

When It Rains, It Pours: A Socio-environmental Approach to Understanding Coastal Flooding (2014-5)

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This case is an introduction for students on socioeconomic systems using coastal flooding as a model system. The students are presented with the real case of Miami Beach, in South Florida, which is experiencing increased flooding, both at higher high tides and with storm surge. The case is designed to provide a guided introduction to socio-environmental conceptual modeling for students with no previous background, and a conflict negotiation case extension for upper-level undergraduate students or graduate students. The students will be expected to work in teams to develop a conceptual model in small groups, and then again in synthesis groups, and then finally work together as a class. For the conflict negotiation extension to the case, students research the interests of a stakeholder group to role-play a flood management group decision-making process. The case is designed primarily to be coupled with formative assessments as the students prepare and complete the exercises in class.

Associated Project:

[Teaching Socio-Environmental Synthesis with Case Studies 2014](#) [1]

Resource File:

 [Urban Flooding Miami Beach Case Study Instructor Notes revised 082615 .pdf](#) [2]

 [Urban Flooding Miami Beach Student Handout Revised 082515.pdf](#) [3]

Estimated time frame:

A few class periods

SES learning goals:

- Understand the structure and behavior of socio-environmental systems
- Co-develop research questions and conceptual models in inter- or trans-disciplinary teams

Has this been tested in the class room:

Yes

Course and class size:

Global climate change and coastal indicators (upper level undergraduate): 10 students

Source URL:

<https://www.sesync.org/when-it-rains-it-pours-a-socio-environmental-approach-to-understanding-coastal-flooding-2014-5>

Links

[1] <https://www.sesync.org/project/teaching-ses-case-studies-2014>

[2] <https://www.sesync.org/system/tdf/resources/Urban%20Flooding%20Miami%20Beach%20Case%20Study%20Instructor%20Notes%20revised%20082615%20.pdf?file=1&type=node&id=946&force=>

[3] <https://www.sesync.org/system/tdf/resources/Urban%20Flooding%20Miami%20Beach%20Student%20Handout%20Rev>

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