

2021 University Research Symposium

Designing Architecture and Modeling for Disasters Panel

Resource Document

Moderator: [Wayne Place](#), Professor, College of Design ([View Slides](#), [View Video](#))

Panelists

- [Kenneth Kunkel](#), Research Professor, College of Sciences
 - [View Slides](#)
 - [View Video](#)
- [Ruoying \(Roy\) He](#), Professor, College of Sciences
 - [View Slides](#)
 - [View Video](#)
- [Erin Seekamp](#), Professor, College of Natural Resources
 - [View Slides](#)
 - [View Video](#)

Event Description:

It's past time to start designing residential buildings that are more resilient to natural disasters. An attempt to reform building codes following Hurricane Andrew, in 1992, eventually sputtered out due to lack of buy-in. We need a new code even more now than we did then — informed by new insights from environmental researchers. This panel discusses how to form a collective effort to design and create resilient buildings and communities, drawing on the knowledge of experts in architectural design, climate-adaptive planning, oceanic dynamics and structural engineering.

You can [watch](#) the discussion in its entirety on the NC State Research YouTube channel.

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Online Resources Shared:

- North Carolina Climate Science Report: <https://ncics.org/programs/nccsr/>
- North Carolina Risk Assessment and Resilience Plan: <https://deq.nc.gov/energy-climate/climate-change/nc-climate-change-interagency-council/climate-change-clean-energy-17>
- Coastal Hazards and Tourism in the OBX Report: <https://content.ces.ncsu.edu/coastal-hazards-and-tourism>
- Measurement Framework Report of Historic Building Valuation for Climate Adaptation Planning: <https://content.ces.ncsu.edu/assessing-historical-significance-and-use-potential-of-buildings>
- The Conversation Article on Resilience Planning for Vulnerable Cultural Heritage: <https://theconversation.com/preserving-cultural-and-historic-treasures-in-a-changing-climate-may-mean-transforming-them-145214>
- Ocean Observing and Modeling Group (OOMG): <http://oomg.meas.ncsu.edu/>
- Coupled Northwest Atlantic Prediction System (CNAPS): <http://go.ncsu.edu/cnaps>

The following questions were answered live during the 2021 University Research Symposium Designing Architecture and Modeling for Disasters Panel. Under each question, we provide links you can use to jump directly to the point in the video recording where the question was asked.

If coastal buildings, based on past architectural styles are not standing up to increasing coastal hazards, do you think that coastal communities will be receptive to new resilient architectural forms, or most new resilient buildings conformed to past architectural styles?

[Watch the Full Answer](#)

Could you give us some examples of some of the more successful adaptation actions that you've been involved with?

[Watch the Full Answer](#)

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If the Gulf Stream is weakening, can you tell us why that is and is it going to go to zero? If it goes to zero, what would be the global implications of that?

[Watch the Full Answer](#)

According to your modeling, the huge amount of fresh water that's being delivered to the surface and in the northern Ocean is never going to overcome the Gulf Stream?

[Watch the Full Answer](#)

How might we link modeling questions tied to non-stationary uncertainty and deep place attachment to many of our most vulnerable communities in North Carolina and around the US to develop and fund the costs associated with more stringent codes and standards?

[Watch the Full Answer](#)

In addition to hazards like wind and flood what considerations are important related to reducing energy consumption in buildings?

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In what ways do you see this research translating to policy effectively, and what hopes do you have for better translation of your research into policy?

[Watch the Full Answer](#)

What are some of the challenges or barriers you face when applying your research to real-life situations?

[Watch the Full Answer](#)