



STATE OF ARIZONA

JANICE K. BREWER  
GOVERNOR

EXECUTIVE OFFICE

September 16, 2010

The Honorable Barack Obama  
The President of the United States of America  
The White House  
1600 Pennsylvania Avenue  
Washington, D. C. 20500

Through: Nancy Ward, Regional Administrator  
FEMA Region IX  
1111 Broadway  
Oakland, CA 94607

Subject: Request for Major Disaster Declaration for  
Post-Fire Flood Emergency

Dear Mr. President:

Under the provisions of Section 401 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§ 5121-5207 (Stafford Act), and implemented by 44 CFR § 206.36, I respectfully request that you declare a major disaster for the State of Arizona as a result of a post-fire flooding emergency. Rainfall and flooding began on July 20, 2010 and continued through August 7, 2010 impacting a concentrated section of unincorporated area within Coconino County located downstream of the Schultz Fire burn area.

**Rainfall and Flooding Following the Schultz Fire (July 20 through August 7, 2010):**

By early July each year, the Southwest Monsoon develops over Mexico, Arizona, and New Mexico. It is characterized by clockwise wind flow around high pressure situated over the southwest. These winds drive very moist air northward from Mexico producing significant thunderstorm activity across northern Arizona.

A distinguishing feature of the impacted area is Schultz Peak at 10,039 feet in height. This feature has a significant effect on airflow and the development of clouds and precipitation as it creates an obstacle to atmospheric flow. As approaching airflow comes into contact with such a feature, it is forced to ascend. In this incident there was significant moisture in the air to the point of saturation, and this ascension caused significant and continued precipitation.

In the last weeks of June 2010, the Schultz Fire blackened more than 15,000 acres of U.S. Forest Service ponderosa pine forest above the communities of Wupatki Trails, Timberline Estates, Hutchinson Acres, Fernwood Estates, and Doney Park in Coconino County in north central Arizona. The fire produced widespread areas of hydrophobic soils. This soil condition paired with precipitation from thunderstorms resulted in damaging and life-threatening flooding and flash flooding.

Due to the threat of post-fire flooding, the Arizona Department of Water Resources fielded three weather stations with rain gauges in the burn area and a fourth gauge downslope of the burn at the Flagstaff Landfill. Data from these instruments provided real-time data and served as the basis for National Weather Service flood and flash flood warnings/advisories, and emergency response actions. During this 19-day incident period, the National Weather Service issued five flood warnings for the areas immediately below the burn area. Because of the soil conditions and geography “substantial rainfall *amounts*” are not needed to cause flooding. Rainfall rates of as little as 0.25 inches per ½ hour produced significant flooding downstream and downslope of the burn area.

A more in-depth look at the weather patterns that repeatedly inundated the Schultz Fire burn area is included in TAB #1 of the enclosures. Additionally, a summary of the precipitation amounts and rates for the requested incident period are included.

**Event Impacts and Actions Taken:**

Beginning July 20, 2010 through August 7, 2010, the downslope areas of the alluvial fan that flows on the south side of the Schultz Fire burn area were inundated with floodwaters. Most of the damage was sustained in four neighborhoods that lie at the foot of the Schultz Fire burn area, and one neighborhood that lies in what became a drainage basin for the water coming off of the mountain. These neighborhoods have been there for several years and were previously protected from the monsoon storms as the vegetation and soil typically absorbed most of the rainfall and prevented flooding of the nature that caused this disaster.

The four neighborhoods at the base of the mountain, Wupatki Trails, Timberline, Fernwood, and Hutchinson Acres, all sustained direct, continual heavy flood and debris flows over the County-owned roads throughout the incident period. The Sunset Crater Estates Neighborhood of Doney Park is the community located farther downstream of the burn area that became the drainage basin for these flows. In addition to hindering ingress and egress to these neighborhoods, the flows caused significant damage to houses and property. The majority of the efforts of first responders and the Incident Management Team during the event period were spent sand-bagging, trenching, and removing debris in an attempt to reduce the loss of property, as well as maintain public safety. These emergency protective measures were critical due to the unpredictable nature of the storms in both their timing and severity.

The City of Flagstaff suffered damage to a road that provides access to retention basins that provide 20% of the City’s water. The waterline itself follows the course of the road for the majority of the 9-mile length, and also sustained damage in several areas. This waterline is the City’s cheapest source of water and is essential in accommodating the influx of summer visitors.

Water and debris flows from the rains eroded several areas of the road and completely washed out others. Both the waterline and access road will require a lengthy rebuilding process due to difficult access and the onset of the winter snows.

Actions taken by city, county, state and federal agencies to support and respond to this event were:

- Provided for public and incident personnel safety;
- Conducted search and rescue missions;
- Re-established ingress/egress within the communities following high flow events;
- Widened the Copeland drainage channel (1.4 miles long) to Cinder Lakes to protect homes in the area of the channel and preventing additional runoff into Doney Park.
- Created a drainage channel along Girls Ranch Road in order to divert water from the Wupatki Trails area from draining into a breached holding tank above Fernwood neighborhood;
- Constructed 9 berms near the landfill to prevent water from heading into Doney Park (totaling approximately 3 miles). This work has protected the City Landfill and has prevented flood water from entering and settling into the Sunset Crater Estates Neighborhood of Doney Park.
- Continuously worked following each flow to keep the Campbell drainage channel clean and stable. Without this stabilization, dirt fill will continue to erode with every storm.
- Highway 89 right-of-way drainage work was conducted by the Arizona Department of Transportation;
- Scarified 35 acres on Forest Service Land in order to re-introduce infiltration properties to the soil. This process reduces overland sheet flow to the Doney Park area downstream watershed. This process must be repeated after every rainfall event.
- Rebuilt roads that have washed away, including Crestview, Alice, Monsoon, Cinder, Kevins Way, and re-established access into residential areas;
- Realigned Brandis Way to allow water to flow along Brandis and Highway 89 and not onto private property;
- Replaced, upsized and added culverts throughout the Timberline and Wupatki Trails area and, where necessary, built low water crossings to withstand water flows;
- Placed 47 wattles to slow flow on the Government Tank and Swede drainage in an effort to protect the Pioneer Valley subdivision;
- Facilitated and coordinated flood cleanup efforts;
- Continuously cleaned ditches and culverts in the impacted area;
- Installed over 22,000 feet (4 miles) of concrete barrier in an effort to protect the homes of those residents most threatened by flooding;
- Filled 615,000 sandbags and distributed wattles to assist residents in protecting their homes;
- Facilitated and coordinated disaster response and recovery efforts in debris removal, public and individual assistance, and strengthened community relations;
- Established a home repair program under the oversight of the United Way;
- Provided timely and accurate public information and emergency notification;
- Facilitated damage assessments with the city/county/state; and

- Coconino County established a Flood Assistance & Information Center to support the individuals impacted.

In response to the situation, I have taken appropriate action under State law and directed the execution of the State Emergency Plan on July 21, 2010, in accordance with Section 401 of the Stafford Act. On July 21, 2010 I declared a State of Emergency for Coconino County.

Due to the devastating impact from the repetitive rain events of July 20, 2010 through August 7, 2010, additional time was needed in order to accurately articulate the total public infrastructure impacts. On August 19, 2010, in accordance with 44CFR§206.36(a), I requested a 30-day time extension to September 18, 2010 to submit a request for major disaster declaration for the impacts related to the post-fire flooding in Coconino County. That request was approved on August 27, 2010.

On August 31, 2010, I requested DHS/FEMA to assist with joint Federal, State and local assessments of the damaged areas. The joint assessments in the field were conducted on September 9, 2010. The out-briefing with the group prior to FEMA's return to the Region demonstrated concurrence with our findings prior to the joint assessments.

A chronology of the actions taken by both the County and the Incident Management Team in support of the citizens impacted by this flooding is included in TAB #2.

**Individual Assistance Impacts:**

As a direct result of the rain on the steep terrain and intensely burned area on July 20, 2010, a debris, ash, mud and rain flow approximately 400' wide x 2' deep from the watershed inundated the impacted communities of Timberline, Doney Park and Wupatki in the Flagstaff area. This flash flooding resulted in local emergency personnel conducting search and rescue operations to free stranded residents and search for a 12 year old child swept away by the flows. Tragically, the child was found deceased.

Physical impacts to private infrastructure include debris obstructing roadways, exposed utility lines (power, telephone/data, water), washed-out culverts, obstructed access to homes, and many downed fences. The water levels impacting some of the homes closest to the burn area were so high that sediment was left inside mailboxes; the homeowners have had to create protective walls of sandbags several feet high and jersey barriers around the perimeter of their properties in order to shield their homes from the walls of water and debris that continue to assault their homes each time it rains.

Our preliminary damage assessment of impacted homes as of July 30, 2010 demonstrated the following impacts to the 860 residences in the affected area:

Destroyed	Major	Minor	Affected	Property Only	Total
1	3	8	24	108	144

Based on the above information related to assessments of the impacts to homes, it is regrettable that we do not appear to meet the criteria to request Individual Assistance.

On August 1, 2010 Coconino County established a Flood Assistance & Information Center to support the individuals impacted. Staffing at the center included representation from Coconino County, the United Way, Victim Relief Ministries, Coconino County Community Emergency Response Team (CERT) and the Arizona Division of Emergency Management (ADEM). Case management services are being provided by the county. They established a home repair program under the oversight of the United Way. This program will assist residents with home repair needs that will ensure safety and prevent homelessness. Priority was provided to citizens with special needs, the elderly, and low income. There were thirty-four residences identified with ten in a priority status.

Homeowners are working through their insurance companies for any assistance available. The biggest obstacle for these homeowners is that they were not located in a floodplain and therefore did not have flood insurance. The county did strongly recommend following the fire that these homeowners obtain flood insurance in anticipation of the events that occurred. It is important to note, though, that even if the homeowners had purchased flood insurance on July 8, 2010 (and some did), the flooding occurred within the 30-day waiting period which would have precluded insurance coverage of the event.

Photos of the damage to the homes and property in the affected neighborhoods are included in TAB #3. The photos also show the jersey barriers, straw waddles, and sandbagging efforts to minimize the impacts of the floods.

**Public Assistance Impacts:**

The most severe impacts sustained under the Public Assistance program categories that were documented during the joint preliminary damages assessment were costs expended for emergency protective measures (Category B) and roads and bridges (Category C).

**Category B:**

Coconino County used the State All-Hazard Type 3 Incident Management Team (IMT) to assist in managing the response to this complex and repetitive flooding event. The IMT proved vital to the successful response to this event.

**Category C:**

Debris and ash were removed from County roadways throughout the flood area. Roadway ditches were cleared and graded to improve drainage. Shoulders along paved roadways have been undermined as well as drainage ditches washed out or filled in with silt and ash. Gravel roads were damaged requiring grading and gravel topping. Roadway ditches needed to be restored to pre-flood conditions. Brandis Way required cleaning out of silt and ash and placement of rock rip rap to protect roadway, installing jersey barriers in areas to protect utility poles. Many areas of the ditch have widened up to 30 feet due to the flooding. Campbell Road's original shape and profile of drainage ditch has been lost. The size of this dirt ditch in some

areas has increased 500% from its original size due to damage caused by the Schultz post-fire floodwaters.

There are 23 significant washout locations at drainage crossings of the City of Flagstaff's Waterline Road. The hillside (upslope and down slope) is approximately 60 degrees and many of the road repairs must extend well down slope and to a lesser extent upslope. There are dead standing trees from the Schultz Fire on the upslope and down slope areas of Waterline Road. These pose a danger to the public when using the road for recreation and to the city workers who will be repairing the road and the damaged waterline. This road allows city water production staff to operate and maintain the pipeline and source works (springs, wells). This road extends nine miles and has been closed since July 20, 2010. Until this road is repaired, the City must travel to the water production facilities by an alternate one way route which is a very primitive trail requiring 4-wheel drive and is not passable by large trucks or trailers.

Utilities:

The City of Flagstaff obtains 20% of its annual potable water supply from the Inner Basin pipeline that runs along Waterline Road through the burned area. This pipeline has been shut down until the pipe and roadway can be repaired. This is the most cost effective water supply source to the community as it is gravity fed. Without this source, the City's operating costs will increase while its revenues remain unchanged.

Estimated Requirements for Public Assistance in accordance with Stafford Act  
CATEGORY

County	A	B	C	D	F	G	Total
Coconino	422,000	1,821,950	2,892,600	400,000	82,500	1,500	5,620,550
State Agencies		1,600,000					1,600,000
Totals:	422,000	3,421,950	2,892,600	400,000	82,500		7,220,550

*Note: Estimates reflect total eligible costs before any cost sharing.*

The Preliminary Damage Assessments conducted by Joint FEMA/ADEM teams are included in TAB #4. The numbers above are reflective of the damage and cost estimates established by these Joint PDA teams in conjunction with County and City personnel.

**Other Federal Agency Support:**

United States Forest Service (USFS) Burned Area Emergency Response (BAER) Team

Following the Schultz Fire there has been significant focus on addressing the impacted burned area through the BAER program. The program's objectives are to identify significant post-fire threats, and if feasible take actions to manage unacceptable risk. The impending threat of the monsoon rains placed high priority on stabilization of the burned area to reduce the effects of accelerated erosion and runoff due to the loss of vegetation and the effect the charred soils have on absorbing rainfall. Estimated costs expended to date for BAER Team efforts are over three million dollars.

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A report by Mr. Daniel Neary, Research Soil Scientist of the Rocky Mountain Research Station, of the overall impacts on heritage, hydrology, soil and water and an assessment of the soil impacts is enclosed as TAB#5.

Natural Resource Conservation Services (NRCS) Emergency Watershed Program (EWP)

The purpose of the Emergency Watershed Protection (EWP) program is to undertake emergency measures. Such measures include: the purchase of flood plain easements; runoff retardation; and, soil erosion prevention to safeguard lives and property. Support to the community was provided with cost sharing measures utilizing straw waddles and jersey barriers. The estimated costs to date are in excess of one million dollars.

Federal Highway Administration (FHWA) Emergency Relief (ER) Program

On August 17, 2010, the Arizona Department of Transportation submitted a notice of intent under the provisions of Title 23, U.S.C., Section 125, to request emergency relief funds to assist in the cost of repairing damages on Federal-Aid Highways in Coconino County. Impacts are estimated at two million dollars for US89 and Copeland Road and Drainage.

United States Army Corp of Engineers (USACOE)

On July 23, 2010 the Arizona Division of Emergency Management made a request to the Los Angeles District Office for technical assistance regarding the post-fire flooding impacts. Evaluation of the area was conducted by the team on July 25-28, 2010. A report of their finding and recommendations were provided on August 9, 2010. A copy of this report is enclosed in TAB #5.

Estimated Requirements for Other Federal Agency Programs

County	NRCS	FHWA	USDA	Totals
Coconino	1,206,667	2,000,000	3,026,335	6,233,002

**Request for Assistance:**

I have determined that this incident is of such severity and magnitude that an effective response is beyond the capabilities of the State and the affected local governments and that supplementary Federal assistance is necessary. The state per capita impact for this event is \$1.41 based on \$7,236,175 cost in assessed Public Assistance Damages and a State population of 5,130,632 (2000 census data). The assessed County per capita impact is \$62.21 based on the same total cost but with the lower local population of 116,320 (2000 census). Including the cost of response from other federal agencies, the total estimated would be \$13,942,842 increasing the State per capita impact to \$2.63 and the County to \$115.79.

I am specifically requesting Public Assistance for Coconino County. The State is also requesting to manage the Public Assistance Program for our sub-grantees as we have successfully accomplished in our last seven Presidential Major Declarations (1347, 1422, 1477, 1581, 1586, 1660 and 1888) and two Presidential Emergency Declarations (3241 and 3307).

Arizona is also requesting the Hazard Mitigation Grant Program (HMGP) be made available statewide with priority given to applications submitted from within the area of impact for this event in Coconino County. It is important to note that the State of Arizona has a Standard Multi-Hazard Mitigation Plan, which was approved by FEMA on December 13, 2007. It is understood that all HMGP applicants must have a FEMA approved multi-hazard mitigation plan to be considered eligible.

As Governor, I typically have an annual Emergency Fund of \$4,000,000. Budget reductions have reduced the Emergency Fund to \$2,900,000 this fiscal year. To date \$300,000 has been obligated for other state emergencies and \$1,500,000 has been obligated to this Schultz Fire Post-Fire Flood Emergency. Allocations to date are 62% of the total funds available for the year leaving a balance of \$1,100,000 available through June 30, 2011.

Arizona currently has thirteen open state emergencies, seven of which are also Federal declarations. Four are in final closeout phase, eight are active, and one supports the ongoing drought status for the state. Another emergency declaration is pending as we are assessing substantial damages caused by a high-wind event in Yuma County.

There remains \$6,300,000 in unallocated state obligations to be funded from the Emergency Fund for the current open declared disasters. If federal assistance is not provided for this emergency the State will have over \$5,800,000 in obligations to be funded by the Governor's State Emergency Fund. Consequently, the State would need to carry over financial obligations in excess of \$12 million into FY 2011, FY2012, FY2013 and FY 2014; assuming no additional disasters would be declared through FY2014. Over the past ten years, Arizona has averaged four state declared emergencies each year. In the last five years, Arizona has declared sixteen emergencies. In short, federal assistance for the current emergency is desperately needed.

I certify that for this current disaster, State and local government expenditures and obligations will include the non-Federal share of costs required by the Stafford Act. Based on information available at this time, tabulation of these estimated expenditures and obligations are as follows:

CATEGORY OF ASSISTANCE	COST SHARE AMOUNT	
	STATE	LOCAL
Public Assistance:		
Category A - Debris Removal	\$63,300	\$42,200
Category B - Emergency Protective Measures	\$673,293	\$182,195
Category C - Roads and Bridges	\$433,890	\$289,260
Category D - Water Control Facilities	\$60,000	\$40,000
Category E - Buildings and Equipment		
Category F - Utilities	\$12,375	\$8,250
Category G - Other (Parks, Recreational Facilities, etc.)	\$225	\$150
<b>Total:</b>	<b>\$1,243,083</b>	<b>\$562,055</b>

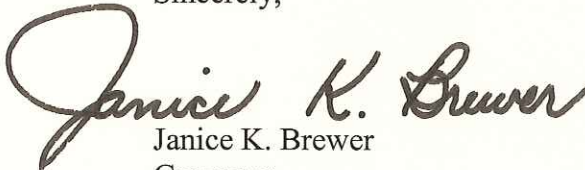
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At this time, the State of Arizona is not requesting any Direct Federal Assistance (DFA). If necessary in the future, we will complete the necessary certifications.

In addition, I anticipate the need for debris removal, which poses an immediate threat to lives, public health, and safety. Pursuant to Sections 403 and 407 of the Stafford Act, 42 U.S.C. §§ 5170b & 5173, the State agrees to indemnify and hold harmless the United States of America for any claims arising from the removal of debris or wreckage for this disaster. The State agrees that debris removal from public and private property will not occur until the landowner signs an unconditional authorization for the removal of debris.

I have designated Louis B. Trammell as the State Coordinating Officer for this request. He will work with the Federal Emergency Management Agency in damage assessments and may provide further information or justification on my behalf.

Sincerely,



Janice K. Brewer  
Governor

Enclosures

TAB 1 ~ Precipitation/Weather

- ⌵ Overview
- ⌵ Storm Development
- ⌵ Precipitation Information
- ⌵ Daily Precipitation Information
- ⌵ Flash Flood Warnings and Information
- ⌵ Impact Overview
- ⌵ Impact Video Links

TAB 2 ~ Actions Taken

- ⌵ Coconino County Chronology
- ⌵ Incident Management Team Actions

TAB 3 ~ Individual Impacts

- ⌵ Photos

TAB 4 ~ Public Assistance Impacts

- ⌵ Preliminary Damage Assessments
- ⌵ Photos

TAB 5 ~ Other Federal Agency Support

- ⌵ BAER Team Report
- ⌵ Mr. Daniel Neary, Research Soil Scientist Report
- ⌵ USACOE Trip Report