

DRAFT

Board of Supervisors

Patrick G. Call
Chairman
District 1

Ann English
Vice-Chairman
District 2

Richard R. Searle
Supervisor
District 3



Michael J. Ortega
County Administrator

James E. Vlahovich
Deputy County Administrator

Katie A. Howard
Clerk

AGENDA FOR SPECIAL BOARD MEETING

Tuesday, July 12, 2011 at 4:00 p.m.

BOARD OF SUPERVISORS EXECUTIVE CONFERENCE ROOM
1415 MELODY LANE, BUILDING G, BISBEE, AZ 85603

ANY ITEM ON THIS AGENDA IS OPEN FOR DISCUSSION AND POSSIBLE ACTION

ROLL CALL

Members of the Cochise County Board of Supervisors will attend either in person or by telephone, video or internet conferencing.

ACTION

Board of Supervisors

1. Presentation and Discussion regarding:

- Staff review of the Burn Area Emergency Response (BAER) Assessment Reports for the Horseshoe 2 and Monument Fires
- Staff recommendations / proposed response to the BAER Assessment Reports

and possible action by the Board in light of the BAER Reports and staff recommendations.

Pursuant to the Americans with Disabilities Act (ADA), Cochise County does not, by reason of a disability, exclude from participation in or deny benefits or services, programs or activities or discriminate against any qualified person with a disability. Inquiries regarding compliance with ADA provisions, accessibility or accommodations can be directed to Chris Mullinax, Safety/Loss Control Analyst at (520) 432-9720, FAX (520) 432-9716, TDD (520) 432-8360, 1415 Melody Lane, Building F, Bisbee, Arizona 85603.

www.cochise.az.gov

"PUBLIC PROGRAMS, PERSONAL SERVICE"

Special Board of Supervisors Meeting1

Date: 07/12/2011

Update re: aftermath of Horseshoe II and Monument Fires

Submitted By: Katie Howard, Board of Supervisors

Department: Board of Supervisors

Presentation: No A/V Presentation

Document Signatures:

NAME of PRESENTER: Mike Ortega / Carlos DeLaTorre

Recommendation:

of ORIGINALS

Submitted for Signature:

TITLE of PRESENTER: County Administrator & Comm Dev Director

Mandated Function?:

Source of Mandate or Basis for Support?:

Agenda Item Text:

Presentation and Discussion regarding:

- Staff review of the Burn Area Emergency Response (BAER) Assessment Reports for the Horseshoe 2 and Monument Fires
- Staff recommendations / proposed response to the BAER Assessment Reports and possible action by the Board in light of the BAER Reports and staff recommendations.

Background:

The US Forest Service has completed the Burn Area Emergency Response (BAER) Assessment Reports for the Horseshoe 2 and Monument Fires. These reports contain detailed information about the fire severity; post fire effects, treatment and implementation options.

The BAER reports identify and determine threats to Values at Risk to include but not limited to Human Life and Safety, Property, Natural and Cultural Resources.

Attached is a brief summary of the fire burn severity, pre and post fire discharge calculations, values at risk, erosion hazard & sediment delivery and flooding protection guidelines and available resources.

Department's Next Steps (if approved):

TBD

Impact of NOT Approving/Alternatives:

n/a

To BOS Staff: Document Disposition/Follow-Up:

TBD

Attachments

Brief_Monument Fire focus

Fact Sheet BAER Reports 7-7-11

How Flash Flooding Could Change After the Fires

Taking Action-What to do When Flash Flooding Occurs



Our Programs are Public – Our Service is Personal

The US Forest Service has completed the Burn Area Emergency Response (BAER) Assessment Reports for the Monument Fire. These reports contain detailed information about the fire severity; post fire effects, treatment and implementation options.

The BAER reports identify and determine threats to Values at Risk to include but not limited to Human Life and Safety, Property, Natural and Cultural Resources.

Enclosed please find a brief summary of the fire burn severity, pre and post fire discharge calculations, values at risk, erosion hazard & sediment delivery and flooding protection guidelines and available resources.

MONUMENT FIRE

Fire-Burn Severity:

Soil Burn Severity	Acres	Percent
High	2,310	7%
Moderate	12,493	39%
Low	12,946	41%
Unburned	4,317	13%

Pre and post fire discharge calculations were calculated for several discharge point and washes throughout both fire areas. The post fire discharge calculations are significantly higher than the pre-fire discharges; some post fire discharges are up to twenty times greater than the pre-fire discharge calculations.

These higher post fire discharge flows increases the erosion hazard and sediment delivery. Sediment transport in some of the canyons is expected to increase up to 1,867%.

Based on this information, Cochise County residents are advised to take precautionary measures to protect their lives and their property as a result of increased risks of flash flooding and erosion damage from heavy monsoon rains.

Property owners who feel they need to take additional measures to protect their property from flood damage are encouraged to stop by the Emergency Transfer Station to pick-up sandbags:

- Emergency Transfer Station (ETS) is located on Highway 92, west of Coronado Memorial Road, in the Kings Ranch Subdivision. The ETS hours of operation are from 7:00 a.m. to 5:00. Starting on Monday July 11, 2011, the new hours of operation will be 7:30 a.m. to 3:30 p.m. The ETS is scheduled to remain open until Saturday July 16, 2011.

Citizens are encouraged to follow cautionary advice from government agencies, weather service and other public information sources. Citizens are encouraged to purchase weather radios in order have access to up to date weather information.

Cochise County along with other state and federal agencies are coordinating the placement of additional rain gauges in the vicinity of the fire in an effort to provide more accurate up to date weather information.



Our Programs are Public – Our Service is Personal

Citizens are encouraged to monitor the local news channel for weather reports as well as the National Weather Service website for local weather information www.weather.gov.

For more detailed information about the Monument Fire, please visit Cochise County's website www.cochise.az.gov

The following values at risk were identified in the vicinity of the Monument Fire:

Homes/Structures

- Lower Miller Watershed
- Ash Watershed

Roads

- Forest Service Roads
- Private Access Roads
- Highway 92
- Park Service Roads

Facilities/Recreation

- Campground in top of Carr Canyon
- USFS Administrative Site
- Water Sources
- Tombstone Aqueduct
- Water Tank (Mexican Border)
- Pipeline in Cave Canyon along Road USFS Rd. 771

Natural and Cultural Resources

- Arizona Scenic Trails (Clark Springs, Lutz, As, Perimeter, Miller Canyon and John Copper)

Archeological sites

Botany

- Spread of noxious weeds
- Lehman's lovegrass
- Tree of Heaven

Soil Productivity

- Ash Canyon

Threatened & Endangered Species

- Chiricahua Leopard Frogs (Threatened), Miller Canyon
- Mexican Spotted Owls (Threatened)
- Sonoran Tiger Salamander (Endangered)
- Lesser-Long-Nosed Bat (Endangered)

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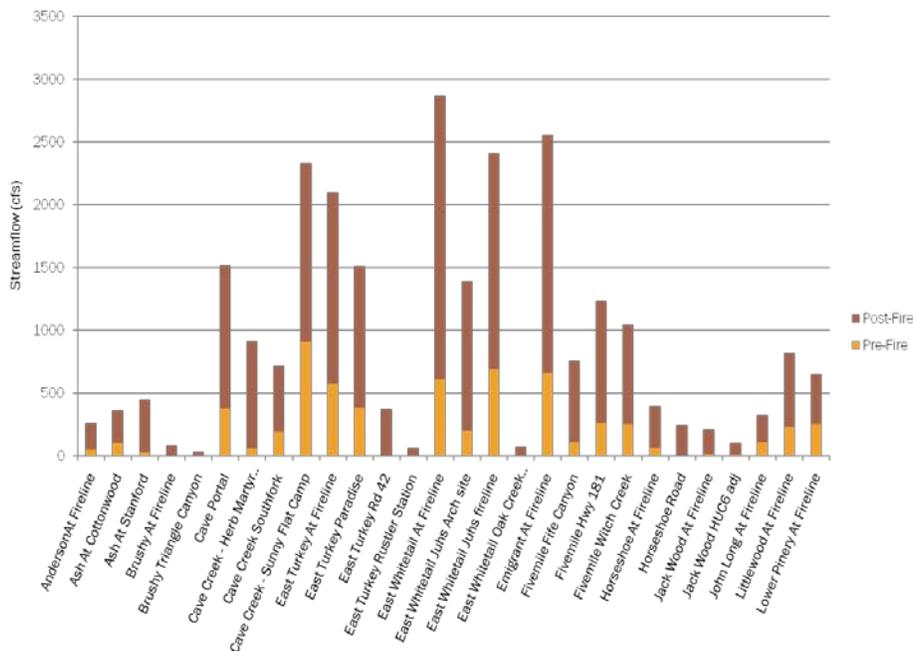
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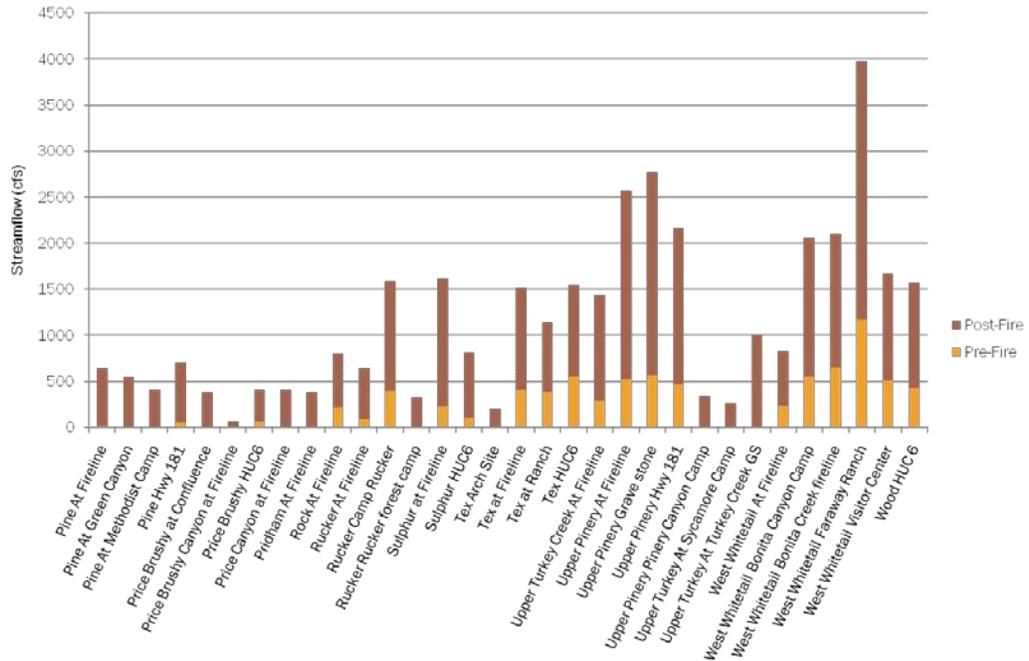
HORSESHOE 2 FIRE

Fire-Burn Severity:

Soil Burn Severity	Acres	Percent
High	27,730	12%
Moderate	62,226	30%
Low	84,852	38%
Unburned	44,093	20%

Pre and post fire discharge calculations were calculated for several discharge point and washes. The post fire discharge calculations are significantly higher than the pre-fire discharges; some post fire discharges are up to five times greater than the pre-fire discharge calculations. See the attached chart that depicts this pre and post discharge calculations.





The following values at risk were identified in the vicinity of the Horseshoe 2 Fire:

Life/Public Safety:

- System Road throughout the fire
- Landowners downstream of the burn area
 - East White Tail Watershed
 - Cave Creek Watershed
 - East Turkey Watershed
 - West Turkey Watershed
 - Pine Creek Watershed
- Campgrounds near streams
- Hazardous Materials as a result of burnt structures
- Forest users on trail and at Barfoot lookout

Property

- Forest service road and administrative sites
- Residences downstream of the fire
- Recreation areas
- Utility poles in the channels

Cultural Resources

- Historical Homestead

Natural Resources

- Soil productivity/watershed functioning
- Native plant communities

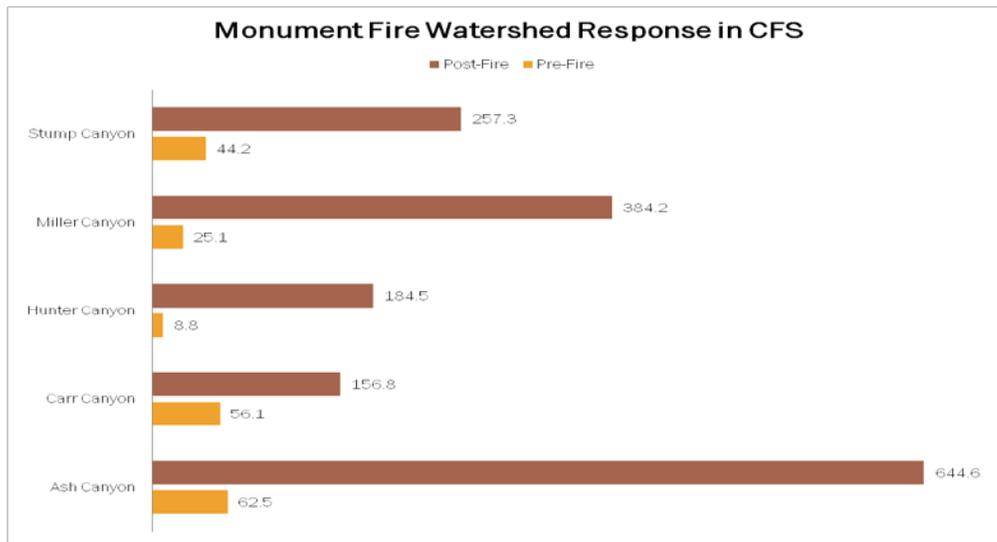
- Water quality/soil quality
- Mexican Spotted Owl habitat
- Endangered aquatic species

MONUMENT FIRE

Fire-Burn Severity:

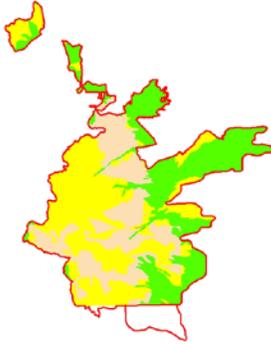
Soil Burn Severity	Acres	Percent
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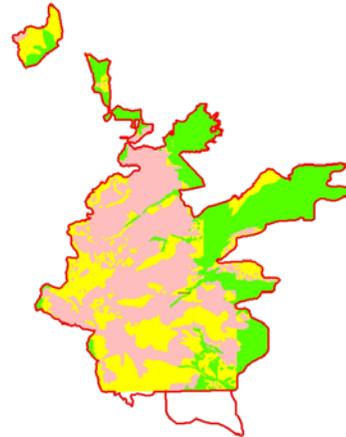


These higher post fire discharge flows increases the erosion hazard and sediment delivery. Sediment transport in some of the canyon is expected to increase up to 1,867%. See the enclosed exhibits that depict these conditions.

UNBURNED



POST FIRE



Select Pour Point	Area (acres)	Pre Fire Sediment (tons/acre)	Post Fire Sediment (tons/acre)	Sediment Increase (%)
Ash Canyon at FS boundary	1139	0.68	11.51	1583
Lutz Canyon	1133	0.72	14.19	1867
Miller Canyon at Beattys	1538	0.80	15.30	1818

The following values at risk were identified in the vicinity of the Monument Fire:

Life & Property

Homes/Structures

- Lower Miller Watershed
- Ash Watershed

Roads

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- Private Access Roads
- Highway 92
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Facilities/Recreation

- Campground in top of Carr Canyon
- USFS Administrative Site

- Water Sources
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Natural and Cultural Resources

Trails

- Arizona Scenic Trails (Clark Springs, Lutz, As, Perimeter, Miller Canyon and John Copper)

Archeological sites

Botany

- Spread of noxious weeds
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Based on this information, Cochise County residents are advised to take precautionary measures to protect their lives and their property as a result of increased risks of flash flooding and erosion damage from heavy monsoon rains.

Property owners who feel they need to take additional measures to protect their property from flood damage are encouraged to stop by the following locations to pick-up sandbags:

- Emergency Transfer Station (ETS) located on Highway 92, west of Coronado Memorial Road, in the Kings Ranch Subdivision. The ETS hours of operation are from 7:00 a.m. to 5:00. Starting on Monday July 11, 2011, the new hours of operation will be 7:30 a.m. to 3:30 p.m. The ETS is scheduled to remain open until Saturday July 16, 2011.
- Intersection of Portal Rd. and Foothills Rd. in the Portal area.

Citizens are encouraged to follow cautionary advice from government agencies, weather service and other public information sources. Citizens are encouraged to purchase weather radios in order have access to up to date weather information.

Cochise County along with other state and federal agencies are coordinating the placement of additional rain gauges in the vicinity of both fires in an effort to provide more accurate up to date weather information.

Citizens are encouraged to monitor the local news channel for weather reports as well as the National Weather Service website for local weather information www.weather.gov.

The following guidelines can help protect you from the dangers of flooding:

- Do not drive through a flooded area. More people drown in cars than any where else.
- Do not walk through flowing water. Currents can be deceptive. Six inches of water can knock you off your feet.
- Stay away from power lines and electrical wires. If flooding is imminent, turn off the power at the service box. Electrical current can travel through water. Electrocution is the second leading cause of death during floods.
- Be alert to gas leaks. Turn off the gas to your house before it floods. If you smell gas, report it to your gas company. Do not use candles, lanterns or open flames if you smell gas or are unsure if your gas has been shut off.
- Keep children away from the flood waters, ditches, culverts and storm drains. Flood waters can carry various dislodged and dangerous debris. Culverts may suck smaller people into them rendering them helpless.
- Clean everything that has been wet. Flood water is often contaminated with sewage and other chemicals which pose severe health threats.
- Look out for animals, especially snakes. Small animals that have been flooded out of their home may seek shelter in yours.
- Do not use gas engines, such as generators, or charcoal fires, indoors during power outages. Carbon monoxide exhaust can pose serious health hazards.
- Watertight seals can be applied to brick and block walls to protect against low-level flooding.
- Utilities such as heating and air conditioning systems, water heaters and other major appliances can be elevated to higher floors or on raised platforms.
- Temporary measures such as moving furniture and other valuables to higher floors or sandbagging exterior openings will also help.
- Elevating or relocating the entire structure may also be a feasible option.

Debris Flow Hazards

- Debris flows occur when debris (trees, bushes, soil) are caught up in a flash flood
- Healthy vegetation typically holds the soil in place
- However, the lack of healthy vegetation after a fire promotes erosion
- This extra amount of erosion increases the chances for debris flows
- As seen in the image below, debris flows can happen at any time during increased periods of rainfall
- People can become trapped in vehicles or caught up in the debris flows
- Extra caution should always be taken during times of heavy rainfall



National Weather Service

Weather Forecast Office
Tucson, AZ

520 North Park Avenue Suite 304
Tucson, AZ 85719

Phone: (520) 670-6526

www.weather.gov/tucson

How Flash Flooding Could Change After the Fires



Weather plays a huge role in the controlling of the fire behavior, but often people are uninformed about the lingering effects that fires can cause. This pamphlet examines how flash flooding risks may be heightened in and near burn areas.



National Weather Service Tucson, AZ

How the Soils Change

- Burned soil creates a more water resistant surface
- The soils obtain a waxy characteristic near the surface
- The waxy surface repels water
- The water flows over the waxy surface and does not soak into the ground very well
- The flowing water reaches streams and washes more quickly than normal
- This trait of hydrophobic (burned and waxy) soils can remain for many years leading to flooding issues well into the future



This image from Oregon State University shows a drop of water on hydrophobic (burned and waxy) soil. The droplet does not soak into the soil because of the waxy coating.

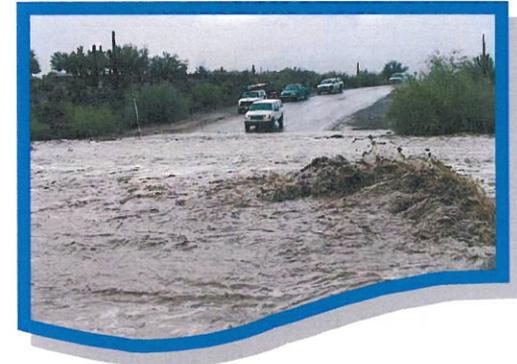
Higher Flash Flooding Potentials

- Flash flooding is 5 times more likely after a wildfire
 - Every area is unique and may not experience this great of an increased flash flood risk
- The table below lists the highest annual rainfall rates for the indicated wildfires
 - These amounts are estimated based on data collected from nearby observing stations

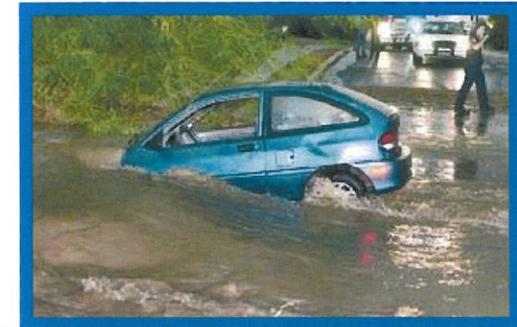
Area	Duration	Annual Rainfall Rate for Flooding
Wallow	30 min	0.63 — 0.84 in
Monument	30 min	0.86 — 1.10 in
Horseshoe 2	30 min	0.81 — 1.11 in

- Rainfall rates near or above this table must be considered a threat for flash flooding
 - Rainfall less than these values may still lead to flash flooding
- During times of high intensity rainfall, remain informed on the weather by:
 - 1) NOAA Weather Radio
 - 2) www.weather.gov/tucson
 - 3) Local News Mediafor the latest information or warnings

Flash Flooding Impacts



- Flooded streams and washes are common during the monsoon season
- This season additional flooding may occur due to increased run-off.
- Storm flooding will be an issue that will effect both motorists and pedestrians. Appropriate measures should be taken by all to avoid flood dangers.
- Just a reminder as you approach flooded washes and streams **“Turn Around, Don’t Drown.”**



Evacuation Plan—Where to Go (Contingencies)

When the flood waters arrive, do you know where to go?

DO:

- ◆ Know the safest route away from your home
- ◆ Go up—if the roads are impassible, go uphill to a safer location

DO NOT:

- ◆ Drive across flooded roads or washes
 - ◆ The water may be too deep to cross
- ◆ Wade through flooded areas
 - ◆ Rapidly flowing water can sweep you off your feet



Image Courtesy of the USGS



National Weather Service

Weather Forecast Office
Tucson, AZ

520 North Park Avenue Suite 304
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Taking Action — What to do When the Flash Flooding Occurs

Flash flooding is a concern every Monsoon season. This year, due to the record wild-fires across the state, the flash flood risk has increased across many areas. Do you know what to do when the flood waters arrive? This pamphlet will help prepare you for the floods.



National Weather Service Tucson, AZ



Image Courtesy of Jay Breidenbach - NWS Boise, Idaho

Know The Signs

- ◆ **Get Ready**—Thunderstorm clouds build over the mountains (typically early in the day)
 - ◆ Dark areas under the thunderstorm clouds imply heavy rainfall
 - ◆ The rain may not fall on you—remember, flooding occurs downstream of the heavy rain.
- ◆ **Get Set**—Monitor the News and weather observations for your area
- ◆ **Go**—Flash Flood Warning issued for your area
 - ◆ The News or weather observations may also indicate flooding is imminent for your area

Prepare Now—The 5 P's of Immediate Evacuation (Ready.Gov)

Have these items ready to go before the flooding arrives:

- ◆ **People/Pets**
- ◆ **Papers**—Important Documents
- ◆ **Pictures**—Irreplaceable Memories
- ◆ **Prescriptions**—Medications, Eyeglasses, Hearing Aids
- ◆ **Personal Computer**—Information on Hard Drives, Disks, or Back-Up Drives

Do not wait for the flood waters to become prepared



Image Courtesy of Apache County Emergency Management

Take Action

When the flood waters arrive, be ready to take action.

DO:

- ◆ Be ready to leave on a moments notice
- ◆ Stay aware of weather conditions (monitor NOAA Weather Radio, rainfall observations, www.weather.gov/tucson)



- ◆ Have multiple evacuation plans and routes
- ◆ Be sure your roof is fitted with proper gutters and downspouts