

State Business Plan for Arkansas

EXECUTIVE SUMMARY

The Federal Emergency Management Agency's (FEMA's) flood hazard maps are one of the essential tools for flood hazard mitigation in the United States. Unfortunately, many of these maps have become outdated, and significant areas of the country remain unmapped. To address this problem, the President's budget for Fiscal Year (FY) 2003 included \$351 million for initiating FEMA's national Map Modernization Program, with similar funding levels proposed for subsequent fiscal years, including the appropriation of \$200 million for FY 2004 by Public Law (P.L.) 108-90.

FEMA Region VI staff in Denton, Texas currently handles overall management of the Arkansas Map Modernization and lead study scoping activities with the assistance from the National Service Provider (NSP) through FEMA Headquarters. The NSP serves as the Program Manager to develop, plan, manage, implement, and monitor the Flood Map Modernization Program for flood hazard mitigation across the United States and its territories. The NSP also coordinates with FEMA to work with state, local, and other Federal partners to develop digital flood hazard data for the entire United States. The goal of the NSP is to support FEMA's strategic and program objectives.

Four key program components include:

- Development of a geospatial data collection and delivery system within 90 days of the final contract award to manage flood hazard data and, in the future, multi-hazard data.
- Establishment of a continually improving Program Management Office to direct and monitor program activities.
- Expansion of support for community partners through technical support, training, and incentives for program participation.
- Providing risk communications to educate the public about reducing their vulnerability to floods and other hazards.

This 2004 Business Case Plan for the State of Arkansas serves as the State's "notice of interest" to participate in Flood Map Modernization activities. This Plan was prepared to assist FEMA in the development of regional and national plans for implementing the Map Modernization Program. This Plan summarizes the role that Arkansas intends to play in completing the required mapping activities and how these activities will be managed and performed. This Plan also identifies mapping priorities and outlines an approach for addressing these priorities.

The State of Arkansas' vision is to increase their role in the Map Modernization Program. The State vision is for the Arkansas Soil and Water Conservation Commission (ASWCC) to form a partnership between State agencies, local communities, and FEMA to maintain an inventory of available data, such as elevation data, flood data, hydrological and hydraulic data, and study update needs. The State activities would also include hiring a State contractor to perform flood studies, assisting with establishing study priorities, and being involved in technical standards agreements, project scoping, digital base map

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acquisition and preparation, topographic data development, Digital Flood Insurance Rate Map (DFIRM) maintenance, study coordination, information technology, and outreach associated with map modernization. Region VI engineers will handle overall management of the program and lead study scoping activities. During the first year, FEMA Region VI Indefinite Delivery–Indefinite Quantity (IDIQ) contractors will be called upon to handle the majority of study engineering work, while the State obtains its own contractor. Thereafter, the State contractor will handle the bulk of the engineering and mapping work. FEMA contractors will be responsible for engineering review, DFIRM production, and post-preliminary processing.

The State's goals for the first year are to hire one additional staff member, develop and implement a program for administrative and management activities, and, as mentioned previously, hire an engineering contractor for flood studies. With the additional staff and contractor, the State would like to develop CTP agreements and Mapping Activity Statements for specific mapping projects and mapping activities that will include topographic data development and base map acquisition and preparation. The State will also continue investigating the willingness of the State legislature to provide assistance for funding the Map Modernization in future years. The State will also initiate mapping counties using detailed, limited detailed, and digital conversions for five counties.

The State has identified performance measures for current and future activities. The performance goals/measures are as follows (further information is provided in Section 3 of the Plan):

- Annual State Business Plan updates
- NFIP compliance efforts related to updated floodplain mapping
- Assisting in assessment of community mapping needs
- Outreach to communities
- Assist in identifying study/restudy needs
- Producing a digital base map inventory of the State
- Developing Technical Standards Agreements
- Mapping project scoping
- Digital base map acquisition and preparation
- Developing topographic data
- Hydrologic and hydraulic preparation
- DFIRM production
- Maintaining DFIRMs
- Coordination for flood insurance studies
- Information Technology (IT) Systems (maintaining and disseminating flood maps)

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The State will provide up to a 25 percent cost share in the form of a soft match from man-hours contributed to flood mapping activities from the following State agencies:

- Arkansas Geographic Information Office (AGIO)
- Arkansas Highway and Transportation Department
- Arkansas Department of Emergency Management (ADEM)
- Arkansas Forestry Commission (AFC)
- Arkansas Soil and Water Conservation Commission (ASWCC)

This 25 percent match to the Federal funds from FEMA will be for administrative and management activities as required under CAP-MAP. The match will be in the form of in-kind contributions toward flood mapping activities by five State agencies. If approved by FEMA the State estimates the cost for one FTE staff person to be \$60,000. The breakdown of cost share would be as shown in below:

CAP-MAP Cost Share for Arkansas

FEMA Share	State of Arkansas Share*	Total
\$45,000	\$15,000	\$60,000

**See Table 6, Page 26, for Cost Share by State Agency and Appendix D for detailed justification of FY 2004 in-kind contribution match and schedule.*

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MAP MODERNIZATION STATE BUSINESS PLAN CERTIFICATION

Organization: **Arkansas Soil and Water Conservation Commission**

I, _____, hereby certify that the information submitted in this Business Plan is true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Signed this ____ day of _____, _____, upon my oath or affirmation representing the State of Arkansas.

Jason Donham
National Flood Insurance Program Coordinator
Arkansas Soil and Water Conservation Commission

Date

Frank Pagano, Division Director
Federal Insurance and Mitigation Division
Federal Emergency Management Agency

Date

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SECTION 1: STATE VISION FOR SUPPORTING MAP MODERNIZATION PROGRAM

1.1 *Current State NFIP Resources and Efforts*

The State of Arkansas participation in the Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP) is led by the Arkansas Soil and Water Conservation Commission (ASWCC) Dam Safety and Floodplain Management Program. The purpose of the ASWCC Floodplain Management Program is to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions. This is currently accomplished through visiting communities (towns, cities, and counties) participating in the NFIP to provide general and technical assistance, conducting training and educational workshops, providing information to the public regarding the NFIP and floodplain management, and providing assistance for mitigation during the recovery phase of a disaster operation. The ASWCC has been authorized to perform these duties under Act 629 of 1969 to enact and enforce land use measures that will prevent and alleviate flood hazards and losses in flood-prone areas of the State and for other purposes.

Figure 1 shows the organizational chart for the ASWCC. Figure 2 shows the members of Dam Safety Floodplain Management. Jason Donham, the State NFIP Coordinator, currently provides primary responsibility for the NFIP in Arkansas. His current activities related to updating floodplain maps are conducted under FEMA's Community Assistance Program.

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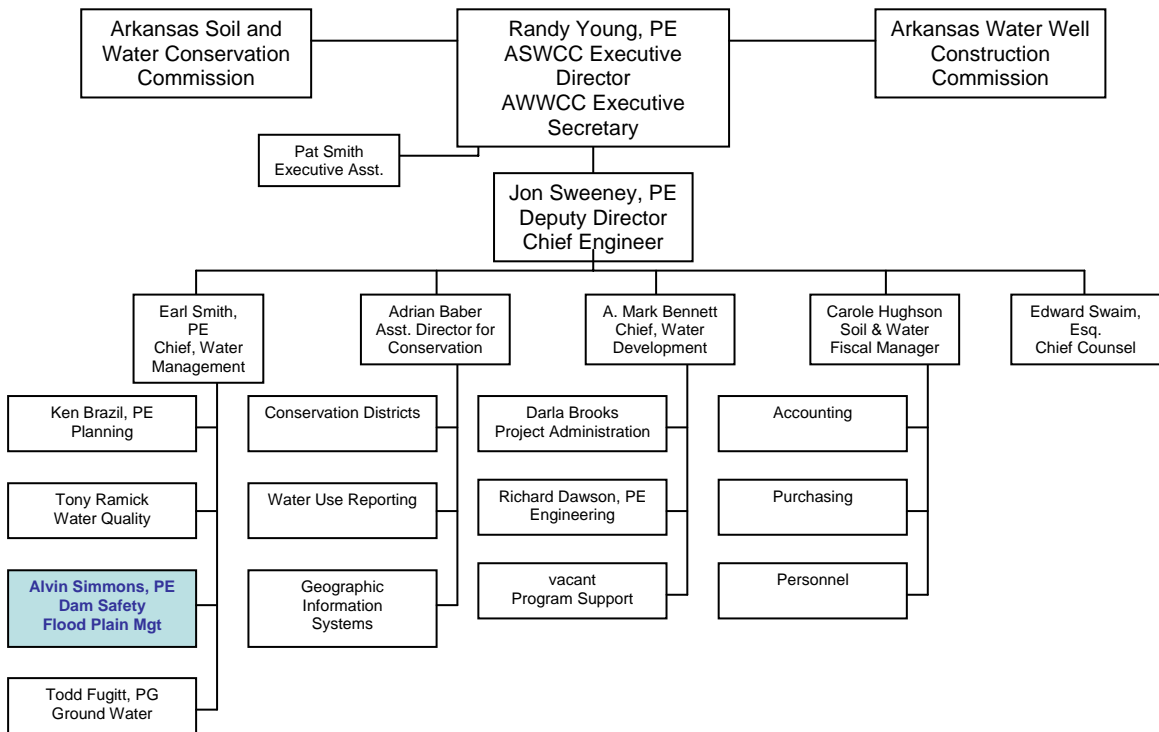


Figure 1. Arkansas Soil and Water Conservation Commission Organization

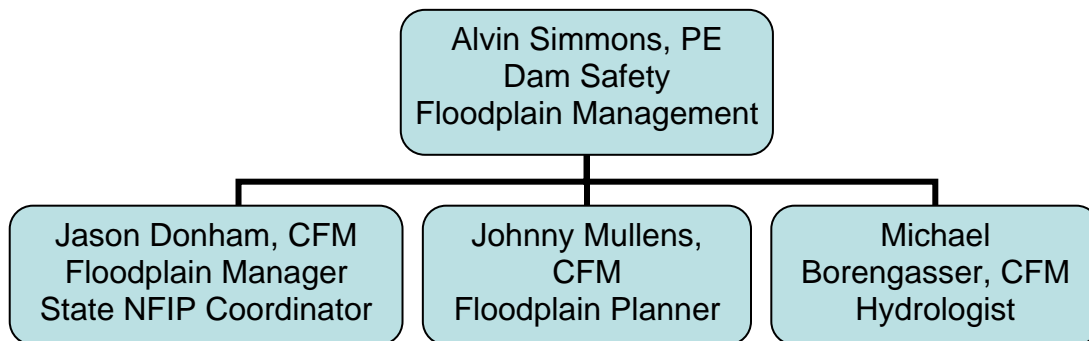


Figure 2. ASWCC – Dam Safety and Floodplain Management Organization

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The following sections summarize current NFIP-related activities conducted by the ASWCC and other State agencies.

Coordination

The ASWCC currently coordinates with various local, State, and Federal agencies regarding NFIP activities. The ASWCC coordinates with local communities to update their ordinances and implement local floodplain management programs that comply with minimum NFIP criteria. The ASWCC coordinates with county and local community officials through the Arkansas Municipal League, the Association of Counties, and the Arkansas Floodplain Management Association. The ASWCC coordinates with the following State agencies: the Arkansas Geographic Information Office (AGIO), the Arkansas Highway and Transportation Department, the Arkansas Department of Emergency Management (ADEM), and the Arkansas Forestry Commission (AFC). The ASWCC also coordinates with FEMA, the U.S. Army Corps of Engineers (USACE - Little Rock, Vicksburg, and Memphis Districts), the U.S. Geological Survey (USGS), and the Natural Resources Conservation Service (NRCS).

Data Collection

The AGIO is a repository for the base map data collection activities within Arkansas. The AGIO is responsible for maintaining the geographic information system (GIS) in Arkansas and is the State's resource for gathering and presenting information on Arkansas geographical data, such as natural resources, bodies of water, and roads. These services benefit the planning and development of cities, counties, industries, and various government entities. All available digital map data for the state of Arkansas is in GeoStor, which is an on-line Spatial Data Infrastructure system for Arkansas. GeoStor includes roads, streams, aerial photography, satellite imagery, and elevation data. There are more than 200 vector feature classes (e.g., roads and soils) and more than 350 raster classes (including statewide aerial photography, elevation, satellite imagery, etc.) available for use by the public.

The AGIO coordinates with different Federal, State, and local agencies and organizations in order to fund appropriate GIS resources for Arkansas. The AGIO also works in conjunction with the Arkansas State Land Information Board on many GIS activities, projects, policies, and procedures.

The AGIO has the potential for supporting Flood Map Modernization Program in Arkansas. The AGIO and the ASWCC are currently developing an agreement to work together in supporting the Flood Map Modernization Program.

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Flood Studies and Map Production

The NFIP State Coordinator currently works with the FEMA Region VI Office for prioritizing studies within the State. The State does not currently conduct or contract flood studies, nor is it actively involved in the engineering or mapping for flood hazard map development in Arkansas. Although not related to the NFIP, the Arkansas Highway and Transportation Department produces flood analyses (for the 100-year storm) for all new highway and bridge construction in the State. This information may be used for conducting flood studies or may be used as an indication for studies needed for a particular region in the State.

The City of Arkadelphia is currently the only Cooperating Technical Partner (CTP) within the State. Under the City of Arkadelphia's CTP agreement, the City is developing digital topographic data, redelineating flood hazards, and preparing Digital Flood Insurance Rate Maps (DFIRMs) for 9.6 miles of stream for Ouachita River, Mill Creek, and other tributaries. Pulaski County is also in discussions with the FEMA Region VI Office regarding participation as a CTP.

ADEM and AFC also develop maps for other hazards within Arkansas, including fire hazards and critical infrastructure mapping. That data may ultimately be used in the Multi-Hazard Mapping program.

NFIP Activities and Criteria

Act 629 of 1969 is the Arkansas State Code that establishes the State's Floodplain Program. The State's current Map Modernization activities include the Mapping Needs Update Support System (MNUSS) input training and outreach programs to encourage local communities to participate in Map Modernization and in the CTP Program. The ASWCC also participates in Consultation Coordination Officer's (CCO) meetings, time and cost meetings for Flood Insurance Studies, and provides community ordinance compliance and technical assistance.

In addition, Arkansas Code 15-21-504 establishes the Arkansas State Land Information Board, AGIO, and the authority to set base map standards and coordinate digital base mapping in Arkansas. The Arkansas Land Information Board is also designated to serve as a statewide source of mapping and land information technology information, and is required to coordinate with the USGS and other Federal agencies in the development of Arkansas Spatial Data.

The ASWCC currently participates in the Community Assistance Program – State Support Services Element (CAP-SSSE) to provide technical assistance to individual communities in order to promote floodplain management practices consistent with the intent of the NFIP. The following activities for the State and local jurisdictions are being proposed for 2004:

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- Develop a comprehensive program of education, awareness, and outreach on mitigation for public and private sectors to reduce risks of flooding. Arrange and conduct training workshops and promote the Arkansas Floodplain Management Association.
- Establish building codes, zoning ordinances, infrastructure design standards, and adequate enforcement capability to minimize risks associated with known hazards.
- Establish zoning ordinances to minimize risks associated with flooding.
- Establish public and private sector partnerships to promote, plan, and coordinate activities to enhance mitigation
- Develop for the State a comprehensive, on-going training program that institutionalizes skills, competencies, and capabilities of their respective staff engaged in mitigation activities.
- Develop a comprehensive program of education, awareness and outreach on mitigation for public and private sectors to reduce risks. Respond to requests for information or assistance directly relating to the NFIP.
- Establish building codes, zoning ordinances, infrastructure design standards and adequate enforcement capability to minimize risks associated with floods.

The Arkansas Floodplain Management Association, which was formed in 1996, is a non-profit organization that is open to all persons involved in floodplain management and related disciplines in the State of Arkansas. The purpose of the Association is to promote the common interest in flood damage reduction, to enhance cooperation and to exchange information among the various related private organizations, individuals, local, state, and Federal agencies to encourage appropriate and effective approaches to managing the State's floodplains, and to educate the public about floodplain management. A majority of the members are local community officials, both elected officials and administrative staff. The membership also includes private citizens and staff members of State and Federal government agencies who work in floodplain management.

1.2 State Vision for Participation in Map Modernization

The State's immediate vision for participation in Flood Map Modernization is to form a partnership between State agencies, local communities, and FEMA to maintain an inventory of available data, such as elevation data, flood data, hydrological and hydraulic data, and study update needs. The agencies include the AGIO, the Arkansas Highway and Transportation Department (AH&TD), ADEM, and AFC.

After funding is available, the State will expand its role from that identified in the State's 2002 Map Modernization Plan, which stated that the State of Arkansas was not in a position to provide staff resources in the foreseeable future to lead efforts to refine the State's mapping needs, and that the State will primarily provide guidance and assistance concerning data-collection activities. Therefore, the current ASWCC 5-Year vision for participation in Map Modernization includes the ASWCC as the lead coordinator for the floodplain program, hiring and managing a State contractor to conduct flood studies in

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Arkansas, hiring additional staff to assist with mapping activities, and establishing Inter-Agency Agreements. Activities that the State and/or contractor hired by the State would undertake under this 5-Year vision include:

- Annual State Business Plan updates
- NFIP compliance efforts related to updated mapping
- Entering data into MNUSS
- Assisting in identifying and prioritizing study/restudy needs
- Producing a digital base map inventory of the State
- Developing Technical Standards Agreements
- Mapping project scoping
- Acquiring and preparing digital base maps
- Developing topographic data
- Hydrologic and hydraulic preparation
- DFIRM production
- Maintaining DFIRM s
- Coordination for flood insurance studies
- Information Technology (IT) Systems (maintaining and disseminating flood maps)
- Conducting outreach activities (informational mailings, community meetings, website, multi-media promotion)

The ASWCC would contact local communities that have information to assist in mapping, conduct CCO meetings with FEMA, manage flood studies performed by State Contractors, assist in study coordination, assist communities with mapping needs assessments (MNUSS), and coordinate with other State agencies that have information to aid FEMA in making new flood maps.

Since the AGIO has the authority to set base map standards, coordinates digital base mapping, and serves as a statewide source of mapping and land information technology information, the development of flood maps should be coordinated through the AGIO. Therefore, ASWCC would also work with the AGIO and the State Land Information Coordinator to locate data to be used in new maps, and help store information needed for future map needs across the state. These agencies would provide assistance in the areas of information technology systems and topographical data development, as well as other key areas in mapping. This multi-agency approach would help seek out all data and information available in Arkansas for support of Map Modernization.

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SECTION 2: NEEDS AND PLAN/STRATEGY (for a 5-year period)

2.1 *Project Description*

This section will describe Arkansas' level of participation in the Map Modernization Program. This will be followed by a description of State and local partners for Map Modernization and available data that may be shared with partners. Furthermore, tasks to be completed by ASWCC, partners, FEMA, and FEMA contractors will be presented. Finally, the schedule for building from the current program to the ASWCC vision for participation in Map Modernization will be discussed.

2.1.1 *Proposed State Level of Participation in FEMA's Program*

As stated previously, the State of Arkansas envisions increasing its role in Map Modernization. This Business Plan serves as the Planning Phase to identify those activities that the State desires to undertake. The next phase will be the Implementation Phase. The timeframe for completing the Implementation Phase is 24 months; however, the implementation depends on funding levels, which have not yet been determined.

After the State vision for Map Modernization is finalized with FEMA, the State will implement the Map Modernization Program through FEMA's Community Assistance Program-Mapping Assistance Program (CAP-MAP) grant program and the Cooperating Technical Partner (CTP) Program. CAP-MAP activities are strictly for administrative and management activities and are not related to any specific flood study. CTP activities are for project-related activities related to developing a flood study. The State understands that having each element in this plan is necessary for a balanced program.

For CAP-MAP activities, there is a 25 percent legal cost share requirement per State. Although currently CTP activities do not require a match for funding, FEMA has a nationwide goal for 20 percent leverage, and leverage is a significant part of the goals for Map Modernization and will be a factor in determining priorities.

To assist the State in developing its vision for its role in Map Modernization, a description of the potential activities the State may undertake was prepared based on FEMA guidance (see Appendix A). On October 24, 2003, FEMA Region VI engineering staff, and IDIQ Contractor staff had an initial conference call with the State NFIP Coordinator to discuss the State's vision. A meeting was then held in Little Rock on November 3, 2003, with the ASWCC, participating State partners, FEMA, and the IDIQ Contractor to further discuss the State's vision and the roles each stakeholder could potentially have in the State Map Modernization Program (see Appendix B for the meeting attendees). The State subsequently conducted several internal meetings to determine the State's level of interest in undertaking map modernization activities.

The State proposes to increase its level of participation in map modernization. The ASWCC will perform and/or manage the State's mapping activities. These activities will

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include the hiring of a State Contractor to conduct flood studies in Arkansas. The specific activities that the State will perform or manage will depend upon the funding available from FEMA. The State will provide up to a 25 percent match of Federal funds from FEMA for administrative and management activities, as required. The specific scope of activities will be detailed in partnership agreements; however, the State indicated an interest in conducting the following activities:

Annual State Business Plan Updates. The State will prepare an annual update to its 5-year Map Modernization Business Plan. This may include developing or updating a statewide mapping plan.

NFIP Compliance Efforts Related to Updated Floodplain Mapping. The State and FEMA will work with communities to update their ordinances as necessitated by updated FIRMs and also support communities in utilizing the updated data for floodplain management.

Assessment of Community Mapping Needs (to support FEMA's MNUSS). The State and State Contractor will perform a detailed community-by-community assessment of mapping needs for every mapped (including flood data updates and map maintenance) and unmapped NFIP community within its jurisdiction. The State and State Contractor will then input the results of the assessment in FEMA's web-based MNUSS database.

Outreach. The State will participate in community outreach by providing informational mailings, community meetings, a website, and multi-media promotion. The State of Arkansas will play an important role in community coordination and outreach efforts throughout the study process.

Assist in Identifying Study/Restudy Needs. The State will assist FEMA in identifying communities/counties that are in need of re-studies.

Producing Digital Base Map Inventory of Area. The State, State Contractor, and FEMA will prepare an inventory of available base maps for use in producing a DFIRM. The base map will comply with FEMA minimum accuracy requirements and be distributable by FEMA to the public in hardcopy and electronic formats.

Technical Standards Agreements. The State and State Contractor will work with FEMA to adopt specific technical standards or processes appropriate for local conditions for NFIP flood mapping purposes.

Project Scoping Meeting. The State and State Contractor will participate in the project scoping, which will include identifying flood data update needs and methods, identifying framework data needs and sources, making DFIRM decisions, developing schedules, and developing a project outreach plan. The

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State and State Contractor will participate in scoping meetings with FEMA, communities, and FEMA contractors and will provide review and comment on the resulting mapping activity statements/statements of work.

Digital Base Map Acquisition and Preparation. The State will provide a base map for use in producing a DFIRM. The base map will comply with FEMA minimum accuracy requirements and be distributable by FEMA to the public in hardcopy and electronic formats

Topographic Data Development. The State and State Contractor will develop digital topographic data for flood hazard identification purposes. Topographic data are required for the three typical methods for updating flood data: detailed study, approximate study, and redelineation. Detailed studies require topographic mapping of floodplain areas and surveys of bathymetry and structures. Approximate studies may or may not require bathymetry or structures. Redelineation requires only topographic mapping of floodplain areas.

Hydrologic and Hydraulic Preparation. The State Contractor will develop detailed analyses, approximate analyses, or a combination of both for one or both of the following types of flood hazards:

- Riverine flooding; and
- Shallow flooding.

DFIRM Production. The State and State Contractor will produce the DFIRM, which normally occurs concurrently with the preparation of new or revised flood hazard analyses. Information from the effective hardcopy FIRM will be digitized and a DFIRM will be prepared that meets FEMA specifications. The production of the Preliminary version of the FIRM and Flood Insurance Study (FIS) report normally includes the FIRM compilation process.

DFIRM Maintenance. The State and State Contractor will assume responsibility for long-term, periodic maintenance of the DFIRM for a specific project. This will include update of the base map information and flood hazard information.

Study Coordination. The State will lead coordination with community officials, community residents, and other interested Mapping Partners following issuance of the Preliminary copies of the FIRM and FIS report for review

IT Systems (Maintain and Disseminate Flood Maps). The State and State Contractor will maintain and disseminate flood maps for specific mapping projects. This may include the implementation of an IT infrastructure to analyze, maintain, and archive maps and associated flood hazard data. This system will also distribute the mapping data and associated reports to the public via the Internet.

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2.1.2 State Agency Capability and Capacity Requirements

Currently, only the ASWCC Dam Safety and Floodplain Management is the primary entity responsible for the NFIP in Arkansas. Activities related to updating floodplain maps are conducted under FEMA's Community Assistance Program. The ASWCC Dam Safety and Floodplain Management Program currently has a floodplain manager/ State NFIP Coordinator, floodplain planner and a state hydrologist. The floodplain planner currently assists the State NFIP Coordinator with the State Floodplain Management Program. The hydrologist primarily performs tasks related to Dam Safety; however, he provides technical assistance to the State Floodplain Management Program and directs the Arkansas Certified Floodplain Managers Program.

The State currently has limited capacity to perform additional tasks in support of Map Modernization. Therefore, if the State takes on additional responsibilities, an additional staff member will be required to assist the current NFIP Coordinator with daily operations, project management, reporting, communication, and the state plan management responsibilities. This staff person would also help coordinate Map Modernization related work being conducted by other State and Federal agencies.

In addition, the task efforts for specific mapping projects will require additional staff for tasks related to the coordination, acquisition, and maintenance of the data needed to develop DFIRMs. Most of the tasks would fall under the responsibility of the AGIO. However, the AGIO currently has limited NFIP experience and has suggested the ASWCC hire an additional staff person stationed at the AGIO to coordinate the specific GIS technical responsibilities, map production coordination, and data integration. Therefore, in order to perform the tasks associated with mapping projects, the ASWCC is developing an agreement with the AGIO to assist with the data inventory and management. Other responsibilities selected by Arkansas for specific mapping projects will be performed by the AGIO.

Since the State does not have the technical capabilities to perform detailed hydrologic and hydraulic analyses and QA/QC review, the State plans to hire their own contractor for developing hydrologic and hydraulic studies in Arkansas. The State would manage this contract. FEMA has provided guidance for CTPs. This guidance would be used by the State in meeting contractor requirements when utilizing their own contractor for hydrologic and hydraulic analyses. According to FEMA's *Cooperating Technical Partners Guidance Document Fiscal Year 2003*, for the State to conduct state-specific mapping projects as a CTP, the State must meet the following criteria:

- The State or Partner must have existing processes and/or systems in place to support mapping or data collection activities that contribute to flood hazard identification. These processes and/or systems must be supported by non-Federal funding.

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- The State or Partner must have the capability to perform the mapping activities for which it is applying. This capability may be indicated through (but not limited to) a FEMA Regional Office review of both the map products previously prepared by the Partner and the existing map production processes or systems the Partner intends to use for CTP-related mapping activities.
- The potential Partner must be a community that participates in the NFIP and is in good standing in the Program as determined by the FEMA Regional Office, or be a State or regional agency that serves communities that participate in the NFIP.
- States or Partners that receive funding from FEMA through a Cooperative Agreement must be able to perform the financial management activities required as part of the Cooperative Agreement (i.e., account for Federal funds, prepare financial reports). FEMA Regional Offices will assist Partners with these financial management activities.

Training will be required for the tasks associated with specific mapping projects. Specifically, the AGIO office and the staff person hired to coordinate these efforts at the ASWCC would participate in DFIRM training related to Digital Data and Database Preparation and Technical and Supportive Data Preparation and Maintenance according to FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners*.

2.1.3 State/Local/Regional Agency Partners

The State is pursuing the development of interagency agreements to provide base maps and some high-resolution topographic data to support the mapping effort. As previously mentioned, the AGIO is responsible for maintaining the GIS in Arkansas and is the State's resource for gathering and presenting information on Arkansas geographical data, such as natural resources, bodies of water, and roads. All existing resources in the AGIO's GeoStor will be shared for Map Modernization. The ASWCC is developing an agreement with the AGIO to assist with the data inventory and management. Data available from the AGIO GeoStor includes land use, streamlines, roads, topography, and other data that may be used for developing base maps.

In addition, the Arkansas Highway and Transportation Department produces flood analyses (for the 100-year storm) for all new highway and bridge construction in the State. This information may be used for conducting flood studies or may be used as an indication for the need of a study for a particular region in the State.

Other State agencies that would be involved in Map Modernization include the Arkansas Department of Emergency Management and the Arkansas Forestry Commission. Partnerships are anticipated through in-kind services. As the program builds momentum, it is anticipated that additional cost-sharing and data sharing opportunities will increase. Information that may be shared by these partners would be coordinated through the ASWCC.

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2.1.4 FEMA Involvement

Until the State hires a contractor to perform its engineering and mapping, the FEMA Regional Indefinite Delivery-Indefinite Quantity (IDIQ) Contractors will be utilized for conducting the flood studies in Arkansas. Interagency agreements, such as with the U.S. Army Corps of Engineers and CTPs will also continue to be used to prepare flood studies. The Region VI engineering staff have significant experience in working with States, communities, and contractors to ensure that quality products are produced. The Region may also use assistance from the FEMA National Service Provider. The NSP serves as the Program Manager to develop, plan, manage, implement, and monitor the Multi-Hazard Flood Map Modernization Program for flood hazard mitigation across the United States and its territories. The NSP also works with FEMA to work with state, local, and other Federal partners to develop digital flood hazard data for the entire United States. The goal of the NSP support FEMA's strategic and program objectives.

The identification of detailed cost-sharing arrangements and partnerships between FEMA and State agencies and/or local communities will occur during the scoping of individual studies. The State expects that FEMA will continue to assist with NFIP compliance efforts, assist in identifying study/restudy needs technical standards agreements, scoping revision, and study coordination. FEMA will also continue to provide the engineering and floodplain delineation review, QA/QC of DFIRM production, and post-preliminary processing. Close coordination between the FEMA NSP, FEMA Region VI, the IDIQ contractor and other contractors, the State, and communities will be an important aspect of this effort.

2.2 Program Justification

This section is divided into two main sections. Section 2.2.1 discusses program administration and management activities and Section 2.2.2 discusses proposed mapping projects.

2.2.1 Program Administration and Management

Achievement of Map Modernization Goals

Forming a partnership among Arkansas State agencies and local communities with FEMA to make data available for use in Map Modernization will help to produce better maps at a lower cost. This is accomplished by creating increased control for the State over the mapping activities in Arkansas, including prioritizing of studies, which would align mapping needs with local floodplain management needs and goals. The partnership would also facilitate utilization of State and locally available datasets. In addition, one of the key objectives of the FEMA Map Modernization Plan is to increase local involvement in, and ownership of, the flood mapping process. These partnerships will also involve the local community participating in the mapping project at a level that has not been seen in the past. Therefore, these partnerships will facilitate flood map production by keeping the

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local communities involved in the development of the flood hazard mapping. This will reduce the number of appeals on the preliminary flood maps and ultimately increase the production of flood hazard maps.

The AWSCC will work to maximize resources at the state level to utilize and distribute funding for mapping in Arkansas.

Existing Staff Capabilities and Resources

As discussed in Section 2.1.1, the State currently does not have adequate staff to undertake additional Map Modernization administrative and management activities. Currently only the State NFIP Coordinator is involved in floodplain mapping activities and this staff is currently fully utilized for the current CAP-MAP activities. It is estimated that two additional staff will be required to undertake the State's vision for administrative and management activities. In addition, the State's vision is to hire a contractor to conduct the engineering and mapping projects.

The State also anticipates that one additional staff will be required to assist on coordination of available data and mapping projects. The State does not currently have a comprehensive digital flood base map or high resolution topographic data inventory. Although many localities have base maps and high resolution topography that could be used for Map Modernization, there is no inventory of this data. This staff would develop a storehouse and inventory of map-related information that can be retrieved and reviewed to help local communities update maps in an efficient manner.

Governor's or Department's Existing Strategic Plans

Neither the State's nor the ASWCC's strategic plans currently addresses Map Modernization related activities.

2.2.2 Proposed Mapping Projects

Current Status of Maps

As shown in the Figure 3, most of the flood hazard maps in Arkansas are outdated. As of December 2003, 84 percent of the effective map panels for communities in Arkansas are over 10 years old. In addition, many of the map panels contain Special Flood hazard Areas that are based on hydrologic and hydraulic information that is considerably outdated.

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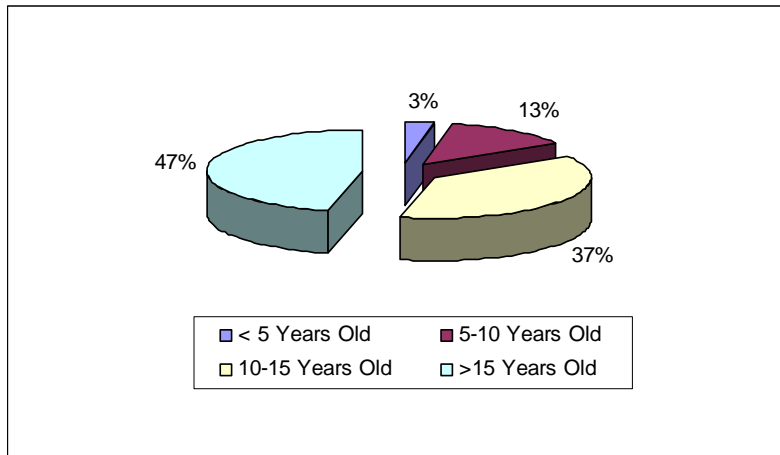


Figure 3. Age of Effective Map Panels for Arkansas Communities

In many cases, the older maps reflect outdated flood hazard information that limits their utility for insurance and floodplain management purposes. Additionally, most of the maps were prepared using road network information and manual cartographic techniques that are now outdated. In addition, many communities in Arkansas have not been mapped by FEMA. Consequently, there are 111 unmapped communities within Arkansas.¹

Currently, there are several ongoing studies at FEMA. Table 1 on the next page shows the current ongoing studies and study type.

¹ 2002 Arkansas Business Plan

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Table 1: Current Ongoing Studies and Study Types

Community Name	County	State	Study Type*	# of Panels	Format	Initially Received by MCC	Most recent comments sent to SC	Returned Back To MCC	Preliminary Mailed to Community	CCO Meeting Held	End Appeal Period	Appeal Received?	FFED Date (Final BFE Date)	Effective Date	STUDY CONTRACTOR	Current Comments
GPO Processing																
Logan County	Logan	AR	PMR	4	DFIRM	7/15/2002	N/A	N/A	11/5/2002	N/A	N/A	N/A	4/16/2003	10/16/2003	PBS&J	LFDs mailed on 4/16/2003. Maps become effective on 10/16/2003
Cherokee Village	Sharp	AR	LMMP	7	DFIRM	10/15/2001	5/31/2002	6/25/2002	9/30/2002	11/18/2002	6/3/2003	N/A	10/16/2003	4/16/2004	McDonald/W.	LFD letters to be mailed on 10/16/2003. Effective date is 4/16/2004
Preliminary Sent																
St. Francis County	St. Francis	AR	T-19	57	CW DFIRM	4/1/2000	8/31/2001	10/11/2001	9/10/2002	On Hold	On Hold	N/A	N/A	N/A	FTN Assoc.	Preliminary maps mailed. Levee certification has been received from USACE. Study has reached a stopping point. (includes Forrest City)
Arkadelphia	Clark	AR	CTP	4	DFIRM	1/15/2002	5/15/2002	7/11/2002	4/22/2003	May, 2003	Sept. 2003	N/A	October	April, 2004	Carter/Burgess	Preliminary maps mailed on 4/22/2003. Study has reached a stopping point.
Beebe	White	AR	T-19	6	DFIRM	3/7/2002	4/5/2002	10/21/2002	4/22/2003	May, 2003	Sept. 2003	N/A	October	April, 2004	McDonald/Warger	Preliminary maps mailed on 4/22/2003. Study has reached a stopping point.
Studies in Process																
Pulaski County	Pulaski	AR				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FTN/Taylor	Study funded in FY03
Studies Delayed																
Benton County	Benton	AR	T-19	8	DFIRM	4/1/2000	8/22/2001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Lit.Rock/USACE	USACE Little Rock is completing modeling.
Bethel Heights	Benton	AR	T-19	X	DFIRM	4/1/2000	8/22/2001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Lit.Rock/USACE	USACE Little Rock is completing modeling.
Rogers	Benton	AR	PMR	X	DFIRM	4/1/2000	9/5/2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Lit.Rock/USACE	USACE Little Rock is completing modeling.
Saline Co./Vicksburg	Saline	AR	T-19	10	DFIRM	2/15/2000	12/13/2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Vicks/USACE	Awaiting updated data from USACE
Bryant, City of	Saline	AR	T-19	X	DFIRM	2/15/2000	12/13/2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Vicks/USACE	Awaiting updated data from USACE
Washington County	Washington	AR	T-19	12	DFIRM	4/1/2000	10/16/2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Lit.Rock/USACE	USACE Little Rock is completing modeling.
Springdale	Washington	AR	T-19	X	DFIRM	4/1/2000	7/17/2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Lit.Rock/USACE	USACE Little Rock is completing modeling.
Elm Springs	Washington	AR	T-19	X	DFIRM	4/1/2000	7/17/2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Lit.Rock/USACE	USACE Little Rock is completing modeling.
Fayetteville	Washington	AR	XDS	X	DFIRM	10/9/2001	2/4/2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Lit.Rock/USACE	USACE Little Rock is completing modeling.
Farmington	Washington	AR	XDS	X	DFIRM	2/7/2002	10/16/2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	McGood/Will/Yate	Additional data and clarification was requested concerning Farmington Branch and Goose Creek. Awaiting data from SC
Faulkner County	Faulkner	AR	T-19	63	CW DFIRM	1/28/2002	9/17/2002	3/6/2003	N/A	N/A	N/A	N/A	N/A	N/A	FTN Assoc.	Awaiting funding to review materials from SC
Cleburne County	Cleburne	AR	T-19	30	CW DFIRM	4/11/2002	3/26/2003	April, 2003	N/A	N/A	N/A	N/A	N/A	N/A	USACE/Litl Rock	SC acknowledged errors in mapping of floodplain and floodways.
Cabot	Lonoke	AR	LMMP	21	DFIRM	7/8/2002	7/24/2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	McDonald/Warger	Comments sent to SC for review

*Study Type Key: T-19 = Type 19 (restudy), PMR=Physical Map Revision, LMMP=Limited Map Maintenance Program, XDS=Existing Data Study, CTP-Cooperating Technical Partner, IDIQ=Indefinite Delivery-Indefinite Quantity (contractor)

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Mapping Priorities Identified by State

During the November 3, 2003 Arkansas Map Modernization Stakeholder Meeting, the State identified the following factors that are generally the State's priorities for updating the maps:

- Ongoing studies
- High growth areas
- Age of map
- Leveraging
- Fostering local community involvement and investment in mapping

On November 5, 2003, during the ASWCC planning meeting for flood map modernization, the State ranked each county in order of priority. The result of this ranking is provided in Table 2 below.

Table 2. State Prioritization of Counties

County	State Ranking	Number of Unmapped Communities	Map Updates in Progress²
Pulaski County	1	1	Yes
Benton County	2	0	Yes
Craighead County	2	0	Yes
Washington County	2	0	Yes
Crittenden County	2	4	No
Jefferson County	2	1	No
Faulkner County	3	0	Yes
Sebastian County	3	0	No
Crawford County	4	0	No
Miller County	5	1	No
Garland County	3	0	No
Hempstead County	5	8	No
Boone County	6	1	No
Union County	4	2	No
Clark County	6	2	No
White County	4	7	No

As of March 2, 2004 FEMA Region VI has identified three counties in Arkansas for 2004 Map Modernization projects. The counties are as follows:

- **Columbia**
- **Union**
- **Benton**

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Compliance With 2004 Performance Metrics

As previously indicated, on November 3 and 5, 2003, Arkansas State Stakeholder and State Planning Meetings were held, during which the State developed its study priorities. Subsequent to these meetings, in November 2003, FEMA announced the following performance metrics for FY 04:

- 1) 20 percent of population (as represented by communities) have digital GIS flood data available on line
- 2) 10 percent of population (as represented by communities) have adopted modernized GIS flood maps
- 3) 20 percent leveraged effort toward digital GIS flood hazard data
- 4) 20 percent of Map Modernization (appropriated) funding put through to CTPs (States and locals)

Table 3 below shows the performance metrics for the future years of map modernization.

Table 3. Performance Metrics for Future Years of Map Modernization

Elements	Targets					
	2004	2005	2006	2007	2008	2009
1. Percentage of population (as represented by communities) have digital GIS flood hazard data available on-line	20	50	65	75	85	100
2. Percentage of population (as represented by communities) have adopted modernized GIS flood maps	10	20	35	50	70	90
3. Percent of dollars leveraged effort toward digital GIS flood hazard data	20	30	40	45	50	55
4. Percentage of Map Modernization (appropriated) funding put through to CTPs (States and locals)	20	25	35	45	50	60

In order to meet the performance metrics to have digital GIS flood hazard data available on-line by September 30, 2004 (Performance Metric #1), either ongoing studies must be completed or good (e.g. accurate, up-to-date) existing non-digital flood hazard data should be converted to digital format. Table 1 presents recently completed studies. However, an analysis of these studies, as well of other DFIRMs, should be conducted to determine if they are appropriate for digital conversions.

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The leverage effort toward digital GIS flood hazard data (Performance Metric #3) will be achieved through in-kind services and use of available base map, topography, hydrologic studies, and hydraulic studies.

2.3 Project Management Plan

This section provides information for each activity that the State will undertake.

2.3.1 Project Timeline

It is the State's goal to implement the following in FY 04, if funding is available:

- Hire additional staff.
- Develop and implement a program for administrative and management activities.
- Hire engineering contractor for flood studies.
- Develop CTP agreements and Mapping Activity Statements for specific mapping projects and those mapping activities that the state will undertake including topographic data development, base map acquisition and preparation.
- Continue investigation of State legislature willingness to provide some assistance in funding Map Modernization in the next fiscal year.

The State identified goals for mapping projects in the upcoming years in Table 4. The ranking of the priorities of the counties is provided in Table 2.

Table 4. State-Identified Milestones for Mapping Projects

Year	Study Type	Number of Counties
2004	Initiate mapping counties using detailed, limited detailed, and digital conversions	5
2005	Initiate mapping counties using detailed, limited detailed, and digital conversions	15
2006	Initiate digital conversions	20
2007	Initiate digital conversions	20
2008	Initiate digital conversions	14

It should be noted that the above goals and timeline may not meet the new Government Performance and Results Act (GPRA) 2004 Performance Metrics.

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2.3.2 Resources/Staffing

The State is requesting in FY 2004 an additional staff member to serve as Flood Study Administrator to assist with the map modernization activities. Additional staff that the State would like to hire, if funding were available, would be an Assistant Flood Study Administrator and Mapping Specialist to assist the current NFIP coordinator. Descriptions of these positions are as follows:

- 1. Flood Study Administrator:** This person would oversee the State Contractor flood studies, administrative and management activities, such as annual State Business Plan updates, NFIP compliance efforts related to map mod, assisting in identifying study/restudy needs, overseeing the entering of data into MNUSS, outreach, and assisting in the development of Technical Standards Agreements. This person will also assist in coordinating the interagency agreements for flood insurance studies. This person should be knowledgeable in the floodplain management program and skilled in working with the local communities.
- 2. Assistant Flood Study Administrator:** This person would work with the Flood Study Administrator and typically conduct administrative-type tasks.
- 3. Mapping Specialist.** This person would have a technical background and assist on the technical efforts for mapping projects. Although this staff would be part of the ASWCC, they would be assigned to the AGIO to coordinate digital base map acquisition and preparation, topographic data development, and the IT system for maintaining and disseminating flood maps.

Also, the State's vision is to hire an engineering contractor that would assist the State with technical tasks. The engineering contractor would be experienced in hydrologic and hydraulic preparation.

2.3.3 Deliverable(s)

The following are the deliverables the State will produce through the map modernization program efforts:

- Annual State Business Plan Updates
- Annual Documented NFIP Compliance Efforts
- Annual Documented Outreach Efforts
- Ongoing Data Entry Into MNUSS
- Inventory of Available Base Maps Throughout The State
- Inventory of Available County-wide Topographic Information Throughout the State
- Deliverables Identified in CTP Mapping Activity Statements

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2.3.4 Reporting

The State Floodplain Administrator will submit monthly baseline plans to the FEMA Region VI office. These plans will include all aspects of the Map Modernization efforts based on Performance Metrics.

2.3.5 Quality Assurance

The State will prepare all materials in conformance with FEMA's Guidelines & Specifications for Flood Hazard Mapping Partners.

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SECTION 3: PERFORMANCE GOALS/COST AND SCHEDULE MEASURES (TRACKING)

3.1 Performance Goals/Cost and Schedule Measures

The following sections describe the State of Arkansas goals and the performance measures identified to achieve these goals. The ability of the State to carry out these goals will be dependent on the level of funding received from FEMA.

Annual State Business Plan Updates

The State will prepare an annual update to its 5-year Map Modernization Business Plan. This may include developing or updating a statewide mapping plan.

Performance Measure: Annual update of the 5-year Map Modernization Business Plan.

NFIP Compliance Efforts Related to Updated Floodplain Mapping

The State and FEMA will work with communities to update their ordinances as necessitated by updated FIRMs and also support communities in utilizing the updated data for floodplain management.

Performance Measure: The State has indicated an interest in conducting this activity, however, it is not listed in the State's project timeline or milestones and cannot be assigned a performance measure at this time.

Assessment of Community Mapping Needs

The State and State Contractor will perform a detailed community-by-community assessment of mapping needs for every mapped (including flood data updates and map maintenance) and unmapped NFIP community within its jurisdiction. The State and State Contractor will then input the results of the assessment in FEMA's web-based MNUSS database.

Performance Measure: The State has indicated an interest in conducting this activity, however, it is not listed in the State's project timeline or milestones and cannot be assigned a performance measure at this time.

Outreach

The State will participate in community outreach by providing informational mailings, community meetings, a website, and multi-media promotion. The State of Arkansas will play an important role in community coordination and outreach efforts throughout the study process.

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Performance Measure: As part of developing CTP agreements and Mapping Activity Statements, the State will conduct outreach activities. Mapping activities are identified for five counties in 2004, 15 counties in 2005, 20 counties in 2006 and 2007, and 14 counties in 2008. The accomplishment of these milestones will be directly related to the effectiveness of the State's outreach programs.

Assist in Identifying Study/Restudy Needs

The State will assist FEMA in identifying communities/counties that are in need of re-studies.

Performance Measure: The State will develop CTP agreements and Mapping Activity Statements for Specific mapping projects beginning in 2004. FEMA assistance in identifying study needs will ensure high priority counties are addressed first.

Producing Digital Base Map Inventory of Area

The State, State Contractor, and FEMA will prepare an inventory of available base maps for use in producing a DFIRM. The base map will comply with FEMA minimum accuracy requirements and be distributable by FEMA to the public in hardcopy and electronic formats.

Performance Measure: The State has identified the development of CTP agreements and Mapping Activity Statements beginning 2004. Mapping activities under these agreements will include base map acquisition and preparation. Mapping activities are identified for five counties in 2004, 15 counties in 2005, 20 counties in 2006 and 2007, and 14 counties in 2008.

Technical Standards Agreements

The State and State Contractor will work with FEMA to adopt specific technical standards or processes appropriate for local conditions for NFIP flood mapping purposes.

Performance Measure: The State has indicated an interest in conducting this activity, however, it is not listed in the State's project timeline or milestones and cannot be assigned a performance measure at this time.

Project Scoping Meeting

The State and State Contractor will participate in the project scoping, which will include identifying flood data update needs and methods, identifying framework data needs and sources, making DFIRM decisions, developing schedules, and developing a project outreach plan. The State and State Contractor will participate in scoping meetings with FEMA, communities, and FEMA contractors and will provide review and comment on the resulting mapping activity statements/statements of work.

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Performance Measure: The State has identified the development of mapping activity statements beginning in 2004. Mapping activities are identified for five counties in 2004, 15 counties in 2005, 20 counties in 2006 and 2007, and 14 counties in 2008.

Digital Base Map Acquisition and Preparation

The State will provide a base map for use in producing a DFIRM. The base map will comply with FEMA minimum accuracy requirements and be distributable by FEMA to the public in hardcopy and electronic formats.

Performance Measure: The State will begin mapping activities under CTP agreements and Mapping Activity Statements beginning in 2004. These mapping activities are identified for five counties in 2004, 15 counties in 2005, 20 counties in 2006 and 2007, and 14 counties in 2008. Digital base map acquisition and preparation will be required as part of the mapping activities.

Topographic Data Development

The State and State Contractor will develop digital topographic data for flood hazard identification purposes. Topographic data are required for the three typical methods for updating flood data: detailed study, approximate study, and redelineation. Detailed studies require topographic mapping of floodplain areas and surveys of bathymetry and structures. Approximate studies may or may not require bathymetry or structures. Redelineation requires only topographic mapping of floodplain areas.

Performance Measure: The State will begin mapping activities under CTP agreements and Mapping Activity Statements beginning in 2004. These mapping activities are identified for five counties in 2004, 15 counties in 2005, 20 counties in 2006 and 2007, and 14 counties in 2008. Topographic data development will be required as part of the mapping activities.

Hydrologic and Hydraulic Preparation

The State Contractor will develop detailed analyses, approximate analyses, or a combination of both for one or both of the following types of flood hazards:

- Riverine flooding; and
- Shallow flooding.

Performance Measure: The State has indicated an interest in conducting this activity. However, it is not listed in the State's project timeline or milestones and cannot be assigned a performance measure at this time.

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DFIRM Production

The State and State Contractor will produce the DFIRM, which normally occurs concurrently with the preparation of new or revised flood hazard analyses. Information from the effective hardcopy FIRM will be digitized and a DFIRM will be prepared that meets FEMA specifications. The production of the Preliminary version of the FIRM and Flood Insurance Study (FIS) report normally includes the FIRM compilation process.

Performance Measure: The State will initiate mapping counties using detailed, limited detailed and digital conversions for five counties in 2004 and for 15 counties in 2005. Digital conversions will be initiated for 20 counties in 2006 and 2007, and 14 counties in 2008.

DFIRM Maintenance

The State and State Contractor will assume responsibility for long-term, periodic maintenance of the DFIRM for a specific project. This will include update of the base map information and flood hazard information.

Performance Measure: The State has indicated an interest in conducting this activity, however, it is not listed in the State's project timeline or milestones and cannot be assigned a performance measure at this time.

Study Coordination

The State will lead coordination with community officials, community residents, and other interested Mapping Partners following issuance of the preliminary copies of the FIRM and FIS report for review.

Performance Measure: The State will begin mapping activities under CTP agreements and Mapping Activity Statements beginning in 2004. These mapping activities are identified for five counties in 2004, 15 counties in 2005, 20 counties in 2006 and 2007, and 14 counties in 2008. Study coordination will be essential in completing these milestones.

IT Systems

The State and State Contractor will maintain and disseminate flood maps for specific mapping projects. This may include the implementation of an IT infrastructure to analyze, maintain, and archive maps and associated flood hazard data. This system will also distribute the mapping data and associated reports to the public via the Internet.

Performance Measure: The State has indicated an interest in conducting this activity. However, it is not listed in the State's project timeline or milestones and cannot be assigned a performance measure at this time.

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SECTION 4: ALTERNATIVES/VARYING FUNDING LEVELS

4.1 State and Local Funding

4.1.1 Participation Alternatives and Funding Level

The State plans to increase their role in Map Modernization activities for 2004. These activities will be based on FEMA Region VI funding and include but are not limited to the following:

- Hire additional staff.
- Develop and implement a program for administrative and management activities.
- Hire engineering contractor for flood studies.
- Develop CTP agreements and Mapping Activity Statements for specific mapping projects and those mapping activities that the state will undertake including topographic data development, base map acquisition and preparation.
- Continue investigation of State legislature willingness to provide some assistance in funding Map Modernization in the next fiscal year.
- Initiate mapping counties using detailed, limited detailed, and digital conversions for five counties.

The level of participation and achievement will become better defined as the role of the State evolves during the 2004-2008 time period and as staffing requirements can be met. As the Map Modernization process is initiated and continues, and the state becomes more trained and efficient in its role, the State anticipates transition into a fuller partnership in the Map Modernization process.

The majority of flood hazard maps in Arkansas are outdated and are based on antiquated mapping techniques. The State has developed its own county prioritization ranking for initiating mapping activities as shown in Table 2.

4.1.2 CAP-MAP / CAP-SSSE Participation

The State is requesting funding under the CAP-MAP program for FY 2004 for map modernization participation. The State also receives funding under the CAP-SSSE program to conduct outreach and to promote floodplain management practices consistent with the intent of the NFIP.

4.1.3 FEMA Funding

The ASWCC will perform and/or manage the State's mapping activities. These activities will include the hiring of a State Contractor to conduct flood studies in Arkansas. The specific activities that the State will perform or manage will depend upon the funding available from FEMA. The State will provide up to a 25 percent match of Federal funds from FEMA for administrative and management activities, as required.

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4.1.4 Available State or Local Match

After the State vision for Map Modernization is finalized with FEMA, the State will implement the Map Modernization Program through FEMA’s CAP-MAP grant program and the CTP Program. CAP-MAP activities are strictly for administrative and management activities and are not related to any specific flood study. CTP activities are for project-related activities related to developing a flood study. The State understands that having each element in this plan is necessary for a balanced program.

Although currently CTP activities do not require a match for funding, FEMA has a nationwide goal for 20 percent leverage, and leverage is a significant part of the goals for Map Modernization. The leverage effort toward digital GIS flood hazard data (Performance Metric #3) will be achieved through in-kind services and use of available base map, topography, hydrologic, and hydraulic studies.

The State will provide up to a 25 percent cost share to match Federal funds from FEMA for administrative and management activities as required under CAP-MAP. The match will be in the form of in-kind contributions toward flood mapping activities by five State agencies. If approved by FEMA the State estimates the cost for one FTE staff person to be \$60,000. The breakdown of cost share would be as shown in Table 5 below:

Table 5. State-Identified Proposed Milestones for Mapping Projects

FEMA Share	State of Arkansas Share	Total
\$45,000	\$15,000	\$60,000

The cost share break down by agency is as follows in Table 6 below:

Table 6. 2004 Arkansas Flood Map Modernization CAP-MAP Cost Share by Agency

Agency	Explanation of Contribution to Match	Dollar Amount of Contribution
AGIO	Estimated number of dollars per year that AGIO will contribute to the \$15,000 match in the form of man-hours that will be used working on flood mapping activities.	\$3,000
AH&TD	Estimated number of dollars per year that AH&TD will contribute to the \$15,000 match in the form of man-hours that will be used working on flood mapping activities.	\$3,000

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Agency	Explanation of Contribution to Match	Dollar Amount of Contribution
ADEM	Estimated number of dollars per year that ADEM will contribute to the \$15,000 match in the form of man-hours that will be used working on flood mapping activities.	\$3,000
AFC	Estimated number of dollars per year that AFC will contribute to the \$15,000 match in the form of man-hours that will be used working on flood mapping activities.	\$3,000
ASWCC	Estimated number of dollars per year that ASWCC will contribute to the \$15,000 match in the form of man-hours that will be used working on flood mapping activities.	\$3,000
ASWCC	<i>2004 match that Arkansas has computed.</i>	<i>>\$15,000</i>

Contributions from State partnerships through in kind services are based on the assumption that each person that works for an Arkansas State Agency that will contribute time to flood mapping earns \$17.65 per hour. It is assumed that each person working for an Arkansas State Agency on flood mapping activities will contribute approximately 170 man-hours per year or approximately 3.4 hours per week. Therefore, $\$17.65 \times 3.4 \times 52 \text{ weeks} = \$3,000$ (rounded) $\times 5 \text{ agencies} = \$15,000/\text{year}$. As the program builds momentum, it is anticipated that additional cost-sharing and data sharing opportunities will increase. (For a detailed justification of this cost share see Appendix D).

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APPENDICES

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APPENDIX A

Description of Potential Map Modernization Activities

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APPENDIX A

Description of Potential Map Modernization Activities

ACTIVITY	DESCRIPTION
Scoping meeting	The State participates in project scoping that begins after community mapping needs have been prioritized and FEMA has decided to initiate a flood map update project. The foundation for Project Scoping is the assessment of community mapping needs (flood data update, map maintenance, and/or digital conversion) completed during the Mapping Needs Assessment Process.
Digital Base Map Acquisition and Preparation	The State provides a base map for use in producing a DFIRM. The base map will comply with FEMA minimum accuracy requirements and be distributable by FEMA to the public in hardcopy and electronic formats.
Topographic Data Development	The State develops digital topographic data for flood hazard identification purposes. Topographic data are required for three of the methods of updating flood data: detailed study, approximate study, and redelineation. Detailed studies require topographic mapping of floodplain areas and surveys of bathymetry and structures. Approximate studies may or may not require bathymetry or structures. Redelineation requires only topographic mapping of floodplain areas
Hydrologic and Hydraulic Preparation	The State develops detailed analyses, approximate analyses, or a combination of both for one or all of the following types of flood hazards: <ul style="list-style-type: none"> ▪ Riverine flooding; and ▪ Shallow flooding.
Hydrologic and Hydraulic Review of Specific Projects	The State reviews hydrologic and hydraulic studies that are prepared for FEMA-funded flood data updates and/or map revisions processed under Part 65 of the NFIP regulations for a specific project. The review focuses on compliance with the technical and regulatory requirements contained in <i>Guidelines and Specifications for Flood Hazard Mapping Partners</i> , the pertinent NFIP regulations, as well as standard accepted engineering practices.
DFIRM production	The State produces the DFIRM, which normally occurs concurrently with the preparation of new or revised flood hazard analyses. Information from the effective hardcopy FIRM is digitized and a DFIRM is prepared that meets FEMA specifications. The production of the Preliminary version of the FIRM and FIS report normally includes the FIRM compilation process.

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ACTIVITY	DESCRIPTION
Study Coordination	The State leads coordination with community officials, community residents, and other interested Mapping Partners following issuance of the Preliminary copies of the FIRM and FIS report for review.
IT Systems	The State maintains and disseminates flood maps for specific projects. This may include the implementation of an IT infrastructure to analyze, maintain, and archive maps and associated flood hazard data. This system will also distribute the mapping data and associated reports to the public via the Internet.
DFIRM Maintenance	The State assumes responsibility for long-term, periodic maintenance of the DFIRM for a specific project. This can include base map and/or flood hazard information.
Other specific mapping project activities (identify)	
Digital Base Map Inventory	The State performs an investigation and provides an inventory of base maps meeting FEMA specifications for NFIP communities in a particular region or the State.
Digital Base Map Data Sharing	The Partner supplies a base map for use in producing a DFIRM. The base map will comply with FEMA minimum accuracy requirements and be distributable by FEMA to the public in hardcopy and electronic formats.
DFIRM Maintenance	The State assumes responsibility for long-term, periodic maintenance of the DFIRM. This can include base map and/or flood hazard information.
Hydrologic and Hydraulic Review	The State reviews hydrologic and hydraulic studies prepared for FEMA-funded flood data updates and/or map revisions by FEMA contractors processed under Part 65 of the NFIP regulations. The review focuses on compliance with the technical and regulatory requirements contained in various FEMA flood mapping guidelines and specifications, the pertinent NFIP flood mapping regulations, as well as standard accepted engineering practices.
Assessment of Community Mapping Needs (to support FEMA's MNUSS)	The State performs a detailed community-by-community assessment of mapping needs for every mapped (including flood data updates and map maintenance) and unmapped NFIP community within its jurisdiction. The State then inputs the results of the assessment in FEMA's web-based MNUSS database.
Technical Standards Agreement	The State works with FEMA to adopt specific technical standards or processes appropriate for local conditions for NFIP flood mapping purposes (e.g., use of non-standard runoff curve numbers for hydrologic analyses, etc).
Annual State Business Plan Updates	The State prepares an annual update to its five-year Map Mod Business Plan. May include developing/updating a statewide mapping plan.

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ACTIVITY	DESCRIPTION
NFIP compliance efforts	The State works with communities to update their ordinances as necessitated by updated FIRMs and also supports communities in utilizing the updated data for floodplain management.
IT Systems	Develop and maintain an Information Technology System to archive, organize, distribute, and otherwise manage effective digital FIRMs, preliminary digital FIRMs, and/or underlying backup data (e.g., digital FIRM database, engineering models, etc). The system should distribute this data in an electronic format (e.g., web-based, CD-ROM, etc) to the public
Outreach	<p>Information Mailing – Identify recipients of mass mailing; procure brochures from FEMA (assumes one existing tri-fold brochure in self-mailing format, no envelopes required); print mailing labels; affix proper postage; and take to post office for mailing.</p> <p>Community Meeting – Determine when and where the meeting will be held; identify staff roles and responsibilities; advertise the meeting; prepare agenda and other handout and presentation materials to explain the purpose of the meeting and the mapping project; provide on-site meeting support to explain the purpose of the mapping project, opportunities for involvement, and how to provide comments; provide opportunity for the public to submit comments; provide on-site logistics and meeting support; and develop evaluation form, distribute, and assess results.</p> <p>Website Posting – Develop a new website to provide information geared towards the general public, technical audiences, and other stakeholders groups (such as the FEMA website which guides users based on their interest in the maps such as one button for property owners, one for lenders, insurers, etc.); provide an overview of the mapping project; access to preliminary and final FIRMs; contacts and links for further information on FEMA, State, and other local websites.</p> <p>Multi-Media Promotional Activities – Develop press release using template provided by FEMA; contact local media and place press release; follow up with media contacts periodically to encourage them to use press releases in articles, cover key events through live footage of community meetings or other key events; contact radio and television stations to request announcements to advertise meetings; offer to provide knowledgeable officials for interview on radio and/or television talk shows; write articles and publish in trade journals, newsletters, other existing publications that are available to the public; and develop facts sheets, announcements, or brochures and distribute through public libraries, schools, and/or locally-sponsored public events.</p>
Managing program of multiple flood mapping projects	The State oversees the scope, schedule, budget, and quality of multiple flood mapping projects within the state, including procurement and management of contractors performing flood hazard studies and preparing flood mapping. The State, in

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ACTIVITY	DESCRIPTION
	consultation with FEMA, selects the course of action in responding to technical, cost, or schedule requirements encountered by contractors. Also includes populating FEMA's web-based Monitoring Information on Contracted Studies (MICS) project management database with project status, cost, schedule, and other performance data on an ongoing basis.
Unfunded CTP Activities	Activities being conducted under other CTP projects, but not fundable under the CTP program.

State Business Plan for Arkansas

APPENDIX B

November 3, 2003, State Stakeholder Meeting Attendees

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Arkansas Stakeholder's Meeting November 3, 2003

Attendees:

- Jason Donham, CFM, NFIP Coordinator, Arkansas Soil & Water Conservation Commission (ASWCC)
 - Gary Zimmerer, FEMA Region VI
 - Alvin Simmons, Engineer Supervisor, ASWCC
 - Johnny Mullens, CFM, Flood Plain Planner, ASWCC
 - Shelby Johnson, State GIS Coordinator, AGIO
 - Rusty Mc Allister, GIS Coordinator, ASWCC
 - Michael Borengasser, CFM, Hydrologist, ASWCC
 - Conrad Battreal, CFM, Chair, Arkansas Floodplain Management Association
 - Maribel (Bel) Marquez, MAP6 (URS)
 - Lynn Mayo, MAP6 (URS)
 - Jonica Vidrine Gibson, MAP6 (URS)
 - Gerold Freeman, MAP6 (URS)
 - Beverley Frieday, MAP6 (URS)
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APPENDIX C

Cooperating Community Partner Information

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APPENDIX D

2004 Arkansas Flood Map Modernization CAP-MAP Cost Share by Agency
