

# FREE WEBINAR

*Tailored for Local Gov't Leaders*

*Hosted By*



*In Partnership With*



# RETHINKING NATURAL DISASTERS AFTER COVID-19

*Building Local Resilience to  
Earthquakes, Mudslides & Wildfires*



*Featuring Natural Disaster Expert  
Dr. Lucy Jones*

**MONDAY, AUGUST 17**  
**1:00 - 2:30 PM**

[WWW.CA-ILG.ORG](http://WWW.CA-ILG.ORG)

# Thank You for Joining Us!

## Webinar Host & Moderator

**ERICA L. MANUEL**

*CEO & Executive Director  
Institute for Local Government*



# Webinar Overview

## **RETHINKING NATURAL DISASTERS AFTER COVID-19**

### *Building Local Resilience to Earthquakes, Mudslides and Wildfires*

Natural disaster expert Dr. Lucy Jones will show us that through science and effective planning, we can better understand what the risk is to natural disasters — like earthquakes, wildfires and mudslides — and how to address them, particularly in light of the pandemic.

We'll learn about tools to assess, mitigate and prepare for the disruption of a major disaster, as well as specific solutions related to building resilience around energy infrastructure.

# Today's Agenda

Welcome & Overview

Natural Disasters & Pandemics

- Dr. Lucy Jones

State & Local Perspectives about Energy Infrastructure

- City of Malibu: Reva Feldman
- SoCalGas: Joseph Avila
- CalOES: Tom Ducker

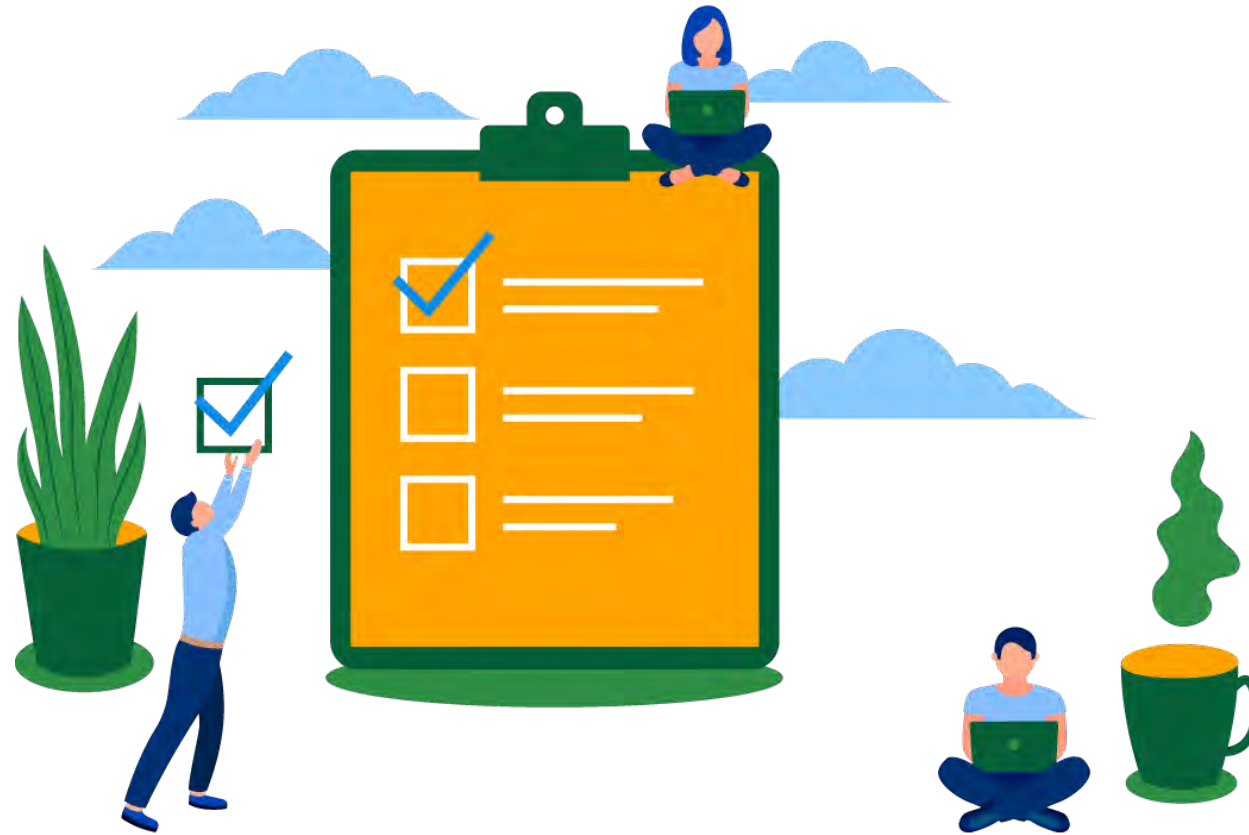
Q&A

# How to Ask a Question During the Webinar

- All webinar participants will be on MUTE during the entire call.
- Please TYPE any questions into the question box at any time during the webinar.
- The moderator will read your questions during the question period at the end of the webinar.



# Tell Us More About You – Audience Poll



# Non-Profit, Non-Partisan & Here to Help

- ILG is the non-profit training and education affiliate of three statewide local government associations
- Together with our affiliates, we serve over 2,500 local agencies – cities, counties and special districts
- We provide practical and easy-to-use resources so local agencies can effectively implement policies on the ground



**California Special  
Districts Association**

*Districts Stronger Together*

# ILG's Programs & Services

## Program Areas

Leadership & Governance

Civics Education & Workforce

Public Engagement

Sustainable & Resilient Communities



## Services

Education & Training

Technical Assistance

Capacity Building

Convening

Our mission is to help local government leaders **navigate complexity**, **increase capacity & build trust** in their communities



# Building Sustainable & Resilient Communities

Climate Change is an escalating threat that is having a dramatic impact on the economies, health and way of life in California communities.

- ILG's **Sustainable and Resilient Communities** pillar seeks to provide local leaders with the resources and relationships they need to address difficult decisions around land use, infrastructure, public services, community resilience and equity so that all California communities can thrive.
- Learn more about our **Sustainability Best Practices** and our **Beacon Awards** Program.



<https://www.ca-ilg.org/climate-action>

# ILG's COVID Resources



- Local Government Resources
- State & National Resources
- Executive Orders
- Tools & Training Opportunities
- Local Government Response
- 15+ COVID Webinars

# Upcoming COVID-19 Webinars

## Public Engagement for Housing Elements During COVID-19

- **Tuesday, September 1**  
1:30 p.m. – 3:00 p.m.

*Technical Assistance  
Workshop*

## Fiscal Preparedness and Labor Relations During & After COVID-19

- **Thursday, September 3**  
10:00 a.m. – 12:30 p.m.

# Thank You to Our Webinar Sponsor



# Featured Speaker



## **DR. LUCY JONES**

*Founder, Dr. Lucy Jones Center for Science and Society*



**DR. LUCY JONES CENTER  
FOR SCIENCE AND SOCIETY**

*Seismologist, Published Author & Research Associate*



**Caltech**



# Disasters in a time of Covid

A paradigm for disaster management

Dr. Lucy Jones

Founder and Chief Scientist,  
Dr. Lucy Jones Center for Science & Society

Research Associate, California Institute of Technology

# The pandemic is a disaster



- “A disaster is a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community’s or society’s ability to cope using its own resources.”
  - International Red Cross

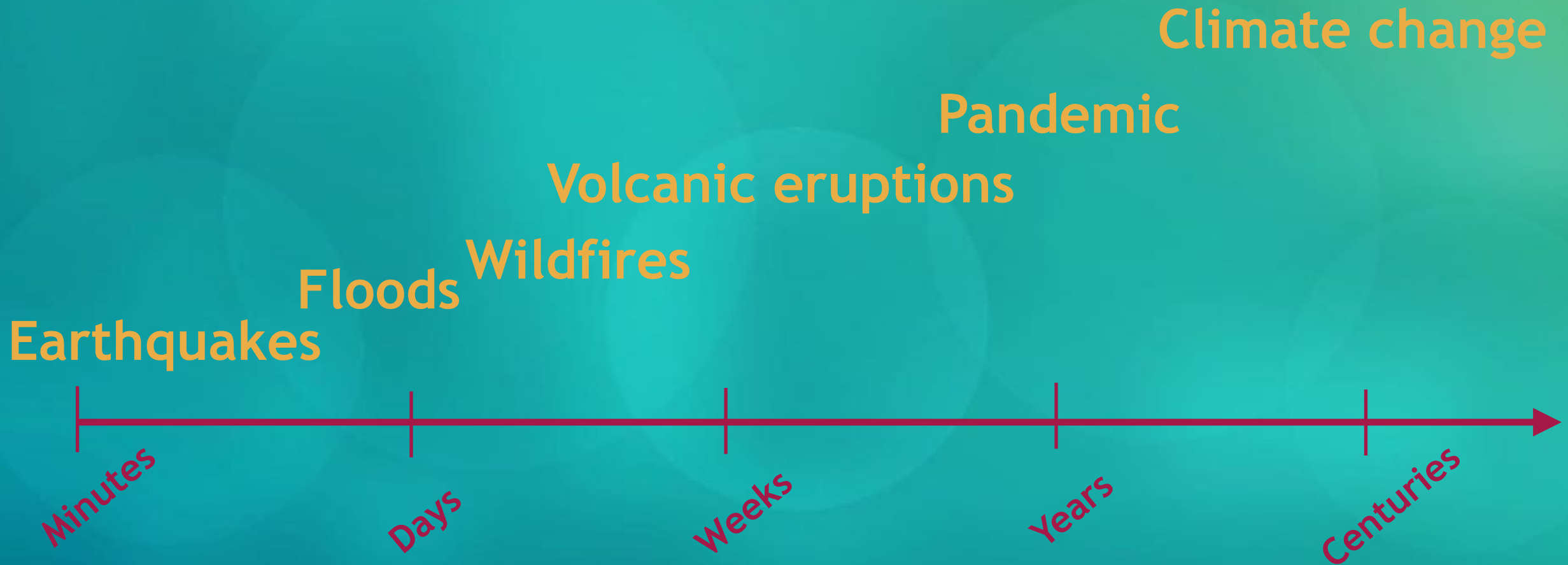
# Disaster time scales

## Earthquakes





# Disaster time scales



“A disaster is a sudden calamitous event”

# Northridge Fashion Center

TAMPA at NORDHOFF

WEST SAN FERNANDO VALLEY



**Bullock's • The Broadway • JCPenney • Sears 135 Stores**

**MOST BEAUTIFUL IN THE WEST**

Acclaimed as the most beautiful enclosed mall center in the West, Northridge Fashion Center cordially invites you to enjoy its completely enclosed air conditioned malls and shop in its 135 elegant stores, including 4 magnificent department stores, Bullock's, The Broadway, JC Penney and Sears. You and your family and friends will find Northridge Fashion Center exciting and pleasant with tremendous selections and values in merchandise and services.

“A disaster is a sudden calamitous event”



Disasters as  
inevitable  
parts of  
natural  
processes

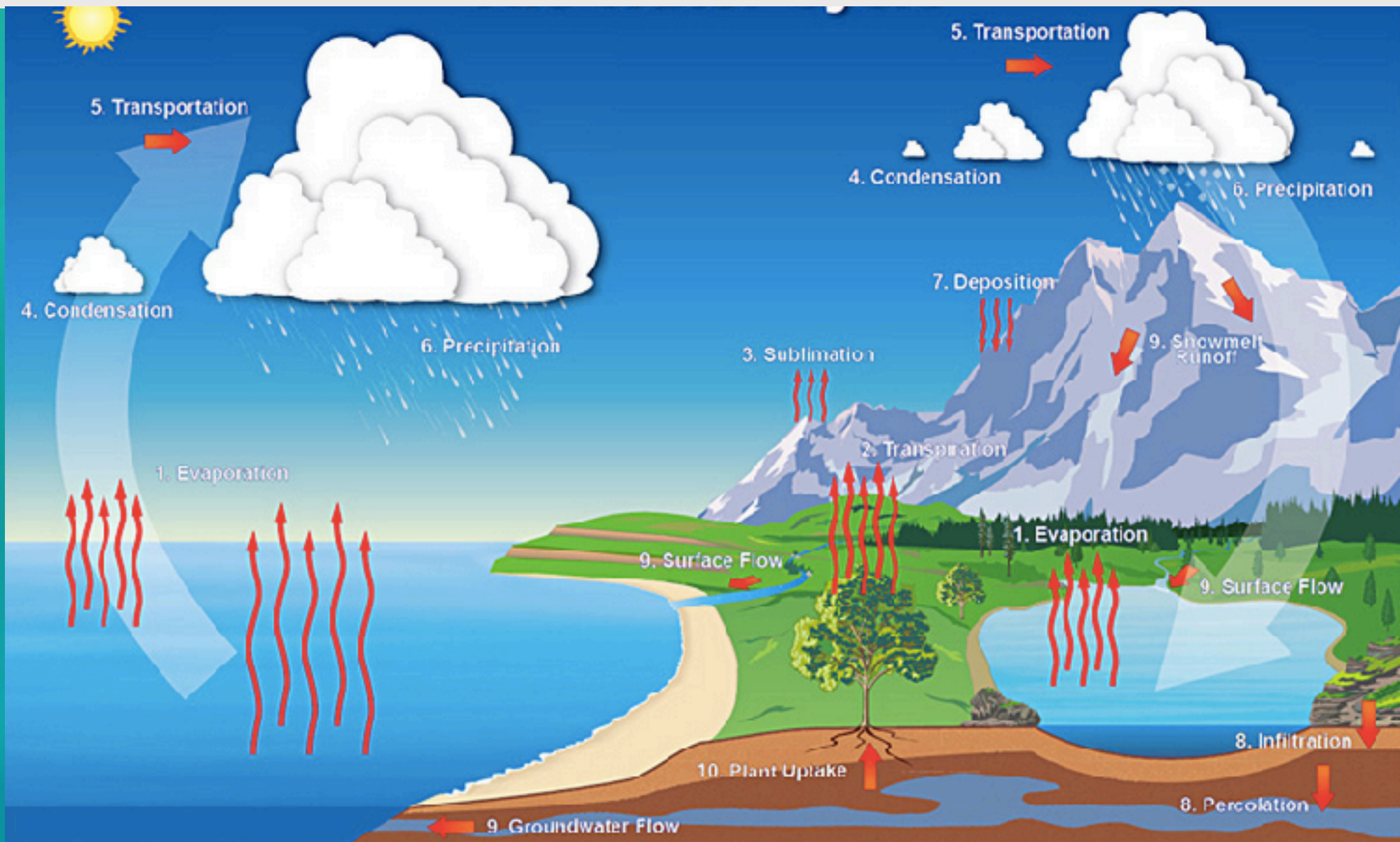


Disasters as  
inevitable  
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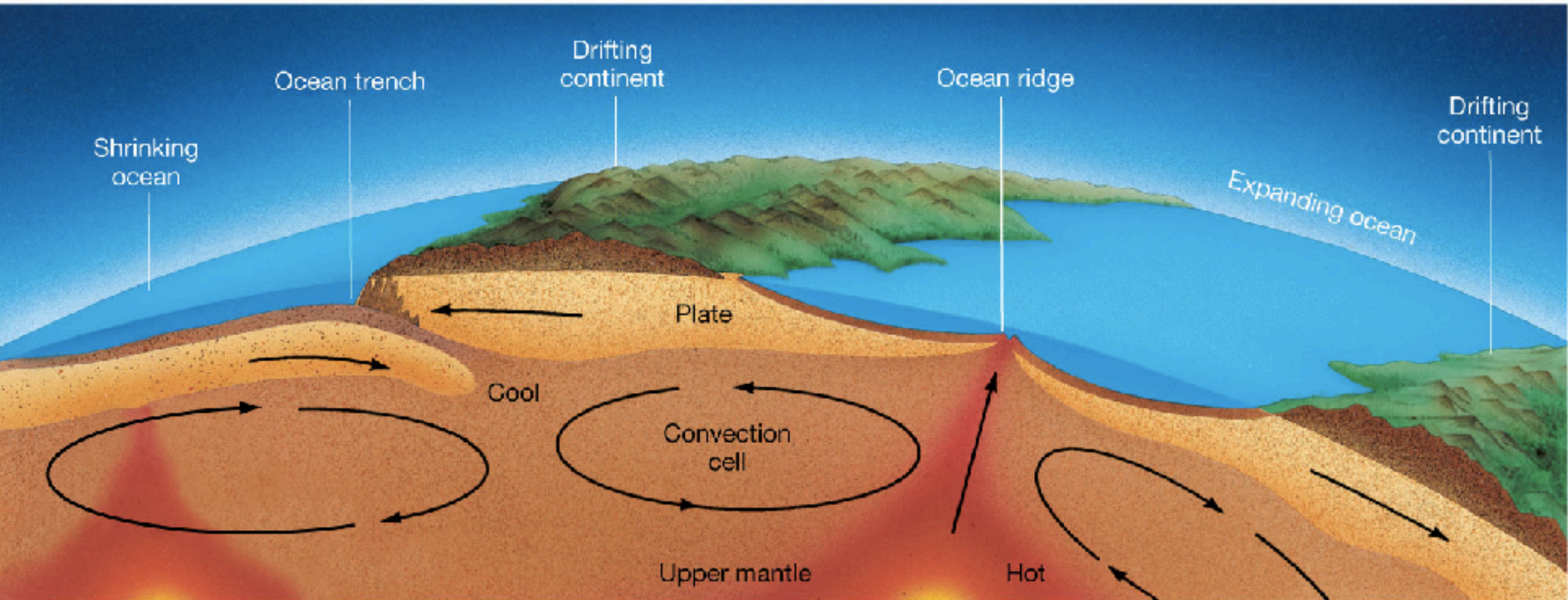


# It's all about heat

## The Water Cycle System



# It's all about heat



Natural  
hazards  
are natural  
processes





Natural hazards are natural processes



# Disasters in systems



# Disasters in systems

- Disasters are extreme points in natural systems



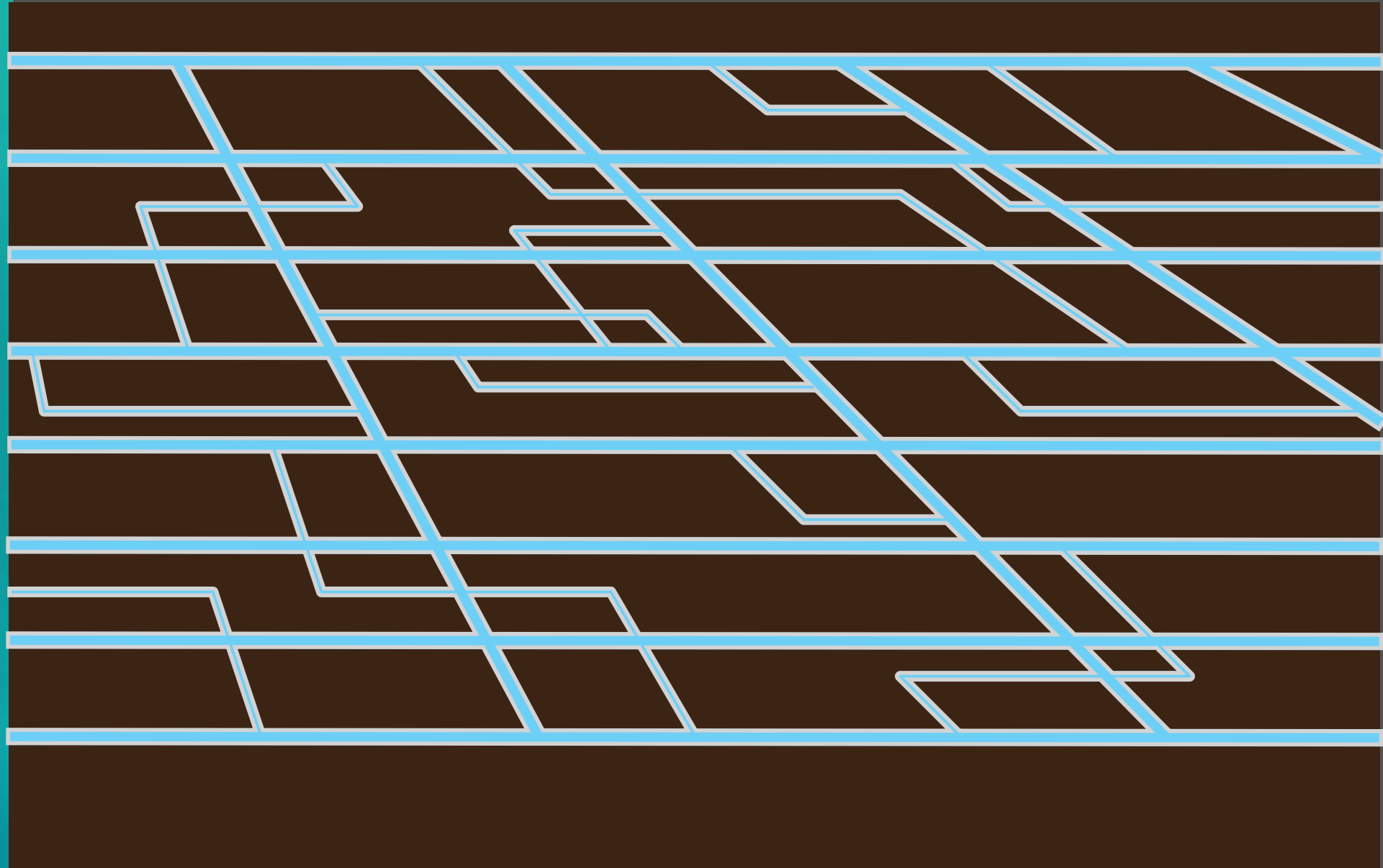
# Disasters in systems

- Disasters are extreme points in natural systems
- Disasters disrupt human systems



# A System of Systems

A System  
of  
Systems



# A System of Systems



# Disasters in systems

- Disasters are extreme points in natural systems
- Disasters disrupt human systems
- Systems fail where they are already weak

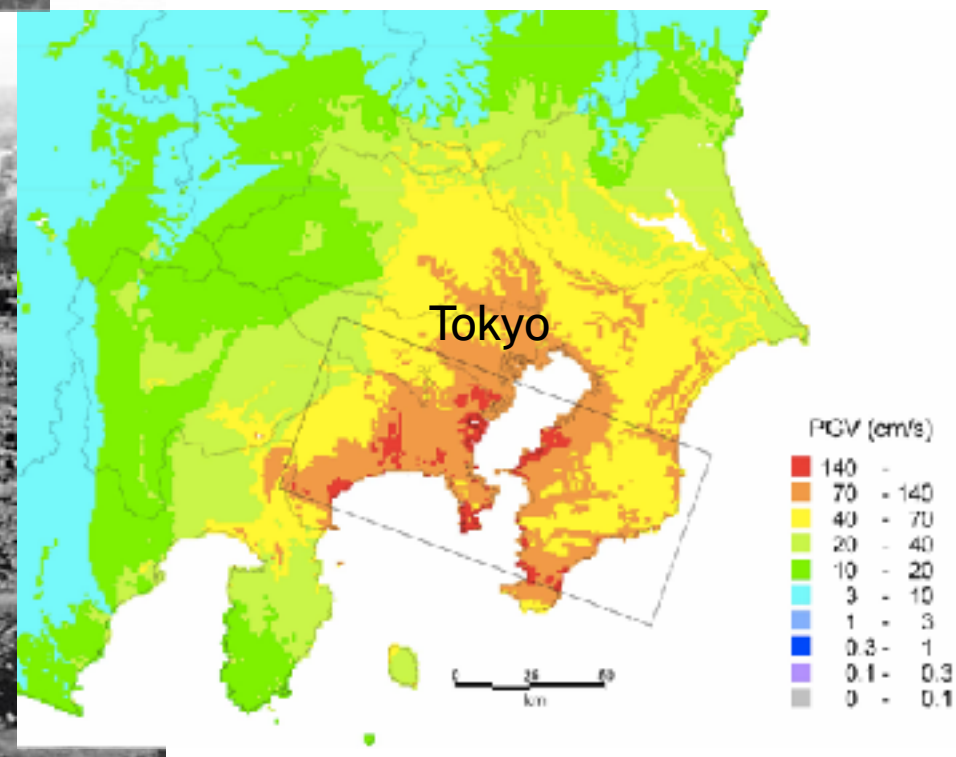




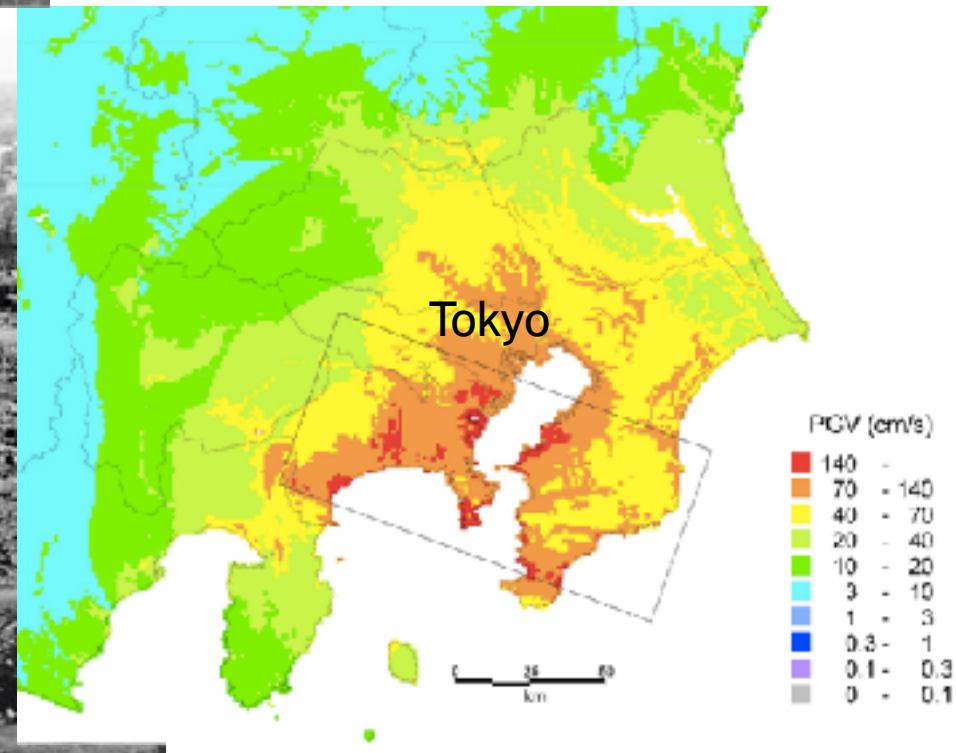
# Tokyo 1920



# 1923 Kanto earthquake M7.9



# 1923 Kanto earthquake M7.9



If this were  
not hell,  
where would  
hell be?

6000 Koreans  
slaughtered by  
their neighbors  
in the 4 days  
after the quake

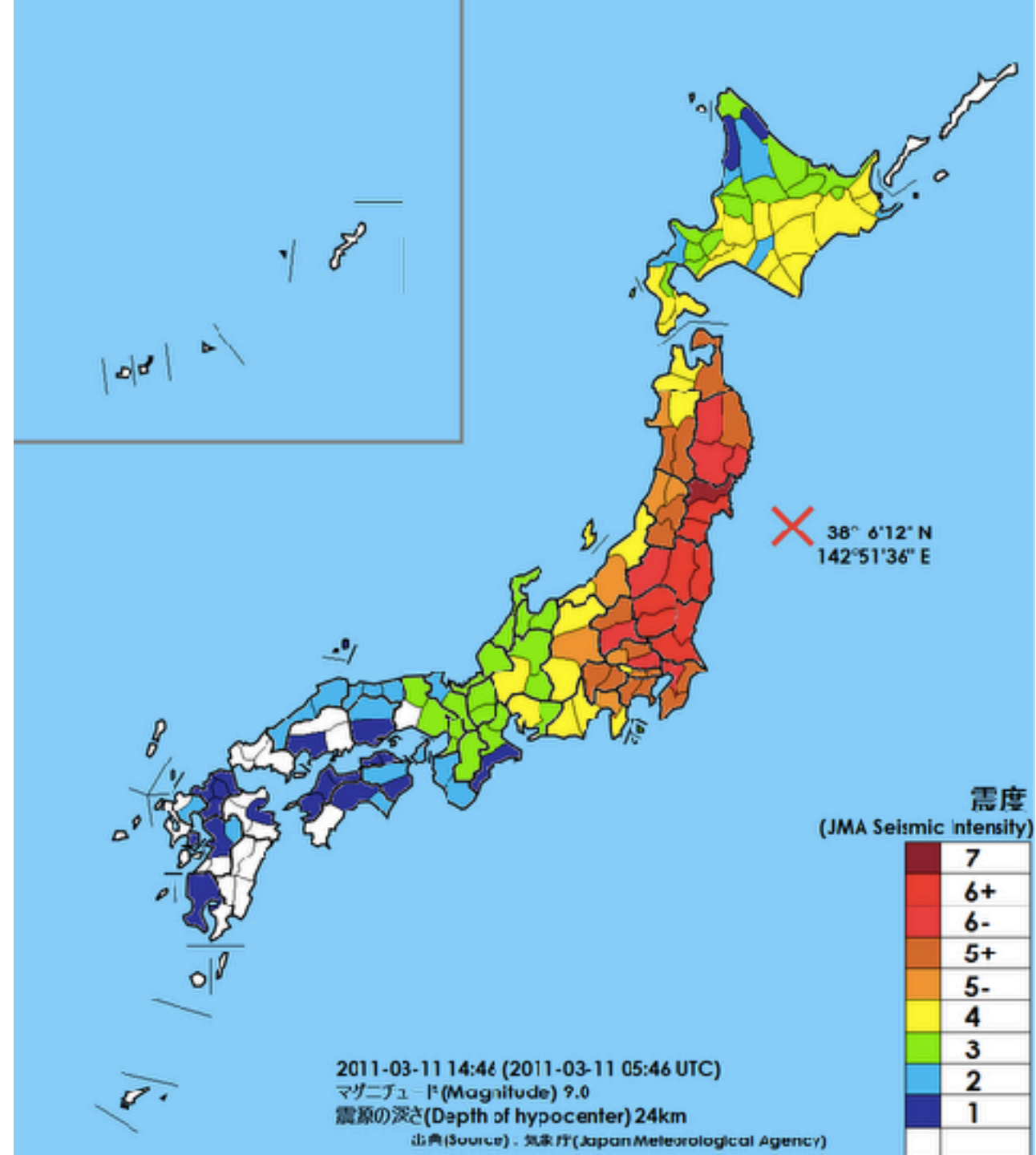


6000 Koreans  
slaughtered by  
their neighbors  
in the 4 days  
after the quake

**Lesson 1: Our  
most constant  
response to  
disaster is  
blame**



# March 11, 2011 Tohoku M9.0



March 11,  
2011  
Tohoku  
M9.0



March 11,  
2011  
Tohoku  
M9.0

Lesson 2:  
Mitigation  
works



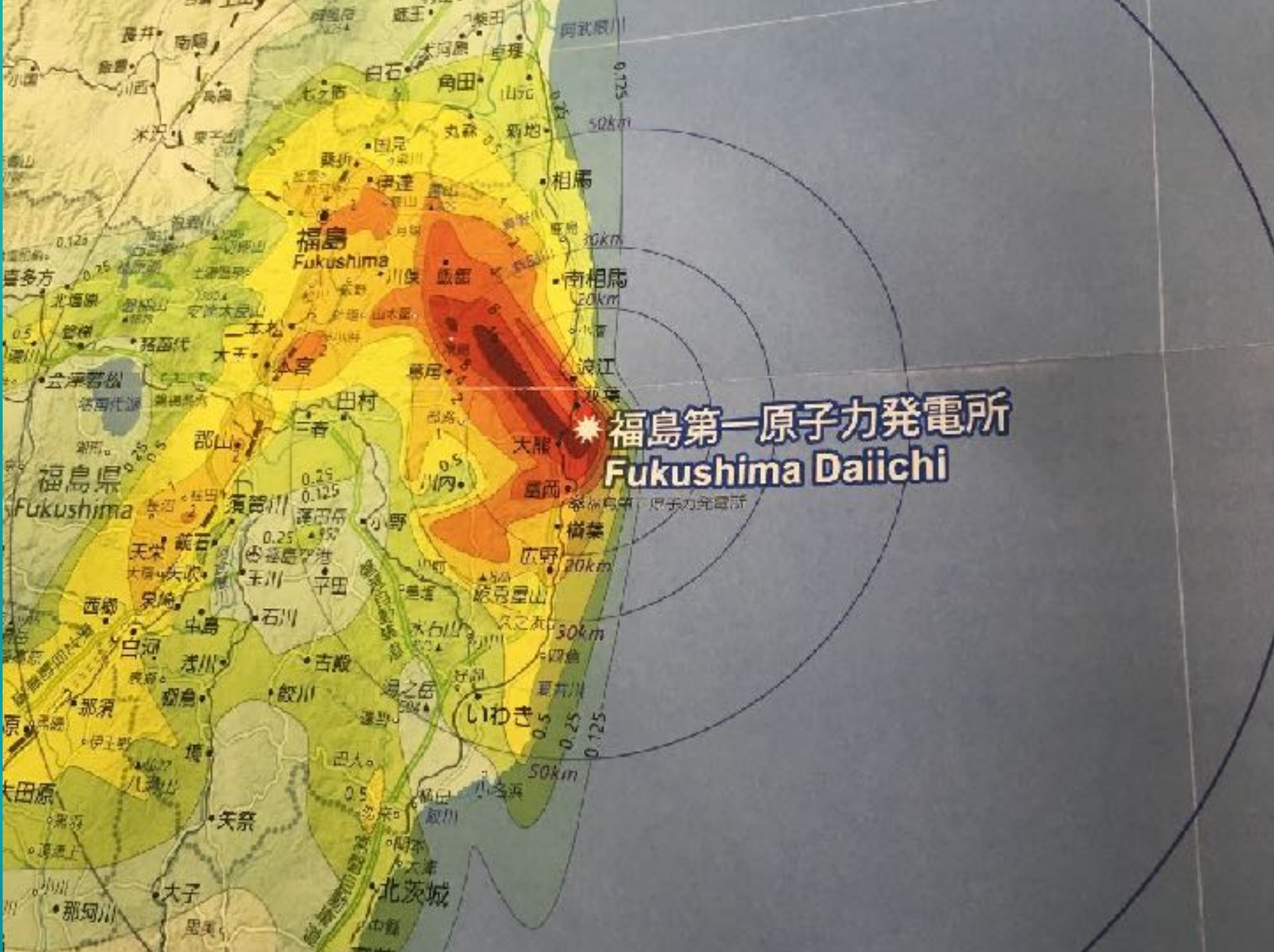


March 11,  
2011  
Tohoku  
M9.0

Lesson 2:  
Mitigation  
works



Radiation exposure from the Fukushima Daichi plant explosions



Radiation exposure from the Fukushima Daichi plant explosions



Lesson 3: Cascading failures can magnify the disaster



Refugee housing in Fukushima City





# Lesson 4: What is really at stake is the survival of our communities







# Lesson 5: People make a difference



# New paradigm for disasters



# New paradigm for disasters

- Disasters will happen at some point. They are part of the system



# New paradigm for disasters

- Disasters will happen at some point. They are part of the system
- The damage will happen where our society is already weak



# New paradigm for disasters

- Disasters will happen at some point. They are part of the system
- The damage will happen where our society is already weak
- Focus on what not when

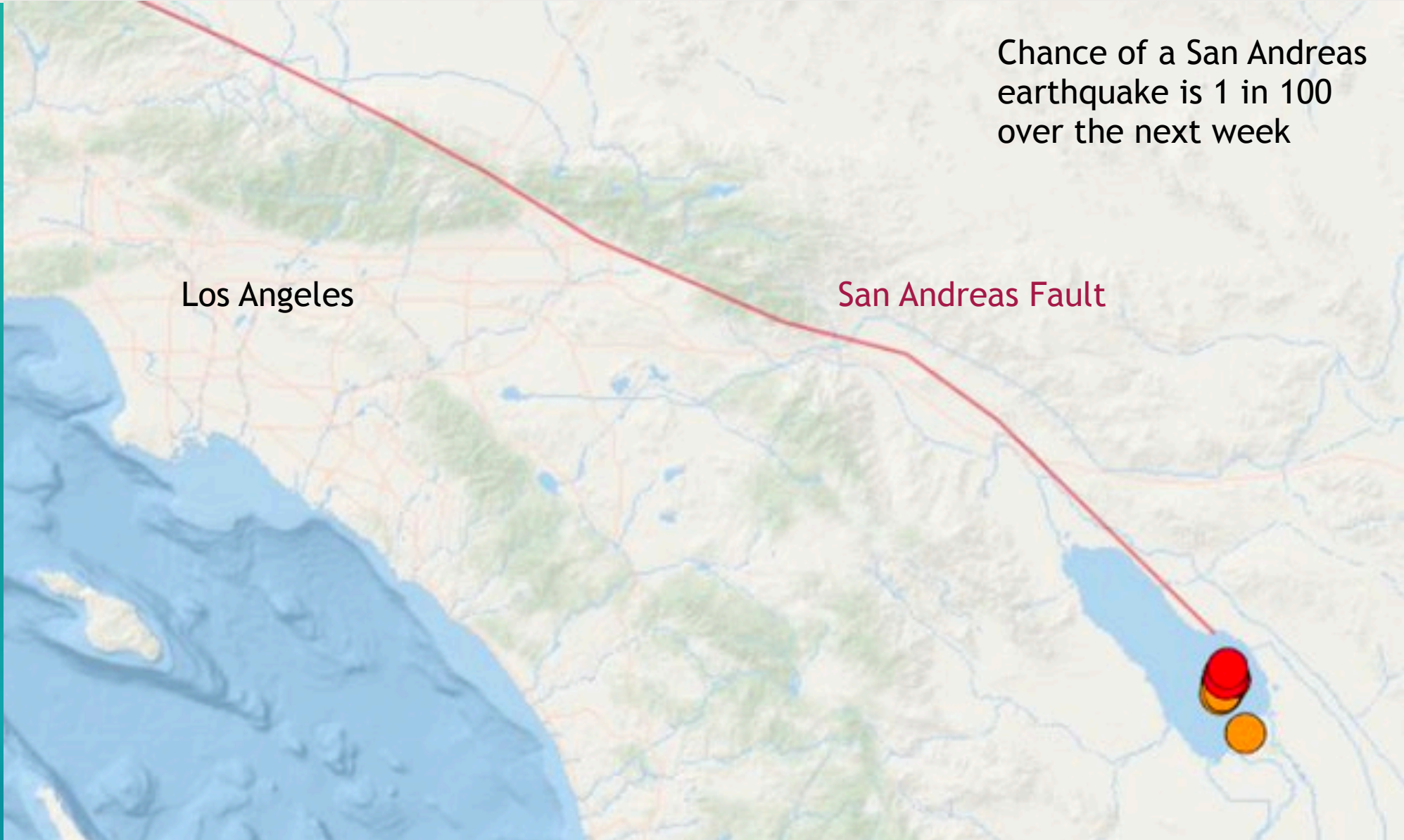


# Earthquake Advisory on August 10, 2020

Chance of a San Andreas earthquake is 1 in 100 over the next week

Los Angeles

San Andreas Fault



# New paradigm for disasters



# New paradigm for disasters

- Disasters will happen at some point. They are part of the system
- The damage will happen where our society is already weak
- Focus on what not when





# New paradigm for disasters

- Disasters will happen at some point. They are part of the system
- The damage will happen where our society is already weak
- Focus on what not when
- Use science to understand what will happen and work together to prevent it

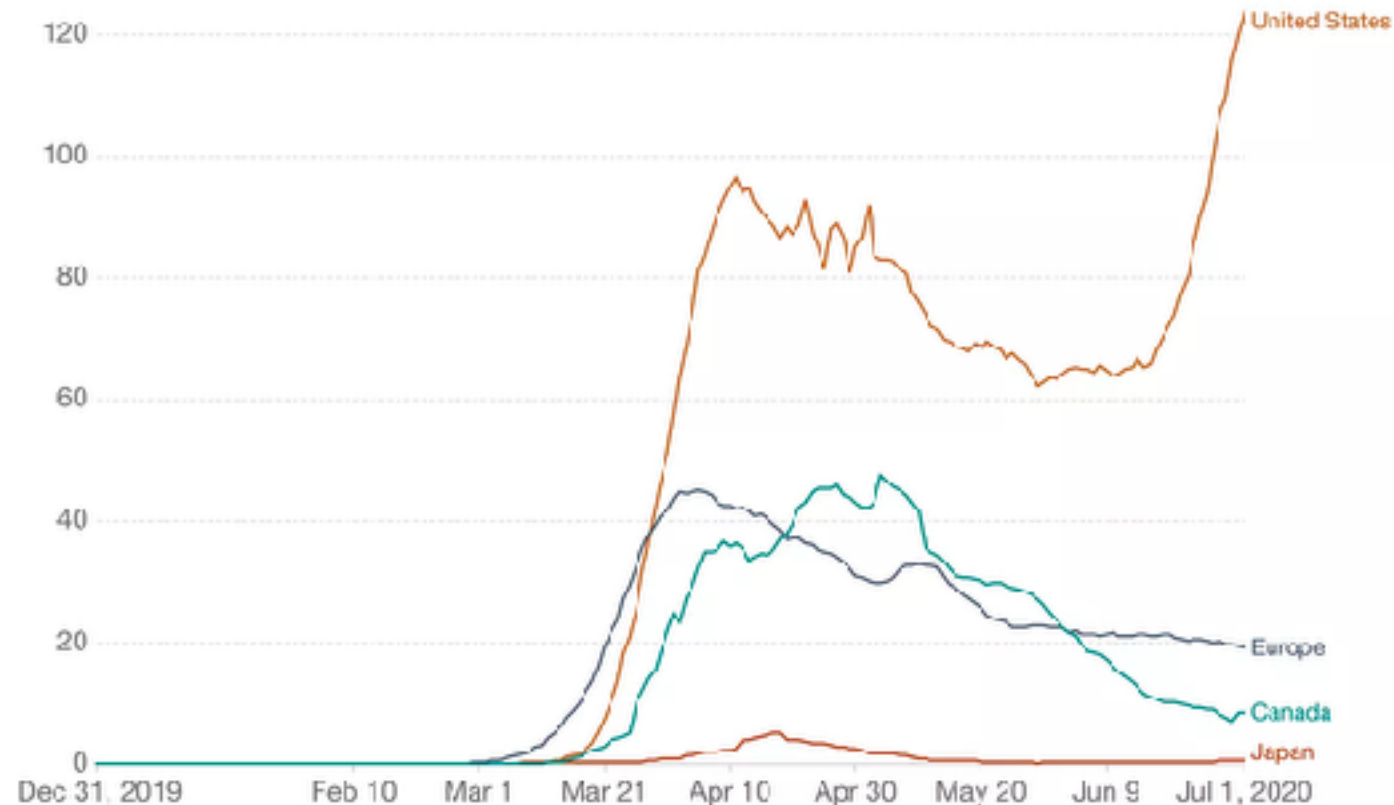


# Evidence-based decision making



## Daily new confirmed COVID-19 cases per million people

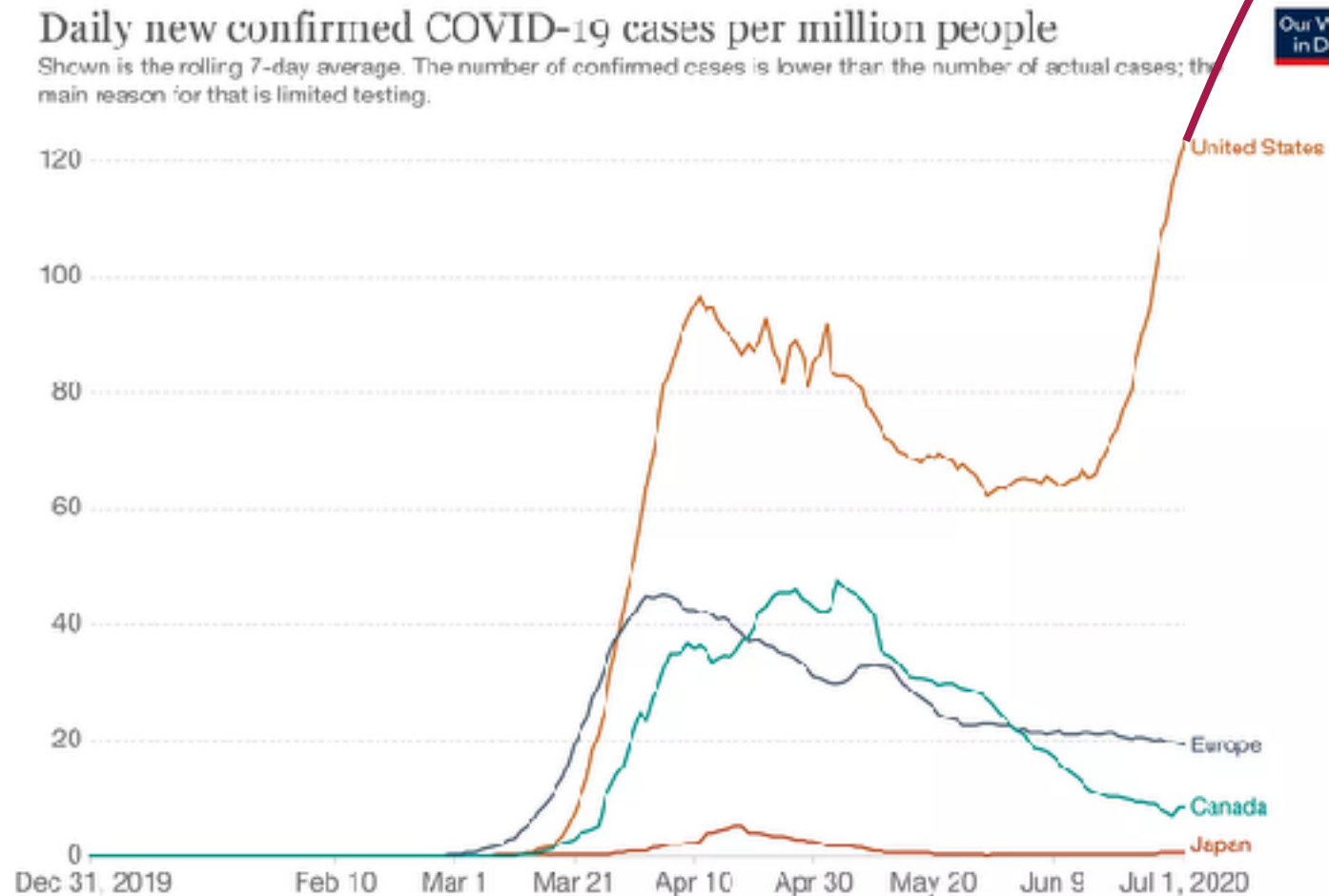
Shown is the rolling 7-day average. The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.



Source: European CDC - Situation Update Worldwide - Data last updated 1st Jul, 16:19 (GMT+04:00)

CC BY

# Evidence-based decision making



Source: European CDC - Situation Update Worldwide - Data last updated 1st Jul, 16:19 (GMT+04:00)

CC BY

# Where to get the science

- Earthquakes: US Geological Survey
- Volcanoes: USGS
- Floods and windstorms: FEMA Flood plains
  - NOAA Tornadoes and Windstorms
- Hurricanes: NOAA National Hurricane Center



— We are all in this together



# Questions & Answers



# Panelist



**REVA FELDMAN**  
*City Manager*



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Rethinking Natural Disasters After COVID-19  
*Building Local Resilience to  
Earthquakes, Mudslides & Wildfires*

Reva Feldman, City Manager  
City of Malibu

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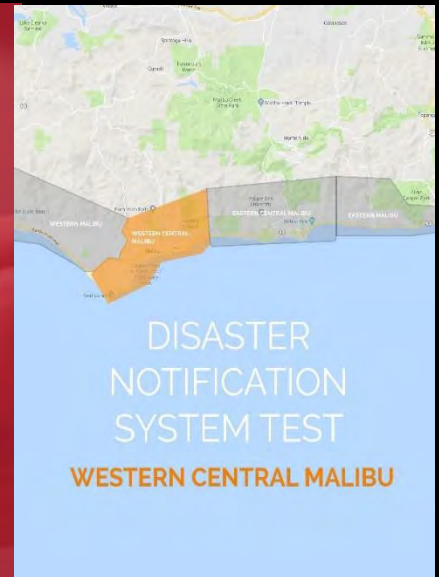
Malibu  
One Day  
Away From  
Disaster



PUBLIC  
SAFETY  
TOWN HALL  
MEETING

**EMERGENCY  
ALERT SYSTEMS**

CITY OF MALIBU



DISASTER  
NOTIFICATION  
SYSTEM TEST

**WESTERN CENTRAL MALIBU**



POST FIRE  
**STORM  
PREPARATION**

A photograph of a road at sunset. The sky is a mix of orange and grey, with the sun low on the horizon. A road with white lane markings curves to the right. On the left side of the road, there are several utility poles with power lines. On the right side, a white SUV is parked. The overall mood is somber and quiet.

No Power  
No Phones  
No WiFi

Now what?

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# Alternative Communication Tools

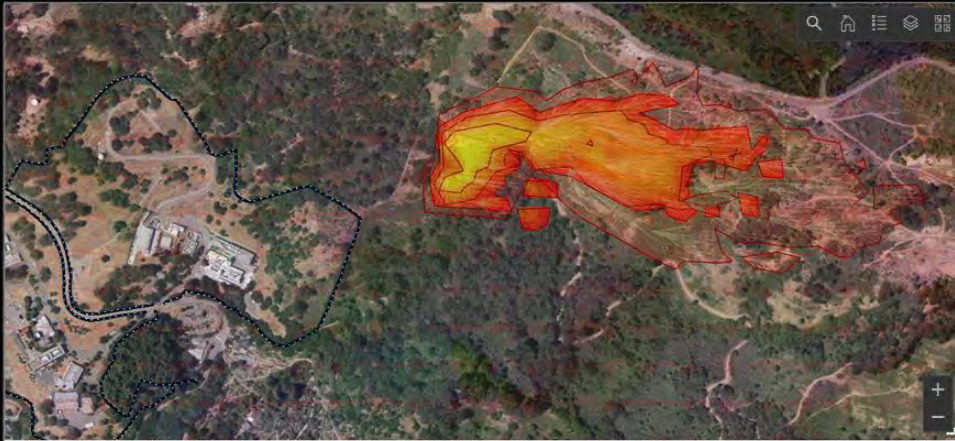
- Reverse 911 Systems
- Nixle
- Wireless Emergency Alerts (WEA)
- Website Banners
- Text Alerts
- AM/FM Radios
- Posters
- Changeable Message Signs
- Loudspeakers





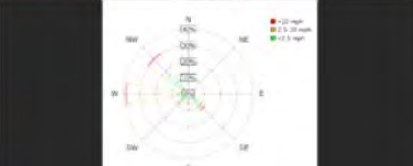
...Loading Near-Real-Time Wildfire Simulation Modeling

Powered by....

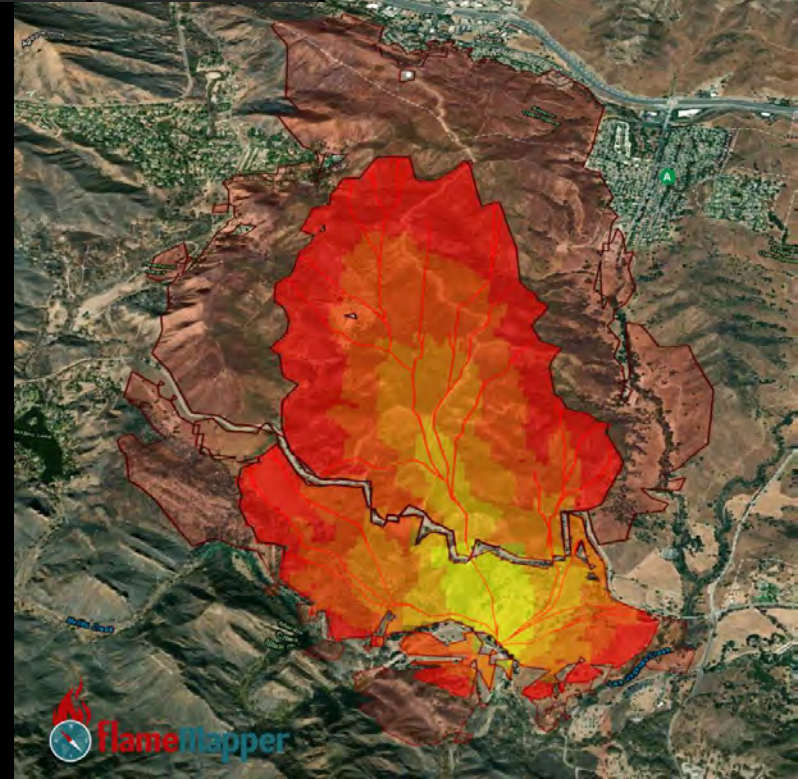


- U.S. ACTIVE WILDFIRES**
- 2018 Malheur NF Prescribed Fir
  - Alder Fire
  - Bacon Road
  - Bald Mountain
  - Blue Ridge Prescribed Burn
  - Boundary
  - Bull Draw
  - Caton
  - CAT
  - Cougar Creek Fire BAER
  - COUGAR CREEK
- U.S. FIRES U.S.

CA FIRES CA 7 DAY FIRES FIRE DANGER SMOKE FCST AIR QUALITY LBN/AGI TRAFFIC SEVERE WEATHER WINDY.COM PRECIP FCST RESOURCES



# Real Time Information



# Utility Infrastructure Outages can impact Evacuations

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## Solutions to Consider

- Neighborhood Drills
- CERT and Volunteers
- Evacuation Maps
- Evacuate by Zones
- Safe Refuge Areas
- Tests of Communication Tools
- Siren Warning Systems



# EOC Drills

## Topics to Discuss

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- Multiple Disasters Simultaneously
  - Damage to Infrastructure
  - Minimal Mutual Aid Available
  - Sick Staff Members
  - Evacuations and Shelters during COVID-19
  - Debris Removal and Rebuilding
- 





# Running an EOC during COVID-19



## Prepare Now

- Masks and Gloves
- Laptops
- Cell Phones
- Physical Distancing
- Staggered Shifts
- Remote Access

## Key Takeaways

- Plan for the worst
- Purchase supplies ahead of time
- Train multiple staff members for each EOC position
- Develop multiple ways to communicate
- Install back up power sources
- Prepare for rebuilding
- Know your partners



**Thank you**

# Panelist



**JOE AVILA**  
*Senior Director*



# RETHINKING NATURAL DISASTERS AFTER COVID-19

Joseph S. Avila, Senior Director of Policy, Strategy and Environmental



# WHO WE ARE...

## SoCalGas & SDG&E Territory



**Both Utilities** have been in service for over **135 years**

### SoCalGas

- **Largest natural gas distribution** utility in the United States with over 100,000 miles of gas pipeline
- Serve **12 counties** and approximately **22 million** customers
- **Nearly 6** million residential and business meters in more than 500 communities

### SDG&E

- Provides **electricity** and **natural gas** to **3.4 million** people from Orange County to the Mexican border

# Resiliency matters in the face of climate-related stressors



Reliable energy supplies allow communities to lessen economic impacts



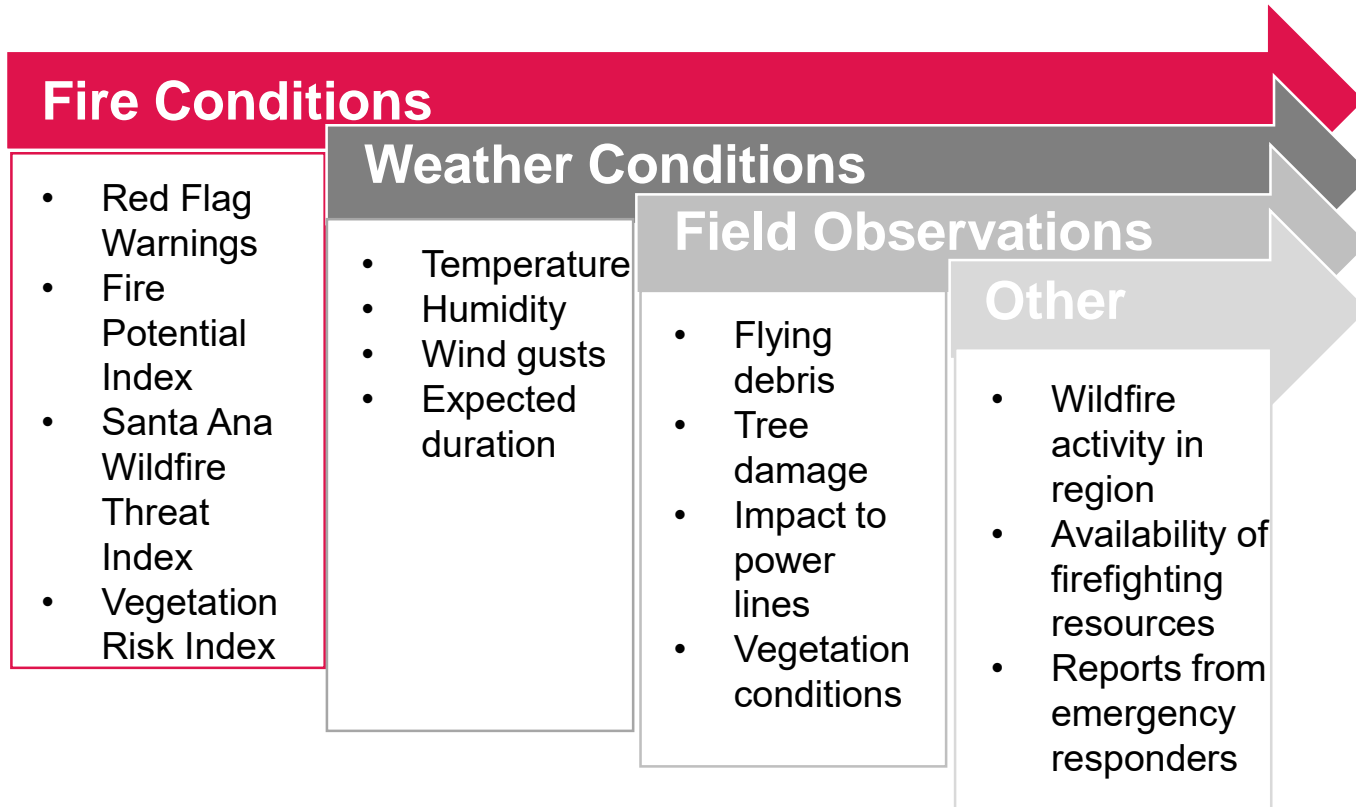
Natural gas plays an important role for communities to bounce back during extreme events



CA forest communities can address GHG emissions by harnessing dead forest trees

# Public Safety Power Shutoff (PSPS)

*Last resort measure to prevent catastrophic wildfires*



# LESSONS FROM THE PAST FIRESTORMS-SDGE TERRITORY

- Employees of SoCalGas and SDG&E work closely with first responders and as “essential workers” have been on the job every day since the Governor’s COVID-19 shelter-in-place order was first announced
- Hundreds of distribution and major transmission lines were damaged. In just a few weeks last year ~ 3000 transmission and distribution wood pole structures and 400 miles of electrical lines had to be replaced
- Restoration of electrical power service is paramount so under a mutual-aid agreement, crews from Pacific Gas & Electric, the Salt River Project, Tucson Electric, the Imperial Irrigation District and Arizona Public Service joined in the battle against the fires



*Images Source: Cedar Fire east county magazine*

# RESILIENCE DEFINED

*“...ability to **prepare** for and **adapt** to changing conditions and **withstand** and **recover** rapidly from ...deliberate attacks, accidents, or **naturally occurring threats** or incidents...”*

*Source: Press Release (dated Feb. 12, 2013) Presidential Policy Directive -  
- Critical Infrastructure Security and Resilience*





# RESILIENCY OF NATURAL GAS

Our lives depend on electricity. **But what happens when the power goes off?**

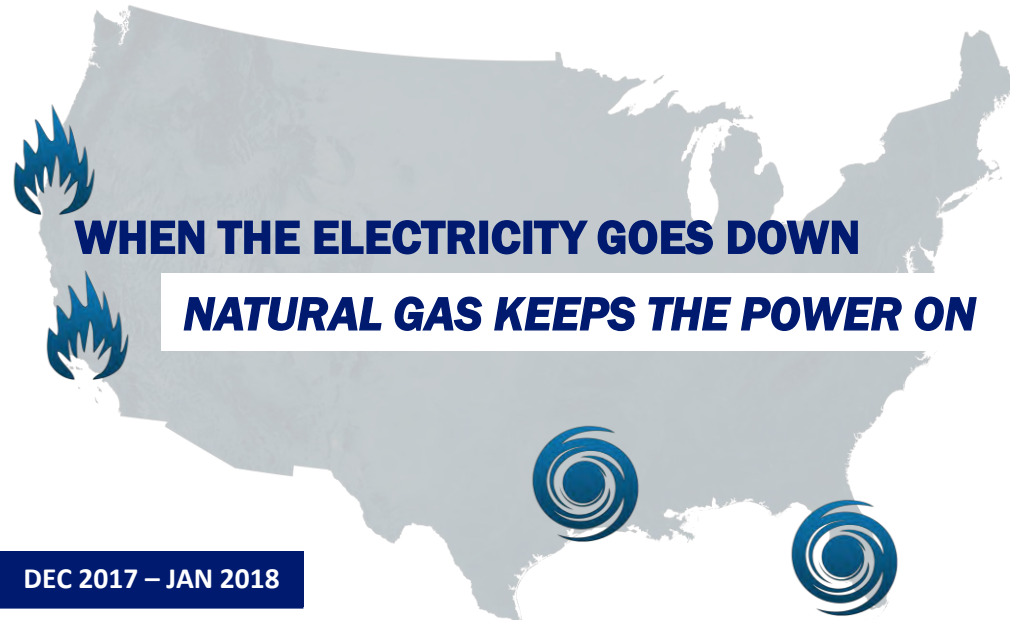
*Recent history show's It's best not to put all our eggs in one basket.*

## NORCAL FIRES

OCT 2017

Electric power outages left water valves open leading to major leaks and loss of critical resources.

Emergency deliveries of compressed and liquified natural gas ensured the power stayed on a local hospital affected by electricity outages.



## SOCAL FIRES & MUDSLIDES

DEC 2017 – JAN 2018

When electric water pumps failed, firefighters ran out of water to put out the fires.

SoCalGas Advanced Meter network supported life-saving actions of first responders by pinpointing impacted areas.

## HURRICANE IRMA

SEP 2017

Loss of electricity at nursing homes led to heat exposure and caused 12 deaths.

Local hospitals and businesses with natural gas backup generators kept AC and refrigeration working, saving both lives and livelihoods

## HURRICANE HARVEY

AUG 2017

Submerged electric substations left over 250,000 people without power, in some places for up to two weeks.

Hospitals with natural gas powered combined head and power (CHP) systems maintained uninterrupted service despite historic flooding.

# Natural Gas Infrastructure: Underground and Resilient

- Natural gas infrastructure is inherently resilient by design
- Majority of natural gas pipelines are underground with little exposure to wildfires or weather driven climate change events
- The gas system can operate during planned or unplanned electricity outages



# Reliable solutions for communities to prepare, adapt, respond and recover



Fuel Cell  
Microgrids



Combined  
Heat and  
Power



Natural Gas  
Backup  
Generators



Natural Gas  
Fleets



Hydrogen/  
RNG Fuel  
Stations



Smart planning avoids putting  
**residents and businesses at risk**

To achieve California's climate change and emissions reduction goals, the fuels of tomorrow must be

***Clean***  
***Affordable***  
***Diverse***  
***Resilient***

*THANK YOU!*



# Panelist



## **TOM DUCKER**

*Team Lead, Critical Infrastructure Protection Unit  
& State Threat Assessment Center*



***Cal* OES**

**GOVERNOR'S OFFICE  
OF EMERGENCY SERVICES**



## CALIFORNIA STATE THREAT ASSESSMENT CENTER



# California State Threat Assessment Center

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## **Infrastructure Challenges in a COVID-19 Environment**

Tom Ducker

Critical Infrastructure Protection Team Lead





# California State Threat Assessment Center

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## Who are we

- *California's State-Designed Fusion Center*
- *An All Threats, All Hazards Organization*
- *A Unique Team of CalOES Employees, State Partner Agencies, and Law Enforcement Professionals*



# STAC Governance Board & Partners





# California State Threat Assessment Center Critical Infrastructure Protection (CIP)

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Managing the risks from significant threats and hazards to physical and cyber critical infrastructure

- Identify, deter, detect, disrupt, and prepare for threats and hazards to critical infrastructure;
- Reduce vulnerabilities of critical assets, systems, and networks; and
- Mitigate the potential consequences to critical infrastructure of incidents or adverse events that do occur.

**\*Partnership with California Cybersecurity Integration Center!**





# The Emergency Plan in Context

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- “When you are planning for an emergency you must start with this one thing: the very definition of "emergency" is that it is unexpected, therefore *it is not going to happen the way you are planning*.
- So, the first thing you do is to take all the plans off the top shelf and throw them out the window and start once more.
- But if you haven't been planning you can't start to work, intelligently at least.”

“I tell this story to illustrate the truth of the statement I heard long ago in the Army: **Plans are worthless, but planning is everything.**” Dwight D Eisenhower, 1957



# Let's Talk COVID-19

## From an Infrastructure Perspective

### ➤ Impacts differ from the more common threats and hazards

- No physical destruction
- The degree of uncertainty
- Global in scope, but
  - Uneven in distribution





# Bottom Line on Infrastructure

## Bottom Line (Almost) Upfront:

- Power, water, transportation links, communications, emergency services have all remained in operation and
- **Will, overall, remain in operation**



So we are talking about Continuity of Operations or

“Continuing Continuity of Operation”



# Looking Ahead

## Surely there are issues we will face?

- Workforce
  - Safety
  - COVID-19 Positive
  
- Supply Chain
  - Shake out in suppliers
  - Bottlenecks in re-opening
  
- Uncertainty in operating parameters

*Planners need to remain flexible to continually reassess workplace conditions, the implications of new public health recommendations and additional guidance*



# Public Safety Power Shut-Offs

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## As the Fire Season Continues:

- How does this impact your workforce?
  - Teleworkers in PSPS zones
  
- Are your key facilities in light of COVID-19 powered?
  - Vital function
  - Response





# Winter Conditions

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- For some parts of the state, we are within 90-days:
  - Illness
  - Operations
  - Equipment
  - Transportation



# Mutual Aid

- State Operations Center as the hub
- Time and distance
- Recognizing triggers for assistance
- Evaluating and making the ask
- Communication





# Now – The Emergency Plan

- Review them in context of COVID-19
  - \* Coverage of Prioritized Threats and Hazards from Local Hazard Mitigation Plans
- Mutual Aid

“I tell this story to illustrate the truth of the statement I heard long ago in the Army: Plans are worthless, but planning is everything.” Dwight D Eisenhower, 1957





# California State Threat Assessment Center

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COOP - FEMA's Exercise Starter Kit:

- <https://www.fema.gov/media-library/assets/documents/188077>

Cal OES Information:

- <https://www.caloes.ca.gov/cal-oes-divisions/planning-preparedness>

COVID-19 Guidance:

- <https://covid19.ca.gov/>
- <https://covid19.ca.gov/data-and-tools/>



# QUESTIONS?

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916-636-2917

[infoshare@caloes.ca.gov](mailto:infoshare@caloes.ca.gov)

# Questions & Answers



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/stayinformed](http://www.ca-ilg.org/stayinformed)

# Recording Available Soon!



The recorded presentation and materials will be shared electronically with all registrants a few days after the webinar.



# Thank You to Our Webinar Sponsor



# Thank You for Joining Us!

## Dr. Lucy Jones

*Founder, The Dr. Lucy Jones Center  
for Science and Society*  
TheCenter@drlucyjonescenter.org



## Joseph Avila

*Senior Director, Energy Policy & Strategy  
Southern California Gas Company*  
JAvila1@socalgas.com



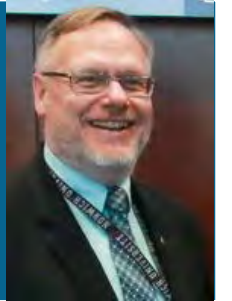
## Reva Feldman

*City Manager, City of Malibu*  
rfeldman@malibucity.org



## Tom Ducker

*California State Threat Assessment  
Center's Critical Infrastructure  
Protection Unit, CalOES*  
tom.ducker@caloes.ca.gov



## Erica L. Manuel

*CEO & Executive Director  
Institute for Local Government*  
EManuel@ca-ilg.org



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