

CHAPTER 2

PLANNING PROCESS

The 2011 Wyoming Multi-Hazard Mitigation Plan (Plan) is the product of cooperation among local, state, and federal organizations over a period of several years. The State directed a significant portion of FY 2002 and 2003 Pre-Disaster Mitigation grant funds to the Wyoming State Geological Survey (WSGS) for the generation of the original 2005 Wyoming Multi-Hazard Mitigation Plan. The 2005 plan emphasized a thorough multi-hazard assessment. The 2008 plan built upon the 2005 hazards assessments by incorporating weather data from 1937-1958 and 2003-2006. The weather data were generated by the Water Resources Data System at the University of Wyoming. These products and the plan were distributed to the public. The products include seismological characterizations, Hazards U.S. Multi-Hazard (HAZUS-MH) analyses, slope stability assessments, liquefaction assessments, and others. The current 2011 update is the cumulative result of the original 2005 plan, the 2008 update, and information acquired over the past three years.

Development of the 2005 Plan

WOHS and WSGS staff met with members of the state's Multi-Hazard Task Force on November 13, 2003, to review the mitigation planning process and to discuss the role of various state and federal agencies. Task force members were periodically contacted or visited by WSGS staff as part of the data gathering process and identification of existing and proposed mitigation programs and activities. Upon completion of the hazard assessment, the task force met again on August 20 and 25, 2004, to review hazard profiles, discussed state mitigation goals and objectives, and review and rank a consolidated list of proposed state mitigation projects/measures. The WSGS presented hazard profiles to the group for discussion. Agencies with expertise in wildland fires, severe weather, floods, and other hazards assisted with the development of hazard specific profiles to ensure the accuracy and completeness of information. An edited list of projects was sent to task force members for final review and ranking. Meeting announcements, agendas and attendance rolls, and meeting results for Multi-Hazard Task Force meetings are on file at WOHS.

The members of the Multi-Hazard Task Force attending meetings mentioned above and participating in discussions of the hazard profiles, ranking of hazards, and ranking of proposed mitigation projects are listed below:

State Agencies

- University of Wyoming, Water Resources Data System/Wyoming State Climate Office, Laramie
- Wyoming Business Council, Cheyenne
- Wyoming Department of Administration and Information, Cheyenne
- Wyoming Department of Agriculture, Cheyenne
- Wyoming Department of Environmental Quality, Cheyenne

- Wyoming Department of Fire Prevention and Electrical Safety, Cheyenne
- Wyoming Department of Insurance, Cheyenne
- Wyoming Game and Fish Department, Cheyenne
- Wyoming Public Service Commission, Cheyenne
- Wyoming State Engineer's Office, Cheyenne
- Wyoming State Forestry Division, Cheyenne
- Wyoming State Geological Survey, Laramie
- Wyoming State Lands and Investments, Cheyenne
- Wyoming State Risk Management Office, Cheyenne
- Wyoming Department of Transportation, Cheyenne

Federal Agencies

- National Oceanic & Atmospheric Administration (NOAA), National Weather Service, Cheyenne, Wyoming
- U.S. Bureau of Land Management, Cheyenne, Wyoming
- U.S. Department of Agriculture (USDA), Natural Resource and Conservation Services

Non-government Organizations

- Wyoming American Red Cross
- Wyoming Association of Conservation Districts
- Wyoming Association of Municipalities
- Wyoming Association of Planners
- Wyoming Association of Risk Managers
- Wyoming Conference of Building Officials
- Wyoming Contractors' Association
- Wyoming County Commissioners Association
- Wyoming Rural Electric Association

WSGS staff members visited individually, or conducted telephone interviews with individuals who have expertise in the hazard area identified for the purpose of obtaining information and recommendations for proposed mitigation measures.

Wildland Fire

- National Interagency Fire Center, Boise, Idaho
- U.S. Bureau of Land Management, Cheyenne, Wyoming
- USDA Forest Service, Laramie, Wyoming
- USDA Forest Service, Rocky Mountain Area Fire and Aviation Management, Rocky Mountain Coordination Center, Lakewood, Colorado
- USDA Forest Service, Washington, D.C.
- Wyoming Department of Fire Prevention and Electrical Safety, Cheyenne
- Wyoming State Forestry Division, Cheyenne

- Wyoming State Library, Cheyenne

Lightning

- Desert Research Institute, Reno, Nevada
- University of Wyoming, Water Resources Data System/Wyoming State Climate Office, Laramie

Snow Avalanches

- Bridger-Teton National Forest Avalanche Center, Jackson, Wyoming
- Wyoming Department of Transportation, Rock Springs

Winter Storms and Blizzards

- NOAA, National Climatic Data Center, Asheville, North Carolina
- NOAA, National Weather Service, Cheyenne, Wyoming
- University of Wyoming, Water Resources Data System/Wyoming State Climate Office, Laramie
- Wyoming State Archives, Cheyenne

Drought

- National Drought Mitigation Center, Lincoln, Nebraska
- University of Wyoming, Water Resources Data System/Wyoming State Climate Office, Laramie
- USDA National Agriculture Statistics Service, Cheyenne, Wyoming
- Wyoming Department of Agriculture, Cheyenne
- Wyoming Water Development Commission, Cheyenne, Wyoming

Abandoned Mine Lands

- Wyoming Department of Environmental Quality, Abandoned Mine Lands Division, Cheyenne
- Wyoming State Geological Survey, Laramie

Hazardous Materials and Waste

- University of Wyoming Environmental Health and Safety, Hazardous Materials, Laramie
- University of Wyoming Environmental Health and Safety, Radiation Safety, Laramie
- U.S. Environmental Protection Agency, Region VIII, Denver, Colorado
- Wyoming Department of Fire Prevention and Electrical Safety, Cheyenne
- Wyoming Department of Transportation, Highway Patrol, Cheyenne

- Wyoming Department of Transportation, Safety Division, Cheyenne
- Wyoming Department Environmental Quality, Cheyenne
- Wyoming Office of Homeland Security, Cheyenne

Dam Safety

- Wyoming State Engineer's Office, Dam Safety, Cheyenne
- Wyoming State Engineer's Office, Surface Water, Cheyenne

Earthquakes

- FEMA, Region VIII, Denver, Colorado
- PBS&J
- U.S. Geological Survey, Denver, Colorado
- Wyoming Department of Fire Prevention and Electrical Safety, Cheyenne
- Wyoming State Geological Survey, Laramie

Tornadoes

- NOAA, National Weather Service, Cheyenne, Wyoming
- University of Wyoming, Water Resources Data System/Wyoming State Climate Office, Laramie
- Wyoming Office of Homeland Security, Cheyenne

Landslides

- Park County Emergency Management, Cody, Wyoming
- Teton County Emergency Management, Jackson, Wyoming
- Wyoming Department of Transportation, Geology, Cheyenne
- Wyoming Department of Transportation, Maintenance, Cheyenne
- Wyoming State Geological Survey, Laramie

Liquefaction

- Wyoming State Geological Survey, Laramie

Expansive Soils

- Casper City Engineer, Casper, Wyoming
- Casper Planning Office, Casper, Wyoming
- Casper Streets Department, Casper, Wyoming
- Natrona County Planning Office, Casper, Wyoming
- Natrona County Building Department, Casper, Wyoming
- Natural Resources Conservation Service, Casper, Wyoming
- Private Geological Consultant, Casper, Wyoming

- Casper Building Inspector, Casper, Wyoming
- U.S. Bureau of Land Management, Casper, Wyoming

Floods

- FEMA, Region VIII, Denver, CO
- NOAA, National Climatic Data Center, Asheville, NC
- NOAA, National Weather Service, Cheyenne Wyoming
- University of Wyoming, Water Resources Data System/Wyoming State Climate Office, Laramie
- Wyoming Office of Homeland Security, Cheyenne

Hail

- NOAA, National Climatic Data Center, Asheville, North Carolina
- NOAA, National Weather Service, Cheyenne, Wyoming
- University of Wyoming, Water Resources Data System/Wyoming State Climate Office, Laramie
- Wyoming Office of Homeland Security, Cheyenne

State Facilities

- Wyoming Department of Administration and Information, Risk Management, Cheyenne
- Wyoming Department of Corrections, Cheyenne
- Wyoming Department of State Parks and Cultural Resources, Cheyenne
- Wyoming Department of Transportation, Cheyenne
- Wyoming Game and Fish Department, Cheyenne
- Wyoming Military Department, Cheyenne
- Wyoming School Facilities Commission, Cheyenne
- Wyoming State Hospital, Evanston

State Infrastructure Data

- All Wyoming schools
- All Wyoming county fire departments
- All Wyoming county law enforcement agencies
- All Wyoming hospitals
- All Wyoming county emergency management coordinators
- American Red Cross
- American Wind Energy Association
- Federal Communications Administration
- National Geospatial–Intelligence Agency
- State of Wyoming Judicial Branch
- University of Wyoming

- U.S. Bureau of Transportation Statistics
- U.S. Department of Energy – Energy Information Administration
- Wyoming Department of Environmental Quality – Air Quality Division
- Wyoming Department of Health
- Wyoming Department of Revenue
- Wyoming Department of Transportation
- Wyoming Oil and Gas Conservation Commission
- Wyoming Peace Officers Standards and Training Commission
- Wyoming Press Association
- Wyoming Public Service Commission
- Wyoming State Engineer’s Office
- Wyoming State Geological Survey

Use of HAZUS

At the onset of the planning process, both the WOHS and the WSGS were committed to using FEMA’s loss estimation methodology program called HAZUS. In 2003, the State of Wyoming was designated a pilot project state for using HAZUS-MH at the census block level of analysis. HAZUS-MH is usually run at the census tract level, which can lead to incorrect analyses in states with very large census tracts as in Wyoming. FEMA Region VIII provided a beta version of HAZUS-MH in late 2003, and training in use of the program in February 2004. The basic HAZUS-MH program was debugged by early June 2004, at which time county analyses were initiated. Use of HAZUS-MH has continued throughout the life of this plan.

Integration with Plans and Programs

Members of the WOHS staff meet several times a year in agency representatives meetings with representatives of 50 state and federal agencies. The majority of the members are also members of the Multi-Hazard Task Force. A close working relationship among these agencies provides for exchange of planning information and familiarization with each other’s mitigation-type plans such as the Wyoming Community Wildfire Protection Plan developed and implemented by the Wyoming Department of Fire Prevention and Electrical Safety. WOHS maintains the plans that are correlated internally and with external agencies.

- Wyoming Response Plan
- Wyoming Hazard Mitigation Grant Program Administrative Plan
- Wyoming Five-Year Flood Plain Management Work Plan
- Wyoming Flood Map Modernization State Business Plan

Agency representatives were asked to identify programs, funding sources, laws/regulations, and policies related to mitigation for which their respective agencies are responsible.

Development of the 2008 Plan

In 2005, the Wyoming Office of Homeland Security reorganized the processes through which decisions were made in regards to plan review, disaster response, and agency-to-agency communication on significant issues. Instead of numerous committees responding to calls for assistance from the Wyoming Office of Homeland Security, one contact list for each state agency, federal agency, public entity, or organization was established. The list is composed of the chain-of-command for each agency or organization, and usually contains the director, deputy director, and key division heads. Those entities were contacted for all key decisions or input needed, including plan review. This ensures the management of each agency or organization is current with planning or response activities of WOHS.

2008 Multi-Hazard Mitigation Plan Update Planning Team

- Jim Case – Wyoming Office of Homeland Security
- Kim Johnson – Wyoming Office of Homeland Security
- Jacob Sones – Wyoming Office of Homeland Security
- Kim Selin – Wyoming Office of Homeland Security (Contract)

The planning team organized one-on-one meetings between the planning team and representatives of relevant agencies and organizations to maximize input, buy in, and feedback. Each meeting reviewed and analyzed relevant sections of the 2005 Multi-Hazard Mitigation Plan. Each meeting between the planning team and the representatives from interested agencies included a briefing on the purpose of the Wyoming Multi-Hazard Mitigation Plan, how the plan will potentially influence each agency or organization, and a discussion of information and strategies included within the plan. Each relevant agency or organization was asked to provide feedback and revisions concerning plan processes and structure, goals, hazard and mitigation related data, current mitigation activities, and proposed mitigation activities.

The planning team compiled the feedback and data collected in individual meetings to update appropriate sections of the plan. The plan was distributed electronically to the relevant agencies or organizations for review, and served online at <http://wyohomelandsecurity.state.wy.us>. All county homeland security coordinators were sent a notification of the online review process, and they were asked to notify all jurisdictions and interested parties in their county. All review comments received through this process were incorporated into the plan. A follow up meeting was held, one-on-one, with each agency or organization, in person, via e-mail, or telephonically. Plan adoption was completed upon approval by all relevant agencies and organizations. The final approved plan was also served online through WOHS.

Special emphasis was placed on data collected regarding: infrastructure updates; existing mitigation activity updates; future mitigation activity recommendations; coordination with existing interagency planning efforts; and hazards data updates, including incidents and historical records. Additionally, each meeting solicited feedback on an update of the overall goals. The goals were updated consistent with feedback obtained in meetings with all consulted agencies and organizations.

Development of the 2011 Plan

The years between 2008 and 2011 have resulted in significant turnover within the Multi-Hazard Mitigation Planning Team. Only one member of the 2008 Planning Team remains in place, Kim Johnson of the Wyoming Office of Homeland Security. This loss of personnel represents a loss in historical knowledge of the development of the plan. However, there have been events over the past three years that have triggered a review and update of portions of the Plan.

The most significant of those events is a flood occurring in central Wyoming early in the summer of 2010, most significantly impacting the towns of Lander, Riverton, Hudson, and Ethete, Fremont County and the Wind River Indian Reservation. The floods led to a Presidential Disaster Declaration June 14, 2010. Additional flooding occurred over the past three years in other locations throughout the state including the City of Laramie, the Town of Baggs, and areas within Carbon County. Other events triggering a review and update of the plan include 2009 earthquake swarms located in and near Yellowstone National Park in the northwest corner of the state and multiple tornados throughout the state in recent years, including a tornado in the City of Laramie in 2008.

Updated data was sought regarding the analysis of hazards the state experienced over the past three years. State agencies and county coordinators were notified of the updated plan's location on the web site, asked to notify all jurisdictions and interested parties. Input, feedback, and revisions were solicited concerning plan processes and structure, goals, hazard and mitigation related data, current mitigation activities, and proposed mitigation activities.

2011 Multi-Hazard Mitigation Plan Update Planning Team

- Melinda Gibson – Wyoming Office of Homeland Security
- Kim Johnson – Wyoming Office of Homeland Security
- Larry Green – Wyoming Office of Homeland Security

Emphasis was placed on data collected regarding: an update of the overall goals; infrastructure updates; existing mitigation activity updates; future mitigation activity recommendations; coordination with existing interagency planning efforts; and hazards data updates, including incidents and historical records. The goals were updated consistent with feedback received.

Due to employee turnover, the 2011 plan update does not incorporate as much collaboration as planned and anticipated. However, the 2011 Plan does incorporate information obtained through formal and informal discussions, lessons learned through exercises throughout the state, Wyoming Office of Homeland Security practical experience, input from local jurisdictions via their local, multi-jurisdictional plans, a formal survey of public views on Wyoming Hazards and Hazard Mitigation conducted in 2010, and updated information provided by the Wyoming Geological Survey Office, the Wyoming Chapter of the Red Cross, the National Oceanic and Atmospheric Administration, and Wyoming State Agencies. Additionally, the 2011 multi-hazard mitigation plan was served on the Wyoming Office of Homeland Security web site in its

draft form during the review period, and in its final form allowing for comment from state and local governmental agencies throughout the life of the 2011 plan.

Since approval of the 2008 update of the Wyoming Multi-Hazard Mitigation Plan the following actions and activities have taken place:

- Meetings with the Wyoming Chapter of the Red Cross occurred, leading to the development and creation of a Memorandum of Understanding between the State of Wyoming and the Wyoming Chapter of the Red Cross related to staffing of shelters and mass care issues.
- Meetings with the State Climate Office, University of Wyoming, resulting in shared, updated weather data over the past three years, received from the State Climatologist Office, Wyoming Water Resources Data System in the form of a weather activity spreadsheet.
- The Wyoming State Geological Survey Team utilized a grant to purchase earthquake kits for 27 schools deemed at high seismic risk and is preparing to distribute those kits.
- Additionally, the Wyoming State Geological Survey Office will be providing to the Wyoming Office of Homeland Security and each of the counties a final copy (currently in draft form) of a report detailing 16 Earthquake Loss Estimate Scenarios for use in planning and exercises.
- At the request of the Wyoming Office of Homeland Security a formal survey was proposed, developed, and completed June 2010 by the Wyoming Survey and Analysis Center (WYSAC). The purpose of the survey was to determine public views and perspectives on Wyoming Hazards and Hazard Mitigation. The data has provided public input regarding which mitigation issues are of uppermost importance to the citizens of Wyoming.
- Multiple contacts, including phone conversations and e-mail communications, were made with the Wyoming Department of Transportation to ensure mitigation efforts proposed, in process, and completed are accurate and up to date within the multi-hazard mitigation plan. Additional input was requested regarding any needed mitigation projects not in the 2008 updated plan.
- Multiple communications, including phone conversations and e-mail, between the Wyoming Office of Homeland Security and Wyoming Livestock Board resulted in updated mitigation project information.
- The Wyoming State Forestry Division was contacted, requesting updated project information.
- Internal meetings within the Wyoming Office of Homeland Security ensured the current status of mitigation projects coordinated by WOHS is accurately reflected within the plan.

Table 2.1 lists each hazard identified in the Risk Assessment, and a list of all relevant agencies and organizations responsible for contributing to the plan update. Cross-referenced on this table is an indicator identifying which agency or organization contributed to specific sections of the plan by identified hazard.

Since the adoption of the 2005 Wyoming Multi-Hazard Mitigation Plan, Wyoming has initiated a direct, cooperative relationship with the Federal Government. The initial plan was written utilizing a third party (contractor). The 2008 and 2011 updates were done by the Wyoming Office of Homeland Security. This allowed for more direct and immediate communication and cooperation between the State and Federal agencies in all planning activities. Examples of the benefits of this direct communication include the BLM assisting with future mine fire planning, and NOAA assisting with response and evacuation planning.

Local Plan Integration

The Risk Assessment includes data that reflects the cooperation and coordination between the Wyoming Office of Homeland Security and local jurisdictions in plan development at the state and local level. Most counties were provided data and hazards identification, risk assessment, and vulnerability generated chapters by WOHS. If new data were presented in the local Multi-Hazard Mitigation Plans, the data were incorporated into the state plan.

Program Integration

The Plan was developed to comply with the requirements of the Disaster Mitigation Act of 2000, the State of Wyoming HMGP Administrative Plan, the Public Assistance Administrative Plan, the Map Modernization Management Systems Plan and the National Flood Insurance Program. Included in discussions with relevant agencies and organizations was a review of how the State plan will be coordinated with the mitigation and hazard related plans of the relevant agency or organization. This includes coordination and integration between the Plan and all mitigation plans and strategies of state agencies, federal agencies, local governmental and private/volunteer agencies and organizations.

The Plan served as the foundation for many state plans. The Wyoming Response Plan was modeled around hazards identified and detailed within this plan. The Wyoming Evacuation Plan was developed around scenarios driven by this plan.

Meetings are conducted with individual state agencies on the Plan, the Wyoming Response Plan, the Wyoming Evacuation Plan, and on COOP/COG. During the meetings, all planning efforts and plans are discussed in order to ensure proper coordination. Coordination between key state agencies takes place at Governor-level exercises composed of agency directors or their designees. **Table 2.1** lists each hazard identified in sections of the Plan, and a list of all relevant agencies and organizations responsible for contributing to the plan update. At the time of the updates, all other planning efforts were addressed, as mentioned above.

Table 2.1 – Agency Contribution to Hazard Identification

	Wildland fire	Lightning	Snow avalanches	Winter storms and blizzards	Drought	Abandoned mine lands
American Red Cross of Wyoming	X	X	X	X	X	X
FEMA Region VIII						X
Laramie County Emergency Management Agency	X	X	X	X	X	
NOAA, National Weather Service.		X	X	X		
U.S. Bureau of Land Management	X	X	X	X	X	
WYDOT, Geology			X	X		X
WYDOT, Maintenance			X	X		
WYDOT, Systems Planning			X	X		X
Wyoming Association of Municipalities	X	X	X	X	X	X
Wyoming Department of Administration and Information		X	X	X		X
Wyoming Department of Agriculture	X				X	
Wyoming Department of Environmental Quality		X	X	X		
Wyoming Department of Fire Prevention and Electrical Safety	X				X	
Wyoming Livestock Board	X				X	
Wyoming Office of Homeland Security	X	X	X	X	X	X
Wyoming State Engineer's Office	X				X	
Wyoming State Forestry Division	X				X	
Wyoming State Geological Survey						X
Wyoming Water Development Commission	X				X	
Wyoming Water Resources Data System	X	X	X	X	X	

Table 2.1 - Agency Contribution to Hazard Identification

	Hazardous materials and waste	Dam safety	Earthquakes	Tornadoes	Landslides	Liquefaction
American Red Cross of Wyoming	X	X	X	X	X	X
FEMA Region VIII		X	X		X	X
Laramie County Emergency Management Agency	X	X		X		
NOAA, National Weather Service.				X		
U.S. Bureau of Land Management				X		
WYDOT, Geology			X		X	X
WYDOT, Maintenance	X		X		X	X
WYDOT, Systems Planning	X		X		X	X
Wyoming Association of Municipalities	X	X	X	X	X	X
Wyoming Department of Administration and Information		X	X	X	X	X
Wyoming Department of Agriculture						
Wyoming Department of Environmental Quality	X			X		
Wyoming Department of Fire Prevention and Electrical Safety	X					
Wyoming Livestock Board						
Wyoming Office of Homeland Security	X	X	X	X	X	X
Wyoming State Engineer's Office		X				
Wyoming State Forestry Division						
Wyoming State Geological Survey			X		X	X
Wyoming Water Development Commission		X				
Wyoming Water Resources Data System				X		

Table 2.1 - Agency Contribution to Hazard Identification

	Expansive soils	Floods	Hail	State facilities	State infrastructure data
American Red Cross of Wyoming	X	X	X	X	
FEMA Region VIII	X	X		X	X
Laramie County Emergency Management Agency		X	X		
NOAA, National Weather Service.			X		
U.S. Bureau of Land Management			X		
WYDOT, Geology	X		X	X	X
WYDOT, Maintenance	X		X	X	X
WYDOT, Systems Planning	X		X	X	X
Wyoming Association of Municipalities	X	X	X		
Wyoming Department of Administration and Information	X	X	X	X	X
Wyoming Department of Agriculture					X
Wyoming Department of Environmental Quality			X		X
Wyoming Department of Fire Prevention and Electrical Safety				X	X
Wyoming Livestock Board					X
Wyoming Office of Homeland Security	X	X	X	X	X
Wyoming State Engineer's Office		X			X
Wyoming State Forestry Division					X
Wyoming State Geological Survey	X				X
Wyoming Water Development Commission		X			X
Wyoming Water Resources Data System			X		X

Summary of Changes from the 2008 to 2011 Multi-Hazard Mitigation Plan

During the 2011 update, modifications and updates were made to the 2008 plan. The following summary outlines the changes to each chapter. A detailed record of changes is available on file with the Wyoming Office of Homeland Security.

Chapter 1--Introduction

Two additional goals were incorporated to include reducing economic impacts of disasters to local communities and to the state. Wyoming's geographical data, map depicting highways, cities and towns, and map of mountain ranges, rivers, reservoirs, national parks and places of interest has been added.

Chapter 2—Planning Process

The updating process for the 2011 multi-hazard mitigation plan update has been included.

Chapter 3--Identifying Hazards

A complete list of the presidential disaster declarations in Wyoming has been added along with state declarations. Hazard ranking was revisited by the mitigation committee and minor updates made to the ranking of the hazards in Wyoming.

Chapter 4--Dam Failures

The dam failures table has been updated to include Wyoming dam failures occurring between 2008 and 2011. Data was incorporated from local plans to include local risk perspectives.

Chapter 5--Drought

Historical data has been updated by including a 2008 – 2010 percent of normal precipitation map. Data was incorporated from local plans to include local risk perspectives.

Chapter 6--Earthquakes

Historical occurrence data has been updated. Sixteen (16) earthquake scenarios were developed by the Wyoming Geological Survey utilizing HAZUS-MH. While not yet finalized, information from the draft report is incorporated into this update. Information gleaned from the scenarios has also been made available to all 23 counties in its draft form. Data was incorporated from local plans to include local risk perspectives.

Chapter 7--Expansive Soil

A discussion of the development and composition of expansive soil was incorporated into this update. Data was incorporated from local plans to include local risk perspectives.

Chapter 8--Floods

Planning level flood loss estimates were made available for every county. Flood loss analysis was updated. Historical flood data was updated to include flooding between 2008 and 2010. Data was incorporated from local plans to include local risk perspectives.

Chapter 9--Hail

Historical weather data has been updated to include hail incidents between 2008 and 2010. Data was incorporated from local plans to include local risk perspectives.

Chapter 10--Hazardous Material and Waste

County hazardous chemicals have been updated to include chemicals stored by businesses new to the state.

Chapter 11--Landslides

Updated landslide coverage map was included. Annual costs of landslide-related activities were updated. Historical landslide damage data was updated. Data was incorporated from local plans to include local risk perspectives.

Chapter 12--Lightning

Data was incorporated from local plans to include local risk perspectives.

Chapter 13--Liquefaction

Data was incorporated from local plans to include local risk perspectives.

Chapter 14--Mine Subsidence

Data was incorporated from local plans to include local risk perspectives.

Chapter 15--Snow Avalanches

Historic avalanche fatalities were updated. Data was incorporated from local plans to include local risk perspectives.

Chapter 16--Tornadoes

Damaging tornado events table was updated to include data between 2008 and 2010. Data was incorporated from local plans to include local risk perspectives.

Chapter 17--Wildland Fire

Historical information has been expanded to include national lessons learned from the Yellowstone National Park fire of 1988. Information regarding Wyoming's principle wildland fire response plan information has been updated and included. Data was incorporated from local plans to include local risk perspectives.

Chapter 18--Windblown Deposits

The windblown deposits map has been updated. Data was incorporated from local plans to include local risk perspectives.

Chapter 19--Winter Storms and Blizzards

Historical records were updated to include winter storms and blizzards from 2008 through 2010. Data was incorporated from local plans to include local risk perspectives.

Chapter 20--Vulnerability of State Facilities to Hazards

Insurance loss information provided by the Wyoming Risk Division is analyzed utilizing historical loss data and the analysis is provided by hazard and in aggregate. The analysis revealed that though wind has caused significant damage to state property in recent history, no hazard analysis has been incorporated into the Plan. Because of this analysis, it is anticipated wind will be added as a statewide hazard to the 2014 updated plan.

Chapter 21--State Mitigation Strategy

Two goals were added to the plan. Information obtained from the public through a state-wide survey has been included. Changes to the state's hazard management capabilities since 2008 have been outlined. The status of FEMA-approved local multi-hazard mitigation plans has been updated.

Chapter 22--Proposed State Mitigation Activities

Proposed county mitigation activities were updated. Proposed state mitigation projects were reviewed and re-prioritized. The status of previously-proposed state mitigation efforts has been updated.

Chapter 23--Plan Maintenance and Implementation

The 2011 plan evaluation methodology has been outlined. While input from partners was pursued and included in this 2011 update, the methodology to include greater input from partners in the next 2014 update is included.