



FEMA

**State of North Carolina
COOPERATING TECHNICAL PARTNERS
EARLY DEMONSTRATION MAPPING ACTIVITY STATEMENT**

EARLY DEMONSTRATION MAS No. 1

In accordance with the Cooperating Technical Partners (CTP) Partnership Agreement dated September 15, 2000 between the North Carolina Floodplain Mapping Program (NCFMP) and the Federal Emergency Management Agency (FEMA), Early Demonstration Project Mapping Activity Statement (PM MAS) No. 1 is as follows:

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SECTION 1—OBJECTIVE AND SCOPE

The objective of the Early Demonstration Project documented in this MAS is to recognize activities undertaken by CTPs as part of Risk MAP. For projects initiated in FY2009 or before, additional resources are being made available to demonstrate proof of concepts related to the Flood Risk Products and Datasets, community engagement, and a newer concept being referred to as Discovery. Early demonstration project funding could also be used by Cooperating Technical Partners (CTPs), to build a plan to increase their capability to successfully deliver Risk MAP. The desired outcomes and criteria for each of these areas are laid out below. Lessons learned from the early demonstrations will be applied to updating guidance, further refinement of concepts and products, and realizing production efficiencies and innovations for the projects described in This MAS for Nash, Pitt and Scotland Counties. All processes and deliverables shall be completed in accordance to the Federal Emergency Management Agency's (FEMA's) *Guidelines and Specifications for Flood Hazard Mapping Partners* (G&S) and appropriate Procedure Memoranda (PMs). These documents can be found on FEMA's website at http://www.fema.gov/plan/prevent/fhm/gs_main.shtm and http://www.fema.gov/plan/prevent/fhm/gs_memos.shtm.

This Early Demonstration will be completed by the following Mapping Partners:

- NCFMP;
- NCFMP Contractors.

Desired Outcomes

Among the desired outcomes from these initiatives:

1. Regions have an enriched understanding of the Risk MAP vision and experience in delivering Risk MAP products and concepts.
2. Projects demonstrate progress towards achieving the Risk MAP goals, specifically goals 2, 3 and 5 as outlined in the Risk MAP Multi-Year Plan.
3. Validation that new/enhanced Risk MAP products demonstrate increased value through Risk MAP to State, local, and tribal stakeholders or insight as to which products require refinement and whether or not new products are necessary to achieve Risk MAP goals.
4. The costs for developing and delivering the products to State, local, and tribal stakeholders are better understood.
5. A refined process for developing and delivering the products that accounts for new activities, eliminates unnecessary steps, demonstrates efficiencies and standardizes best practices from across the Regions is created.
6. Regions understand how products can be applied to projects underway.
7. Regions understand what is needed to appropriately set up efforts for production planning and scoping and support HQ development of guidance on the Discovery process.

Activities that can be accomplished under this Early Demonstration Project MAS are as follows:

- Flood Risk Datasets
- Discovery
- Risk MAP Communications
- CTP Capability Building

See Memo dated June 23, 2010 and attached for additional details on implementation of these Activities.

Under NCFMP's FY 2008 and 2009 Mapping Activity Statements (MAS) for Map Maintenance, Pitt, Nash and Scotland County were funded for flood hazard data updates for select priority flooding sources followed by incorporating of the updated flood hazard data into the countywide FIS and DFIRM (which had previously been modernized under Phase I of the NCFMP). The Pitt County preliminary revised FIS and DFIRM are scheduled to be issued to the county and affected communities by early August 2010. The Nash County preliminary revised FIS and DFIRM are scheduled to be issued to the county and affected communities by November 2010. The Scotland County preliminary revised FIS and DFIRM are scheduled to be issued to the county and affected communities by the end of September 2010.

Changes Since Last Firm

Responsible Mapping Partner: NCFMP

Scope: The NCFMP shall utilize the hydraulic model output data generated during the map maintenance updates for Nash, Pitt and Scotland counties to generate changes to the special flood hazard areas. The NCFMP shall generate water-surface elevation grids for all of the studies streams in Nash, Pitt and X counties. The NCFMP shall use the IHRM building data set to identify buildings added and removed from the special flood hazard area. All data will be distributed to the counties as part of the county meetings (see Areas of Mitigation Interest).

Standards: All processes and deliverables shall be completed in accordance to the Federal Emergency Management Agency's (FEMA's) Guidelines and Specifications for Flood Hazard Mapping Partners (G&S) and appropriate Procedure Memoranda (PMs).

Deliverables: The NCFMP shall deliver the following to the FEMA Regional Project Officer in accordance with the schedule outlined in Section 4- Schedule.

- General special flood hazard area changes for:
 - Nash County
 - Pitt County
 - Scotland County
- Generate water-surface elevation change grids to:
 - Nash County
 - Pitt County
 - Scotland County
- Identify changes to local structure data to:
 - Nash County
 - Pitt County
 - Scotland County

Multi Frequency Flood Depth and Analysis Grids

Responsible Mapping Partner: NCFMP

Scope: The NCFMP shall distribute the 10-, 25-, 50-, 100-, 500-year and three different 100-year future depth grids to Nash, Pitt and Scotland counties. The NCFMP shall populate the IHRM buildings with the percent chance of flooding for 15 year and 30 year periods. All data will be distributed to the counties as part of the county meetings (see Areas of Mitigation Interest).

Standards: All processes and deliverables shall be completed in accordance to the Federal Emergency Management Agency's (FEMA's) Guidelines and Specifications for Flood Hazard Mapping Partners (G&S) and appropriate Procedure Memoranda (PMs).

Deliverables: The NCFMP shall deliver the following to the FEMA Regional Project Officer in accordance with the schedule outlined in Section 4-- Schedule.

- Develop 10-, 25-, 50-, 100-, and 500-year depth grids to:
 - Nash County
 - Pitt County
 - Scotland County
- Develop 100-year future condition depth grids for the 10%, and 20% imperivous coverage, and ultimate buildout impervious coverage to:
 - Nash County
 - Pitt County
 - Scotland County
- Develop percent chance of flooding grids to:
 - Nash County
 - Pitt County
 - Scotland County
- Develop percent chance of flooding by IHRM building structure to:
 - Nash County
 - Pitt County
 - Scotland County
- Develop the threshold recurrence interval for flooding by IHRM building structure to:
 - Nash County
 - Pitt County
 - Scotland County

Area of Mitigation Interest

Responsible Mapping Partner: NCFMP

Scope: The NCFMP shall utilize the multiple profile water surface elevation data generated during the map maintenance updates for Nash, Pitt and X counties along with the multiple profile water surface elevation data for any streams not updated during map maintenance to develop the depth of flooding at each IHRM building structures. The NCFMP shall use the IHRM generated HAG, LAG and first floor elevations to calculate the depth of flooding within each IHRM structure. The utilize the depth of flooding data and the appropriate depth-damage curves to generate average annual damage estimates for each IHRM building structure.

Standards: All processes and deliverables shall be completed in accordance to the Federal Emergency Management Agency's (FEMA's) Guidelines and Specifications for Flood Hazard Mapping Partners (G&S) and appropriate Procedure Memoranda (PMs).

Deliverables: The NCFMP shall deliver the following to the FEMA Regional Project Officer in accordance with the schedule outlined in Section 4– Schedule.

- Distribute average annual damage loss data grid and by IHRM building structure to:
 - Nash County
 - Pitt County
 - Scotland County
- Solicit feedback from communities on usefulness of data and compile lessons learned memorandum

Flood Risk Assessment

Responsible Mapping Partner: NCFMP

Scope: The NCFMP shall utilize the depth of flooding data, IHRM building data, and IHRM building value data to generate the direct flood risk for each community in Nash, Pitt and Scotland counties. The NCFMP shall also generate the direct flood risk for each IHRM building structure. All data will be distributed to the counties as part of the county meetings (see Areas of Mitigation Interest).

Standards: All processes and deliverables shall be completed in accordance to the Federal Emergency Management Agency's (FEMA's) Guidelines and Specifications for Flood Hazard Mapping Partners (G&S) and appropriate Procedure Memoranda (PMs).

Deliverables: The NCFMP shall deliver the following to the FEMA Regional Project Officer in accordance with the schedule outlined in Section 4– Schedule.

- Develop and distribute HAZUS flood risk assessment results to:
 - Nash County
 - Pitt County
 - Scotland County

- Develop and distribute Integrated Hazard Risk Management risk assessment results into products to:
 - Nash County
 - Pitt County
 - Scotland County
- Incorporate local structure data into Integrated Hazard Risk Management risk assessment for:
 - Nash County
 - Pitt County
 - Scotland County
- Develop and distribute county flood risk report and map to:
 - Nash County
 - Pitt County
 - Scotland County
- Develop county wide flood risk database for:
 - Nash County
 - Pitt County
 - Scotland County

SECTION 2—PERIOD OF PERFORMANCE

The activities outlined in this MAS will be completed as specified in the Agreement Articles of the Cooperative Agreement. The Mapping Activities may be terminated at the option of FEMA or NCFMP in accordance with the provisions of the Partnership Agreement dated September 15, 2000. If these mapping activities are terminated, all products produced to date must be returned and the remaining funds from uncompleted activities, provided by FEMA for this MAS, will be returned to FEMA. Deliverables for these Early Demonstration Projects will be delivered no later than February 28, 2011.

SECTION 3—FUNDING/LEVERAGE

FEMA is providing funding, in the amount of \$300,000, to the NCFMP for the completion of this Early Demonstration Activity. The NCFMP shall provide any additional resources required to complete the assigned activities for this Program Management Activity. The leverage listed below is based on blue book values or actual costs where Blue Book values don't exist. The current Blue Book is dated January 2009 and can be downloaded from FEMA's Information Resource Library at <http://www.fema.gov/library/viewRecord.do?id=2473>.

Table 3.1 Contribution and Leverage

Project Task	FEMA Contribution	Partner Contribution	% Partner Leverage of Total Project Cost	Total Project Cost
Nash County				
Pitt County	0			
Scotland County				
TOTAL FUNDING AMOUNTS				

SECTION 4—STANDARDS

Mapping partners working on a Early Demonstration Project are responsible for complying with all related PMs published by FEMA as of the date of this agreement. Relevant standards can be found in the G&S and PMs, FEMA’s Federal Regulation 44 CFR and the appropriate year CTP Guidance. CTPs should also coordinate with their Regional office to determine additional standards that should be met.

G&S may be downloaded from the FEMA Flood Hazard Mapping website at http://www.fema.gov/plan/prevent/fhm/dl_cgs.shtm.

SECTION 5—SCHEDULE

The activities documented in this MAS shall be completed in accordance with Table 5.1 but not to extend beyond February 28, 2011. A mid-term progress report will be due by November 30, 2010. If changes to this schedule are required, the responsible Mapping Partner shall coordinate with FEMA and the other Mapping Partners in a timely manner. Please also identify to whom the products associated with each task are to be submitted to (i.e. the MIP, FEMA Regional Office, etc.).

Table 5.1 Project Activities Schedule

Activities	Responsible Partner(s)	Delivery Date
Changes Since Last Firm – Special Flood Hazard Area	NCFMP	Oct 29, 2011
Changes Since Last Firm – Water Surface Elevation Grid	NCFMP	Oct 29, 2011
Changes Since Last Firm – Local Parcel / Structure Data	NCFMP	Oct 29, 2011
Multi Frequency Flood Depth and Analysis Grids - 10-, 25-, 50-, 100-, and 500-year depth grids	NCFMP	Nov 30, 2011
Multi Frequency Flood Depth and Analysis Grids - 10%, and 20% impervious coverage, and ultimate buildout impervious coverage	NCFMP	Nov 30, 2011
Multi Frequency Flood Depth and Analysis Grids – Percent Chance Flooding Grids	NCFMP	Nov 30, 2011
Multi Frequency Flood Depth and Analysis Grids – Percent Chance Flooding by Structure	NCFMP	Nov 30, 2011
Multi Frequency Flood Depth and Analysis Grids – Threshold Recurrence Interval by Structure	NCFMP	Nov 30, 2011
Flood Risk Assessment - HAZUS	NCFMP	Jan 15, 2011
Flood Risk Assessment - IHRM	NCFMP	Jan 15, 2011
Flood Risk Assessment - Risk Report	NCFMP	Jan 15, 2011
Area of Mitigation Interest – Average Annual Loss	NCFMP	Jan 28, 2011
Area of Mitigation Interest – County Meetings	NCFMP	Feb 15, 2011
Area of Mitigation Interest – Less Learned Memo	NCFMP	Feb 28, 2011
Flood Risk Assessment - Risk Database	NCFMP	Feb 28, 2011
Flood Risk Assessment - Risk Database	NCFMP	Feb 28, 2011

SECTION 6—CONTRACTORS

The NCFMP intends to use the services of the NCFMP contractors as a contractor for this Early Demonstration Project. The NCFMP shall ensure that the procurement for all contractors used for this Early Implementation Project complies with the requirements of 44 CFR 13.36.

SECTION 7—REPORTING

Financial Reporting: Because funding has been provided to the NCFMP by FEMA, financial reporting requirements for the NCFMP will be in accordance with Cooperative Agreement Articles. The NCFMP shall also refer to 44 CFR 13.41.

The NCFMP shall provide financial reports to the FEMA Regional Project Officer and Assistance Officer in accordance with the terms of the signed Cooperative Agreement for this MAS.

Status Reporting: Status reports will be submitted on a quarterly basis in accordance with the financial reporting submittals. The NCFMP shall refer to 44 CFR 13.4 to obtain minimum requirements for status reporting. The Project Officer, as needed, may request additional information on status.

The NCFMP may meet with FEMA, as needed, to review the progress of the project in addition to the quarterly financial and status submittals. These meetings will alternate between the NCFMP office and conference calls, as necessary.

Earned Value Data Entry:

As there are no tasks within the Mapping Information Platform (MIP) Workflow associated with Early Demonstration Project, the MIP cannot be used to set baselines and track progress against these baselines. However, the FEMA Regional office and the CTP should set a cost and schedule baseline at the beginning of the project and review it quarterly when assessing the status of the project. The Project Officer may request additional information regarding status on an ad-hoc basis.

SECTION 8—PROJECT COORDINATION

Throughout the project, all members of the PMT will coordinate, as necessary, to ensure the products meet the technical and format specifications required and contain accurate, up-to-date information. Coordination activities shall include:

- Meetings, teleconferences, and video conferences with FEMA as needed;;
- Telephone conversations with FEMA on a scheduled basis on an ad hoc basis, as required;
- E-mail, facsimile transmissions, and letters, as required.

SECTION 9—POINTS OF CONTACT

The points of contact for this Early Demonstration Project are Kristen Martinenza, P.E., CFM, the FEMA Regional Project Officer; John K. Dorman, the NC Floodplain Mapping Program Director; or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities. When necessary, any additional FEMA assistance should be requested through the FEMA Regional Project Officer.

Each party has caused this MAS to be executed by its duly authorized representative.

John Dorman 10/5/10
Date

John K. Dorman
Director
NCFMP

Kristen Martinenza 10/13/10
Date

Kristen Martinenza, P.E., CFM
Regional Project Officer
Federal Emergency Management Agency, Region IV

