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Map Modernization Plan for Utah

Prepared by:

Utah Department of Public Safety, Division of Emergency Services and Homeland Security

Salt Lake City, Utah

August 2002

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This Map Modernization Plan for Utah will be a useful tool in formulating and initiating future flood map endeavors. The Plan implementation process will receive the highest priority and will allow Utah to effectively mitigate and identify flood hazards statewide.

The State of Utahôs diverse landscape and communities are under constant threat from geologic and hydrologic hazards. Federally declared flood disasters were issued in 1983, 1984, and 1989. Although Utahôs precipitation is the second lowest in the country, the Stateôs flooding history is significant. Over 1,500 cloudburst floods have been recorded in the last 160 years causing millions of dollars in damages. Utahôs 2.2 million inhabitants are clustered in relatively small geographic areas at the base of steep mountain ranges, with 90 percent of the population concentrated in the Wasatch Front Region. Flooding along the Wasatch Front thus impacts a relatively small area, but a comparatively large population.

Utah has been part of the NFIP Community Assistance Program since 1991. Currently, there are 201 communities identified by FEMA with flood hazards. Of those communities, 186 participate in the NFIP. Utah has also participated in the Flood Mitigation Assistance Program since it began in 1997, and has helped 12 communities develop flood mitigation plans. Utah supported mapping as a State Cooperating Technical Partner (CTP). The State of Utah supports the Utah Floodplain Management Association. This Association conducts annual conferences, roundtable discussions, and sponsors training on numerous mapping and compliance topics.

With the Federal governmentôs commitment to initiating FEMAôs National Map Modernization Program, the State of Utah can now be an effective partner in the flood mapping process. The Utah Map Modernization Plan ardently is only a beginning, both in detail and in action. Implementing this plan will be an evolutionary process that will adjust to changing priorities, new information and technology, and broader community support. This plan identifies needs and creates a framework to coordinate flood mapping efforts and monitor itsô progress.

Acknowledgments
The State wishes to acknowledge Michael Baker Jr., Incorporated, for their support and dedication to this planning project. A special thanks to Nathan Burgess and Bryon Elwell from the Salt Lake City Baker office for all their hard work.

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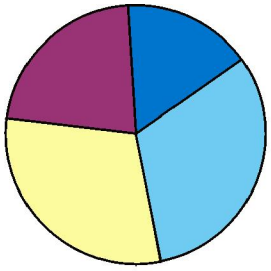
The Federal Emergency Management Agencyôs (FEMAôs) flood hazard maps are essential tools for flood hazard mitigation in Utah and in the United States in general. As shown in the figure below, most of the flood hazard maps in Utah have become outdated.



Age of Effective Map Panels

<5 years old	(16%)
5-10 years old	(21%)
10-15 years old	(30%)
>15 years old	(33%)

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 now outdated road network information and manual cartographic techniques, which make the maps difficult for State and local customers to use and expensive for FEMA and Utah to maintain. In addition, FEMA has not produced flood maps for many communities in Utah.

To address this problem, the Presidentôs budget for Fiscal Year (FY) 2003 (which starts on October 1, 2002) includes $351 million for initiating FEMAôs national Map Modernization Program. Similar funding levels are proposed for subsequent fiscal years.

This Plan was prepared to assist FEMA in the development of regional and national plans for implementing the FEMA Map Modernization Program. This Plan summarizes the role that Utah will play in completing the required mapping activities and how these activities will be managed and performed. This Plan identifies mapping priorities, explains how mapping priorities were established for each county in Utah, and outlines an approach for addressing these mapping priorities.

In accordance with Government Performance Results Act (GPRA) performance measures suggested for the Map Modernization Program by the Office of Management and Budget, the details of this Plan have been developed with consideration given to FEMA accomplishing the following:

- Reducing the average age of the flood maps nationwide from over 13.6 years to 6 years or less;
- Producing digital flood hazard maps with up-to-date flood hazard data for the 15-percent highest priority areas in the state; and
- Developing flood hazard maps for one-half of the unmapped, floodprone communities in Utah.

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ping Program

Maximum Level of Participation—Utah will manage all of the mapping activities in the state. The specific activities that Utah will manage will depend on the Federal funding commitment to update the flood maps in the state. The state will encourage a local and state match. The nature and scope of the stateôs mapping activities will be detailed in our Cooperating Technical State (CTS) agreement based on the stateôs identified mapping needs assessment.

The additional funding available through the CAP, ($50,000) will be used to support a Mapping Coordinator position and/or an independent contractor to assist in the mapping review process.

Based on Utah's planned level of participation, the role the State will play in future flood hazard mapping efforts, and how such efforts will be managed and performed are listed below:

- *What agency will take the lead for the State in the floodplain-mapping program?* The Utah Department of Public Safety, Division of Emergency Services and Homeland Security will be the lead state agency for the floodplain-mapping program.

- *What other agencies and/or organizations will be involved, and what will their roles be?* Federal, State, and local agencies involved in water resources, water development, water conservation and planning, public works, public utilities, flood control, planning and development, transportation, and GIS, will assist in identifying data resources needed in the flood mapping process.

- *Are their existing agreements with communities or other agencies that could be used? (e.g., data sharing agreements, IT service agreements, etc.)* There are currently no formal agreements outside current CTPôs that could be utilized in this process.

Mapping Needs Assessment and Priority Setting Approach

To fully evaluate the mapping needs in Utah, the Department of Public Safety, Division of Emergency Services and Homeland Security performed a mapping needs assessment in June and July 2002. This mapping need assessment included the following tasks:

- Reviewing and updating the information in the FEMA Mapping Needs Update Support System (MNUSS) database;

- Soliciting mapping needs information from counties and communities;

- Reviewing available community-specific data;

- Assigning map upgrade methods and priorities to each county; and

- Assessing whether the proposed map update options would achieve the GPRA performance measures and revise the map update methods accordingly.

This mapping needs assessment was undertaken in cooperation with, and with the support of FEMA and FEMAôs Flood Map Production Coordination Contractor (MCC). The following data were collected and assessed on a county-by-county basis:

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- Known mapping needs as recorded in the FEMA MNUSS database;
- Status of existing maps (digital, manual, none);
- Existing or potential local mapping partners;
- Number of unmapped, floodprone communities;
- Number of communities;
- Availability of existing base map, topographic data, and/or flood hazard data (including data from other State agencies);
- Number of Letters of Map Change processed during the last 10 years;
- Population and population growth (U.S. Census and/or State-developed figures);
- Flood insurance claims and/or repetitive losses;
- Format of existing maps (countywide or community-based format); and
- Ongoing map updates, including updates being undertaken by regional agencies or communities under the CTP Program.

To supplement the MNUSS data, other data provided by FEMA, and data available in various State agency offices, the Utah Department of Public Safety, Division of Emergency Services and Homeland Security undertook additional data collection and outreach activities.

The Utah Department of Public Safety, Division of Emergency Services and Homeland Security distributed letters to Floodplain Managers throughout the state to request information on mapping needs. The Utah Department of Public Safety, Division of Emergency Services and Homeland Security, with the support of the MCC, then conducted telephone interviews with 11 counties. Copies of the documents used for the data collection and outreach activities (e.g., letters, questionnaires) are included in Appendix A.

A complete listing of the data collected in this process is provided in Appendix B.

Upon completion of the mapping needs assessment, the Utah Department of Public Safety, Division of Emergency Services and Homeland Security ranked each county to determine the order in which the countiesô mapping needs should be addressed. To evaluate Utahôs mapping needs, various data were collected and assessed on a county-by-county basis. Priorities were established based on Population (Figure 1), Population Growth (Figure 2), Local contribution potential, FIRM age (average years) (Figure 3), whether the county could be considered ñEmergencyò, ñPriorityò, or ñRoutineò, and on the availability of existing base map, flood, and topographic data. Each data source was evaluated and assigned points to determine an overall prioritized ranking. Counties with the highest points were assigned the highest priority. The results of the ranking and priority-setting process are summarized in Table 1.

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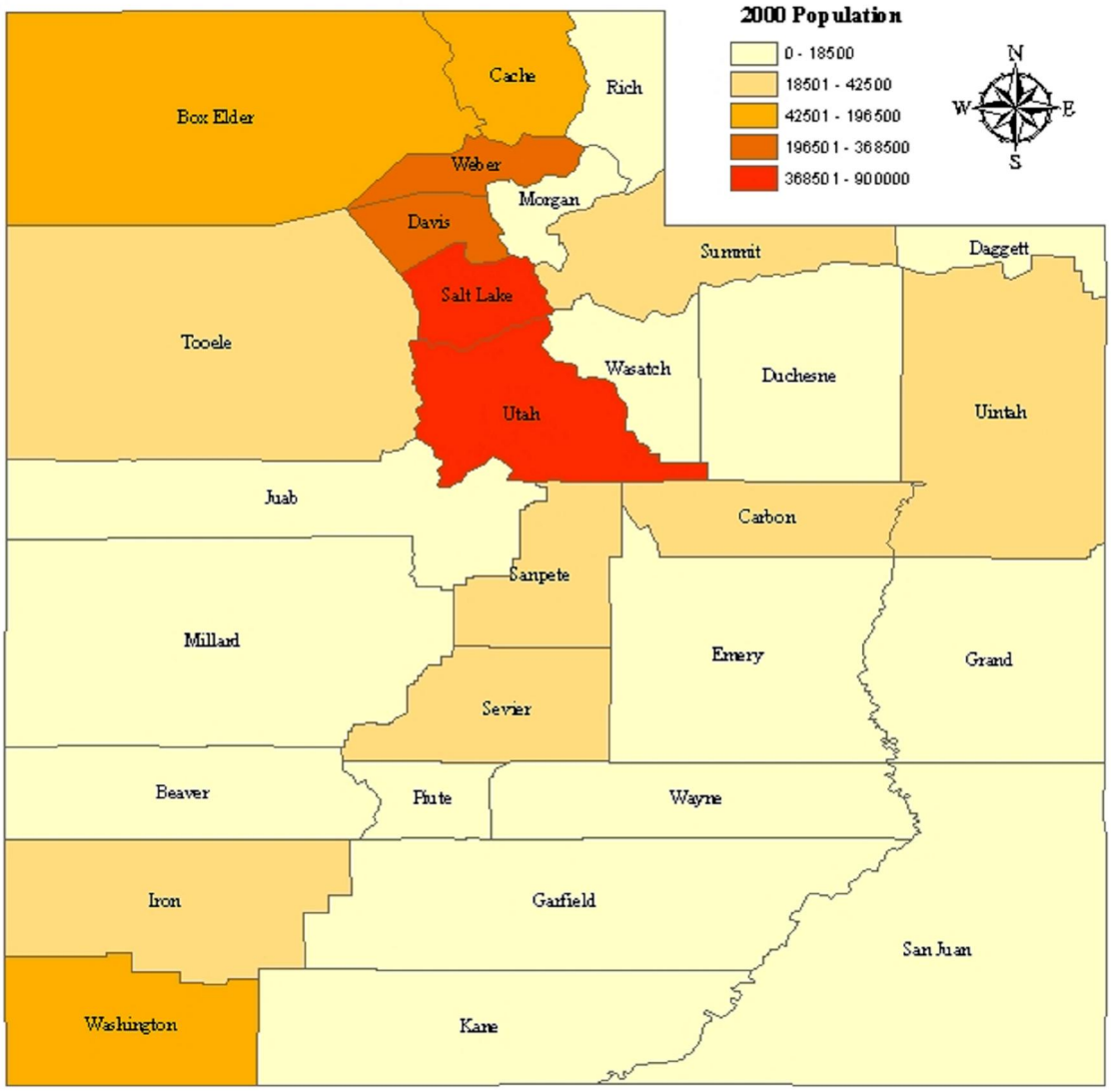
Figure 1
Utah Population by County in 2000



Source:
ESRI Data and Maps Series data compiled from the 2000 U.S. Census.
Coordinate System: Geographic
Datum: NAD83

Miles
0 12.5 25 50 75 100

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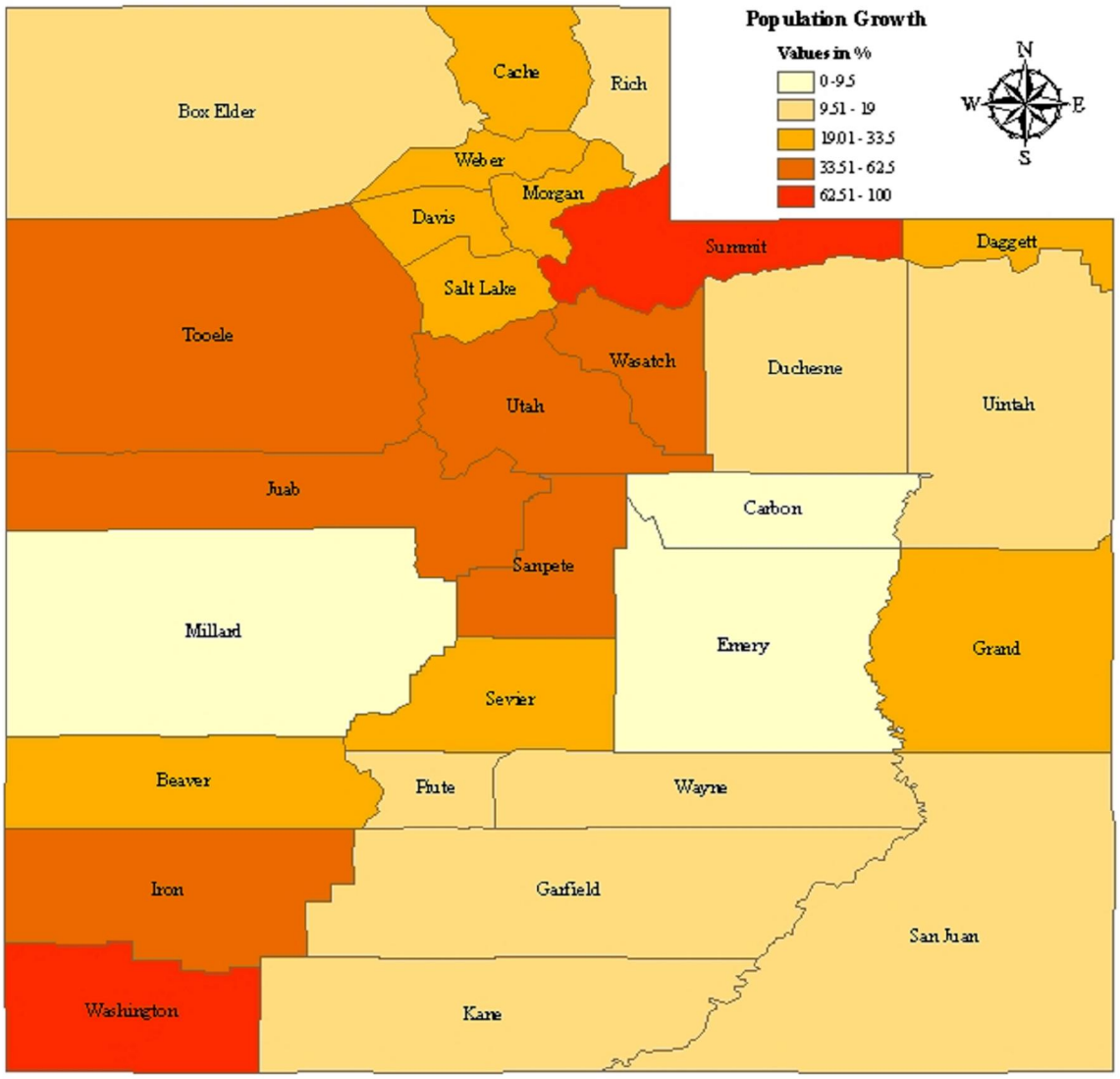
Figure 2
Utah Population Growth by County 1990 to 2000



Source:
ESRI Data and Maps Series data compiled from the 2000 U.S. Census.
Coordinate System: Geographic
Datum: NAD83

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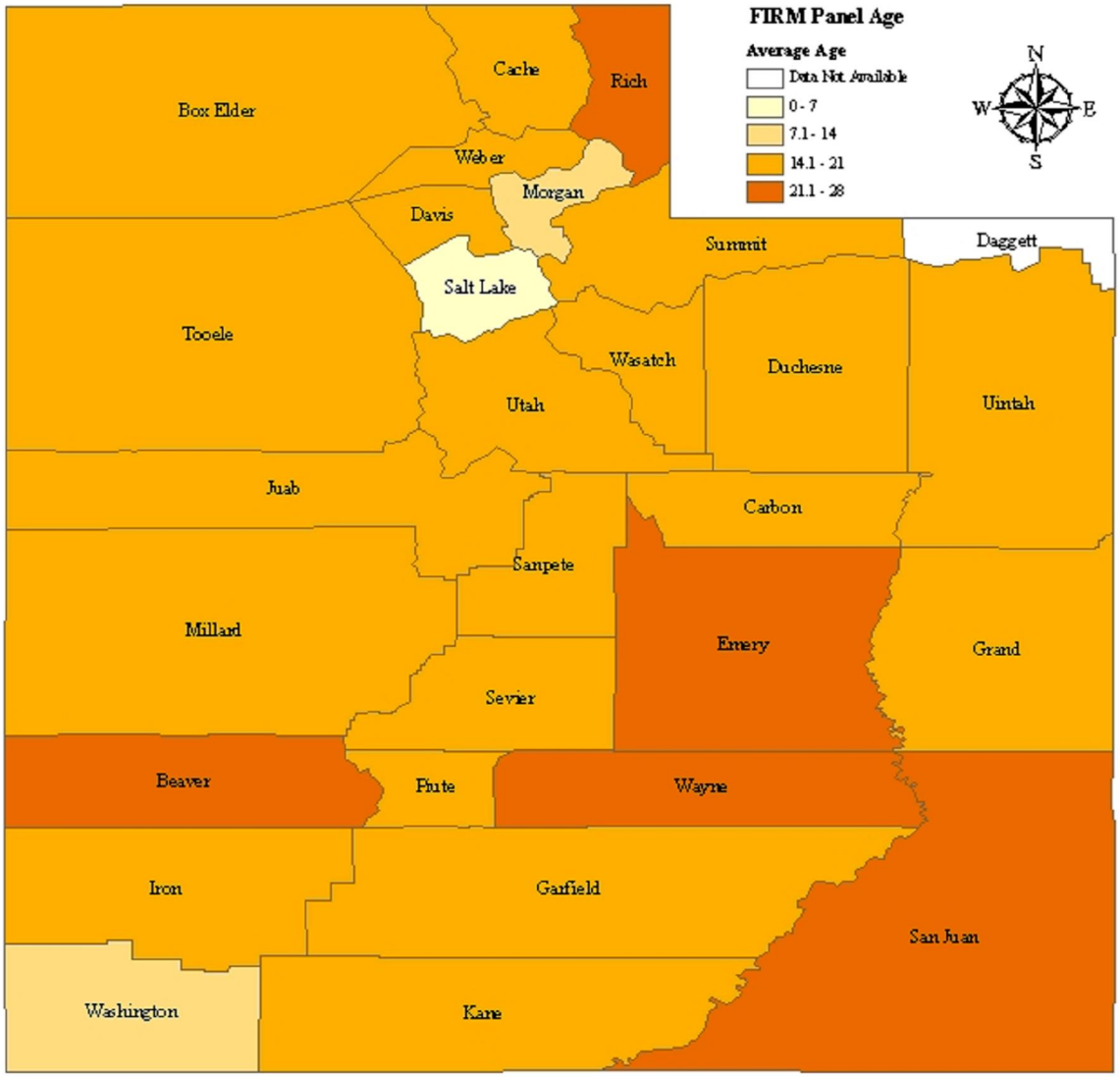
Figure 3
Average Age of FIRM Panels by County



Source:
FEMA Flood Map Status Information Servis (FMSIS)
Coordinate System: Geographic
Datum: NAD83

Miles
0 12.5 25 50 75 100

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Mapping Needs

To address the prioritized mapping needs, the Utah Department of Public Safety, Division of Emergency Services and Homeland Security evaluated the map production options that are available. For the purposes of this Plan, the options have been categorized as Level 1 Map Upgrades and Level 2 Map Upgrades. A brief description of each is provided below.

- Level 1 Map Upgrades: Level 1 Map Upgrades are improvements to existing flood maps that are not based on the development of new detailed flood hazard information. These improvements may include converting the flood maps to a GIS-based digital format, incorporating an improved base map (such as digital orthophoto quarter quadrangles), redelineating existing floodplain boundaries based on updated topographic data, refinement or addition of Zone A, and/or incorporating existing flood hazard data developed by Federal, State, or local agencies for purposes other than the FEMA Flood Hazard Mapping Program areas.

- Level 2 Map Upgrades: Level 2 Map Upgrades are improvements involving the development of new detailed flood hazard information. These upgrades typically require updated topographic data, structure and cross-section surveys, hydrologic and hydraulic engineering analyses, and floodway and floodplain boundary delineation.

The costs associated with Level 2 map upgrades typically will be significantly higher than the costs associated with Level 1 map upgrades.

The Utah Department of Public Safety, Division of Emergency Services and Homeland Security then evaluated various scenarios to determine the best combination of the above activities to achieve the GPRA performance measures. Based on this evaluation, the Utah Department of Public Safety, Division of Emergency Services and Homeland Security submitted the highest priority recommendations shown in Table 1 to FEMA. A complete, county-by-county listing is provided in Appendix C.

Utahôs average age of Flood Insurance Rate Maps (FIRMs) is 15 years or older. 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 now outdated road network information and manual cartographic techniques, which make the maps difficult for State and local customers to use and expensive for FEMA and Utah to maintain. In addition, FEMA has not produced FIRMs for many communities in Utah. Areas of growth continue to focus on the Wasatch Front and Southwestern Utah. Communities need current and accurate flood hazard data to implement the required NFIP floodplain management regulations.

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uction Summary for FY 2003 Funding

County	Planned Community Upgrades: Level of Upgrade	No. of Communities	No. of Panels	Reduction in Average Age of Maps by FY 2006	Unmapped Communities To Be Mapped by FY 2006
Cache	1		12		
	2		12		
	Total	22	24	18.2	6
Davis	1		36		
	2		12		
	Total	17	48	16.9	3
Iron	1		53		
	2		8		
	Total	9	61	15.6	5
Morgan	1		8		
	2		9		
	Total	6	17	11.4	4
Summit	1		33		
	2		9		
	Total	17	42	15.6	13
Tooele	1		15		
	2		11		
	Total	21	26	18.7	14
Uintah	1		56		
	2		5		
	Total	14	61	15.8	12
Utah	1		51		
	2		20		
	Total	26	71	17.6	12
Wasatch	1		8		
	2		9		
	Total	6	17	17.5	3
Washington	1		35		
	2		14		
	Total	23	49	13.0	12
Weber	1		45		
	2		27		
	Total	19	72	18.2	8
Sevier	1		26		
	2		8		
	Total	13	34	15.0	2
Total	1				
	2				
	Total	193	522	16.2	94

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ion

As discussed above, a primary role for the State and its partners will be the management of some mapping activities. Mapping activities will include scoping, outreach & community coordination, digital base map collection/coordination, digital base map development, field surveys, hydrologic & hydraulic analyses, floodplain mapping, digital FIRM production, and post-preliminary processing.

A discussion of how these mapping activities will be managed is as follows:

- *Who will perform the Level 1 and Level 2 upgrades? (State contractors, FEMA IDIQ contractors, other federal agencies, etc.)* State contractors will perform the Level 1 and Level 2 upgrades. In addition, Federal, State, and local agencies involved in water resources, water development, water conservation and planning, public works, public utilities, flood control, planning and development, transportation, and GIS, will assist in identifying and providing data resources needed in the flood mapping process. As a Cooperating Technical State, the State will retain their own contractors.

- *Who will direct/manage these mapping activities? Explain why the agency(ies)/ organization(s) is appropriate for the task – e.g., experience in management flood studies and/or water resources projects, currently responsible for floodplain management, etc.* The State Floodplain Manager (SFM), under the Utah Department of Public Safety, Division of Emergency Services and Homeland Security will direct and manage the mapping activities. The SFM is currently responsible for overseeing all floodplain management activities in the state. The State Hazard Mitigation Officer (SHMO) will dedicate 50% of her time to the mapping projects. Combined, the FPM and SHMO have over 20 years of experience in the NFIP. The SFM, the SHMO, and the Planner will direct and manage all mapping activities for the state under this new program. The additional funding available through the CAP ($50,000) will be used to support a mapping program and/or an independent contractor to assist in the mapping review process.

- *Specific resources and/or capabilities of the agency.* The Utah Department of Public Safety, Division of Emergency Services and Homeland Security has committed to a contract employee and a half time Full Time Employee (FTE) to administer the mapping program. DES has a GIS specialist on staff to support the program objectives.

- *Previous or ongoing flood study or data collection activities.* Weber County currently has a contract with FEMA to digitize the Flood Insurance Rate Maps for the entire county. Unincorporated Summit County is currently being restudied in the Snyderville Basin area. The study is complete and will be submitted to FEMA soon. Effective maps should be out September 2003. FEMA is restudying the upper reaches of Little and Big Cottonwood Creeks, Willow Creek in Sandy, and portions of Midas Creek. Tooele County is currently developing a flood study for the area east and north of Tooele City to include Erda and Lake Point. Eureka is being restudied as a joint project between the EPA and FEMA. Alpine is currently negotiating a scope of work between FEMA and the COE. Centerville Canyon and Deuel Creek are an ongoing study with the COE. Annabella is in the final stages of a flood study on their alluvial fan with FEMA and the COE. Salt Lake County is in phases 3 and 4 of a FEMA funded restudy along Little Cottonwood Creek, Big Cottonwood Creek, Midas Creek and Willow Creek.

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- *Amount of work that the Agency and its mapping partners are capable of managing.* With one half time FTE, a contract planner, and other Division support staff, DES will be the project manager for all mapping projects in the State. The State of Utah intends to apply to become a Cooperating Technical State.

- *The approximate level of funding required to accomplish the proposed work.* The activities to be performed by the State are estimated to cost approximately $5,849,100 million. Approximately $4,679,280 million of this amount will be provided by FEMA to the State, and the State will provide approximately $1,169,820, through both in-kind and cash contributions.

- *How the State will fulfill the cost-share match?* The State will encourage and promote any and all cost-sharing efforts. The following positions will support the State cost share, half FTE, contract planner, GIS specialist, other State agencies to include agency personnel and equipment; Water Resources, AGRC, Utah Geological Survey, Water Quality, University of Utah, Utah State University, Weber State University, Utah Valley Community College, and Brigham Young University.

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sed Mapping Activities

The activities to be performed by the State are estimated to cost approximately $5,849,100 million. Approximately $4,679,280 million of this amount will be provided by FEMA to the State, and the State will provide approximately $1,169,820, through both in-kind and cash contributions. The costs for each county are listed in Table 2. The unit costs that were used in preparing these estimates are the same unit costs used in FEMAôs Blue Book. Refer to Appendix D for a detailed breakdown of costs in the Summary of Planned Map Update Projects.

Table 2 – Estimated Costs of Planned Production

County	Level 1 Upgrade Panels	Level 2 Upgrade Panels	FEMA Contribution ($)	State Contribution ($)	Total Cost
Cache	12	12	$284,640	$71,160	$355,800
Davis	36	12	$414,240	$103,560	$517,800
Iron	53	8	$420,900	$105,225	$526,125
Morgan	8	9	$205,380	$51,345	$256,725
Summit	33	9	$343,080	$85,770	$428,850
Tooele	15	11	$273,360	$68,340	$341,700
Uintah	56	5	$382,140	$95,535	$477,675
Utah	51	20	$632,640	$158,160	$790,800
Wasatch	8	9	$205,380	$51,345	$256,725
Washington	35	14	$433,620	$108,405	$542,025
Weber	45	27	$737,640	$184,410	$922,050
Sevier	26	8	$286,960	$71,740	$358,700
Total	378	144	$4,679,280	$1,169,820	$5,849,100

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June 18, 2002

Dear

The Federal Emergency Management Agency (FEMA) has appropriated funding for floodplain mapping for the next three years. Your community has been placed on this three-year priority list for new floodplain maps. We have enclosed a checklist for you to complete to assess your community's mapping needs. Michael Baker Jr. Engineering company will be contacting you during the next two months to further assess your needs and develop a scope of work for the mapping.

This is a rare opportunity for the State of Utah. The age of Utah's maps are some of the oldest in the country. We may never get this opportunity again. Any help you can supply to give the most accurate and detailed information would be greatly appreciated.

We appreciate your help in this new mapping program. If you have any questions regarding this new mapping initiative, please call either Nancy Barr at (801) 538-3721 or Judy Watanabe at (801) 538-3750.

Sincerely,

Nancy Barr
State Mapping Coordinator

Judy Watanabe
State Floodplain Manager

Enclosure

cc: County Emergency Management Program Director

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Flood Mapping Checklist

Name_____
Job Title_____
Community_____
Address_____
City_____**State**_____**Zip** _____
Phone _____**FAX**_____
Email _____

Please answer the following questions: Please note that your answers will not change the current ranking for floodplain mapping. This is just to help our contractors in the initial planning process.

1. Do you feel your floodplain maps are incorrect? ☐ yes ☐ no
   a. If so, where?_____
   _____

2. Have your community's boundaries recently changed? ☐ yes ☐ no

3. Do you have aerial photography of your community? ☐ yes ☐ no

4. Do you have a base map showing streets and boundaries of your community? ☐ yes ☐ no

5. Do you have a GIS person on staff? ☐ yes ☐ no

6. Do you have an Engineer on staff? ☐ yes ☐ no

7. Do you have a licensed surveyor on staff? ☐ yes ☐ no

Additional Comments on your floodplain mapping needs
_____
_____
_____
_____.

Please fax completed form and any other information to Nancy Barr at (801) 538-3772 as soon as possible. We appreciate your help. Thank you.

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Appendix B. Resultant Data Collection

County: Utah County
Contact: Mr. Clyde Naylor, County Floodplain Manager
Telephone: 801-370-8000
Date: July 12, 2002

We contacted Mr. Clyde Naylor of Utah County on July 12, 2002, to discuss the (MMIP) being prepared for the State of Utah. Mr. Naylor indicated that the floodplains in need of revising are Spanish Fork River, Hobble Creek, and especially the area in the vicinity of Santaquin Canyon, which is experiencing a significant amount of growth. The county has aerial photography from satellite imagery taken in the year 2000. The county also has 1990 contours at a 5-foot interval. Mr. Naylor indicated that there is no funding available to participate in floodplain revisions. The county has a survey crew and a GIS Department. Clyde was not aware of any hydrologic studies that had been conducted in the county.

County: Iron County
Contact: Mr. David Yardley, County Floodplain Manager
Telephone: 435-477-8300
Date: July 12, 2002

We contacted Mr. David Yardley of Iron County on July 12, 2002, to discuss the (MMIP) being prepared for the State of Utah. Mr. Yardley indicated that the floodplains in need of revising are for the communities of Paragonah, Enoch, and Cedar City. Cedar City has been actively involved in flood control projects that have altered the floodplains in the area. Recently, another flood control project was completed by Cedar City in Fiddlers Canyon. The county does not have aerial photography for the entire county. When needed, the county uses Agricultural Stabilization and Conservation Schedule (ASCS) aerial photography provided by the United States Department of Agriculture - Farm Service Agency (USDA-FSA). The USDA-FSA may have contours available but Mr. Yardley was not sure. The county contracts out all of their survey work but they do have a GIS department. Mr. Yardley indicated that the county did not have any funding available to participate in floodplain revisions. Mr. Yardley indicated that the Central Iron County Water Conservancy District (CICWCD) might have conducted hydrologic studies in the county. He suggested contacting Scott Wilson from Wilson & Wilson who may have done work in the area for the CICWCD. Mr. Yardley also suggest contacting Steve Plat, County Engineer, who may have funding available to participate in floodplain studies.

County: Iron County
Contact: Steve Plat, County Engineer
Telephone: 435-865-7515
Date:
Attempted to call 7/31/2002. Left message.

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County: Washington County
Contact: Ms. Deonne Goheen
Telephone: 435-634-5701
Date: July 12, 2002

We contacted Ms. Deonne Goheen of Washington County on July 12, 2002, to discuss the (MMIP) being prepared for the State of Utah. Deonne did not indicate any specific areas that needed floodplain revisions but made the general statement that revisions need to be made along all major wash boundaries. The county has 1993 aerial photography, which they are in the process of trying to update, and they do have a GIS Department. All of their survey work is contracted out to Bush & Gudgell. Deonne indicated that she had already sent information to Judy Watanabe, State Floodplain Coordinator.

County: Wasatch County
Contact: Mr. Al Mickelsen
Telephone: 801-654-3211
Date: July 12, 2002

We contacted Mr. Al Mickelsen of Wasatch County on July 12, 2002, to discuss the (MMIP) being prepared for the State of Utah. Mr. Mickelsen indicated that the majority of the growth is occurring within the unincorporated sections of the county. The areas identified by Mr. Mickelsen that were in need of floodplain revisions were Midway City, the Provo River, Snake Creek, and Deer Creek. A major restoration project has been conducted on the Provo River and has altered its floodplain from that presented on the existing maps. In addition, since the publication of the FIRMs, the Jordanelle Dam was constructed. This has had a major effect on the FIRMs. The county has aerial photography from the early 1980ôs at 2-foot and 10-foot contours. The county has a GIS department but they contract out their survey work. The county has limited funding for participating in floodplain revisions and has not budgeted for this task. Mr. Mickelsen believes that hydrologic studies have been conducted for the Provo River Restoration but was unaware of any other studies.

County: Weber County
Contact: Mr. Kyle Price
Telephone: 801-399-8054
Date: July 18, 2002

We contacted Mr. Kyle Price of Weber County on July 18, 2002, to discuss the (MMIP) being prepared for the State of Utah. Mr. Price identified the town of Uintah, the Weber River near Riverdale, and the Ogden Valley as the areas in need of immediate floodplain revisions. Within the Ogden Valley are the towns of Eden and Liberty that have been designated as Zone A. The floodplains for this area were not studied when the maps were prepared in the early 1980ôs. The floodplain maps in the City of Riverdale and the Weber River were revised in 1995. The county has a very progressive GIS department. They currently have a contract with FEMA to digitize the floodplain maps for the entire county. This project is nearing completion. They also have a survey crew and aerial photography of the county from the year 2000. In addition, they have Digital Elevation Models (DEMs) of several areas in the county. In particular, the have a DEM of the Ogden Valley area with break lines and points and is accurate to producing 2-foot contours. Mr. Price was not sure if the county had funds available to participate in the floodplain mapping and suggested contacting Curtis Christensen on this issue.

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County: Weber County
Contact: Mr. Curtis Christensen
Telephone: 801-399-8007
Date: July 31, 2002

Response Emailed on 7/31/2002. Mr. Christensen stated that this is a good time to approach the county commission, as they will be starting their budgeting process very soon. He thinks that the county would be able to provide some assistance with county employees. It is possible that the county would also assist in funding a project but until the level of funding is determined, it would be difficult to get any firm commitment.

County: Morgan County
Contact: Mr. Kent Smith
Telephone: 801-845-4007
Date: July 18, 2002

We contacted Mr. Kent Smith of Morgan County on July 18, 2002, to discuss the (MMIP) being prepared for the State of Utah. Mr. Smith indicated the areas in need of floodplain revisions are East Canyon Creek, the Weber River, and the area around the town of Mountain Green that has been experiencing a significant amount of growth. The majority of the existing floodplain delineations in the county are designated as Zone A. Morgan City, which is located within the county, is a NFIP participant and has their own floodplain maps. The county has older aerial photography of the county. They have more recent aerial photography for the Mountain Green area. The County has a GIS department but they contract out their survey work. Mr. Smith indicated that the county did not have any funding they could contribute to the floodplain revisions.

County: Davis County
Contact: Mr. Barry Burton
Telephone: 801-451-3279
Date: July 18, 2002

We contacted Mr. Barry Burton of Davis County on July 18, 2002, to discuss the (MMIP) being prepared for the State of Utah. Mr. Burton indicated that the floodplain maps for Farmington and Centerville have recently been updated. Since publication of the original floodplain maps, there have been several boundary changes that are not reflected on the current maps. The areas of the county that Mr. Burton indicated were in need of floodplain revision are the Great Salt Lake and everything west of I-15. Very little floodplain delineation has been done in the area west of I-15 and this is the area that is experiencing the most growth in the county. The published floodplain elevation for the Great Salt Lake needs to be revised. The FEMA elevation does not reflect the existing conditions of the Great Salt Lake. In addition, the United State Army Corps of Engineers performed a study on the Great Salt Lake and came up with a different 100-year floodplain elevation. Mr. Burton feels these numbers need to be consistent with each other. The county has aerial photography and contours. The also have a licensed surveyor on staff and a GIS department.

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Contact: Mr. Ray Johnson
Telephone: 435-843-3160
Date: July 18, 2002

We contacted Mr. Ray Johnson of Tooele County on July 18, 2002, to discuss the (MMIP) being prepared for the State of Utah. Mr. Johnson indicated that floodplain revisions are needed in the areas north of the City of Tooele, in particular, Middle Canyon and Settlement Canyon areas. Residential development has been occurring in the Middle Canyon area. Another problem area is in the City of Erda. Properties in this area are routinely being flooded by stormwater discharges after major rainfall events. Mr. Johnson indicated that the major flooding problems in the county are from stormwater discharges after rainfall events. This problem is particularly evident in the area north of the City of Tooele to Lakepoint. The county has aerial photography for the populated areas of the county. Mr. Johnson stated that unpopulated areas of the county, such as Skull Valley, would not need to be studied. The county has a GIS department and survey capabilities. Mr. Johnson indicated that the county would have some funding for flood control projects.

County: Cache County
Contact: Lorene Greenhalgh
Telephone: 435-752-8327
Date:

Attempted to call 7/12/2002. Left message.
Attempted to call 7/18/2002. Left message.
Attempted to call 7/31/2002. She is out of the office until 8/12/2002.

County: Uintah County
Contact: Dale Peterson
Telephone: 435-781-0770
Date:

Attempted to call 7/12/2002. Left message.
Attempted to call 7/18/2002. Left message.
Attempted to call 7/31/2002. He is out of the office until 8/12/2002.

County: Summit County
Contact: Derrick Radke
Telephone: 435-336-3250
Date:

Attempted to call 7/12/2002. Left message.
Attempted to call 7/18/2002. Left message.
Attempted to call 7/31/2002. He is out of the office until 8/7/2002.

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Summary of State Contacts

Community Name and State Ranking	unmapped	age of maps	cost share (Y/N)	Level	Questionnaire received	Comments
Unincorporated Utah Co.	**N**	**20**	**Y**	**2**	**Y**	**countywide format requested**
Alpine	N	19	Y	2	y	new H & H needed
American Fork	N	21	Y	2	Y	new H & H needed
Highland	N	20	Y	2	y	on county maps, new community, has not been mapped
Lehi	N	19	Y	2	y	new map reflects new boundaries only
Lindon	N	16	Y	1	Y	Incorporate LOMRs
Mapleton	N	22	Y	2	Y	new H & H needed
Orem	N	17	Y	1	Y	Need accurate & updated material
Genola	N	20	Y	1	Y	part of unincorporated county
Payson	N	21	Y	2	Y	Need accurate & updated material
Pleasant Grove	N	20	Y	1	Y	boundary changes
Salem	N	22	Y	1	Y	boundary changes
Santaquin	N	20	Y	2	Y	boundary changes and review of H & H
Saratoga Springs	N	1	Y	1	Y	reflect new map on countywide
Spanish Fork	N	16	Y	2	Y	East & west areas incorrect
Springville	N	17	Y	2	Y	Need accurate & updated material
Eagle Mountain	N	20	Y	1	Y	Review H & H
Cedar Fort	N	20	Y	1	Y	Review H & H
Woodland	N	20	Y	1	Y	Review H & H
Elkridge	N	20	Y	1	Y	Review H & H
Cedar Hills	N	20	Y	1	Y	Review H & H
Goshen	N	20	Y	1	Y	Review H & H
Elberta	N	20	Y	1	y	Review H & H
Fairfield	N	20	Y	1	Y	Review H & H
Vineyard	N	20	Y	1	Y	boundary changes
Unincorporated Davis County	N	20	Y	1	Y	countywide format requested
North Salt Lake	N	20	Y	2	Y	new H & H needed
Woods Cross	N	23	Y	2	Y	Need accurate & updated material
Sunset	N	23	Y	1	Y	Incorporate LOMRs
Syracuse	N	20	Y	1	Y	Incorporate on countywide
Clinton	N	20	Y	1	Y	Incorporate on countywide
Bountiful	N	11	Y	1	Y	Incorporate on countywide
Centerville	N	10	Y	2	Y	Incorporate on countywide, LOMRs, Fan study
Farmington	N	6	Y	2	Y	Great Salt Lake study, incorporate on countywide
Clearfield	N	22	Y	1	Y	Incorporate on countywide
Kaysville	N	20	Y	2	Y	H & H, boundary changes

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		age of maps	cost share (Y/N)	Level	Questionnaire received	Comments
Layton	N	19	Y	2	Y	H & H, boundary changes
Fruit Heights	N	20	Y	2	Y	H & H, boundary changes
South Weber	N	20	Y	1	Y	Incorporate on countywide
Unincorporated Cache County	N	21	Y	2	Y	H & H, boundary changes, countywide format
Wellsville	N	21	Y	2	Y	Need accurate & updated material
Hyrum	N	22	Y	1	Y	H & H review
Providence	N	18	Y	1	Y	Incorporate on countywide
Millville	N	25	Y	2	Y	H & H, and boundary changes
Mendon	N	22	Y	2	Y	H & H needed
Logan	N	17	Y	2	Y	Need accurate & updated material
River Heights	Y	unmapped	Y	2	Y	H & H, boundary changes
Nibley	N	16	Y	1	Y	Incorporate on countywide
Paradise	N	26	Y	1	Y	new boundaries
Richmond	N	22	Y	1	Y	new boundaries
Hyde Park	N	22	Y	1	Y	new boundaries, review of H & H
North Logan	N	16	Y	1	Y	new boundaries, review of H & H
Smithfield	N	16	Y	2	Y	H & H needed
Clarkston	N	22	Y	1	Y	boundary changes
Lewiston	N	21	Y	2	Y	Need accurate & updated material
Trenton	Y	unmapped	Y			
Newton						
Amalga						
Cove						
Petersboro						
Cornish						
Unincorporated Weber County						
Farr West						
Plain City	N	19	Y	2	Y	
Marriott-Slatersville						
Pleasant View						
North Ogden						
Ogden	N	19	Y	2	Y	Need accurate & updated material
Liberty						
Eden						
Huntsville						
Roy						
Uintah						
Riverdale						
Washington Terrace	?	?	Y	?	Y	
South Ogden	N	20	Y	2	Y	
Hooper						
West Warren						
Harrisville						
West Haven						
Unincorporated Iron County						

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		age of maps	cost share (Y/N)	Level	Questionnaire received	Comments
Paragonah	N	17	Y	2	Y	Need accurate & updated material
New Castle						
Brian Head						
Parowan	N	16	Y	2	Y	
Kanarraville						
Summit						
Enoch						
Cedar City	N	17	Y	2	Y	
Unincorporated Tooele County						
Lake Point						
Stansbury Park						
Erda						
Tooele	N	12	Y	2	Y	
Stockton	N	21	Y	1	Y	
Rush Valley						
Dugway						
Bauer						
Mills Junction						
Grantsville						
Delle						
Wendover						
Salt Springs						
Gold Hill						
Ibapah						
Faust						
Vernon						
Ophir						
Unincorporated Washington County						
New Harmony	N		Y	2	Y	
Toquerville						
Leeds						
La Verkin	Y		Y	1	Y	Need floodplain maps
Virgin						
Hurricane	N	?	Y	2	Y	Need accurate & updated material
Hilldale						
Enterprise	N	15	Y	2	Y	mapping on north & west sides of city incorrect
Gunlock						
St. George	N	11	Y	2	Y	panels not printed that are now developed
Ivins						
Santa Clara						
Central						
Veyo						
Damerron Valley						
Diamond Valley						
Middleton						
Washington	N	8	Y	2	Y	
Rockville	Y		Y	2	Y	Need floodplain maps
Springdale						
Winchester Hills						
Unincorp. Uintah County panels 14, 15						
Vernal	N	16	Y	2	Y	Municipal boundaries not shown, no base flood elevation

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		age of maps	cost share (Y/N)	Level	Questionnaire received	Comments
Soldier Summit						
Naples						
Maeser						
La Point						
Ballard	N	?	Y	2	Y	
Gusher						
White Rocks						
Tridell						
Randlett						
Leota						
Ouray						
Bonanza						
Unincorporated Morgan County – needs good base map						
Morgan City	N	14	N	2	Y	Need accurate & updated material
Peterson						
Stoddard						
Croydon						
Enterprise						
Unincorporated Summit County						
Henefer						
Coalville	Y	?	Y	2	Y	Need floodplain maps
Wanship						
Oakley						
Marion						
Hoytsville						
Pineview						
Upton						
Kamas						
Francis						
Woodland						
Peoa						
Park City	N	14	Y	1	Y	
Summit Park – part of County						
Jeremy Ranch – part of County						
Silver Creek Junction						
Wasatch County – above Jordanelle						
Heber	N	15	Y	2	Y	Need accurate & updated material
Charleston						
Midway						
Wallsberg						
Timberlakes						

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ounty-by-County Ranking Table

County	FIRM age	Local Contribution	Population Growth	Emergency, Priority, Routine	Existing Data	Total	Comments
Beaver	5	4	1	3	2	15	
Box Elder	5	4	1	3	2	15	
Cache	5	4	2	4	4	19	
Carbon	5	4	1	2	4	16	
Davis	5	5	2	4	5	21	
Daggett	5	2	2	2	2	13	Unmapped
Duchesne	5	2	2	2	2	13	Unmapped
Emery	5	2	2	2	3	14	
Garfield	5	3	1	3	2	14	
Grand	5	2	2	2	2	13	Non-part.
Iron	5	4	4	3	4	20	
Juab	5	2	2	2	3	14	
Kane	5	4	1	2	3	15	
Millard	5	3	2	2	3	15	
Morgan	4	4	3	3	4	18	
Piute	5	3	1	3	2	14	
Rich	5	2	1	2	2	12	Unmapped
Salt Lake	1	4	2	2	3	12	
San Juan	5	2	1	2	2	12	Unmapped
San Pete	5	4	2	3	3	17	
Sevier	5	4	2	3	3	17	
Summit	5	4	5	4	4	22	
Tooele	5	5	4	4	4	22	Unmapped
Uintah	5	4	2	4	4	19	
Utah	5	5	3	4	4	21	
Wasatch	5	4	2	3	4	18	
Washington	5	4	3	3	4	19	
Wayne	5	2	1	2	2	12	Unmapped
Weber	5	4	2	3	4	18	

A description of each data source and score are listed below:

FIRM age ï FIRMS that were 15 years or older were given a 5 in the ranking scale; FIRMS that are 10 years old received a 4; FIRMS that are 3 years old received a 2; and, FIRMS that were effective during the last year were given a 1.
Local Contribution (soft match) ï As a part of Utahôs County surveys, communities were asked if they could contribute to new maps. A 5 ranking scale indicates the community has an active GIS, engineering, and surveying capabilities. A 4 indicates some GIS, engineering, and surveying capabilities; a 4 indicates some capabilities; a 2 indicates no GIS, some engineering and surveying; and, a 1 indicates no soft match capabilities.
Population data ï 2000 U.S. Census

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ts started in Year 1 received a 4 ranking, projects in year 2 received a 3, projects in year 4 received a 2. This section reflects the fiscal year that the mapping projects would be started and reflects the Stateôs priorities.

Existing Data (Topographic, Base Maps, and Flood data) ï Describes the availability of data and maps to support new mapping. This information comes from Federal, State, and local partners.

Please Note:
≥18 = High priority (obligated in FY2003)
17-14 = Medium priority (obligated in FY2004)
≤13 = Low priority (obligated in FY2005)

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ary of Planned Map Update Projects