



The Great Riverside County Shake Out

October 17TH @ 10:17AM



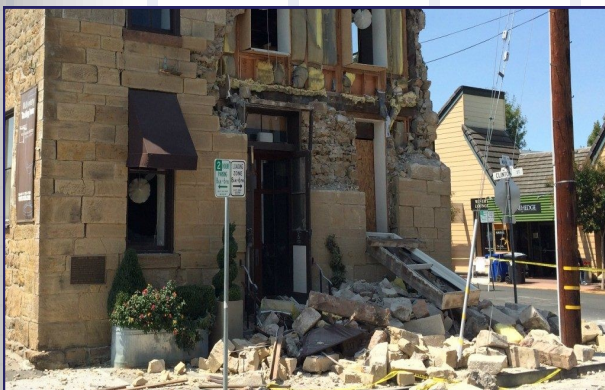
***Loma Prieta, CA 10/17/1989
6.9***



***Landers, CA 06/28/1992
7.3***



***Northridge, CA 01/17/1994
6.7***



***South Napa, CA 08/24/2014
6.0***



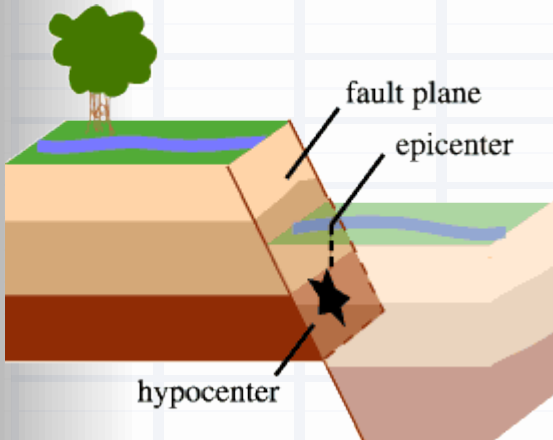
***Ridgecrest, CA 07/04-05/2019
6.4 & 7.1***

ARE YOU PREPARED FOR THE NEXT BIG ONE?

THE SCIENCE OF EARTHQUAKES



What is an earthquake?



An *earthquake* is what happens when two blocks of the earth suddenly slip past one another. The surface where they slip is called the *fault* or *fault plane*. The location below the earth's surface where the earthquake starts is called the *hypocenter*, and the location directly above it on the surface of the earth is called the *epicenter*.

Sometimes an earthquake has *foreshocks*. These are smaller earthquakes that happen in the same place as the larger earthquake that follows. Scientists can't tell that an earthquake is a foreshock until the larger earthquake happens. The largest, main earthquake is called the *mainshock*. Mainshocks always have *aftershocks* that follow. These are smaller earthquakes that occur afterwards in the same place as the mainshock. Depending on the size of the mainshock, aftershocks can continue for weeks, months, and even years after the mainshock!

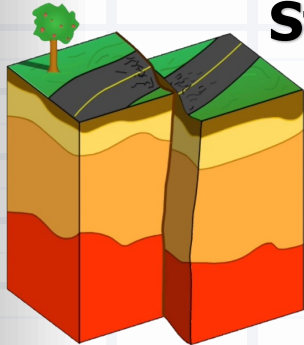
What causes earthquakes and where do they happen?

The earth has four major layers: the inner core, outer core, mantle and crust. The crust and the top of the mantle make up a thin skin on the surface of our planet. But this skin is not all in one piece – it is made up of many pieces like a puzzle covering the surface of the earth. Not only that, but these puzzle pieces keep slowly moving around, sliding past one another and bumping into each other. We call these puzzle pieces tectonic plates, and the edges of the plates are called the plate boundaries. The plate boundaries are made up of many faults, and most of the earthquakes around the world occur on these faults. Since the edges of the plates are rough, they get stuck while the rest of the plate keeps moving. Finally, when the plate has moved far enough, the edges unstick on one of the faults and there is an earthquake.

Can scientists predict earthquakes?

No, and it is unlikely they will ever be able to predict them. Scientists have tried many different ways of predicting earthquakes, but none have been successful. On any particular fault, scientists know there will be another earthquake sometime in the future, but they have no way of telling when it will happen.

DIFFERENT TYPES OF FAULTS

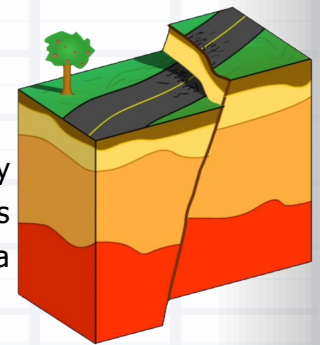


Strike-Slip Fault

Strike-slip faults are vertical (or nearly vertical) fractures where the blocks have mostly moved horizontally. If the block opposite an observer looking across the fault moves to the right, the slip style is termed right-lateral; if the block moves to the left, the motion is termed left-lateral.

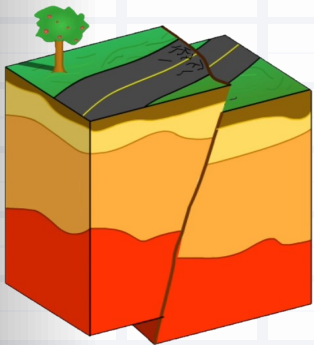
Normal Fault

Normal, or Dip-slip, faults are inclined fractures where the blocks have mostly shifted vertically. If the rock mass above an inclined fault moves down, the fault is termed normal, whereas if the rock above the fault moves up, the fault is termed a Reverse fault.



Thrust Fault

A thrust fault is a reverse fault with a dip of 45° or less, a very low angle. This animation shows a reverse fault which is a steeper-angle fault, but it moves the same way.



RIVERSIDE COUNTY EARTHQUAKE FAULTS

According to the US Geological Survey, Riverside County is home to 19 known faults.....
How close do you live or work to one?

- | | | |
|--|---|--|
| 1. Blythe graben | 9. Mount Eden fault | 16. Sheephole fault |
| 2. Burnt Mountain fault zone | 10. Murrieta Hot Springs fault | 17. Skeleton Canyon fault zone |
| 3. Dry Lake fault | 11. Pinto Mountain fault zone (includes Morongo Valley fault) | 18. Smoketree Wash fault |
| 4. Elsinore fault zone, Chino section | 12. Salton Creek fault | 19. Unnamed fault in the Little San Bernardino Mountains |
| 5. Elsinore fault zone, Glen Ivy section | 13. San Gorgonio Pass fault zone | 20. It's My Own |
| 6. Eureka Peak fault | 14. San Jacinto fault, San Bernardino Valley section | |
| 7. Hidden Spring fault zone | 15. San Jacinto fault, San Jacinto Valley section | |
| 8. Mecca Hills fault zone | | |

Want to learn more about fault lines in the County of Riverside?

[Click Here!](#)

(State: CA County: Riverside)

The Great
Riverside County

Shake
Out

Safety Newsletter



Cal OES
GOVERNOR'S OFFICE
OF EMERGENCY SERVICES



Earthquake
Country
Alliance

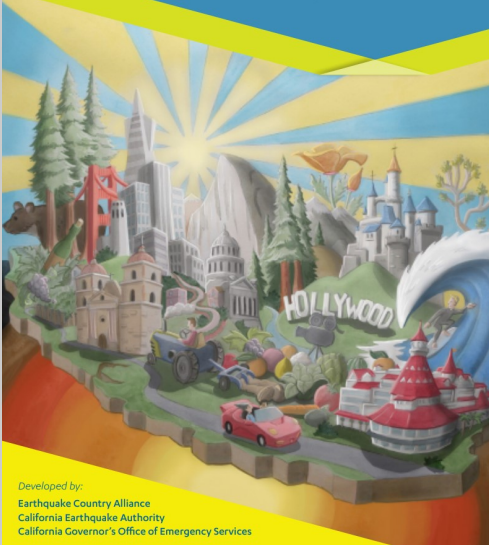
We're all in this together.



**CALIFORNIA
EARTHQUAKE
AUTHORITY™**

Staying Safe Where the Earth Shakes
Inland Southern California Edition

For the counties of Imperial, Riverside and San Bernardino



Developed by:
Earthquake Country Alliance
California Earthquake Authority
California Governor's Office of Emergency Services

Staying Safe Where the Earth Shakes— Inland Southern California Edition

is an informational booklet developed by California Governor's Office of Emergency Services, California Earthquake Authority and the Earthquake Country Alliance.

To read this life saving information, click [HERE](#)

Did you know that most of us in Inland Southern California live less than 10 miles from a fault that can have a damaging earthquake, and a large part of our population lives along the most potentially damaging fault of all — the infamous San Andreas? It slices through our region and can cause a devastating earthquake. Many other faults, such as the San Jacinto fault, create smaller, yet more frequent earthquakes.

These earthquakes will disrupt services like electricity, water and sewer, and may limit access in and out of the region. Fire and police departments will be dealing with the most serious situations and may be unable to respond quickly to issues in your community. Government assistance may not be available or may not be enough to replace your damaged belongings or repair your home. Good news: Taking steps now will give you confidence that you and your family are prepared to stay safe where the earth shakes.

WHAT SHOULD I DO BEFORE, DURING AND AFTER AN EARTHQUAKE?

Trying to figure out what to do after an earthquake strikes is too late. Have you ever thought, "How will I get home?" "What about my family?" or just "Now What?" Having a plan in place before an earthquake strikes could be the difference between life and death. These Seven Steps to Earthquake Safety can prepare you and your family when the next big one hits.

Continued on page 5

WHAT WAS THE LARGEST EARTHQUAKE IN CALIFORNIA HISTORY?

1857 Fort Tejon Earthquake on Jan. 9, 1857 Magnitude: 7.9

The most powerful California earthquake in recorded history occurred in 1857, about 45 miles northeast of San Luis Obispo near Parkfield, California. Estimates for the quake's magnitude range from 7.9 to 8.3. The power of this quake, which happened along the infamous San Andreas Fault, was enough to horizontally displace land on the Carrizo Plain by 9 meters. Strong shaking lasted for one to three minutes. Property damage was heavy at Fort Tejon, but despite this, only two deaths were attributed to the earthquake.

The Seven Steps to Earthquake Safety

Prepare Step 1: Secure your space

Earthquake shaking can move almost anything, even large or heavy items. Imagine your home being picked up and shaken sideways – what would be thrown around? How can you prevent it? Secure your space by identifying hazards and securing moveable items. Try doing one item from the list below every weekend until you get everything done. Start with what you can do for free. Don't be afraid to ask others for help.

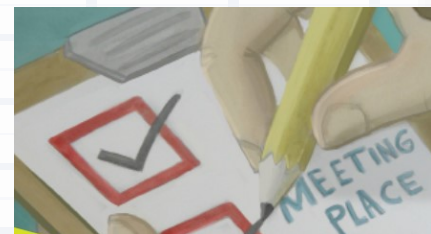


No cost:

- Move heavy or large items, such as potted plants or large speakers to the floor or low shelves.
- Move things that can fall on you away from anywhere you spend a lot of time (bed, couch, desk, etc).
- Move heavy unstable objects away from doors and escape routes.
- Secure water heater to the wall studs with two metal straps. (Average cost \$20)
- Secure (or brace) electronic items such as computers and TVs with straps. (Average cost \$15)
- Hang mirrors and pictures on closed hooks. (Average cost \$2 per hook)
- Secure top-heavy furniture and appliances to wall studs. (Average cost \$12)
- Secure small items on shelves with museum wax. (Average cost for tub of wax \$10)
- Install latches on kitchen cabinets. (Average cost \$8)

Prepare Step 2: Plan to be safe

Plan to be safe by creating a disaster plan and deciding how you will communicate in an emergency. Before the next earthquake, get together with your family or housemates to plan now what each person will do before, during and after an earthquake.



- Learn and practice "Drop, Cover, and Hold On" (see Step 5).
- Identify safe spots in every room you can easily reach in just a few steps, such as under sturdy desks or tables.
- Keep flashlights and extra batteries in several places.
- Store a fire extinguisher where you can easily get to it or attach it to a wall. Everyone in your family should know how to use one.
- Place a sturdy pair of shoes and a flashlight in a bag and tie it to one of your bed legs. This makes it easy to find shoes so you don't cut your feet on broken glass, one of the most common earthquake injuries.
- Take a first aid and CPR training course and download a first aid app to your smart phone.
- If you are a person with a disability or need extra help, work with your personal support network to make them part of your plan. Visit EarthquakeCountry.org/disability

ShakeOut. Don't FreakOut.

October 17, 2019 Register Now at www.ShakeOut.org

Shake
Out

The Seven Steps to Earthquake Safety

Prepare Step 3: Organize disaster supplies



Organize disaster supplies in a few convenient locations – your HOME, CAR, SCHOOL and at WORK. Routes away from home may be blocked, and help may not get to you for a while.

THINK ABOUT WHAT YOUR FAMILY WILL NEED IF YOU HAVE TO SHELTER AT HOME FOR UP TO THREE WEEKS. In a big earthquake, utilities may not be available for an extended period of time.

- Make a “grab-and-go” backpack with things you may need in an evacuation AND organize supplies for staying in your home for an extended period of time.
- Keep an EMERGENCY BACKPACK near the door to “grab-and-go” in case you can’t stay in your home. This is especially important if you live or work in a tsunami zone. Place copies of important documents/cash in a plastic bag in the backpack. Include medication and extra glasses that anyone in your family may need. Other items: water, snacks, baby formula, cell phone chargers, etc.
 - Store EMERGENCY SUPPLIES in a dry area at home including food and water for your family and pets, clothing, blankets, work gloves, tools, personal care items and anything you will need on a daily basis.
 - STORE WATER for everyone in your family. The recommended amount is one gallon per person or pet per day for at least three days and ideally up to two weeks (even longer if you live in desert or remote areas).
 - Create a KIT FOR YOUR PETS that includes dry pet food and any medications they might need. Keep a photo of you with your pet in the kit in case your pet gets lost. Consider implanting an ID “chip” so that your pet can be linked back to you even if you are separated.
 - Buy a NOAA WEATHER RADIO with the Public Alert feature.



Prepare Step 4: Minimize financial hardship

Do you own a home? The latest recommendations for what you can do to strengthen your home are available at <http://Quake.Abag.ca.gov/housing/homeowners>

- Does your home have enough bolts connecting the “sill plate” to the foundation?
- Are there large openings in the walls of the lower story, such as a garage door, that should be better braced? Do you rent? If you are a renter, ask your landlord about the safety of your building and encourage any needed updates or repairs by directing them to <http://Quake.Abag.ca.gov/housing/renters>.
- Renters and homeowners can protect themselves with earthquake insurance. Without earthquake insurance, you will be responsible for all costs to repair or rebuild your home and replace your personal property. Residential policies do not cover earthquake damage. For more information, contact your insurance agent or go to EarthquakeAuthority.com.
- Prepare a “grab-and-go” backpack with copies of identification, insurance cards, emergency contact numbers, photos of lost items you’ll be making an insurance claim for.

The Seven Steps to Earthquake Safety

Survive Step 5:

Drop, Cover, and Hold On



When the earth shakes: **DROP, COVER, and HOLD ON!** The farther you move while the ground is shaking, the more likely you are to be hurt. In most situations:

- **DROP** down onto your hands and knees (before the earthquake knocks you down). This position protects you from falling but allows you to still move if necessary.
- **COVER** your head and neck (and your entire body if possible) under a sturdy table or desk. If there is no shelter nearby, only then should you get down near an interior wall (or next to low-lying furniture that won't fall on you), and cover your head and neck with your arms and hands.
- **HOLD ON** to your shelter (or to your head and neck) until the shaking stops. Be prepared to move with your shelter if the shaking shifts it around.
- If you are **IN BED**, stay in bed, and cover your head with a pillow. People get injured when they get up and move around.
- If you are **OUTSIDE**, first drop then crawl towards open space if you can – stay away from building exteriors, overhead power lines and trees.
- If you are **unable to DROP**, brace yourself and protect your head and neck. In a wheelchair, set the brake and protect your head.



Survive Step 6: Improve safety

Right after an earthquake, you can improve safety by evacuating if necessary, helping the injured and preventing further damage.



When should I evacuate?

- Evacuate your home or office only if there is damage to the building. You will be safest at home, even if the power is out.
- If you need to evacuate to a shelter, take your "grab and-go" bag (Step 3). Shelters have limited space.

Help the injured:

- If a person is bleeding, put direct pressure on the wound.
- Do not move any seriously injured person unless they are in danger of further injury.
- Keep them warm to prevent shock.
- If you can, call 9-1-1.

Prevent further damage:

- Be prepared for aftershocks. Stay away from anything that looks like it may fall.
- Large fires are a sign to evacuate. If you have a fire extinguisher handy, put out small fires.
- Unplug appliances and electronics. When the power comes back, damaged appliances and electronics could start a fire.
- Shut off the gas if you smell or hear a gas leak, or see the meter spinning quickly. Only the gas company can turn the gas back on, so shut it off only if necessary.
- Do not use candles or matches. You could start a fire and there may also be gas leaks. Use your flashlights.

The Seven Steps to Earthquake Safety

Recover Step 7: Reconnect and restore

In the days and weeks that follow, restore daily life by reconnecting with others, repairing damage, and rebuilding community. You, your family, friends and neighbors can come together to start the process of recovery.



The first days after the earthquake:

- Do not enter your home until you know it's safe.
- Check for gas leaks, chemical spills, damaged electrical wiring and broken water pipes.
- Monitor local radio or television reports about where to get emergency housing, food, first aid, clothing and financial assistance.
- Check on your neighbors, especially seniors or the disabled.
- Use your refrigerated and frozen food first and save the canned goods for later.
- Take pictures of damage to your property and home.
- Contact your insurance agent or company right away to begin your claims process. Keep records of any repair or cleaning costs.

The first weeks after the earthquake:

- If your gas was turned off, contact the gas company to turn it back on.
- If the electricity went off and then came back on, check your appliances or electronic equipment for damage.
- Contact the Federal Emergency Management Agency (FEMA), U.S. Small Business Administration (SBA), or other federal and state agencies to find out about financial assistance for your home, apartment, farm or business.
- If you need repairs to your home, check with the Contractors State Licensing Board to ensure your contractor is fully licensed in California. Fraud is common following a disaster. Visit CSLB.ca.gov
- Talk with your family about how they are feeling. Children and older adults are of special concern in the aftermath of disasters. Contact local faith-based organizations, voluntary agencies, or professionals for counseling.
- Reach out to neighborhood or community organizations and get involved. Your voice is important in deciding how your community will rebuild in the years to come.



EMERGENCY SURVIVAL KITS FOR HOME AND OFFICE

According to Ready.Gov, After an emergency you may need to survive on your own for several days. Being prepared means having your own food, water and other supplies to last for at least 72 hours. A disaster supplies kit is a collection of basic items your household may need in the event of an emergency.



Basic Disaster Supplies Kit

To assemble your kit, store items in airtight plastic bags and put your entire disaster supplies kit in one or two easy-to-carry containers such as plastic bins or a duffel bag.

A basic emergency supply kit could include the following recommended items:

- *Water - one gallon of water per person per day for at least three days, for drinking and sanitation*
- *Food - at least a three-day supply of non-perishable food*
- *Battery-powered or hand crank radio and a NOAA Weather Radio with tone alert*
- *Flashlight*
- *First aid kit*
- *Extra batteries*
- *Whistle to signal for help*
- *Dust mask to help filter contaminated air and plastic sheeting and duct tape to shelter-in-place*
- *Moist towelettes, garbage bags and plastic ties for personal sanitation*
- *Wrench or pliers to turn off utilities*
- *Manual can opener for food*
- *Local maps*
- *Cell phone with chargers and a backup battery*
- *Feminine supplies and personal hygiene items*
- *Complete change of clothing appropriate for your climate and sturdy shoe*
- *Non-prescription medications such as pain relievers, anti-diarrhea medication, antacids or laxatives*
- *Glasses and contact lens solution*



The Community Emergency Response Team (CERT) program educates people about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. Using the training learned in the classroom and during exercises, CERT members can assist others



in their neighborhood or workplace during a disaster or emergency when professional responders are not immediately available to help. CERT members also are encouraged to support emergency response agen-



REGISTER TODAY!

<https://www.rivcocert.org/registration.htm>

Shake Out.

Don't Freak Out.



DROP!

COVER!

HOLD ON!

October 17, 10:17 a.m.

**Shake
Out**TM

SAFETY FIRST

RIVCO HR

Register at www.ShakeOut.org

DSR ACADEMY

for
**MANAGERS,
SUPERVISORS AND
DEPARTMENT
SAFETY
REPRESENTATIVES**

*Offered by the
Human Resources
Safety Division*



**Location: Riverside County
Innovation Center
3450 14th St. Riverside CA.
92501 (Riverside Room)**

Safety plays an important role in the day-to-day operations of every County department. An effective safety program and a well trained workforce are the first line of defense against occupational injuries & illnesses. A safe and healthful work environment can also improve productivity, increase morale, and reduce workers' compensation costs.

OSHA Authorized Outreach Trainers from the County of Riverside, Human Resources Safety Division will conduct the OSHA authorized General Industry Safety Standards, 10-hour course. This course provides an overview of the following:

Hazard Identification, Walking and Working Surfaces; Fall Protection, Emergency Egress, Portable Fire Extinguishers, Hazard Communication Standard, Electrical Safety Standard, Personal Protective Equipment, Introduction to Industrial Hygiene, Introduction to Ergonomics.

Special emphasis will be placed on the County's Injury and Illness Prevention Program (IIPP) which governs all the applicable County Safety plans and programs, including general Supervisor and Department Safety Representative responsibilities.

This course is open to all interested parties with Safety responsibilities at no charge. Department Safety Representatives, Managers and Supervisors are strongly encouraged to attend. An OSHA General Industry Safety Standards 10-hour card will be issued to each participant who successfully completes this course.

This OSHA 10-hour GISO course will be conducted in two days. Participants must attend and complete both days.

<u>Date</u>	<u>Day</u>	<u>Time</u>
10/29/19	TUES	8:00 a.m. to 4:00 p.m.
10/30/19	WED	8:00 a.m. to 4:00 p.m.

**REGISTER through RIVCO HR Learning
& Organizational Development at [http://corlearning.rc-hr.com/
training-login](http://corlearning.rc-hr.com/training-login)**

Cancellation Policies & Fees

By registering for any class, you acknowledge you have read and accept COR Learning Center's cancellation policies. Most County Mandated and all individual Career & Personal Development courses must be cancelled at least 7 business days prior to the course start date (county holidays and weekends excluded). Enrollments are not transferrable. If cancellation requirements are not met in accordance with these terms, the following fees will be billed to your department: No-show or late cancellation of a classroom or webinar County mandated training of \$25.



MANAGING FATIGUE

*DEVELOPING AN EFFECTIVE
RISK MANAGEMENT SYSTEM*

A 5 PART SERIES FROM THE
NATIONAL SAFETY COUNCIL
ON MANAGING FATIGUE
PART 5 OF 5



DATA-DRIVEN PROGRAMS AND CONTINUOUS IMPROVEMENT

A fatigue management program provides the most value when it is data-driven and strives for continuous improvement.



Ask employees for input

Employees can be a wealth of information. You just need to ask and listen.

- What mitigation strategies work best? Employees may have valuable feedback on environmental conditions and the usability of a break room, for example.
- What adds to your fatigue? Annual surveys of employees on their experiences and perspectives on fatigue-related matters are a great way to get a better understanding.

Monitoring and Reporting

Monitoring and reporting mechanisms allow the program champion and other safety managers to assess the levels of fatigue risk in the organization over time, identify trends, and understand the issues that are being reported and need addressing. Reporting processes can be incorporated into current procedures within an existing safety management system. Keep in mind that when a program is first implemented, low levels of reporting may indicate a lack of awareness of the program rather than a lack of fatigue-related issues in the workplace.

Incident and Accident Investigation Reporting

Established incident and accident investigation processes should be expanded to include an evaluation of the potential role of fatigue. Generally, a combination of factors present at the time of an incident/ accident would indicate that fatigue played a role.

Review and Learn from Data

Incident and accident reports can be a valuable tool for the fatigue program manager. Look for trends in the types and sources of reported fatigue factors. Investigations can provide valuable “lessons learned” to incorporate into ongoing education and training activities.

Continuous improvement: collecting data and applying lessons learned

As with any organizational safety-related effort, it is important to seek ways to continue improving operations. Monitoring and reporting information, along with incident or accident investigation and reporting, provides valuable information to the program manager. What is working? What isn't? What can be done better? Employers should consider a regular internal audit or use of an external evaluator to address the above questions and determine ways for further improvements and expand the program.

**FOR MORE ON FATIGUE GO TO THE
NATIONAL SAFETY COUNCIL'S FATIGUE
WEB PAGE**

[https://www.nsc.org/work-safety/
safety-topics/fatigue](https://www.nsc.org/work-safety/safety-topics/fatigue)