Preparing for Emergencies

In Your Home

Dr. David Lewis III, Retired Engineer, College Professor, Volunteer Firefighter and EMT

Types of Emergencies to Worry About

- Fire in Your Home
- Wildfire in Your Area (only in certain areas)
- Severe (very contagious and virulent) Pandemic
- Earthquake
- Home Insurance (not an emergency, but something to have right)
- Impact of a giant meteorite–not worth the worry along with nuclear war

Likely Types of Fires in Homes

- Cooking fires–grease fires, oven fires, about 1/2 of home fires
- Electrical fires-overheated connections, extension cords, bad connections in electrical boxes–thermal runaway (most of the rest)
- Chimney fires-chimneys need cleaning if fireplace used regularly (not many using wood burning fireplaces in Bay Area).
- Smoking, smoking in bed, candles

Fire in Your Home

Prevention is easier than extinguishing a fire

- Fire alarms, smoke alarms, CO detectors, insurance
- Arc fault circuit breakers (not GFCI as for damp areas)
- Emergency exits-two ways out from every room, one could be a window (if it will open)
- When to get out-NOW!
- Smoke inhalation–one breath of superheated air will kill you!
- Fire extinguishers
    - Dry powder (good, cheap), CO2 (better, expensive), single use (ABCK?)
    - Sprinkler systems–in some new construction, expensive to retrofit

Fighting Small Fires at Home (typically cooking fires)

- Fire extinguisher–aim at base of fire
- The extinguisher needs to be handy and needs to work (check regularly)
- Fire in cooking pan–cover pan with good fitting lid to cut off air supply; protect your hands when you do this
- Do not use water–do not put a pan full of burning grease under a kitchen faucet and turn on water!
- If you have to use water, a fine spray or mist is more effective, not a heavy stream.
- When in doubt, get out of the house and call the fire department–fires can get out of control very quickly

Wildfires in Your Area

Not likely in most urban and suburban areas

- With wildfires, you need to be alert-listen to the radio or TV for warnings to evacuate
- If you are advised to evacuate, evacuate–wildfires can move very rapidly
- In fire-prone areas, you can make the area around your house a defensive zone–no flammable bushes, trees, etc. near your house
- In fire-prone areas, you might keep an emergency kit ready, including copies of your important financial information, to take with you when you evacuate
- Fire-prone areas–outskirts of Los Altos, Los Gatos, Saratoga, Cupertino

Fire Prone Areas-According to PG&E

High Fire-Risk Areas
Santa Clara County

The Return of the Spanish Flu

(Likely the Fort Funston, KS Flu, certainly an American Flu)

- The 1918-1921 Flu was quite contagious, extremely virulent, killed 3–10% of those infected, 675k in US with <1/3 of current population; this was an extreme version of a swine flu as we had much later in 2009, possibly given to humans by pigs in revenge for the exploitation of pigs for meat (read *Charlotte's Web*).

- The appropriate response here would be effective PPE (good masks), hand-washing, and social distancing.

- Hopefully, now, we would also quickly have good vaccines and good antiviral drugs and other therapeutics, to minimize the consequences of being infected.

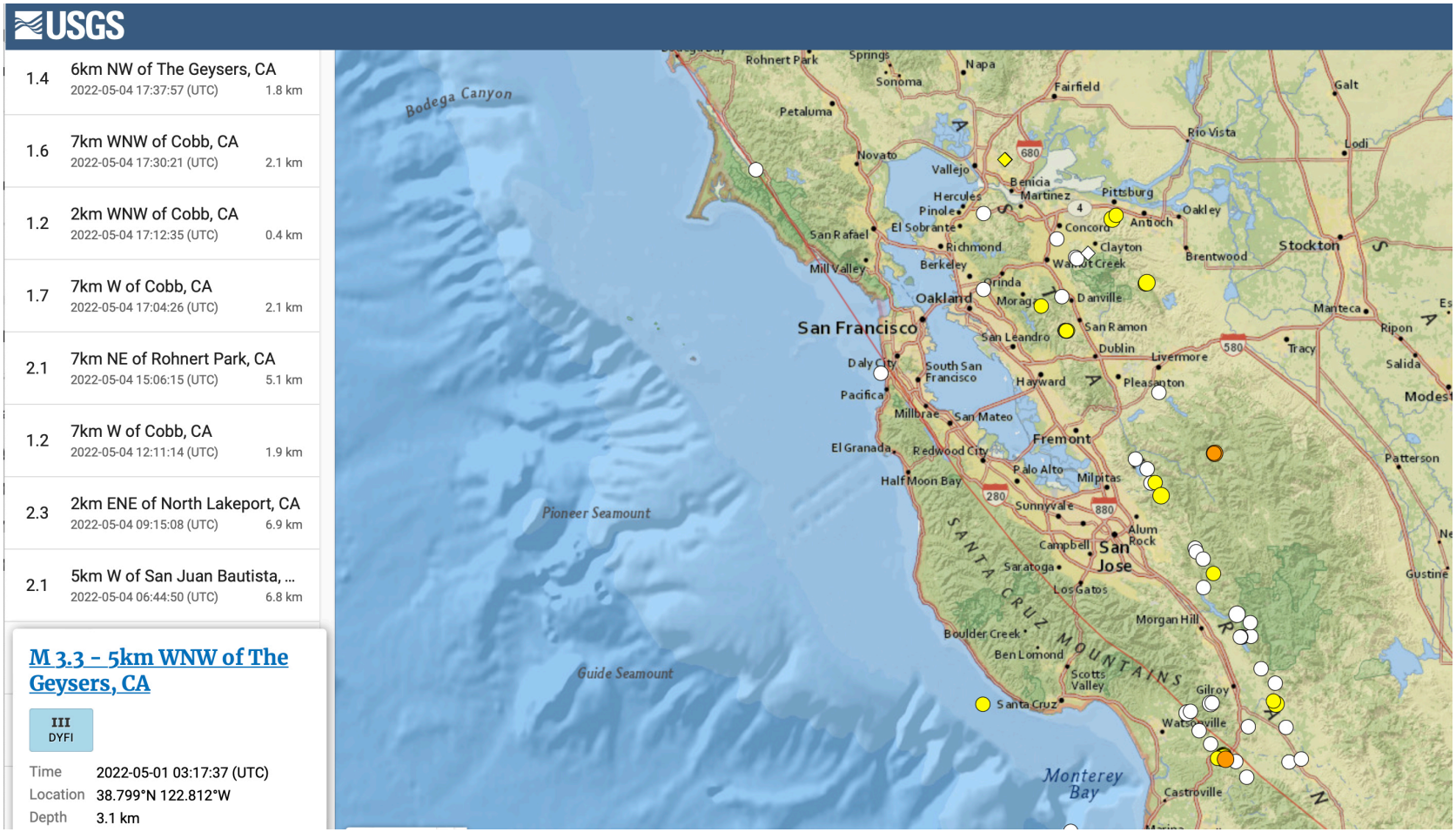
- This could easily happen again; the recent Covid pandemic was mild by comparison–only killed 1.25M Americans so far in 2-1/2 years

Earthquakes

We're way overdue for an earthquake

- In a severe earthquake, you can expect no power, no water, no natural gas, no telephone, at least for several days; roads may be blocked or impassable.
- How will you cope? CERT recommends a 3-day supply of everything you need to survive–food, water, clothing, batteries, battery-powered lights
- Older buildings may suffer severe damage; new homes may survive with little damage, but utilities may be out for days or more.
- Your car is a source of power to charge your gadgets, and a source of shelter and warmth, if you have a full gas tank. Emergency generators can be useful if you have enough fuel for them to keep them running for 3 days.

Where are our earthquakes?



Historical Earthquakes (Our Faults)

- 1838 San Andreas, M7
- 1868 Hayward, M7
- 1906 San Andreas, M7.8 (the Great SF Earthquake)
- 1989 San Andreas, M 7.1 (the Loma Prieta Earthquake)
- Between 1911 and 1979, we had no major earthquakes, no one knows why
- Earthquake magnitudes are logarithmic–a M7 earthquake is 10X as bad as a M6 earthquake, 100X as bad a a M5 earthquake, 1000X a M4 earthquake. The SF earthquake was 5X as severe as the Loma Prieta earthquake.
- Biggest earthquakes in history–up to M9.5–50X as big as the SF quake

Earthquake Preparation

How are you going to communicate

- How would you charge your cellphones if electricity is out? Your car, backup battery packs, computer UPS, your solar system
- Cellphone towers may be out as well (they have backup batteries and generators), landlines may continue to work, VOIP will not work without power and Internet service
- CERT members have portable radios and can go door-to-door to check on others; emergency service personnel can do the same.

Home Insurance Considerations

- Earthquake insurance–will only pay for itself in the event of a severe earthquake when your home is badly damaged–minor earthquake that breaks your dishes and glasses won't be covered.
- Consider earthquake putty for breakable valuables, earthquake latches for cabinets, padded shelf liners for your cabinets
- Personal property coverage on your homeowners insurance–will your policy cover the loss of the personal property and furnishings in your home?
- Replacement cost–will your insurance cover the cost of rebuilding your home or replacing it at the same level of finish you have now?

Other Things to Consider

- Have a contact person who can take care of matters in your absence, and who has a copy of your personal and financial stuff
- Important documents–do you have a collection of documents in hard copy or electronic form that would survive an emergency and give you a chance to reconstruct your financial affairs?
- Cloud storage–if you trust the Cloud, a lot of your personal and financial stuff could be stored on the Cloud.
- Cars and phones–your car, if you keep your gas tank fairly full, is a useful source of power for listening to the radio, charging your phones and tablets, or just for keeping warm in cold weather (watch out for CO problems).