Session Speakers

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Session Title

Engaging with Charleston Communities about Flood Risks and Impacts

Session Description

This session shares insights from 4 integrated elements of an effort to understand potential flooding and sea level rise impacts and work with communities to address these risks at the neighborhood level. The project is based in the Charleston area of South Carolina, where while sea levels are rising and threats of extreme precipitation are increasing, the population and infrastructure investments continue to grow rapidly. As communities engage more deeply in adaptation planning, a better understanding of the combined risks of development and climate-related impacts can provide useful information for climate informed decision-making.

The work presented will begin with a discussion of the modeling of potential impacts. In the final presentation, we will comment on insights from community engagements to different ways of presenting information designed to support decision-making.

A key element of the approach is detailed flood modelling effort that integrates more information on elevation and drainage and accounts for flooding associated with heavy rainstorms, height of tides, and sea level rise. The flood model results are used to inform assessment of potential transportation impacts. In the session, we will share information on projected impacts taking into consideration the height of flooding relative to accessibility for walking, driving average cars (with low tailpipes that will stall out first), taller trucks, and specially-designed emergency vehicles. The analysis also addresses the relative importance of different stretches of roadway based on intensity of use and role in accessing critical facilities. Using the same scenarios, we also consider how flood risk may interact with other natural hazards and any implications for best practices in the design of buildings and planning of infrastructure investments.

In the final presentation, we will share community feedback on total research findings relative to their ongoing growth and development as well as to the different ways of presenting climate information, including: 1) providing detail on the relative contribution of each source of flooding and interactions among them; 2) identifying impacts on transportation infrastructure and mobility, with potential contingency operational plans, and longer-term resilience strategies to mitigate adverse effects of flooding and sea level rise; and, 3) any interactions with natural hazards.