



COMPLEX SYSTEMS RESEARCH CENTER, UNIVERSITY OF NEW HAMPSHIRE COOPERATING TECHNICAL PARTNERS MAPPING ACTIVITY STATEMENT

Mapping Activity Statement No. EMB-2005-CA-0839 Digital Flood Insurance Rate Map Production

In accordance with the Cooperating Technical Partners (CTP) Partnership Agreement dated MAY 26, 2005 between the Complex Systems Research Center (CSRC), University of New Hampshire, and the Federal Emergency Management Agency (FEMA), Mapping Activity Statement

Section 1: Objective and Scope

The objective of the Flood Map Project documented in this MAS is to develop Digital Flood Insurance Rate Maps (DFIRMs) for 12 communities in Coos County, New Hampshire. The DFIRMs developed under this agreement will be assembled with DFIRM data produced for the additional 7 communities in Coos County generated in a prior agreement, and the resulting countywide dataset will be delivered in the FEMA Countywide Format.

The following will complete this Flood Map Project:

- Complex Systems Research Center (CSRC), University of New Hampshire

The activities for this Flood Map Project, including required Quality Assurance/Quality Control (QA/QC) reviews, and the Mapping Partners that will complete them are summarized in Table 1-1. All activities that are to be accomplished by CSRC or contractors to CSRC, including contractors that may be selected after the project startup, are included in the "CTP" column. The sections of this MAS that follow Table 1-1 describe the specific activities, responsible Mapping Partner(s), FEMA standards that must be met, and resultant map components.

Table 1-1. Summary of Project Activities and Assignments

Activities	CTP
Activity 1: Base Map Acquisition	CSRC
Activity 2: DFIRM Production (Non-Revised Areas)	CSRC

FEMA has developed tools to assist in the development of the flood hazard data studies and the Digital Flood Insurance Rate Maps (DFIRMs). FEMA will, through the NSP, provide all CTPs access to and training in these tools. The use of these tools will assist in the Map Modernization effort and the efficiency of mapping partners.

If the CTP chooses not to use these production tools, then the CTP will be required to submit project data at major milestones in each Mapping Project in accordance with data capture standards. Submitting data in these standards will aid in more efficient quality control reviews, data storage, archiving, and for future study updates.

The Data Capture Specifications submittals will be required at the following study milestones:

- DFIRM Mapping (draft and preliminary).

QA/QC review activities may be performed by CTPs or the NSP at the discretion of FEMA. Please note the NSP will also be performing periodic audits and overall study/project management to monitor study quality.

FEMA will be providing download/upload capability for data capture submittals through the MIP. Data submittals uploaded via the MIP will include the same data required prior to the existence of the MIP.

Activity 1 - Base Map Acquisition

Responsible Mapping Partner: Complex Systems Research Center (CSRC), University of New Hampshire

Scope: CSRC shall provide the digital base map, 1998 digital orthophotoquads, for the project. The required activities are as follows:

- Obtain digital files (raster or vector) of the base map.
- Certify that the digital data meets the minimum standards and specifications that FEMA requires for DFIRM production.
- Populate the DFIRM database with the information required by FEMA.

Standards: All work under Activity 1 shall be performed in accordance with the standards specified in Section 5 of this MAS.

Deliverables: In accordance with the TSDN format described in Appendix M of *Guidelines and Specifications for Flood Hazard Mapping Partners*, CSRC shall make the following products available to FEMA:

- Written certification that the digital data meet FEMA's minimum standards and specifications; and
- Documentation that FEMA can use the digital base map.

Appendix M may be downloaded from the FEMA Flood Hazard Mapping Web site at http://www.fema.gov/pdf/fhm/frm_gsam.pdf.

Activity 2 – DFIRM Production (Non-Revised Areas)

Responsible Mapping Partner: Complex Systems Research Center (CSRC), University of New Hampshire

Scope: CSRC shall convert the information shown on the effective FIRM/Floodway and Flood Boundary Floodway Map (FBFM) panels for 12 incorporated/unincorporated areas of Coos County (Berlin, Carroll, Dalton, Dummer, Gorham, Jefferson, Lancaster, Milan, Northumberland, Randolph, Shelburne, and Stark) to digital format in conformance with FEMA DFIRM specifications. CSRC shall use the base map acquired under Activity 1 for the conversion. CSRC shall digitize 91 FIRM/Floodway panels and 7 FBFM panels under this MAS. CSRC also shall incorporate the results of LOMCs issued by FEMA since the date of the current effective FIRM for each affected community.

CSRC shall not digitize the flood theme for those segments of flooding sources for which updated flood data will be developed. Rather, CSRC shall leave these as “holes” in the digital flood theme that will be filled in as subsequently by FEMA and/or the designated MCC.

Standards: All work under Activity 2 shall be performed in accordance with the standards specified in Section 5 of this MAS.

Deliverables: In accordance with the TSDN format described in Appendix M of *Guidelines and Specifications for Flood Hazard Mapping Partners*, CSRC shall make the following products available to FEMA:

- Digital work maps showing the 1- and 0.2-percent-annual-chance floodplain boundary delineations, regulatory floodway boundary delineations, cross sections, BFEs, flood insurance risk zone labels, and all applicable base map features;
- DFIRM mapping files, prepared in accordance with the requirements in *Guidelines and Specifications for Flood Hazard Mapping Partners*;
- Metadata files describing the DFIRM data, including all required information shown in *Guidelines and Specifications for Flood Hazard Mapping Partners*;
- Complete set of plots of DFIRM panels showing all detailed flood hazard information at a suitable scale; and
- A Summary Report that describes and provides the results of all automated or manual QA/QC review steps taken during the preparation of the DFIRM, including a check that the road and floodplain relationship is maintained for all non-revised areas.

Appendix M may be downloaded from the FEMA Flood Hazard Mapping Web site at http://www.fema.gov/pdf/fhm/frm_gsam.pdf.

SECTION 2—Technical and Administrative Support Data Submittals and special problem reports

The Project Team members for this Flood Map Project that have responsibilities for activities included in this MAS shall comply with the data submittal requirements summarized below.

All supporting documentation for the activities in this MAS shall be submitted in the TSDN format in accordance with Appendix M of the FEMA *Guidelines and Specifications for Flood Hazard Mapping Partners*, dated April 2003. Appendix M is available for viewing or download on the FEMA Web site at

http://www.fema.gov/pdf/fhm/frm_gsam.pdf. Table 2-1 indicates the sections of the TSDN that apply to each mapping activity.

Table 2-1. Mapping Activities and Applicable TSDN Sections

TSDN Section	Mapping Activities	
	1	2
General Documentation		
Special Problem Reports	X	X
Telephone Conversation Reports	X	X
Meeting Minutes/Reports	X	X
General Correspondence	X	X
Mapping Information	X	X
Miscellaneous Reference Information	X	X

If any issues arise that could affect the completion of an activity within the proposed scope or budget, the responsible Mapping Partner shall complete a Special Problem Report (SPR) as soon as possible after the issue is identified and submitted to FEMA. The SPR is to describe the issue and propose possible resolutions. (For additional information on SPRs, refer to Appendix M, Subsection M.2.1.1 of *Guidelines and Specifications for Flood Hazard Mapping Partners*.)

Additionally, the NSP shall collect and maintain a set of products for all Activities and shall compile a comprehensive TSDN for the entire project.

Section 3—Period of Performance

The mapping activities documented in this MAS will begin on September 1, 2005, and will be completed no later than December 31, 2006. The mapping activities may be terminated at the option of FEMA or CSRC in accordance with the provisions of the Partnership Agreement dated {Insert Partnership Agreement date}.

Section 4—Funding/Cost-Sharing

FEMA is providing funding, in the amount of _____ to CSRC for the completion of the Flood Map Project documented in this MAS. CSRC shall provide resources (in-kind services) valued at \$ _____ in order to complete the assigned activities for this Flood Map Project.

Section 5—Standards

The standards relevant to this MAS are provided in Tables 5-1 and 5-2. Information on the correct volume, appendix, section, or subsection of the FEMA *Guidelines and Specifications for Flood Hazard Mapping Partners* to be referenced for each mapping activity are summarized in Table 5-2. These Guidelines are available for viewing or download from the FEMA Flood Hazard Mapping Web site at http://www.fema.gov/fhm/dl_cgs.shtm.

In addition, Data Capture Standards referenced in the previous sections are to be applied to the project for the data formats to be submitted to FEMA.

Table 5-1. Applicable Standards for Project Activities

Applicable Standards	Activities	
	1	2
<i>Guidelines and Specifications for Flood Hazard Mapping Partners</i> , February 2002	X	X
<i>Content Standards for Digital Geospatial Metadata</i> (Federal Geographic Data Committee, 1998)	X	X

Table 5-2. Project Activities and Applicable Portions of FEMA Guidelines and Specifications

Activity Number	Activity Description	Applicable Volume, Section/Subsection, and Appendix
1	Base Map Acquisition and Preparation	Volume 1, Section 1.3 (specifically Subsection 1.3.1.8) and 1.4 (specifically Subsection 1.4.3) Appendices A and B
2	DFIRM Production (Non-Revised Areas)	Volume 1, Section 1.4 (specifically Subsections 1.4.2.3 and 1.4.3.2) Appendices K, L, and M

Section 6—Schedule

The activities documented in this MAS shall be completed in accordance with the project schedule shown in Table 6-1. If changes to this schedule are required, the responsible Mapping Partner shall coordinate with FEMA and the other Mapping Partners in a timely manner.

Table 6-1. Project Schedule

ACTIVITIES	RESPONSIBLE PARTNER(S)	DATE DUE
Activity 1 – Base Map Acquisition	CSRC	3/1/06
Activity 2 – DFIRM Production (Non-Revised Areas)	CSRC	12/31/06

Section 7—Certifications

The following certifications apply to this MAS:

Activity 1 (Base Map Acquisition and Preparation)

- The responsible Mapping Partner shall provide documentation that the digital base map can be used by FEMA. Please note that uploading base map data to the MIP does not constitute agreement that the digital base map can be used by FEMA. Documentation that the digital base map can be used by FEMA will still be required.

Certifications must be made at the time the intermediate data is submitted. For example, if hydrologic data is submitted, certification will be required at the time it is submitted.

Section 8—Technical Assistance and Resources

Project Team members may obtain copies of FEMA-issued LOMCs, archived engineering backup data, and data collected as part of the FEMA Mapping Needs Assessment Process from the NSP, who may be contacted by telephone at 1-877 FEMA MAP (1-877-336-2627).

General technical and programmatic information, such as FEMA 265 and the Quick-2 computer program, can be downloaded from the FEMA Web site (<http://www.fema.gov/fhm/>). Specific technical and programmatic support may be provided through the NSP; such assistance should be requested through the FEMA Project Officer specified in Section 11 of this MAS.

Project Team members also may consult with the FEMA Regional Project Officer to request support in the areas of selection of data sources, digital data accuracy standards, assessment of vertical data accuracy, data collection methods or subcontractors, and GIS-based engineering and modeling training.

Section 9—Contractors

CSRC does not intend to use the services of a contractor for the Flood Map Project documented in this MAS.

Section 10—Financial Reporting

Because funding has been provided to CSRC by FEMA for the Flood Map Project documented in this MAS, financial reporting requirements for CSRC will be in accordance with Cooperative Agreement Articles V and VI.

Section 11—Points of Contact

The points of contact for this Flood Map Project are Dean Savramis, the FEMA Regional Project Officer; Fay Rubin, the Project Manager for CSRC; or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities. When necessary, the assistance of the NSP should be requested through the FEMA Project Officer, Dean Savramis.

In addition, the NSP is required to coordinate project issues with the responsible Mapping Partner that created the MAS deliverable or portions of the MAS deliverable product and will document all such coordination activities with the CTP and FEMA.

Section 12—Project Coordination

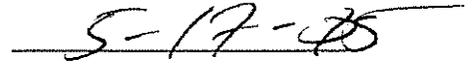
Throughout the project, all members of the Project Team will coordinate, as necessary, to ensure the products meet the technical and format specifications required and contain accurate, up-to-date information. Coordination activities may include:

- Updates to the MICS, MNUSS database, and other FEMA status information systems in accordance with requirements in Volumes 1 and 3 of *Guidelines and Specifications for Flood Hazard Mapping Partners*; and
- E-mail, facsimile transmissions, and letters, as required.

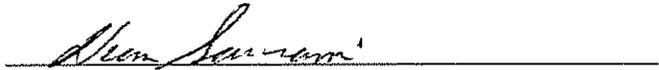
Each party has caused this MAS to be executed by its duly authorized representative.



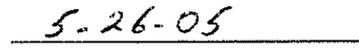
Victor G. Sosa
Co-Manager, Research Administration
University of New Hampshire



Date



Dean Savramis, HIRA Branch
Regional Project Officer
Federal Emergency Management Agency, Region I



Date