

Caribbean National Forest Damage Assessment Report

September 15, 2004 Event

Introduction

On September 14, 2004, the island of Puerto Rico was placed on a Tropical Storm Warning. On September 15, 2004 Tropical Storm Jeanne passed over the island of Puerto Rico. The center of the tropical storm entered through the southeastern part of the island and exited through the northern central part of the island causing severe flooding and landslides on most of the island due to high winds and the bands of rain from the storm system over the entire island. Jeanne moved West-Northwest near 8 MPH causing continuous rainfall for over 24 hrs period. Tropical storm maximum sustained winds were near 70 MPH, near hurricane strength with 60 miles of extended winds. Jeanne affected the entire island of Puerto Rico between September 15 through September 17, 2004 due to flashfloods and landslides. On September 16 a combined two-day total of 15.84 inches of rain were recorded officially at the USGS Mameyes River-NR Sabana, PR water gauge station. This event combined with saturated terrain caused by prior rains (accumulation of 1.05 inches on September 14, 2004) produced severe flooding in all of the Forest's rivers and multiple landslides on all main access routes.

The Forest was closed at noon on September 14, 2004 after the island was placed on storm warning. Forest will not be opened until safety review and damage assessment has been completed. Areas that were not totally safe or not assessed remained closed. Currently Mt. Britton, El Yunque Peak, Baño de Oro, La Coca, El Toro, and Tradewinds trail remain closed.

Initial clean-up operations conducted after the tropical storm addressed the immediate problems caused by debris accumulation. Crews removed material from the vicinity of threatened structures and cleared roads. After the exigency work was complete, an inventory of further watershed impacts needing treatments was completed.

The primary focus of this phase of work will be the rehabilitation of landslides. Stabilization of active landslides will involve anchoring the toes and dewatering the slopes. Gabions are normally used to provide structural stability. Slope recon touring, rock-lined drains and check dams have been employed to remove water from the slides and prevent gulling. Vegetative treatments will be designed to control surface erosion and reduce soil water content through evapotranspiration. A variety of plant species and planting methods have been studied at CNF. The effectiveness of all these techniques will be monitored.

Damage was assessed by a Forest Service team (Engineers, Recreation Specialist, Hydrologist trainee, Watershed Specialist). The most obvious damage on the forest was tree slope failures and debris on roads and trails. Damage to vegetation varied from light defoliation to patches of partial blow down. Landslides triggered by the storm's heavy rains, affected roads and trails, but appear to be less extensive and damaging than the

slides during Hurricane George. The restoration of 24 acres of landslides is our major watershed protection plan.

The Puerto Rico Aqueduct and Sewer Authority (PRASA) operates 14 run-of-river dams on the Forest. These run-of-river dams are low (less than 6 ft. in height), with small hydraulic head, limited storage area, short detention time and no control over pool storage. Water is withdrawn through a simple intake, carried by buried pipelines to a treatment plant outside of Forest land, where sediments are removed and water is chlorinated. In addition to public use of Forest water through PRASA's facilities, 36 private families obtain their domestic water from the Forest. These families use smaller dams (no more than 3 feet height) combined with 1 to 2 in. pipelines. Also, 3 municipalities have intakes on the Forest as well. A total of 350,000 people depend on water from the Forest.

CNF waters are considered high quality waters that constitute an exceptional resource value. (EQB, 1990). Generally, the water meets or exceeds Commonwealth water quality standards. Total annual sediment yield from the Forest is estimated to be among 25,00 to 75,00 tons. Landslides are the main contributors of sediment to Forest's streams.

Increased stream sediments can pose hazards to:

- public health
- increase purification costs at local water treatment plants
- increase maintenance at hydroelectric plant
- affect riverine, estuarine and marine ecosystems
- temporary interruption of water supply

State Highways 191, 988 and 186 provide major access to forest facilities, recreation and electronic sites. Active landslides threatened road closures and loss of road fills causing total loss of access.

Over 150 electronic users are dependent on road access for operation and maintenance. The sites include a major FAA facility that enable communication from PR to the world.

Storm Description

A strong upper level trough combined with abundant moisture produced very heavy rainfall across a large part of Puerto Rico and the U.S. Virgin Islands. The heaviest rainfall occurred on September 15, 2004 but locally heavy rainfall continued on the 16th. Significant flooding was seen across many areas of Puerto Rico (NWS, 2004). Flooding and landslides triggered by heavy rainfall caused Island-wide damage and casualties. The USGS rainfall gage at El Portal (CNF) measured 11.6 inches during the storm event (on September 15, 2004) and the following day with 3.8 inches.

Measured rainfall by Municipality (Source: USGS, precipitation data)

Municipality	Total Rainfall (Sept 15)	Forest Watershed
Naguabo	12.86	Rio Blanco, Rio Santiago
Rio Grande	9.1	Rio Mameyes, Rio Espiritu Santo
Luquillo	8.16	Rio Sabana, Rio Pitahaya
Fajardo	9.99	Rio Fajardo

Measured rainfall by Municipality (Source: USGS, precipitation data)

Municipality	Total Rainfall (Sept 16)	Forest Watershed
Naguabo	3.38	Rio Blanco, Rio Santiago
Rio Grande	1.75	Rio Mameyes, Rio Espiritu Santo
Luquillo	3.20	Rio Sabana, Rio Pitahaya
Fajardo	4.87	Rio Fajardo

Ecosystem Damage Assessment

The Forest initiated treatment identification for landslides surveyed on September 17, 2004. As a reminder, the Forest initial submittal is considered an Initial Damage Assessment Report. Field investigation and preliminary watershed improvement prescriptions will conclude on September 24, 2004.

The most obvious damage on the Forest was debris on roads, trails, and river riparian areas. Landslides triggered by heavy rains affected road and streams, but appeared to be less extensive and damaging than the slides of Hurricane Georges. Landslides triggered by heavy rains have left an estimated 24 acres bare of vegetation. These slide areas will continue to shed high amounts of sediment into Forest streams until they are revegetated.



Landslide at PR Road 9966, within Rio Espiritu Santo Watershed.



Landslide at 191 North Km. 7.8, within Rio Mameyes Watershed.

Forest Affected Area

The following table summarizes the number of landslides and affected areas as of September 21, 2004. Additional landslides have been reported. However, confirmation will depend on scheduling a fly over CNF.

WATERSHED	Number of Landslides	Affected Area (Acres)
Rio Blanco	2	2
Rio Mameyes	14	14
Rio Espiritu Santo	2	2
Rio Sabana	1	1
Rio Fajardo	1	5
TOTALS	20	24

Estimated watershed work and cost is for watershed improvement needs is \$ 68,600. The estimate uses the historic unit costs for net project funding.

Add OH and contract admin (approx 30%) \$ 29,400

NFVW Request:	\$98,000
----------------------	-----------------

Wildlife and Fisheries

The Aquatic fauna species such as the Mountain Mullet (*Agonostomus monticola*), Olivo (*Sicydium plumieri*), and Freshwater shrimp (*Macrobrachium carcinus*) are estimated to have suffered significant direct and indirect effects. When the heavy rains saturated the soils in the landslide-prone area the inevitable result was the direct inundation of mud and silt into the rivers of the Forest. The substantial increase of soil and silt in the waters definitely impacted local populations of these aquatic species. If individuals did not seek shelter immediately, the raging waters would most likely would have washed them ashore or completely out the Forest boundaries onto lower elevations. The rivers in lower elevations are wider and less gradient in comparison with the upper elevations on the Forest. Indirectly, the continuing siltation will keep the waters unclear with suspended sediments, thus not returning the river to its natural conditions. Recuperation of the point sources of the silt (landslides) is needed to allow the local population of the aquatic fauna to return to normal levels.

The Terrestrial Fauna species such as the Coqui (*Eleutherodactylus coqui*), Anole (*Anole gundlachi*), the endangered Puerto Rican Parrot (*Amazona vittata*), and Puerto Rican Boa (*Epicrates inornatus*) are expected to experience direct loss of habitat. Loss of vegetative

cover resulted in higher temperature range within the landslides and less shelter to provide refuge from native and non-native predators. There is significant change in local habitat conditions. The trail complex within the critical area for the Puerto Rican Parrot has been compromised due to the highly erosive effects of the rains. Access for technicians for both the U.S. Forest Service and U.S. Fish and Wildlife Service has become extremely hazardous and delays implementing restoration work on the last active nests, impacted canopy platforms, and Pearly-eyed thrasher boxes.

Cumulatively there will be negative effects to the endangered species by the expected population outbreak in exotic (non-native) species, which includes the small Indian mongoose (*Herpestes auro-punctatus*), rats (*Rattus species*), and iguanas (*Iguana iguana*). In their native environments these species would be controlled through biological factors such as other predators or limited food supply. In the Forest, there is presently native species left without protection and ample vegetation on the ground to provide a period of unobstructed growth. The mongoose and rats pose an acute threat to Forest employees and visitors by either transferring diseases through parasites or physical attacks.

The following projects will address the Wildlife and Fisheries issues assessed after the storm:

1. Puerto Rican Parrot recovery effort must be kept on schedule and provide all recovery agencies a safe environment to conduct fieldwork.
 - Reconstruction of all trails within the Puerto Rican parrot critical area. There shall be an arrangement of a long-term foundation constructed out of surrounding damaged materials. A Biological Evaluation has been written and sent to U.S. Fish and Wildlife Service. The estimated time needed is 11 weeks. Approximate cost is \$21,120. A total of 4,650 feet of trails within the critical area are identified as requiring repairs:
 - a. Southfork 2 = 1,500 feet
 - b. Quebrada Grande = 900 feet
 - c. South fork 1 = 1,000 feet
 - d. Espiritu Santo = 900 feet
 - e. Cacique = 350 feet
2. The Puerto Rican Parrot recovery effort has sustained some damage to the remaining 5 active nests, 20 non-active artificial/natural nests, and 18 canopy platforms. The estimated time needed is 10 weeks. Approximate cost is \$46,688.
 - Repair to active and non-active parrot nests.
3. Control of exotic species will be crucial in the curbing of negative effects from these animals. The episodes of mongoose/rat encounters with humans are similar to the pattern of rabies outbursts throughout the island.
 - The Forest shall enlist the services of USDA APHIS, Wildlife Services to control exotic species in both recreational and endangered species critical areas. The APHIS technician will be under the supervision of the Forest Biologist to coordinate in the control and monitoring of exotic species

populations on the Forest. The estimated time needed is 52 weeks.
Approximate cost is \$34,913.

Total for Wildlife and Fisheries needs is estimated at \$102,721 + \$27,279 (OH) =
\$130,000

NFWF Request:	\$130,000
----------------------	------------------

Heritage

PR Road 191 north corridor, including the road itself, Baño Grande and Baño de Oro, Stone House, and Hacienda Catalina were inspected. The PR parrot aviary site on PR 966 and a short portion of PR 191 south beyond the FS 10 road/gate, El Verde, the Sandoval, Arroyo, Condesa Tracts, and PR 186 were also inspected.

During this preliminary inspection I saw no direct impacts to any heritage resources as a result of the storm and rains. It will however, be necessary to carry out clean up work to ensure that these resources are not vulnerable in the near future. Specifically, the following actions are necessary to protect eligible and potentially NRHP eligible heritage resources:

1. The debris in the Baño de Oro and Baño Grande needs to be completely removed from the spill ways so that they do not become clogged during future heavy rains by branches and palm fronds blown down by this storm. This maintenance needs to occur periodically, at least until the end of this hurricane season.
2. Along PR 191 (north and south sections) the gutters and drains need to be cleared out so that they work properly. This will ensure that they are not damaged by erosion during future rain events. At present many of the historic road gutters and drains are clogged with debris. This maintenance needs to occur periodically, at least until the end of this hurricane season.
3. There are historic retaining walls that need to be better protected by improving the drainage pattern along certain sections of PR 191.
4. Those erosion control features along the historic trails designed to aid in water run-off and trail tread protection that were damaged by the storm need to be repaired so that there is not any additional damage to the historic trails.
5. Minor repairs to the concrete stairs and path leading to Baño Grande needs to be done to avoid further damage to this trail.

It is important to note that this is only a preliminary assessment, and as the inspections continues, that other or more severe damage might be detected. Because Heritage Resources on the Forest are so widely dispersed, and the damage caused by Tropical Storm Jeanne is patchy, it is impossible to evaluate all of these resources at this time, so only the accessible ones were visited. Assessment of the Heritage Resources will continue over the next several weeks, including inspections of the petroglyph sites, especially those along rivers; of historic structures such as Stone House and Casa Cubuy for water damage; of erosion of the historic gutters, drains and retaining walls along the entire PR 191 corridor; of erosion and slide damage to historic trails, including the more

remote and lesser used ones like Rio de La Mina Trail and Tradewinds Trail; and of other classes of cultural resources.

Property Damage Assessment

Forest Service Roads

All Forest Service roads (FSR’s, 11.3 miles) suffered the consequences of substantial tree defoliation; bamboo, branches, and limbs falling on or encroaching the traveled way; several downed trees; and small cut bank slides (washouts or small slumps) clogging ditches and culverts. There were no major cut slides blocking the traveled way or embankment failures.



Typical Road Fallen Vegetation

Unit cost to repair above damages is estimated at \$2,500 per mile.

Cost to repair above damages: 11.3 miles x \$2,500/mile = \$28,250

FSR 12 & 9915, which are gravel roads, combined mileage of 1.75 miles, suffered washouts and rutting on an estimated 20% of their length or 0.35 miles with gravel washout

Gravel unit cost delivered and placed on Forest roads is \$40/CuM compacted. For a 2” compacted depth 305 CuM per mile is required.

Cost for gravel replacement: 0.35 mi x 305 CuM/mile x \$40/CuM	4,270
	=====
Total project needs for forest roads:	\$32,520
Add PE, CE, contract admin (approx 50%):	16,260
	=====
Total CMRD amount estimated:	\$48,780
CMRD request:	\$50,000

State Jurisdiction Roads

The Puerto Rico Department of Transportation has jurisdiction on a network of 30.9 miles of paved roads within Forest boundaries that serve as the primary access to all

Forest attractions and resources. In that network six of the routes are designated Forest Highways, total mileage including segments outside the Forest is 42.9 miles, including one road that falls entirely outside the Forest boundaries but provides critical access to the Forest. Two roads, PR 191 and PR 186, combined mileage of 31.5 miles, are designated Federal Aid Secondary Roads.

The entire network suffered some degree of damages from the storm from very light to more severe on PR 191 south, PR 9966, and PR 186. PR 191 north, the main access to the most of the Forest recreation areas and all communication sites, suffered substantial tree defoliation; bamboo, branches, and limbs falling on or encroaching the traveled way; several downed trees; seven cut slides (slumps), two of which covered the entire traveled way; and several minor fill slide, not taking the traveled way but reaching the edge of it and starting to undermine it. All vegetative debris was removed by Forest Service crews and the slumps removed by a Contractor working for the Highway Department. PR 9966, which provide access from the east portion of the Forest to the west suffered a major slide covering approximately 200 LF of traveled way. This slide is in the process of being removed by the same Contractor.



PR 186 - Drainage Damage

PR 186 suffered several drainage structure failures, pavement washouts, sinkholes, and subgrade settlements.

PR 191 south suffered the most damages in the form of drainage structure failures, pavement washouts, fill slides (over 500 LF total at several spots along the road) that will require some form of embankment stabilization or retaining structures, and a major 12-15 ft deep river wall failure (approx 400 LF total on two separate spots).

Forest Highways qualify for Emergency Relief for Federally Owned Roads (ERFO) funds and secondary roads qualify for Emergency relief (ER) funds. The Forest has made a very preliminary estimate of \$750,000 to \$1,000, 000 for repair of damages and has initiated the ERFO/ER consultation process with the Regional Office, Eastern Federal Lands and the PRDOT that would eventually be the recipients of the funds.



PR 191 South – River Wall Failure

The Forest, through the Regional Engineering Unit, sent a formal notice of intent to the Eastern Federal Lands Highway Division to inform of the damages and our intent to work with the PRDOT for the funding and repair of the damages suffered on the state jurisdiction road network. The EFLHD has informed us that they will be issuing a Positive Finding in response to the Forest Service multiple NOI’s for ERFO funding to cover damages resulting from any of the recent storms passing through several of the southeastern states and Puerto Rico. The Forest has compiled an extensive photo archive of damages to the road network and will continue to be in close coordination with the PRDOT and the FHWA to assure repair to the Forest main access routes under state jurisdiction.

Boundary Lines

An estimated 5 miles of boundary lines suffered damages in the form of downed timber, broken limbs and branches causing lost corner monuments, fallen or destroyed line markers (posts & signs), and witness trees.

Unit cost to repair above damages is estimated at \$5,000 per mile

Cost to repair above damages: 5 miles x \$5,000/mile = \$25,000

NFLM request:	\$25,000
---------------	----------

Facilities

Damage to facilities was minimal with the only damages assessed being damage to the spanish clay roof tile of the generator and utility building at the Catalina Service Center, the standing seam roof of the drop off shelter at the Yokahu Developed Recreation Site, both caused by fallen trees on the structure; and leaks and acoustical ceiling damages at El Portal Rain Forest center.

CMFC request:	\$5,000
---------------	---------

Trails

The Forest Trail System damage assessment is documented mostly by photos. Extensive vegetation defoliation, significant landslides and soil erosion caused by water runoff was mostly the trial damage caused by Tropical Storm Jeanne. The storm affected several trail structures such as bridges and shelters. Runoff debris and tree blow down damaged bridge supports and railing. Many small landslides and debris along the trails were found and documented with photos. Landslides and debris clogged drainages along the upslope on all trails in the system.



Baño de Oro



Britton Trail

Mt.



Big Tree Trail



Big Tree Trail

At the Big Tree Trail a panel from the Information Bulletin Board was blown off. The panel was recovered and needs to be installed. Damage to interpretative signs were also reported in Big Tree trail. Significant amount of tree branches and leaf debris was found in the parking area. Following is the initial Trail Damage Assessment Table:

Trail Name	Description of Damage	Length (Mi)	Estimated Amount	Trail Bridge Damage
Angelito		0.4	\$ 958	
Big Tree		0.9	5,392	\$ 1,500
Baño de Oro		0.2	2,995	\$ 6,400
Caimitillo		0.5	5,991	
El Yunque		2.6	31,153	\$ 500
El Toro		2.3	12,401	
La Coca		1.8	21,568	
La Mina		0.7	4,193	\$ 1,200 (Palo Colorado)
Los Picachos		0.2	599	
Mt. Britton		0.8	3,834	
Mt. Britton Spr		0.8	4,792	
Tradewinds		3.9	21,028	

CMTL Request:	\$125,000
----------------------	------------------

Recreation Sites

The following documents the damage assessed at the Recreation Sites:

A. El Portal Visitor Center

- Leaks in the Administration Offices ceiling. Several acoustical panels were damaged from the water leaks.
- Several trees fell in the parking area and exit road.
- Many tree branches fell from trees in the entire site.
- Leaves were found on the ground throughout the site.
- The Eastern National Store storage area lamps are not functioning.

B. Palma de Sierra

- Parking area near the existing barriers was not affected. Water seemed to have drained well in this area.
- Need a gravel pad/pit where recycling cans are located next to the Bulletin Board.
- Yuquiuyu sign at parking entrance was blown down.

- Tree debris along the sidewalk that leads to Caimitillo Trail.

C. Palo Colorado

- Several trees blown down in the parking lot.
- Asphalt near Shelter PC #13 has eroded away. Need to do new patch work at this location.
- Tree branches and leaf debris found on trails leading to Shelters.
- The drainage project that was done at the Upper Parking worked very well. No erosion problems were detected at this location.
- No Shelter was impacted by falling branches.

D. Caimitillo

- Tree branches and leaf debris on trails.
- Tree down and blocking trail near Shelter CA-04 near the Vista Point.
- Toilet facilities not impacted by storm.
- Trees blocking trail that leads down to the stream.
- Shelters not impacted by tree branches.

E. Yokahu Tower

- Drop-Off Shelter had some dents on the roof panels caused by tree branches.
- Branches and leaf debris in the parking area and on sidewalks leading to Tower.

F. Puente Roto

- The area seems to have not been impacted by the storm. There was no indication that the river had rose above normal levels.
- No trash or branches in the area.

G. Angelito Trail Head

- Major erosion problems at first stream crossing.
- Branches and leaves found along trail.
- Asphalt was recently placed at the Trail Head. There is approximately 14-18 inches difference between the road surface and the Trail Head ground surface. This condition has impacted the parking area.

H. Quebrada Grande

- Parking area needs to be cleaned of non tropical storm related debris.
- Trail leading to shelters need to be cleaned of bamboo branches which are blocking the sidewalk.
- Shelters were not impacted by the storm.

NFRW Request:	\$2,500
----------------------	----------------

SUMMARY OF FOREST DAMAGE ASSESSMENT

Category	Amount
CMRD	\$ 50,000
CMTL	\$ 125,000
CMFC	\$ 5,000
NFRW	\$ 2,500
NFLM	\$ 25,000
NFWF	\$ 130,000
NFVW	\$ 98,000
Total Assessment	\$ 435,500

*Prepared by Jose Ortega, Felipe Cano, Fernando Perez, Pedro Rios, Edgardo Martinez, Jeff Walker, Manuel Ortiz, and Carolyn Pabon.
Approved and recommended by Pablo Cruz.*



USDA Forest Service Fire and Aviation Management Briefing Paper



September 26, 2004 1800

Topic: Hurricane Response of the Federal Interagency Wildland Fire Community

Briefing Paper

Once again, Florida has been pummeled by a major storm. Hurricane Jeanne (Category 3) made landfall near Stuart, FL shortly before midnight on Saturday, September 25. This is the fourth major hurricane to strike Florida in six weeks.

Damage assessments of Hurricane Jeanne have yet to be conducted. Strategies to best meet potential needs are underway. In anticipation of an expanded mission due to Jeanne, an additional Type 1 Incident Management Team (IMT) has been ordered and is being staged in Atlanta.

An updated briefing paper - including Jeanne's possible affect on team locations and mission assignments - will occur midweek.

Background

Hurricane Charley made landfall on Aug. 13 (Charlotte Harbor, FL) as a Category 4 storm cutting a destructive path across southern and central Florida. Two weeks later, the massive Hurricane Frances (Category 2) made landfall at the St. Lucie/Martin County line, approximately 35 miles north of West Palm Beach. On Sept. 16, Hurricane Ivan (Category 3) battered Alabama's Gulf Coast and the Florida panhandle. Hurricane Jeanne (Category 3) followed on Sept. 25, making landfall at Stuart, FL – nearly identical to where Frances came ashore.

Incident Management Team Response

The size, scope and complexity of the federal hurricane response mission is unprecedented. Working cooperatively with FEMA and in partnership with the states, IMTs have been assigned to manage a variety of disaster relief efforts.

Costs per date for the wildland fire community hurricane response effort is estimated at \$18 million.

This effort represents the broadest application of the Incident Command System to a natural disaster. Thirteen of the nation's seventeen Type 1 IMTs have been committed to the hurricane mission.

The mission assignments from FEMA have included the management of base camps, logistics staging areas, and receiving and distribution centers. In order to successfully manage the mission assignments, the Southern Area has deployed two (2) Area Command Teams and eight (8) Incident Management Teams (IMTs) in the following locations:

Florida Area Command Team

The Florida Area Command Team (Ribar) is stationed in Orlando at the FEMA Disaster Field Office (DFO) and is committed to Florida-only incidents.

Current IMT locations:

- Pensacola, FL (Bennett) – Saufley Naval Air Field – Camp and Mob Center
- Jacksonville Naval Air Station, FL (Houseman) – Receiving and Distribution
- Milton, FL (Anderson) – Receiving and Distribution
- Eglin Air Force Base, FL (Ferguson) – Base Camp Management; close-out on 9/27.
- Kearney team staged in Atlanta. Partial team deployed to Homestead.

Atlanta Area Command Team

Atlanta Area Command (Williams-Rhodes) has been located at the FEMA Regional Operation Center (ROC) since Sept. 14 and has coordinated hurricane response efforts in non-Florida locations. The team is closing out on Monday, Sept. 27, leaving behind a smaller contingency group led by Bob Meuchel, Assistant Area Commander.

Current IMT locations – Non-Florida:

- Baldwin County, AL (Lohrey) – Receiving and Distribution
 - Brewton, AL (Wilcock) - Base Camp and Mob Center
 - Maxwell Air Force Base, Montgomery, AL (Sexton) – Receiving and Distribution
 - Kearney team staged in Atlanta awaiting possible Jeanne assignment
-
- Currently, 35 crews are deployed. To date, a total of 52 crews have been deployed to support the entire hurricane relief effort.
 - Aviation
 - Four (4) medium helicopters have been ordered by FEMA and are pre-staged in Lawrenceville, GA for possible needs associated with Jeanne.
 - Six (6) Buying Teams are currently deployed.

Key Points:

- To date, approximately 1800 personnel from the Wildland Fire Community have been committed to the entire hurricane response effort.
- Much of the work tasked to the Forest Service and the Interagency Wildland Fire Community is unique to agencies whose expertise is in land management. The adaptability of the Incident Command System for such assignments has proven to be highly successful.
- Safety remains the top priority for all Incident Management Teams. To ensure that OSHA standards continue to be met, IMTs managing FEMA assignments include trained safety officers. No serious injuries or accidents have been reported to date.

Hurricane Impact on National Forest System Land:

Hurricanes Charley, Frances, Ivan and Jeanne have battered the Southern Region, causing successive widespread damage and devastation in several states and Puerto Rico. Hurricane damage on National Forest System Land continues to be assessed. Preliminary assessments show that National Forests in Alabama, Florida, Tennessee, North Carolina and Puerto Rico have sustained damage.

The impact of Hurricane Jeanne is not known at this time. However, prior to making landfall on the U.S. mainland, Jeanne had done significant damage on the Caribbean National Forest in Puerto Rico. On Sept 15, Tropical Storm Jeanne passed over Puerto Rico dropping approximately 16 inches of rain in a two-day period. Flashfloods and landslides occurred throughout the forest. Preliminary damage assessment caused by Jeanne on the Caribbean National Forest is estimated at \$435,500.

Detailed damage assessments are forthcoming.

Contact:
Donna Drelick
Public Affairs Office
USDA Forest Service - R8
404-347-7240
ddrelick@fs.fed.us