Coconino County, Arizona
Earthquake Country

The Northern Arizona Seismic Belt (NASB), a complex of more than two dozen active faults, crisscrosses Coconino County, from Flagstaff in the south across Grand Canyon to Fredonia on the Arizona-Utah border. On average, faults of the NASB produce one felt earthquake each year. In Arizona, the seismic hazard in Flagstaff is second only to that of Yuma.

Notable Historic Earthquake Activity - From January 1906 to August 1912, Coconino County experienced three magnitude (M) 6.0 to 6.2 earthquakes, all of which occurred within 24 miles of Flagstaff.

- 1906, January 25, M6.2
- 1910, September 24, M6.0
- 1912, August 18, M6.2

Ground shaking from the 1906 earthquake lasted more than 30 seconds, caused general panic in the community, and collapsed chimneys, cracked walls and shook plaster from ceilings. The event was felt over 80,000 square miles of northern and central Arizona.

Recent Activity - The 1993 Cataract Creek earthquake sequence included M4.9 and M5.4 events. Swarms of small earthquakes occurred near Sunset Crater in 2008 and Lake Mary in 2011.

In 1997, researchers at the Arizona Earthquake Information Center concluded that there was a 50% chance of a M6.0 or larger event in the next 30 years within the NASB.
Foremost Earthquake Hazard in Coconino County

The Lake Mary Fault, situated immediately southeast of Flagstaff, represents the greatest hazard to the more than 70,000 people of Flagstaff and environs. The maximum probable earthquake of the ~ 40 mile long fault is M6.8. An event of that magnitude would have dire consequences for older structures and for unreinforced masonry buildings.

Stringent building codes in Flagstaff and Coconino County assure that newer buildings are more earthquake-resistant than older buildings, but falling objects indoors (light fixtures, appliances, cabinets, pictures) and outdoors (building parapets, signage, exterior decorations) can pose a threat at any building.

Severe ground shaking can cause landslides, initiate gas or electrical fires, and disrupt and damage canals and dams, too.

Disaster Supply kits

Following any natural disaster – earthquake, hurricane, flood, or fire - electrical, gas, and water services may be temporarily offline. To meet that challenge, every household should prepare a disaster supply kit to sustain the household for three days - a 72-hour disaster kit. Each family member should prepare a personal disaster kit comprising essential medicines, personal identification, list of telephone contact numbers, and snack foods.

Drinking water (~1 gallon per person per day.)

First aid supplies, medications and hygiene items – soaps, toothpaste, toilet paper

Emergency lighting – flashlights with extra batteries (avoid open flames)

Hand-cranked or battery-operated radio canned and packaged foods and basic cook utensils

Warm clothing, blankets, sturdy shoes

Heavy-duty plastic bags for storing waste or as cover from rain

Work gloves and basic tools (wrench, hammer, screwdrivers)

Copies of vital documents – insurance policy, personal identification

Ensure that you have food, water, and medication if needed for pets.

Earthquakes don’t kill people ...

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Earthquake Preparation

Before an Earthquake

Secure your space

• Secure heavy unstable objects

• Put latches on cabinet doors

• Keep breakables on bottom shelves

Create a disaster preparedness plan

• Maintain a 72-hour emergency food, water and supply kit

• Plan where your family will meet

• Establish safe zones in your home

During an Earthquake

• If inside – DROP, COVER & HOLD ON

• If outdoors – move away from buildings, power lines and trees

• If driving – pull over to the roadside; avoid over passes and power lines

After an Earthquake

• Be prepared for aftershocks

• Follow your disaster preparedness plan!

• Alert out-of-area contacts, but then stay off the phone

• Use a radio to follow updates and safety advisories

• Check for water and gas leaks, if damaged turn off

• Assist your neighbors