



EL NIÑO

General Preparedness Checklist

1. **Yard Clean-up.** Make a general inspection of your entire yard area for yard debris, outdoor furniture, or other objects that could be blown by storm winds. An afternoon spent tidying up the yard and either storing furniture and other loose items indoors or securing them can prevent a frantic scramble to collect items that have landed on your roof or in your neighbor's yards.
2. **Gutters and Downspouts.** Make sure gutters are clear of leaves and other debris and connections between gutters and downspouts are functioning properly. Faulty gutters and downspouts can also lead to soil erosion adjacent to buildings and serious water and foundation displacement problems in basements and crawl spaces. Make sure downspouts direct water away from buildings and do not create standing water. Storm water runoff from impermeable surfaces (e.g., roofs, driveways, and patios) should be directed into a collection system to avoid soil saturation.
3. **Roofs.** Inspect your roof, or hire a roofing contractor, to check for loose tiles, holes, or other signs of trouble. Inspect flashing to ensure water is directed away from seams and joints.
4. **Retaining Walls.** Visually inspect all retaining wall drains, surface drains, culverts, ditches, etc. for obstructions or other signs of malfunction, before the storm season, and after every storm event.
5. **Slopes.** Visually inspect all sloped areas for signs of gullyng, surface cracks, slumping etc. Also inspect patios, retaining walls, garden walls, etc. for signs of cracking or rotation. Such signs might be indications of slope movement and if you notice any problems, it would be prudent to have the site inspected by a geotechnical engineer.
6. **Bare Ground.** Make sure your yard does not have large bare areas which could be sources for mudflows during a storm event. The fall is a good time to put down mulch and establish many native plants; it may be possible to add vegetation to these bare areas before the storm season.
7. **Storm Drains.** Visually inspect nearby storm drains, before the storm season and after every rain; if the storm drains are obstructed, clear the material from the drain or notify the Department of Public Works or public agency responsible for drain maintenance.
8. **Trees.** Have any trees that appear weakened by drought inspected by an arborist. In high winds, downed trees and branches can knock out power or seriously damage homes and vehicles.
9. **Vegetable and Flower Gardens.** Make sure soil is protected to prevent erosion. Spread mulch in the form of wood chips, shredded bark or straw to form at least a 2" layer.
10. **Swales and French Drains.** If you have areas that flood consider installing swales or French drains to move the water to where it can better infiltrate the soil.
 - a. Swales are designed to slow and capture runoff by spreading it horizontally across the landscape facilitating runoff infiltration into the soil. This type of swale is created by digging a ditch on contour and piling the dirt on the downhill side of the ditch to create a berm.
 - b. A French drain is a trench filled with gravel or rock or containing a perforated pipe that redirects surface water and groundwater away from an area. A French drain can have perforated hollow pipes along the bottom to quickly vent water that seeps down through the upper gravel or rock.

French drains are primarily used to prevent ground and surface water from penetrating or damaging building foundations. Alternatively, French drains may be used to distribute water, such as a septic drain field at the outlet of a typical septic tank sewage treatment system. French drains are also used behind retaining walls to relieve ground water pressure.

- 11. Follow-up and Other Concerns.** If, after taking prudent steps to prepare your property for winter storms, you still have some concerns about slope stability, flooding, mudflows, etc., consider stockpiling sandbags and plastic sheeting. The sandbags can be stacked to form a barrier to keep water from flooding low areas. Plastic sheeting and visqueen can be placed on slopes and secured with sandbags to prevent water from eroding the soil.

Resources

What is El Nino?

NOAA Climate.gov is a source of timely and authoritative scientific data and information about climate

<https://www.climate.gov/>

El Nino FAQ's

<http://faculty.washington.edu/kessler/occasionally-asked-questions.html#q2>

What is an El Nino?

<http://www.pmel.noaa.gov/tao/elnino/el-nino-story.html>

What to do outside

Inspect Your Landscape Trees for Hazards

<http://anrcatalog.ucanr.edu/pdf/8365.pdf>

Napa County Emergency Sandbag Facilities

http://countyofnapa.org/uploadedFiles/County_Content/Highlights/Sand%20Bag%20Locations%202015-2016.pdf

City of Napa – Sandbags: Where to Get Them and How to Use Them

http://www.cityofnapa.org/index.php?option=com_content&view=article&id=214:getting-and-using-sandbags&catid=13&Itemid=284

Rain Gardens – Storm Water Control for Small Projects

http://www.napawatersheds.org/files/managed/Document/5384/BASMAA_Rain_Garden_Fact_Sheet_1FINAL%2012-13-12.pdf

Plant List for Rain Gardens and Swales

<http://www.napawatersheds.org/documents/view/5408>

Slow it. Spread it. Sink it - A Practical Guide to Beneficial Storm Water Management

www.countyofnapa.org/WorkArea/DownloadAsset.aspx?id

Caring for Creeks

<http://www.countyofnapa.org/Pages/DepartmentContent.aspx?id=4294969022>

Napa Watershed Information, Projects, Planning and Maps <http://www.napawatersheds.org/>

Septic Systems – What to do After the Flood <http://water.epa.gov/drink/emereprep/flood/septicssystems.cfm>

What to do inside and other information

Flood Smart provides flood insurance, flood zone maps, floodplain maps and information to help protect your home from flooding & elevated water tables.

<https://www.floodsmart.gov/floodsmart/>

Pet Disaster Kits

<http://www.countyofnapa.org/Pages/DepartmentContent.aspx?id=4294970574>