Hurricane Matthew Disaster Recovery and Resilience Initiative (HMDRRI)

The Hurricane Matthew Disaster Recovery and Resilience Initiative (HMDRRI) involves the pan-university engagement of faculty and students as well as professional planning experts in addressing community and state-level needs associated with recovery from Hurricane Matthew. This effort also provides a way to build upon a number of existing and emerging programs, relationships, and growing interest among faculty and students surrounding the study and practice of creating disaster resilient communities.

This idea for the Initiative was proposed by the Director of North Carolina Division of Emergency Management during a meeting held with the Division on October 19th. In addition, it was suggested that this effort should be codified as part of a formal ongoing partnership between the North Carolina Division of Emergency Management and the UNC system. Since that time three primary objectives have been developed.

Hurricane Matthew Disaster Recovery and Resilience Initiative Objectives

1) Serve as point of contact for UNC System faculty, students and staff to help the state address a range of policy and technical issues as identified.
2) Engage with select communities to assist them identify local needs and help them develop post-disaster recovery plans.
3) Coordinate activities with FEMA's Community Planning and Capacity Building team which strives to assist communities collect data, assess needs and facilitate recovery planning.

Hurricane Matthew Disaster Recovery and Resilience Initiative and North Carolina's Community Resilience Lab

The HMDRRI serves as the first step in the creation of the North Carolina Community Resilience Lab. The Lab concept recognizes that the state is highly vulnerable to a number of natural hazards including coastal storms and flooding, which makes it an ideal environment for research, learning, and the transition of findings to practice. Further, North Carolina, following Hurricane Floyd, was involved in several important initiatives that provide important lessons. These include one of the largest single state acquisition and relocation of flood-prone homes in the nation (more than 5,000 homes) and the elevation of more than 1,000 structures; the creation of state disaster recovery programs meant to compliment federal assistance (some of which are likely to be used again following Matthew); and the creation of the nation's most advanced floodplain mapping program in the country.

Considering many of the same communities were impacted by Hurricane Matthew, this provides a unique opportunity to comparatively study past and current activities. The North Carolina Division of Emergency Management program, which is widely recognized as a national leader in the field, has welcomed our engagement with them as evidenced by not only their idea of the Hurricane Matthew Disaster Recovery and Resilience Initiative, but also through prior efforts such as hosting our summer interns, allowing students enrolled in the University of North Carolina's Graduate Certificate Program in Natural Hazards Resilience classes to visit their facilities as part of regularly scheduled field trips, and the hiring of our students upon graduation.

This policy rich and hazard-prone area provides a unique learning environment and as such serves as part of an emerging program designed to foster an international exchange with other nations facing similar challenges. Thus the HMDRRI and the closely aligned Community Resilience Lab serve as a key

node in a larger International Learning Laboratory concept that is currently under development. The International Learning Laboratory concept is comprised of three focus areas: North Carolina, Australia, and Vietnam. The PI's have established partnerships in Australia and Vietnam which will be leveraged to support the North Carolina-focused Community Resilience Laboratory. The HMDRRI provides a vehicle to begin this complimentary program.

Leveraging State Resources

The State Division of Emergency Management has provided office space for the HMDRRI in the Joint Field Office (JFO) which has been set up in the Research Triangle Park. A JFO, which is typically established following a Presidentially-declared disaster, provides a space for federal and state officials to work together on issues associated with the long-term recovery needs of stricken communities. In large events, the JFO is often maintained for several years. The HMDRRI will provide funding to support the engagement of faculty and students from across the UNC system for two years after which we will transition to alternative sources of funding to sustain the North Carolina Resilience Laboratory.

The ability of UNC system faculty and students to co-locate in the JFO will provide a unique level of access to state and federal officials and varied types of data that would be difficult to obtain otherwise. The value of these experiences cannot be overstated for both faculty and students as this proposed partnership is very uncommon as most states do not actively engage with the academic community in a systematic manner. Examples of proposed interactions include regular meetings in the JFO with those involved in the recovery effort; the hosting of class lectures in the JFO as appropriate; the hosting of interns paid for through the proposal or other sources of funding; the review and use of post-disaster data in conducting research, developing policy briefs, and teaching; as well as traveling to impacted communities where members of the HMDRRI will be working in partnership with federal, state and local officials, non-profits, quasi-governmental organizations (e.g., Council of Governments), the private sector, and other stakeholders as identified.

Summary of the Tasks Undertaken by the Hurricane Mathew Disaster Recovery and Resilience Initiative

1) ***Serve as point of contact for UNC System faculty, students and staff to help the state address a range of policy and technical issues as identified.***

One way the HMDRRI will assist in the recovery effort is to serve as a conduit for the linkage of faculty expertise spanning the UNC system with specific needs identified by the North Carolina Division of Emergency Management. The Initiative will also serve to link researchers from across the UNC system who have proposed targeted research ideas with state officials who may be able to assist in the provision of data or general feedback, to include the identification of key questions and issues the state has that may merit attention.

In addition to university faculty, a number of students will be participating in the HMDRRI, many of whom are currently enrolled in the University of North Carolina's Graduate Certificate in Natural Hazards Resilience (http://planning.unc.edu/nhrcp). Most of these student's master's projects and dissertations focus on the study of natural hazards and disasters, including some whose focus is on North Carolina communities. As such these efforts will be linked to the HMDRRI and findings provided to the State. This provides another unique linkage as students will have the opportunity to present their

findings to state and federal officials as their research evolves and garner meaningful practitioner feedback.

2) Engage with select communities to assist them identify local needs and help them develop disaster recovery plans.

A key task to be undertaken by the HMDRRI includes working with communities identified by the North Carolina Division of Emergency Management and members of the HMDRRI. The Initiative will focus on assisting the following communities develop disaster recovery plans: Windsor, Princeville, Fair Bluff, Kinston, Seven Springs, Lumberton and Fayetteville. Following preliminary data collection efforts and briefings from state officials, initial visits will be set up to scope out specific tasks. This information will be used to develop a targeted engagement strategy and develop disaster recovery plans in close coordination with public officials and those living in targeted communities.

Informed by the HMDRRI concept, the University of North Carolina at Chapel Hill and North Carolina State University have begun teaching several graduate and undergraduate classes focused on Hurricane Matthew recovery. The three courses and associated faculty that have committed to this process include:

1) The Department of City and Regional Planning (DCRP) is in the process of teaching a *Planning Workshop* (PLAN 823) in which faculty and graduate students work with "clients" as part of a semester-long targeted project. DCRP has agreed to focus on an identified community (or communities) to include assisting them collect pertinent information that will be used to help them develop disaster recovery plans as part of the larger HMDRRI effort. UNC-CH Department of City and Regional Planning Professor Mai Nguyen and Andrew Whittemore lead this class with support provided by Professor Gavin Smith.

3) Andy Fox and David Hill, faculty in the North Carolina State University's College of Design led a week-long *DesignWeek* in January focused on working with Kinston, Windsor and Greenville. This effort included Master of Landscape Architecture and Architecture students (to include those enrolled in the NCSU Coastal Dynamics Studio) and UNC-CH Master of City and Regional Planning students (to include those enrolled in the Natural Hazards Resilience Certificate).

4) *Natural Hazards Resilience Speaker Series* (PLAN 754) is being taught by Dr. Gavin Smith as part of the 10-credit hour Graduate Certificate in Natural Hazards Resilience. The course is designed to expose students to a range of scholars, practitioners, and translational experts in the field and help foster an esprit de corps among those pursuing the Certificate. Invited guest speakers focus on disaster recovery and lectures will help inform the work of faculty and students involved in the HMDRRI. When practical, guest lectures are being conducted in the JFO in order to provide insights to state and federal officials as well as students and faculty.

Faculty and students will continue to work with identified communities after the completion of the spring classes, to include the development of disaster recovery plans and associated implementation strategies, which are a critical part of the overall planning process and an area that is often given less attention. The engagement team, working with North Carolina Division of Emergency Management, will identify other communities in need of assistance and develop a strategy to assist them based on local conditions and capacity.

3) Coordinate activities with FEMA's Community Planning and Capacity Building team.

The HMDDRI will actively coordinate with FEMA's Community Planning and Capacity Building (CPCB) team, to include Matt Campbell, who leads the program in Washington, D.C. Bob Haywood, who is the states designated FEMA representative for Hurricane Matthew and Kehla West CPCB RSF Field Coordinator, North Carolina. This partnership was further solidified on November 3rd as Matt Campbell and two field staff from FEMA served as reviewers of DCRP student projects which evaluated disaster recovery plans (in the PI's Fall class), and based on this review, suggested that students should present their analysis to his staff in the Hurricane Matthew JFO.

The activities of CPCB include data collection and community engagement, two tasks that will be closely coordinated with the faculty and students involved in the development of recovery plans in identified communities. In addition, we may deliver disaster recovery training courses developed in partnership with FEMA and piloted in North Carolina last year throughout Eastern North Carolina in concert with North Carolina Emergency Management and FEMA's CPCB.