erosion

*Lea Stolpmann*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1196

Design and Initial Deployment of an Autonomous Laser Heterodyne Radiometer for the Vertical Profiling of Greenhouse Gas Mixing Ratios above a Coastal Marsh

*John Houston Miller*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1197

Methane Fluxes in Tidal Wetlands Across the Contiguous United States: Annual Conversion Factors and the Interplay of Salinity and Temperature on CH<sub>4</sub> flux

*Julie Shahan*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1198

Determining Nitrogen Loading Sources and Processing Along the Texas (USA) Coast and Potential Impacts Due to Sea-Level Variations

*Erin Taylor*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1199

Insights into Salt Marsh Blue Carbon Accumulation Rates and Molecular Composition from the Great Marsh, Delaware

*Andrew S Wozniak*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1200

Continuous Atmospheric and Hydrologic Exchange Data Show Resilience of California Tidal Marsh Carbon Fluxes to July 2022 Heatwaves

*Lisamarie Windham-Myers*

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

---

B15F-1201

Using High Frequency Flux Measurements to Constrain Dissolved Inorganic Carbon in a Tidal Wetland Carbon Budget

Maiyah Matsumura

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

B15F-1202

High-resolution Spatial Sampling Reveals DIN and DON Sources and Processing from Groundwaters to Surface Waters in a Semi-arid Estuary and Tributaries

Yixi Qiu

 McCormick Place - Poster Hall, Hall A (South, Level 3)

---

**Category:** Biogeochemistry (terrestrial and marine)

**Section:** Biogeosciences

**Neighborhoods:** 3. Earth Covering

**Type:** Poster

**Cross-Listed:** H - Hydrology

**Cross-Listed:** GH - GeoHealth

**Cross-Listed:** GC - Global Environmental Change

**Cross-Listed:** A - Atmospheric Sciences