Sea Level Rise Expedition (Photo Log)

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Southeastern Universities Research Association

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Sea Level Rise Expedition

Participants
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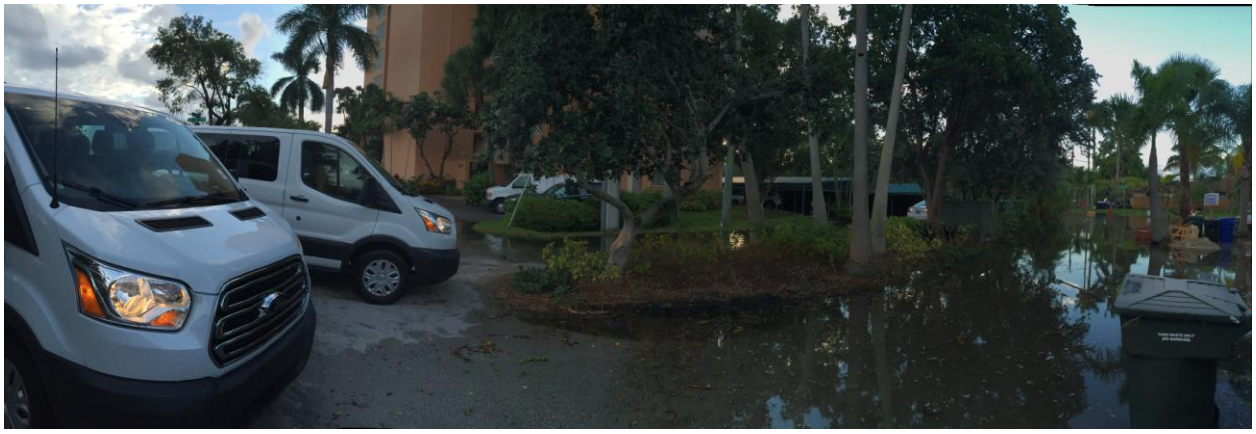
Florida Atlantic University's Center for Environmental Studies planned and executed a Sea Level Rise Expedition that coincided with perigean spring high tides. A perigean spring tide occurs when the moon is either new or full and closest to Earth. These events are locally known as "King tides." Those in attendance were able to view the impacts of high tides which are reaching higher and extending further inland owing to sea level rise. King tides provide a preview on how sea level rise will affect coastal places in the future. Sea level rise factors provided a starting point for the scenario-driven coastal resilience discussions on October 27-28, 2015.

Street flooding in Fort Lauderdale, Florida at 7:44 AM on October 26, 2015. Flooding causes dangerous driving conditions. Authorities will be required to identify and block off areas that are unsafe for vehicular travel.

Street flooding in Fort Lauderdale, Florida at 7:45 AM on October 26, 2015. Driving vehicles into water of unknown depth is especially dangerous when areas that have been undermined or completely washed out are masked by floodwaters.

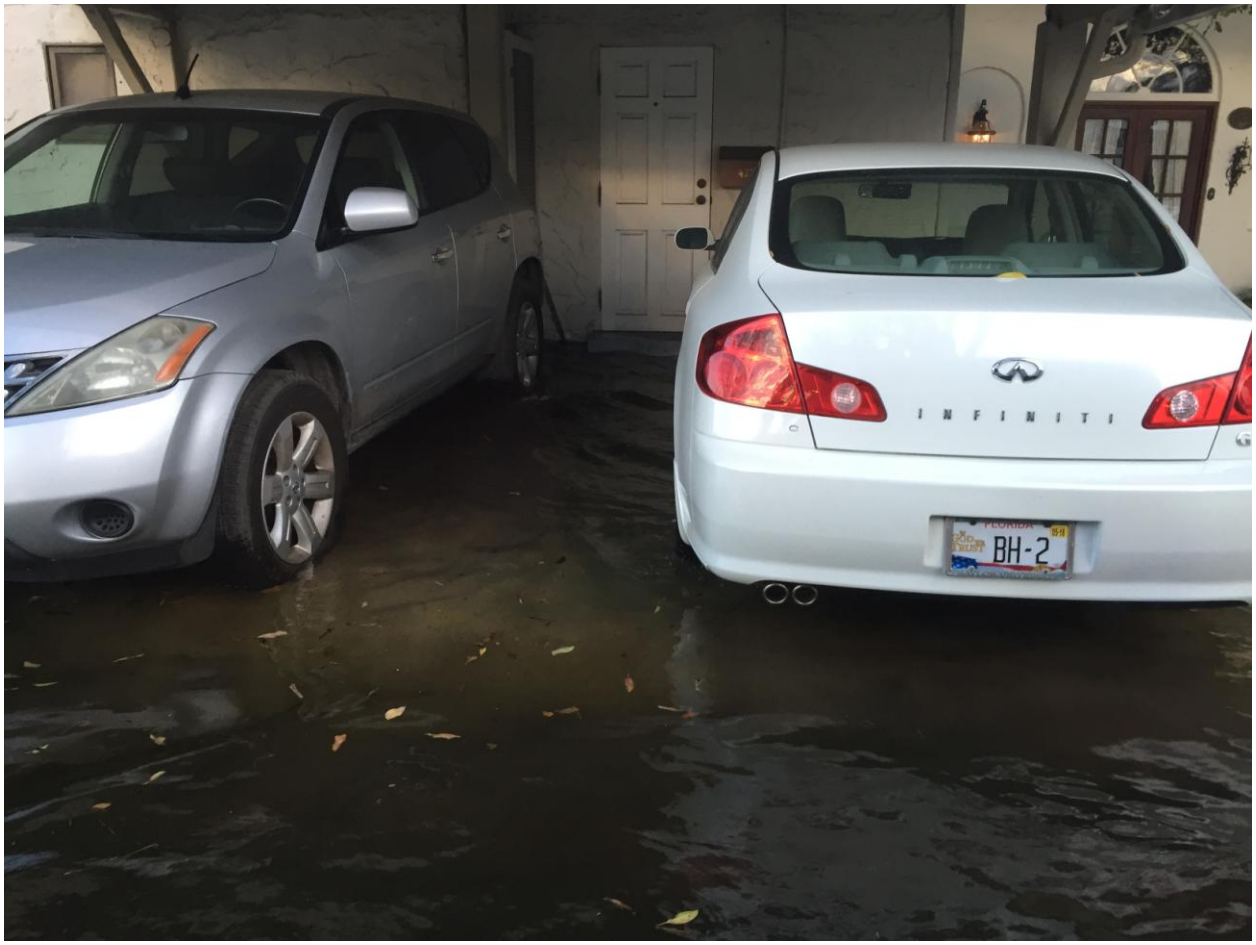
Street flooding in Fort Lauderdale, Florida at 7:45 AM on October 26, 2015. Heavy rainfall and coastal flooding can lead to street closures, downed trees, and accidents on slick roads. The system of canals and rivers in Broward County, Florida help to prevent flooding, as well as recharge the well fields that supply the City's drinking water.

Street and dock flooding in Fort Lauderdale, Florida at 7:45 AM on October 26, 2015. Extreme high tides require mooring lines to be tended on a regular basis. Vessels can be damaged and a person harmed by what is called synthetic line snap-back. A synthetic fiber rope snaps back at approximately 700 feet/sec and would be deadly to anyone standing near it when a failure occurs.



Florida Atlantic University vans stopped to assess driving conditions in Las Olas Isles at 7:48 AM on October 26, 2015. Areas that experience recurring flooding include the neighborhoods of Las Olas Isles and Hendricks Isle. Broward County public works crews have to monitor installed tidal valves and clear storm drains of any clogging to ensure pump stations remain operational.

Ms. Serana Hoermann from Florida Atlantic University (FAU) carefully navigates Mola Avenue in Fort Lauderdale, Florida at 7:50 AM and passes several homes with water flooding yards, overtopping the front door sweep, and entering open garages.



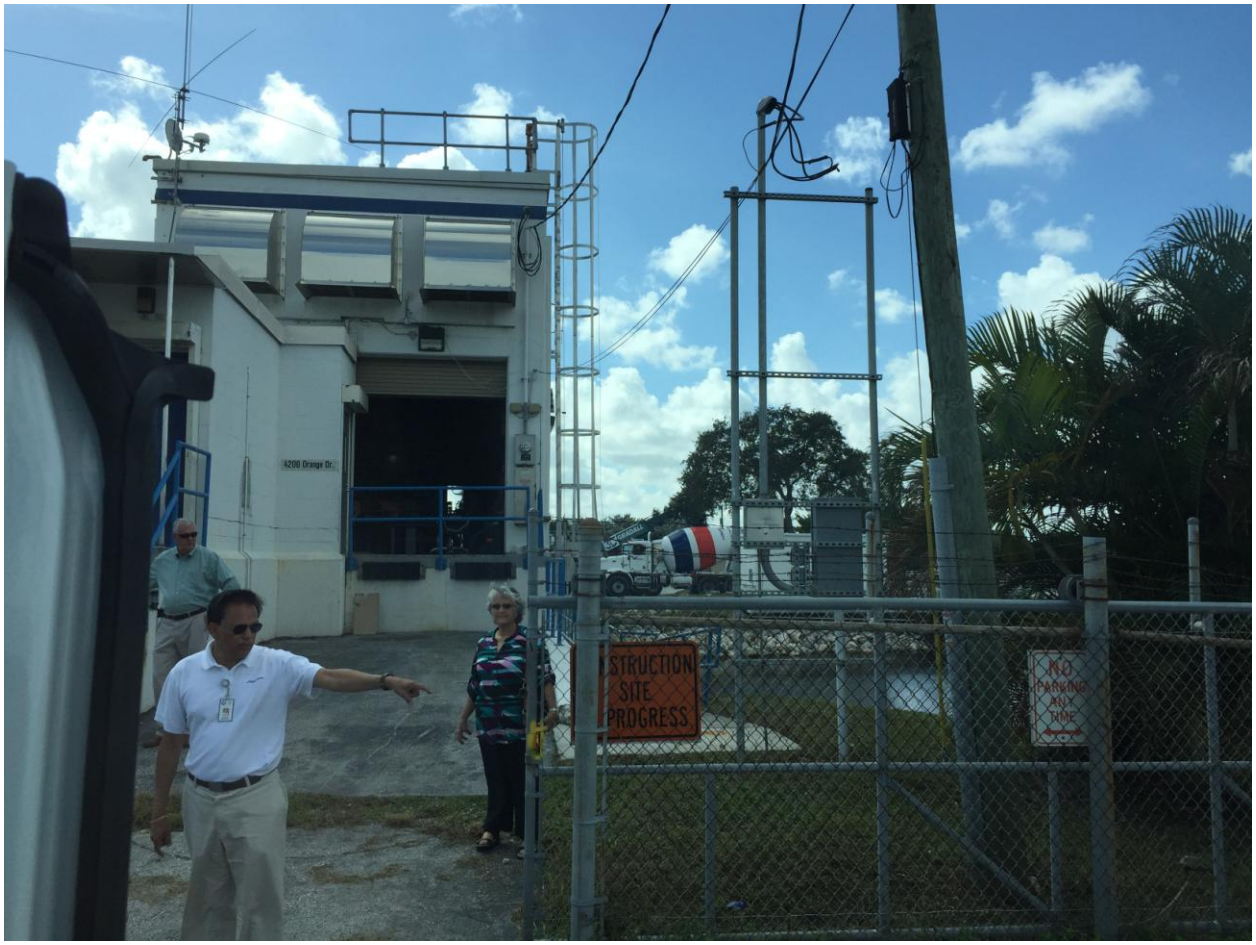
Carport flooding in Los Olas Isles in Fort Lauderdale, Florida at 7:52 AM on October 26, 2015. In Fort Lauderdale, Florida flooding may occur as a result of heavy rainfall, spring tides, a hurricane or other natural disasters. Since many homeowners' insurance policies do not cover flooding, residents may obtain flood insurance through Fort Lauderdale's participation in the National Flood Insurance Program (for more information see http://bit.ly/1NslTC6).

Front yard flooding in Los Olas Isles in Fort Lauderdale, Fl at 7:52 AM on October 26, 2015. Flooding can lead to a back-up of sewage into the home.

Discussions relevant to new sea wall construction and other strategies to resist flooding at 7:58 AM on October 26, 2015. Shoreline development is at increased risk of flooding because of sea level rise, and public investments in infrastructure, housing, and habitat restoration projects are often expected to last for decades.

Workshop attendees visit the Stranahan House at 8:46 AM on October 26, 2015. Built in 1901 this museum is the oldest surviving structure in Broward County and a cultural site that needs to be protected from the threats of sea level rise (for more information see http://bit.ly/1jv9yMe).

Tour of the Anne Kolb Nature Center at 9:42 AM on October 26, 2015. This urban wilderness park system in Broward County, Florida was designed to preserve 1,500-acres of coastal mangrove wetland from development (for more information see http://bit.ly/1NQiHhN).



Dr. Jayantha Obeysekera the Director of the Hydrologic & Environmental Systems Modeling Department at the South Florida Water Management District discusses management of water resources at 11:26 AM on October 26, 2015. Attendees toured one of the major pump stations that are used to control tidal flows and stormwater (for more information see http://bit.ly/1PncdZG). Dr. Obeysekera described Fort Lauderdale's complex system of rivers, canals, storm drains, catch basins, pump stations and swales.

A section of Florida State Road A1A from Sunrise Boulevard and Northeast 18th Street has been rebuilt owing to destruction by surge and waves from Hurricane Sandy (see http://1.usa.gov/1NsI373) and subsequent storms during November, 2012. The $11.8 million project has been designed to resist future storms and includes a beach access point, a raised landscaped median, a brick paver promenade, and turtle-friendly pedestrian lights (for more information see http://bit.ly/1NQnccl).