



Special Session Topics

1. Successes in estuarine management and restoration

Global efforts to restore and protect estuaries have been ongoing for decades and are beginning to show demonstrated successes including improving environmental quality, developing frameworks to assess the status and trajectory of estuarine function, and creating sustainable practices for human use of estuaries. Sessions documenting successes in specific locations worldwide, overviews of successful management approaches, opportunities for near term future success, and modeling to quantify and guide management and restoration activities are encouraged.

2. Urbanization in coastal and estuarine ecosystems

With 50% of the world's population projected to live on the coast by 2050, urbanization of coastal and estuarine ecosystems is occurring globally. Urbanization alters natural ecosystems in a variety of pathways, which in turn leave them more vulnerable to climate hazards. Here we invite sessions that examine how worldwide urbanization fundamentally alters coastal and estuarine ecosystems as well as sessions that examine methods to reduce these impacts and ultimately the vulnerability of urban ecosystems.

3. Understanding the context and impacts of aquaculture on estuarine ecosystem function

Seafood is increasingly counted on to provide protein for the planet's growing population. Wild fisheries cannot support this growing demand, thus aquaculture is becoming more prominent, with most of the world's aquaculture production currently concentrated in China. While key to sustaining humans, aquaculture's impact on estuaries can range from negative to positive. We invite sessions to examine advances in aquaculture that enhance compatibility with ecosystem function, modeling to predict carrying capacities, and science to enhance the understanding of the ecological and biogeochemical impacts of aquaculture in estuaries.

4. Insights from coupled natural-human systems research in estuaries

Recent estuarine research has emphasized the value of understanding the influence of coupled natural-human systems, integrating the insights from fields such as economics, anthropology, sociology, ecology, geology and chemistry. Multi-disciplinary sessions focused on coupled natural-human interactions on topics in estuaries, such as water quality, fisheries, shoreline management and recreation, are encouraged.

5. Science to support Ecosystem Based Management in estuaries and coasts

Assessing ecosystems as a whole unit versus managing for a few parameters (e.g. oxygen, bacteria) captures the variability of biogeochemical processes and anthropogenic influences among systems and allows management practices to vary accordingly. While theoretically sound, developing an ecosystem based management plan can be complex. Sessions focused

on the scientific assessment of ecosystem based management, articulation of the process and application, and stories of success and lessons learned are encouraged.

6. Estuarine and coastal habitats and landscapes – from community structure, dynamics and resilience to ecosystem function

Estuaries and coastal habitats are highly productive areas in terms of both ecologic and economic services. Preserving these services is a constant challenge in the face of pressures from climate change, urbanization and rising populations, and industrialization in the developing world. Multi-disciplinary or subject specific sessions are invited to explore the many levels of this topic. Sessions with broad geographic coverage to permit inter-comparisons are especially encouraged.

7. Sustaining estuarine and coastal fisheries

Estuarine and coastal ecosystems are highly productive and support a wide diversity of economically important fisheries species. While many of these fisheries have collapsed, or are currently considered overfished, sustainable fisheries can be found in several regions of the world. Sessions providing insights on factors that lead to the collapse of fisheries are encouraged, as are those that explore how to sustain and rebuild estuarine coastal fisheries.

8. Stormwater and agricultural BMPs – assessing their function and understanding their context in watersheds

Nutrients, sediment, and contaminants delivered to coastal waters from human land use practices impacts the trophic status and water quality of receiving coastal and estuarine waters. Effects of these inputs are compounded by the impact of climate change, often acting in synergistic ways which result in greater degradation relative to what was predicted based on the inputs alone. As we reach the limit of technology for point sources, reducing inputs from non point sources is a critical next step. Agricultural lands and stormwater runoff from urbanized and rural areas often require site specific designs to reduce their impact on receiving waters. We welcome sessions focused on understanding the role, function, technological advances, and future outlook of best management practices for agricultural lands and stormwater in estuaries worldwide.

9. Ecological theory to advance estuarine management

Applied challenges, from local to global, can benefit from integrating ecological theory into efforts to manage estuarine and coastal ecosystems. For instance, understanding of the ecological processes that influence the structure and stability of estuarine and coastal ecosystems could be used to sustain their delivery of ecosystem services. Sessions that explore how to use ecological theory to enhance management efforts and build towards more resilient estuarine and coastal ecosystems are encouraged.

10. Innovations in engineering in and around estuaries

Conventional and, more recently, green engineering activities have been relied upon to help maintain and enhance estuarine function. Sessions may focus on novel engineering (both conventional and green) advances, comparisons between green engineering and the conventional analogue (e.g. shoreline stabilization, wastewater treatment), rigorous assessments of function, economic assessments of engineering solutions, and novel applications for newly industrialized and developing countries and underserved regions.