

REGIONAL EMERGENCY



PROGRAM

Sources

- **William Cheung, Institute for the Oceans and Fisheries, UBC.**
- **Michael Mann, Earth System Science Centre**
- **RCP 4.5, Pacific Climate Impacts Consortium**
- **Climate Projections for Metro Vancouver, Metro Vancouver**
- **Joint Fire Science Program, U.S. Government**
- **Brian Menounos, Canada Research Chair in Glacial Change, University of Northern BC**
- **John Clague, Professor of Earth Sciences at Simon Fraser University**
- **Dennis Mileti, Increasing Public Preparedness**
- **BC Sea Level Rise Adaptation Premier**



www.strathconard.ca/preparedness



Rapid Damage Assessment
#CampbellRiverDamage



Twitter @SEP_EPC



Facebook 'Like'

Strathcona

Emergency Program



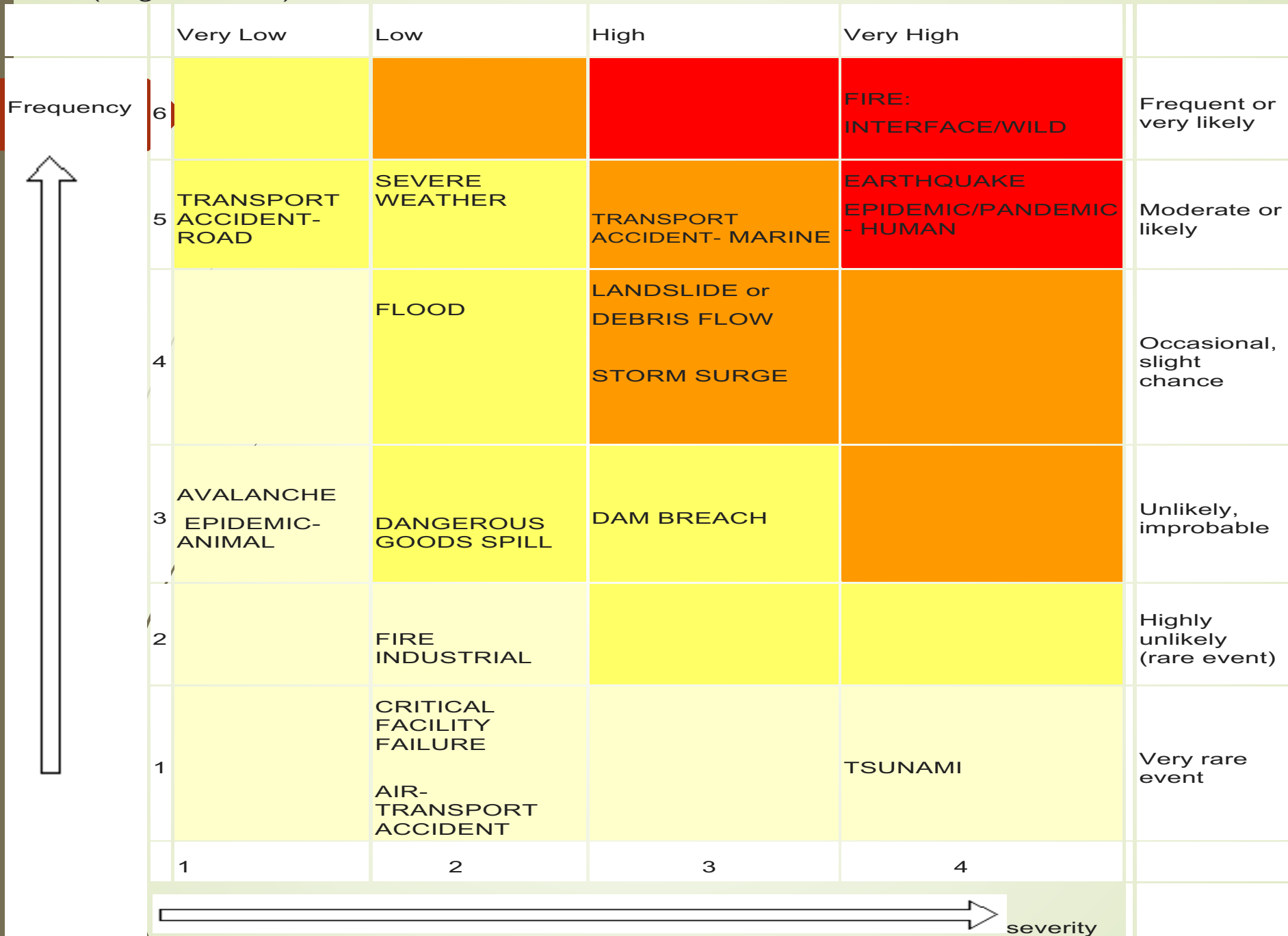
What does Household Preparedness Look Like.....?




IT LOOKS LIKE THIS



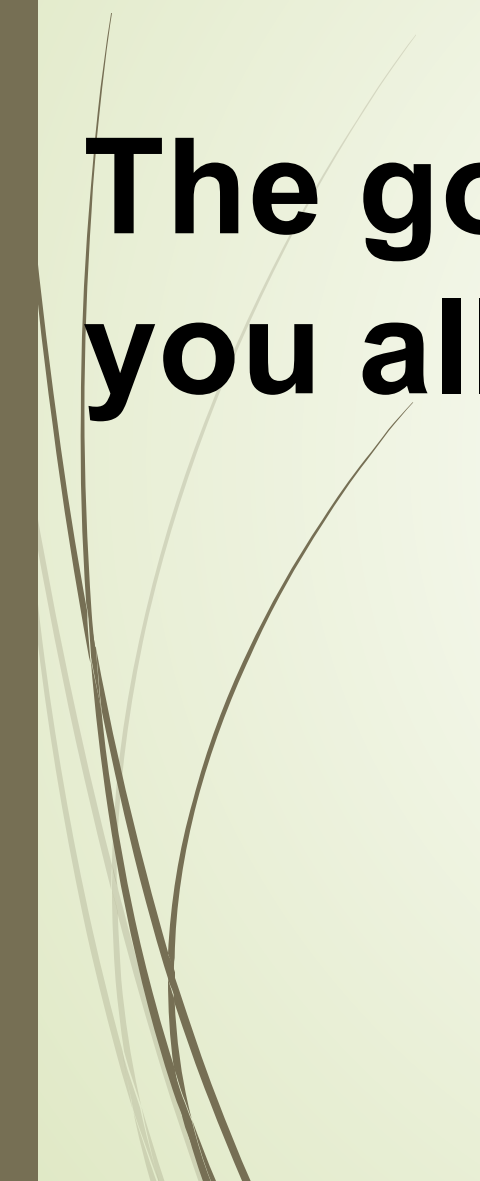
(Regional view)- 2013



↑ severity



**The goal today is to turn
you all into “Sheldons”**



Match The Picture With Its Category

Preparing For Emergencies

Picture

Picture

Picture

PREPARING FOR DISASTERS

Picture

Picture

Picture

Items For Your Emergency Preparedness Kit

Picture

Picture

What, Me Worry?



Nature may cause the event, but what we don't do to prepare will cause the consequences



Let's do a survey

3 KEY FACTORS

■ **Information OBSERVED/HEARD:**

- Cues: *actions peers have already taken*

■ **Information CONTENT:**

- About: *what preparedness actions to take*
- Explains: *how actions cut losses*
- That's: *consistent across messages*

■ **Information DELIVERY:**

- From: *multiple sources*
- Over: *multiple channels & time*

EMERGENCY SUPPORT SERVICES



**SHORT
TERM –
72 HOURS**



**EMERGENCIES FROM
HOUSE FIRES TO LARGER
DISASTERS**

SERVICES PROVIDED



FOOD



LODGING



CLOTHING



**EMOTIONAL
SUPPORT**

Preparedness is **EVERYONE'S** Job

FEDERAL

PROVINCIAL

**MUNICIPAL
(CITY)**

NEIGHBOURHOODS

!!YOURS!!!

**Especially
Yours**



Disasters Take Many Forms Within Our Community



FIRES



EARTHQUAKES



FLOODS



WEATHER



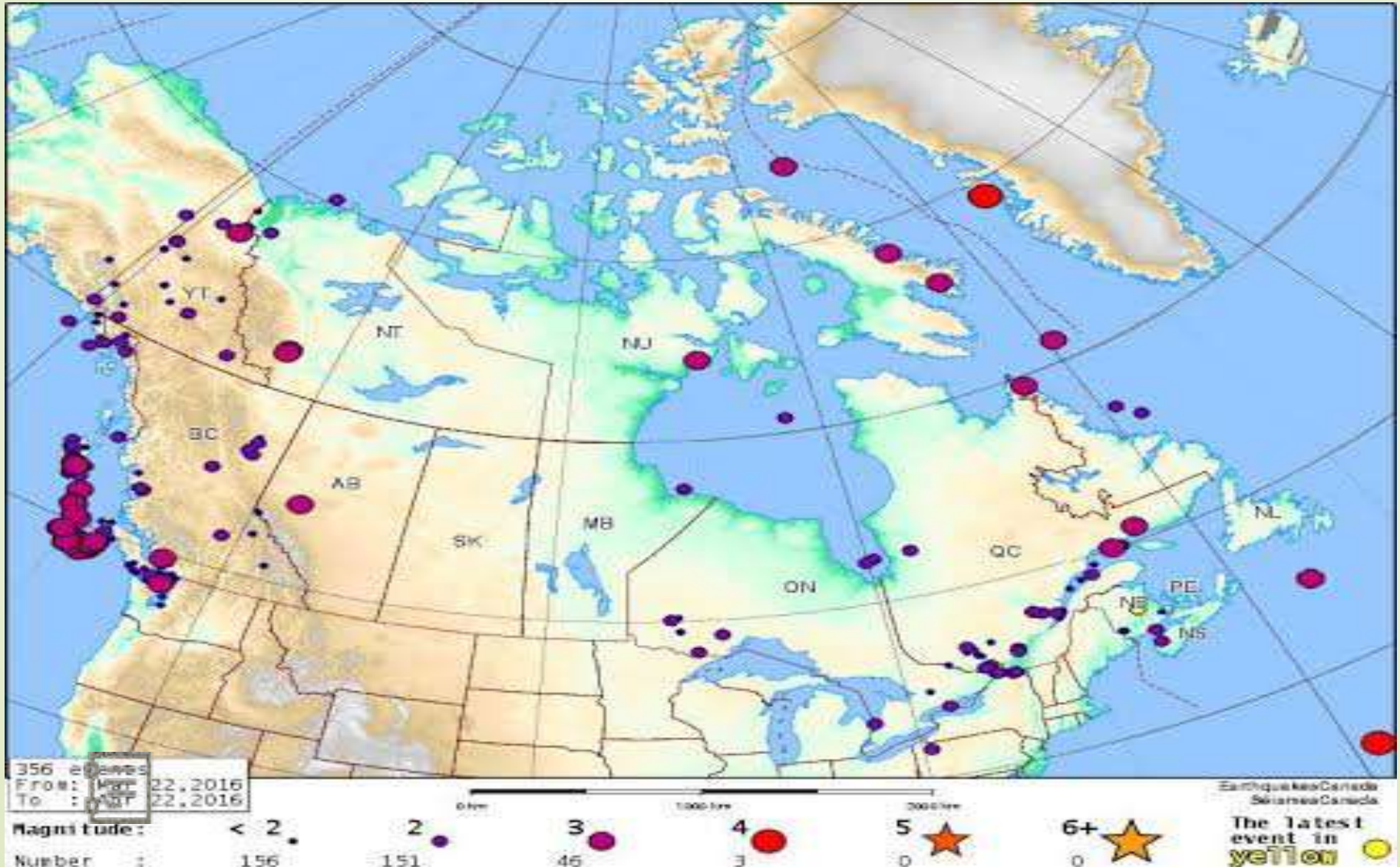
HAZARDOUS MATERIALS



MANMADE

**BEING PREPARED FOR AN EARTHQUAKE,
WILL PREPARE YOU FOR ALL POTENTIAL
DISASTERS!**

Earthquakes in Canada April 2016



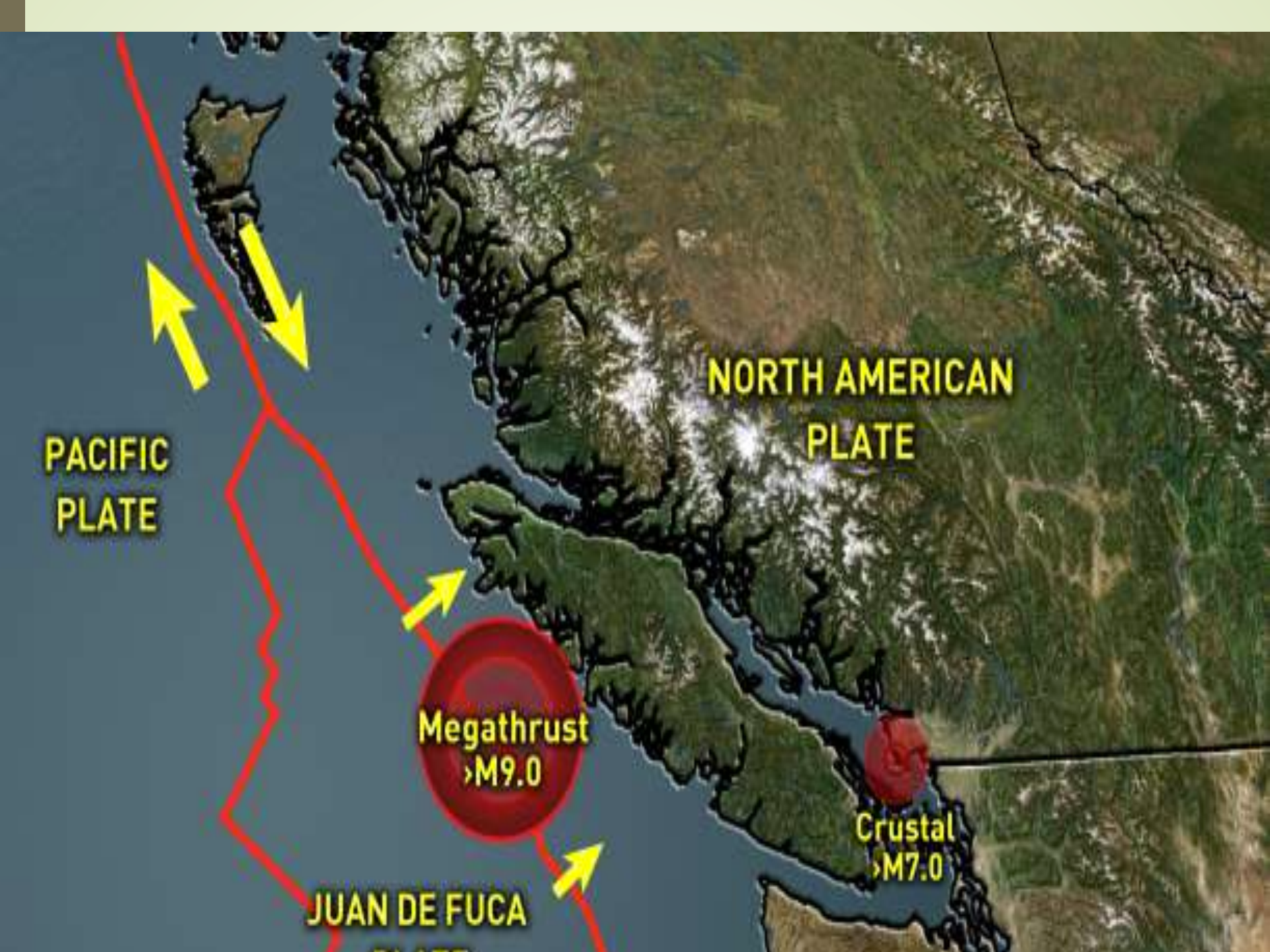
PACIFIC
PLATE

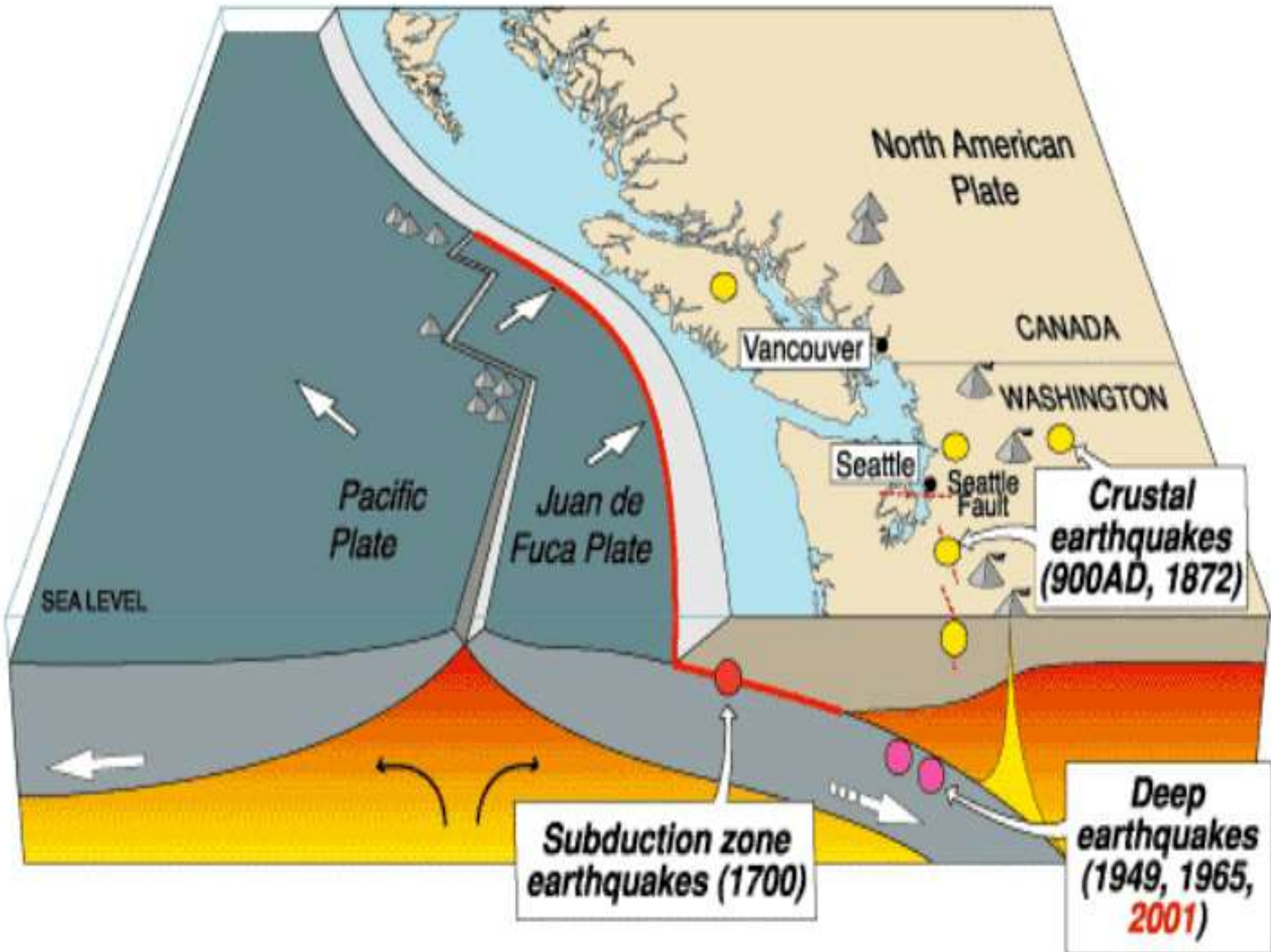
NORTH AMERICAN
PLATE

Megathrust
>M9.0

Crustal
>M7.0

JUAN DE FUCA







Harwood Island

Courtenay

Tekada Island

Vancouver Island

Denman Island

Hornby Island

Lasqueti Island

Thornhaby Island

Swall Islands

Gambier Island

Keats Island

Bowen Island

North Vancouver

Vancouver

Richmond

Nanaimo

Gabriola Island

Valdes Island

Thetis / Kuper Island

Catano Island

Mayne Island

Satara Island

Spring Island

South Pender Island

Mojo Island

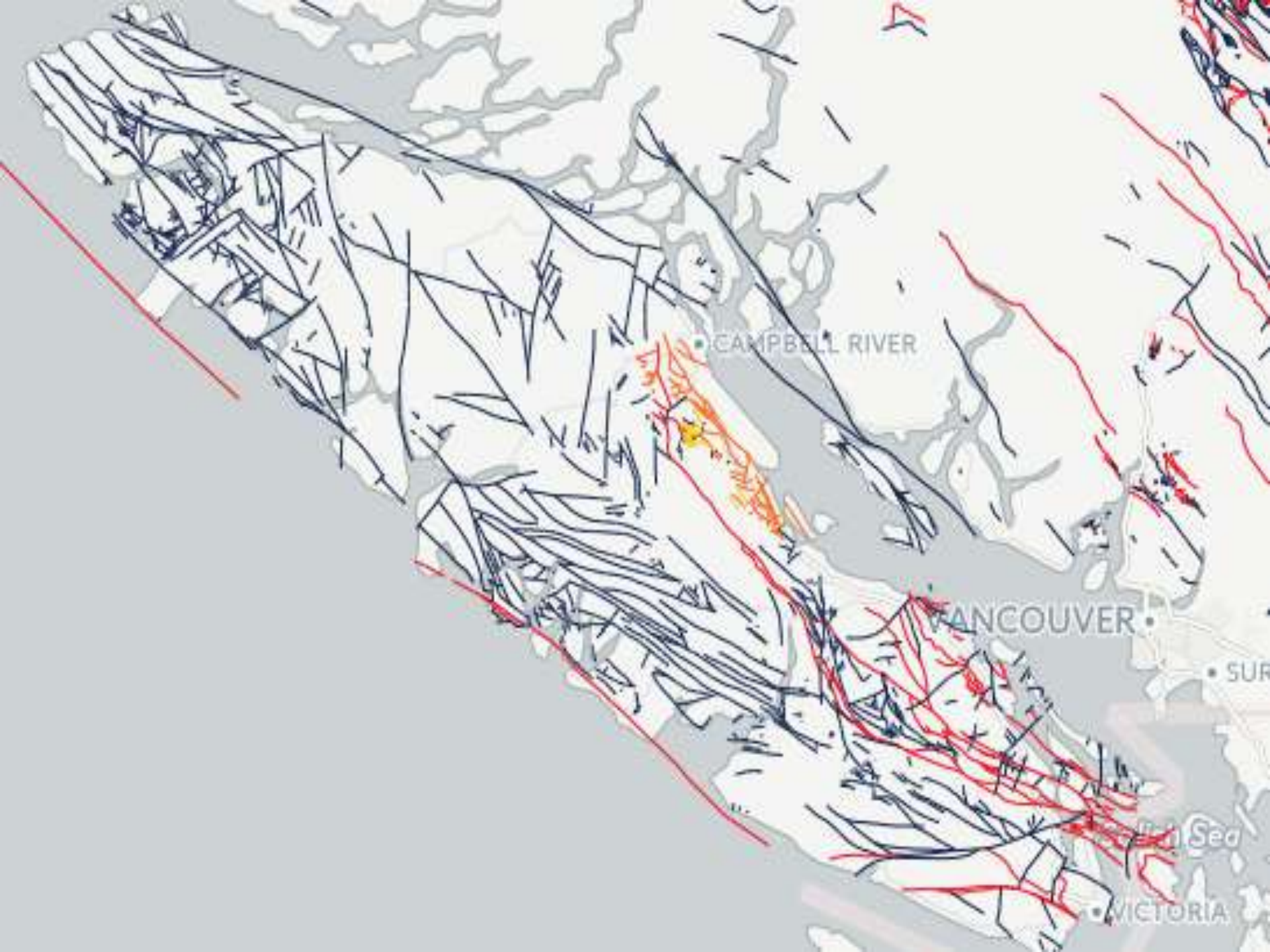
Stuart Island

Sidney Island

Beaumont Island

Langford, BC V9B, C

Victoria



CAMPBELL RIVER

VANCOUVER

SUR

VICTORIA

Pacific Sea











Port Hardy

BRITISH COLUMBIA

EARTHQUAKE SHAKE HAZARD

Peak ground acceleration, in g units. Higher value indicates more shaking

-  < 0.05
-  0.05 to 0.075
-  0.075 to 0.1
-  0.1 to 0.2
-  0.2 to 0.3
-  > 0.3

Campbell River

Powell River

Courtenay

Vancouver

Tofino

Nanaimo

Port Renfrew

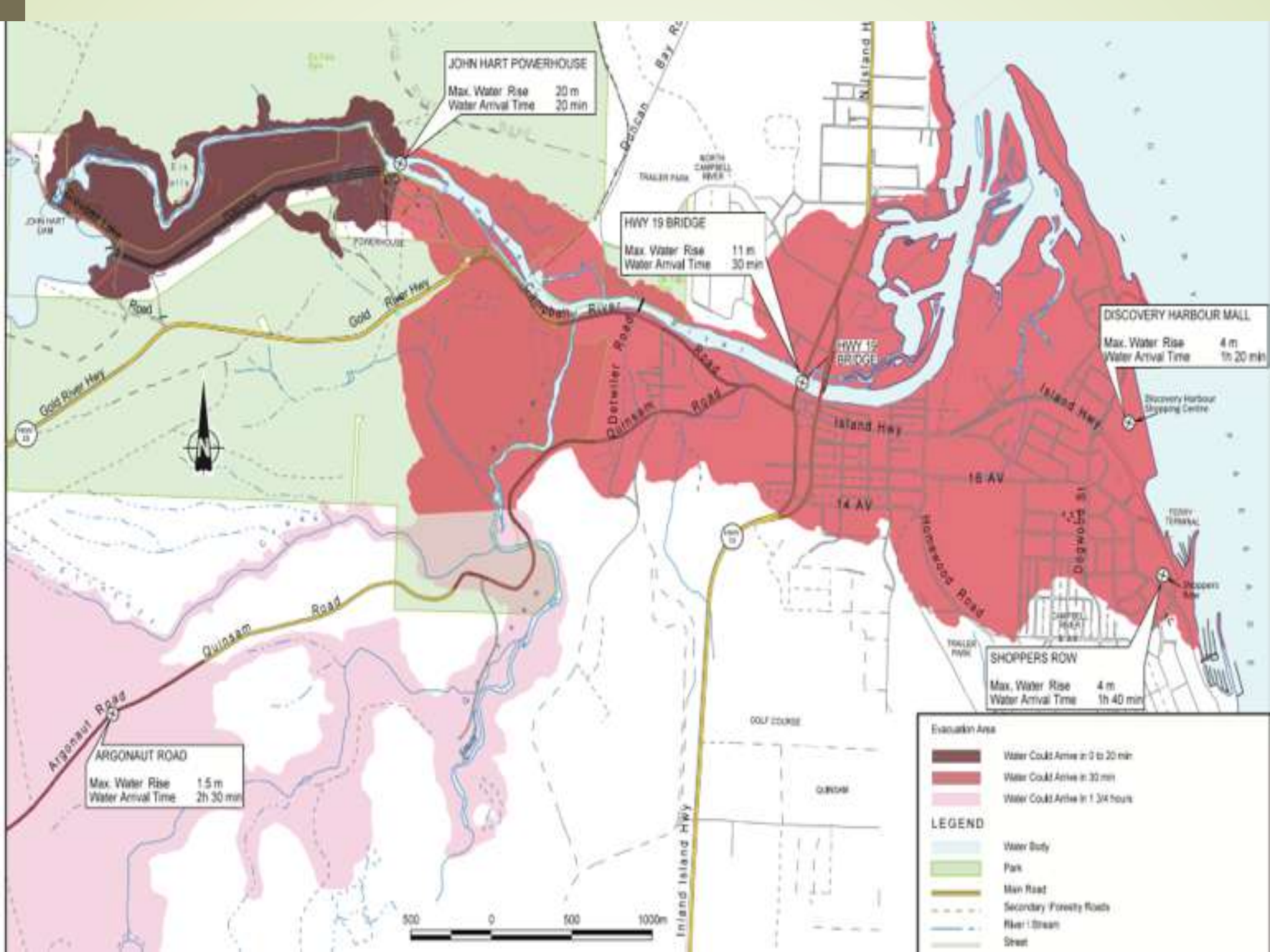
Victoria

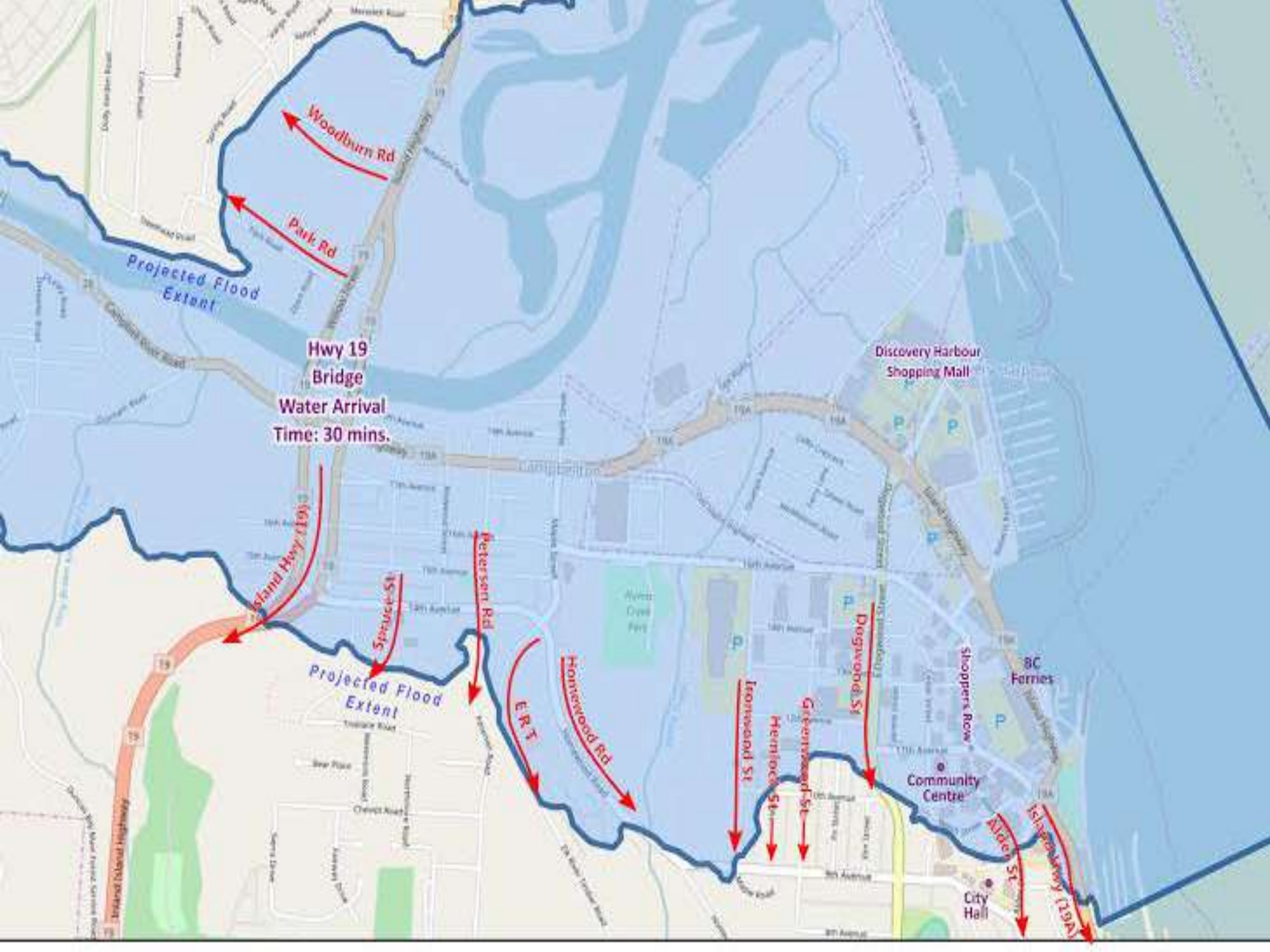
U.S.A.

PACIFIC OCEAN

80 km

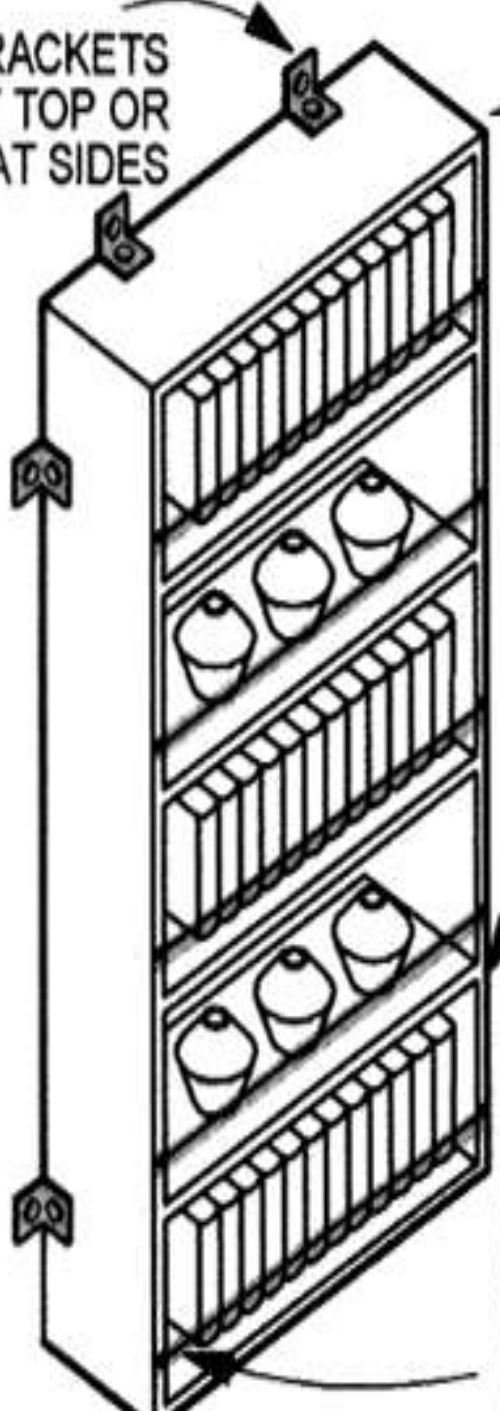








BRACKETS
AT TOP OR
AT SIDES



BOOK
CASE

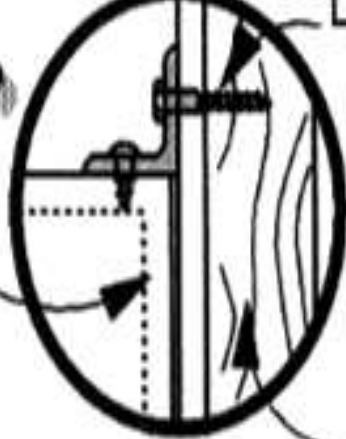
1/4" ϕ x 2" WOOD
SCREW (SHOWN)
OR 1/4" ϕ
MACHINE BOLT
WITH NUT &
WASHER

BOOKCASE

BOOKCASE

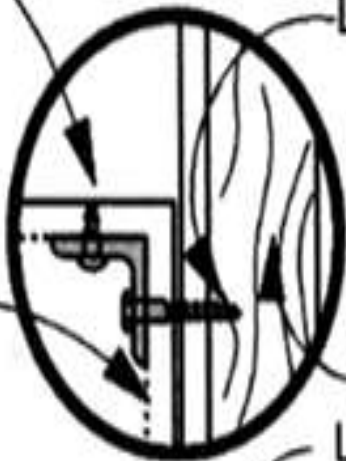
BOOKCASE

METAL, WIRE, OR ELASTIC
GUARDRAILS OR PLASTIC
STRIP WILL HELP
PREVENT OBJECTS FROM
FALLING OFF SHELVES



EXTERIOR
ANGLE
BRACKET

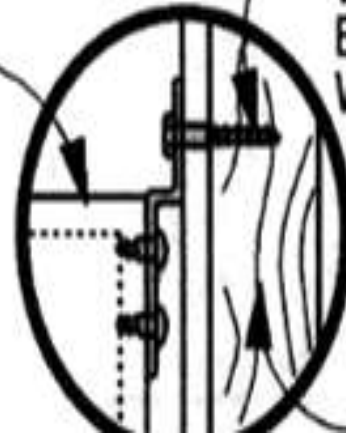
WOOD STUD



INTERIOR
ANGLE
BRACKET

WOOD STUD

LAG SCREW (1/4" ϕ
WITH 2"
EMBEDMENT IN
WOOD STUD, TYP.)



"Z" CLIP
BRACKET

WOOD STUD



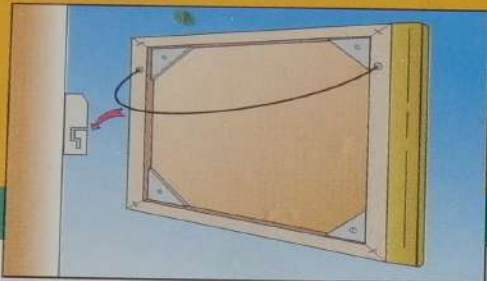


Model #4338
4 Hooks & Hardware

QUAKE
HOLD!

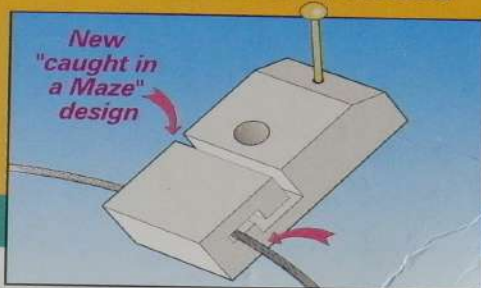
the "A-Maze-ing Picture Hook"

• **Installs in Seconds**



Anchors lightweight pictures, plates
and heavy mirrors up to 100 lbs.

• **All Hardware Included**



Maze design prevents wire
from jumping off hook.



Where Do I Go? What Do I Do?

DURING AN EARTHQUAKE...



When you are inside...

1) MOVE TO A SAFE LOCATION



OR



OR



- UNDER A TABLE & HANG ON TO LEGS

- KNEEL AGAINST AN INTERIOR WALL

- IN BED, COVER SELF WITH PILLOWS & BLANKETS

In each case, when shaking stops, count to 60

2) STAY AWAY FROM WINDOWS



3) MOVE AWAY FROM LARGE UNSECURED OBJECTS



Interior Hazards

- Glass
- Falling Objects
- Appliances
- Light Fixtures
- Cupboards/Mixing
- Chemicals
- Fireplaces



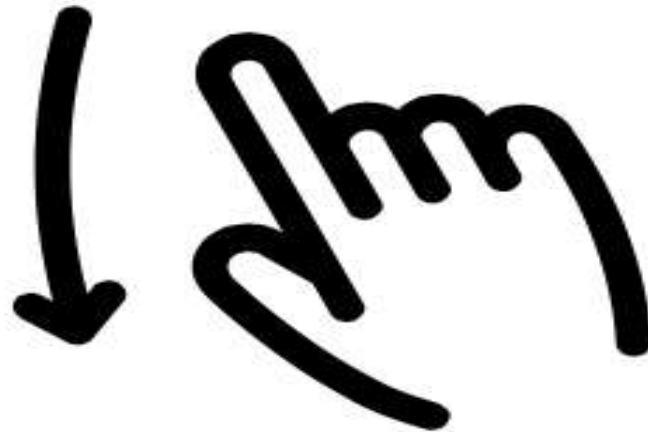
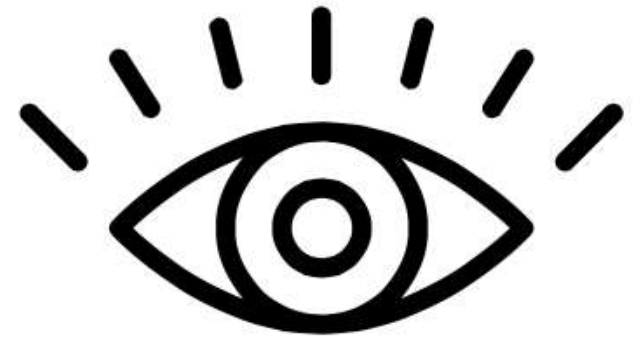
See handout #2 Home Hazard Hunt







Use Your Senses







6 6 2007

B.C. homes need a big fix before the big one hits, says seismic engineer

Schools need to be seismically upgraded — but it turns out many of our homes do, too

By Gregor Craigie, CBC Radio | Posted: Sep 18, 2016 7:00 AM PT | Last Updated: Sep 18, 2016 7:00 AM PT

City of Victoria commissioned report details potential devastation of the 'Big One'

Report says 4,000 buildings are at risk in a magnitude 9 earthquake

By Kirstie Hudson, CBC News | Posted: Mar 07, 2017 4:23 PM PT | Last Updated: Mar 07, 2017 4:23 PM PT

Big quake could damage, destroy nearly 40% of Victoria buildings, report says

AMY SMART / TIMES COLONIST
FEBRUARY 22, 2017 06:00 AM

According to the study, the likelihood of that scenario occurring in Victoria in the next 50 years is five per cent.

Liquefaction

- Vibrations of earthquakes causes soil to lose strength and flow





Ground Conditions



- **Bedrock**
 - **Lowest Amplification**
- **Thick or Firm Soil**
 - **Moderate Amplification**
- **Sediments / Tidal Flats**
 - **Highest Amplification or Liquefaction**

Lateral Spreading





1946 in Comox/Campbell River Area

-  **Triggered more than 300 landslides over an area of 20,000 sq. km**
-  **No tsunami, but water level disturbances were observed**

When you are outside. . .

1) Move to an Open Area



Away from falling objects



When you are outside. . .

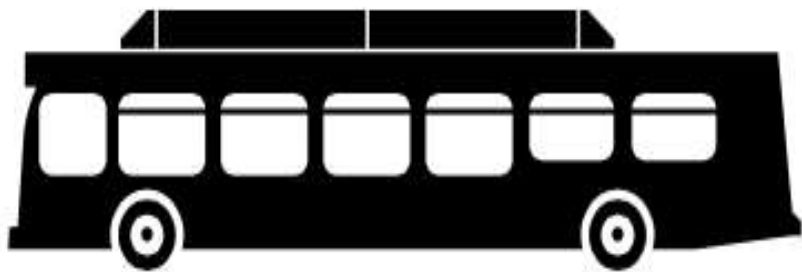
1) Move to an Open Area



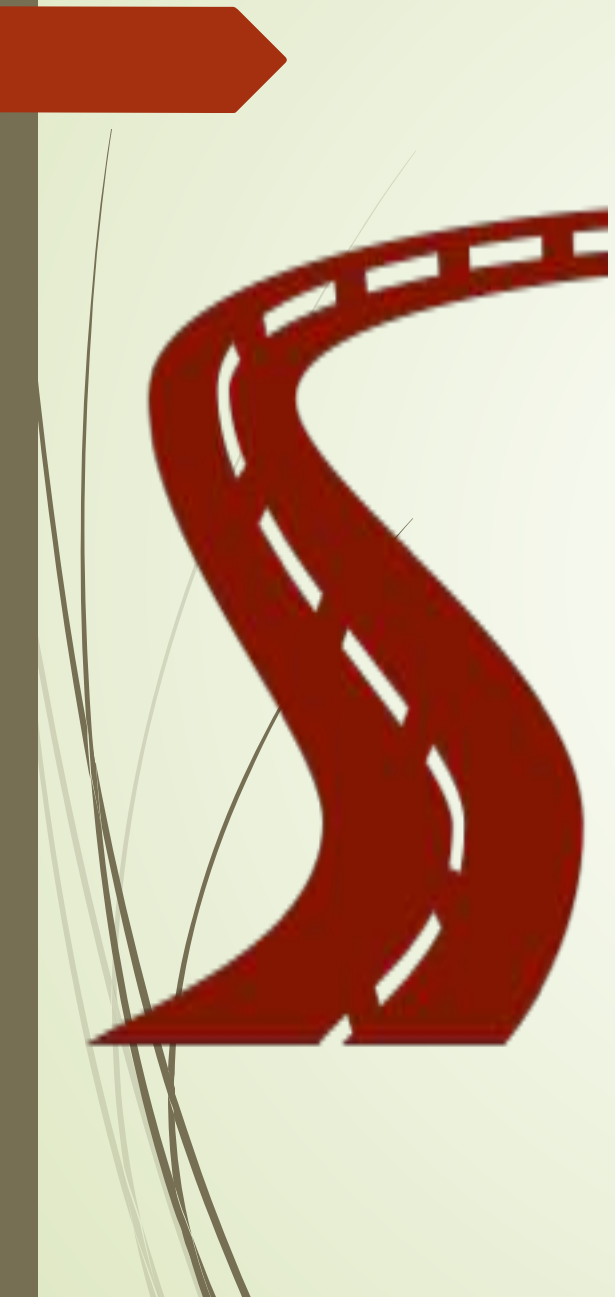
Away from Power Lines

**2. Stay 10 Metres
OR 33 Feet Away**

3. SHUFFLE



When you are driving. . .

- 
- Pull over safely and look up
 - Stop your vehicle
 - Use your emergency brake
 - Assume the crash position
(like in an aircraft)
 - **POWER LINE CHECK**
 - Do not park under them
 - If exiting vehicle, check for fallen power lines before doing so



**Be Aware:
You May Be Without...**



**NATURAL
GAS**



TELEPHONE



ELECTRICITY



WATER



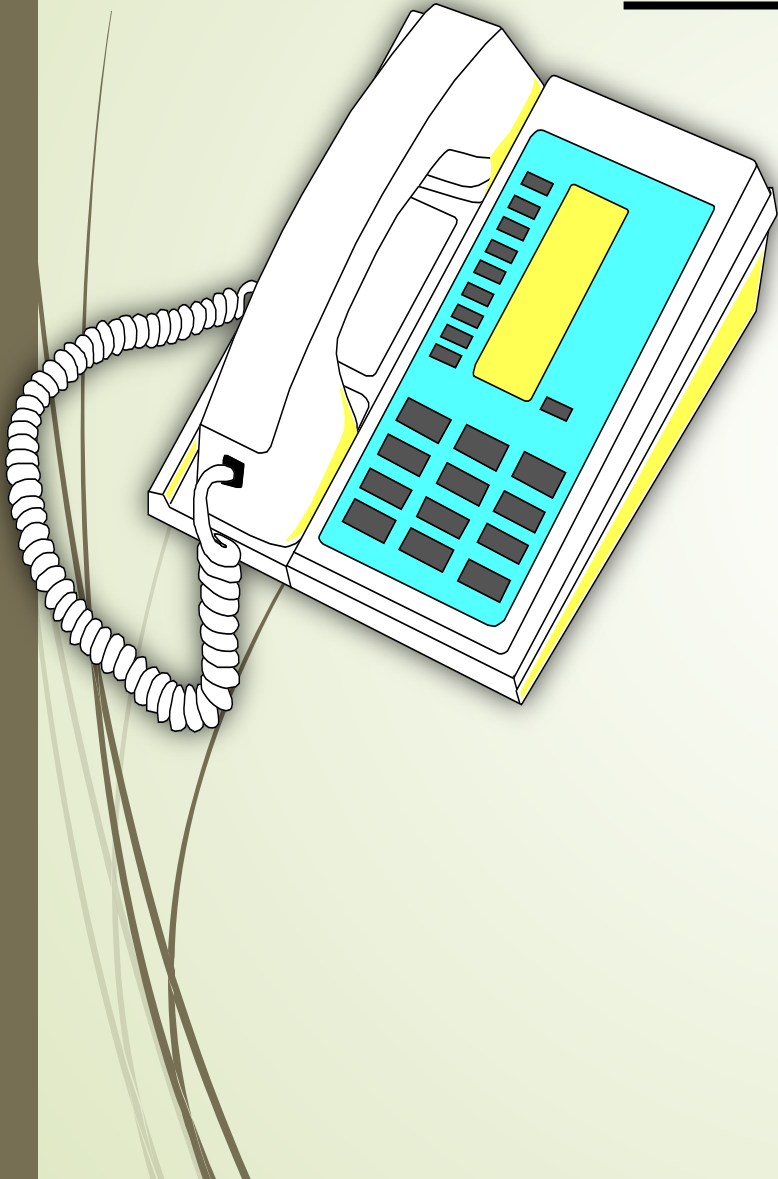
**NORMAL
TRANSPORTATION
SYSTEMS**

**SEWER
SERVICES**

**OR LOCAL EMERGENCY SERVICES (POLICE,
FIRE, AMBULANCE)**



Communication Plan





Out of Province – Emergency Contact

- Why have one?
- Why out of the province?
 - 604, 250, 778 exchanges
- Who to use as a contact?
- Who should have your contact number?

Emergency Contact Information Card

You and each family member should carry this card at all times.

Out-of-area contact:

- After a major disaster, local phone service may be limited so phone your out-of-area contact to keep in touch with your family. Listen to the radio or TV for phone use instructions, then phone your contact person to say how you are, where you are and what your plans are.
- Keep the call short, and, if possible, arrange to call back at a specified time for another check-in.

Contact Name:

City/Province:

Phone Number ()

Places to meet family:

Working Days Location:

daytime:

evening:

Non-working Days Location:

daytime:

evening:

 Emergency Management BC 

Supplies

You Should Have Supplies For:



Don't Forget Pets



HOME



SCHOOL



WORK



VEHICLE

Call 911 when there is a threat to life or property



Emergency Info BC 
@EmergencyInfoBC

 Follow

If you felt the earthquake, register it w/
[@Canadaquakes: ow.ly/WrJG0](https://ow.ly/WrJG0) Only call
911 for life safety issues.

RETWEETS

248

LIKES

105



12:15 AM - 30 Dec 2015



See handout #3 BC Hydro Home Outage Preparation



WHERE TO GO



**Make It
Happen!**

**BE PROACTIVE,
NOT REACTIVE,
& HAVE A PLAN**



Climate Change in BC

Section 2

If BC has a 2.5 degree increase by 2050

- Okanagan Valley = 30% drop in days with frost
= more pests to deal with
- Vancouver sees 15% less rain in the summer.
- Fire season will increase by 30-50 days.
- Warmer winters across the province means our snowpack will drop dramatically.
- 1/4 of BC's glaciers have melted.
- Spring melt is sudden increasing the risk of flash floods and mud slides.

If BC has a 2.5 degree increase by 2050

- ➔ **Sea levels will rise by 30cm**
- ➔ **Fish species will have migrated North +72kms**
- ➔ **30% decrease in Pacific Salmon catch**
- ➔ **\$28 billion dollars in climate change costs**
 - ➔ **\$10 billion to upgrade infrastructure to prevent mitigate against that \$28 billions cost**

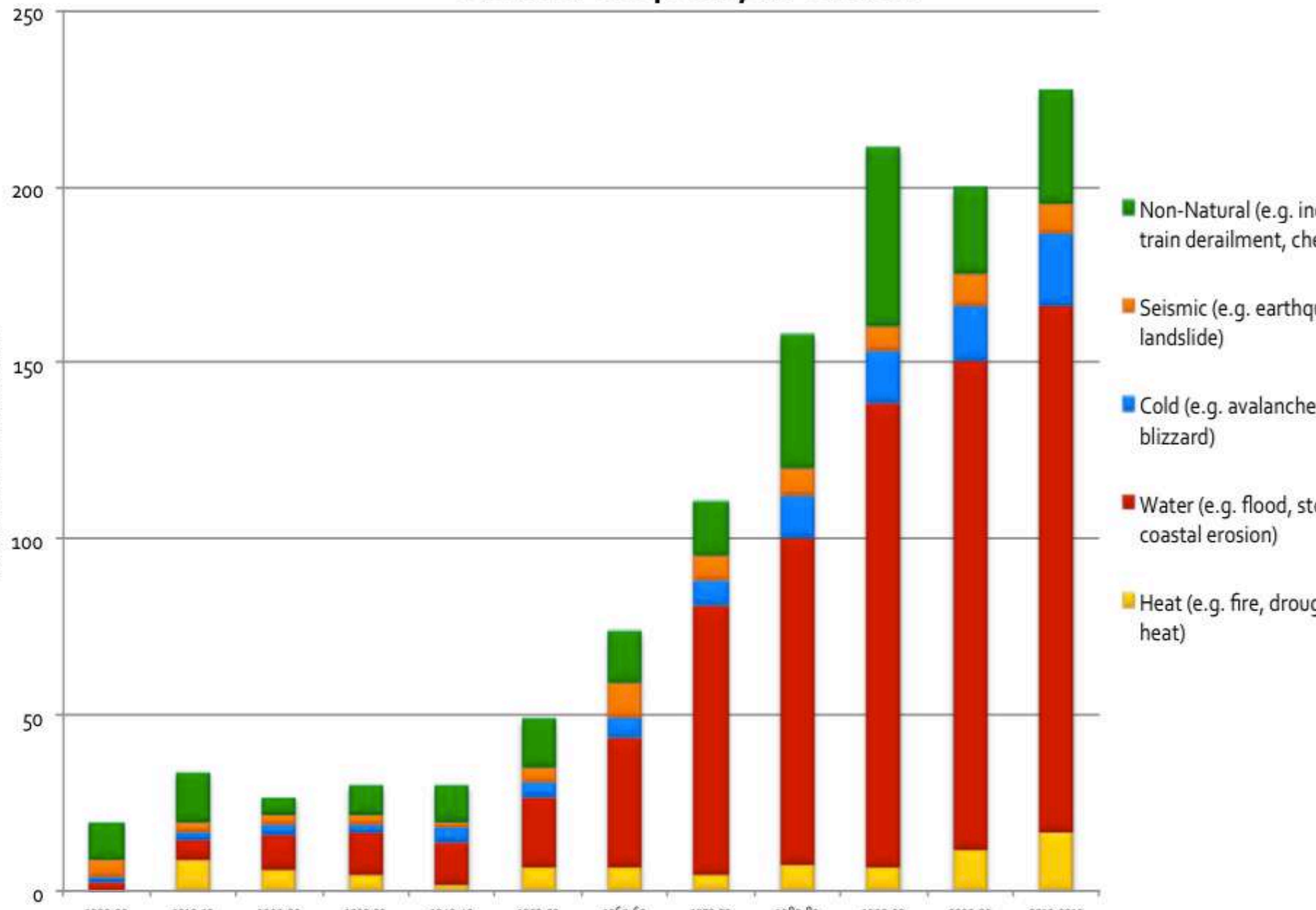
Changes for Vancouver Island

- By 2050, summer precipitation is expected to decrease by approximately 10% along the southeastern coast where the majority of the population lives (Rodenhuis *et al.*, 2007)
- We can expect to see decreased river runoff in late summer (Whitfield and Taylor, 1998) leading to increased summer drought
- Increased summer drought, coupled with decreasing water resources, will create challenges for water supply to support irrigation (Zebarth *et al.*, 1997; Neilsen *et al.*, 2004)

Changes for Vancouver Island

- Use of water for irrigation will have to compete with other water uses, especially in areas where populations are growing
- Sea-level rise can result in saltwater intrusion into freshwater aquifers, affecting the quality and quantity of irrigation water supplies, not to mention drinking water (Liteanu, 2003; Allen, 2004)
- Warmer temperatures could also result in more frequent and intense pest infestations

Disaster Frequency in Canada





Basic Fire Suppression

Section 3

THRESHER



001:11:45:21

PORTABLE FIRE EXTINGUISHER SAFETY

What are we going to cover today?

- 📄 What “fire” is
- 📄 Classifications of fire
- 📄 Leading fire causes
- 📄 Fire prevention
- 📄 Importance of portable fire extinguishers
- 📄 Types of portable fire extinguishers
- 📄 How to use a portable fire extinguisher
- 📄 Making the “right” decision
- 📄 Reporting an emergency

PORTABLE FIRE EXTINGUISHER SAFETY

You are not
expected
to be **firefighters!**



PORTABLE FIRE EXTINGUISHER SAFETY

Reporting an Emergency



Dial 911.





It is not recommended you stay in the building to call, call from an adjunct building, pay phone or cell phone



Give as much information as possible to the emergency dispatcher.

PORTABLE FIRE EXTINGUISHER SAFETY

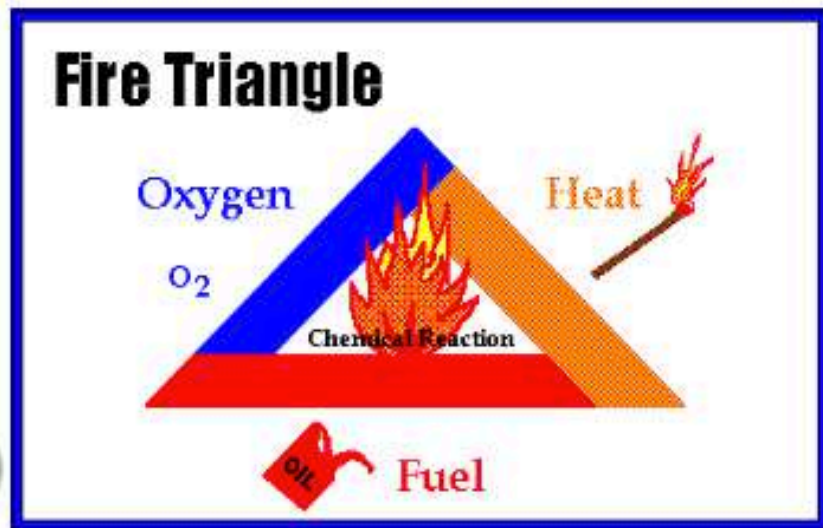
What is fire?

-  A rapid chemical reaction.
-  The self-sustaining process of rapid oxidation of a fuel, which produces heat and light.



PORTABLE FIRE EXTINGUISHER SAFETY

Extinguishment Theory



- Remove Heat
- Remove Fuel
- Reduce Oxygen

WILL

- Inhibit Chemical Chain Reaction

PORTABLE FIRE EXTINGUISHER SAFETY

Classification of Fire

Class A or Ordinary Combustibles

This includes fuels such as wood, paper, plastic, rubber, and cloth.



Green Triangle

PORTABLE FIRE EXTINGUISHER SAFETY

Class B or Flammable and Combustible Liquids and Gases

This includes all hydrocarbon and alcohol based liquids and gases that will support combustion.

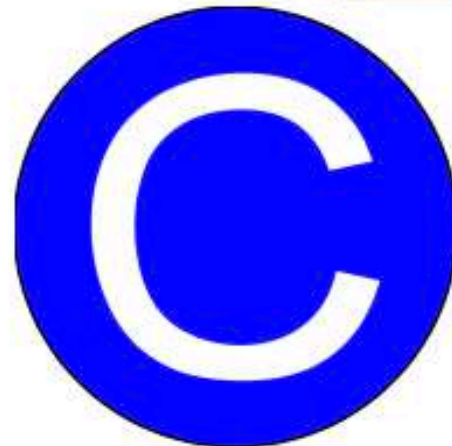


Red Square

PORTABLE FIRE EXTINGUISHER SAFETY

Class C or Electrical

This includes all fires involving energized electrical equipment.



Blue Circle

PORTABLE FIRE EXTINGUISHER SAFETY

*The importance of portable fire
extinguishers?*



**Your first
line of
defense!**

PORTABLE FIRE EXTINGUISHER SAFETY

Some Causes of Fire ?

- Electricity
- Housekeeping
- Cleaning supplies
- Machinery
- Flammable & Combustible Liquids
- Improper storage
- Space Heaters
- Construction

Any Ideas on Prevention?

PORTABLE FIRE EXTINGUISHER SAFETY

Class K for fires in unsaturated cooking oils in well insulated appliances in commercial kitchens.

2A:1B:C:K



Model 260

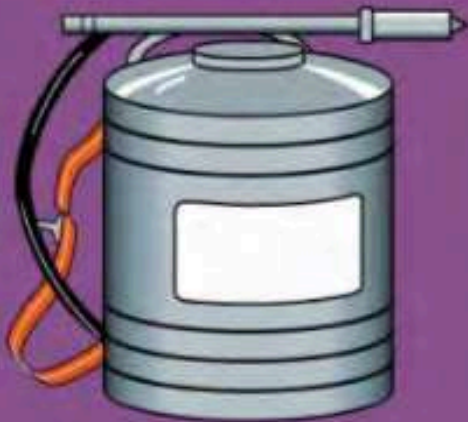
Model 262

PORTABLE FIRE EXTINGUISHER SAFETY

Characteristics

PUMP-TANK WATER

5-1



Backpack



Pump Can

Size

1½ gal to 5 gal
(6 L to 20 L)

Application

Class A Only

Operating Principle

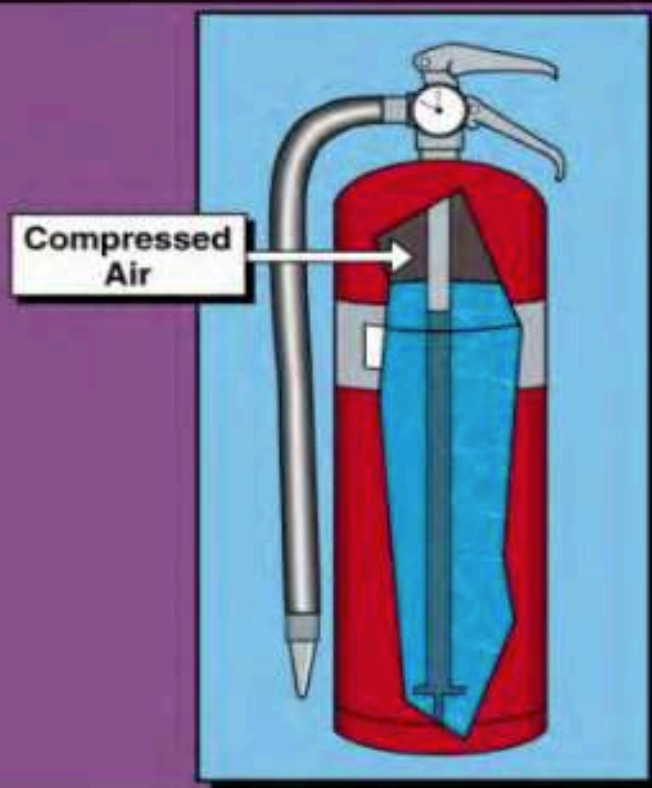
Hand Pump

PORTABLE FIRE EXTINGUISHER SAFETY

Characteristics

STORED-PRESSURE WATER

5-2



Size

1¼ gal to 2½ gal
(5 L to 10 L)

Application

Class A Only

Operating Principle

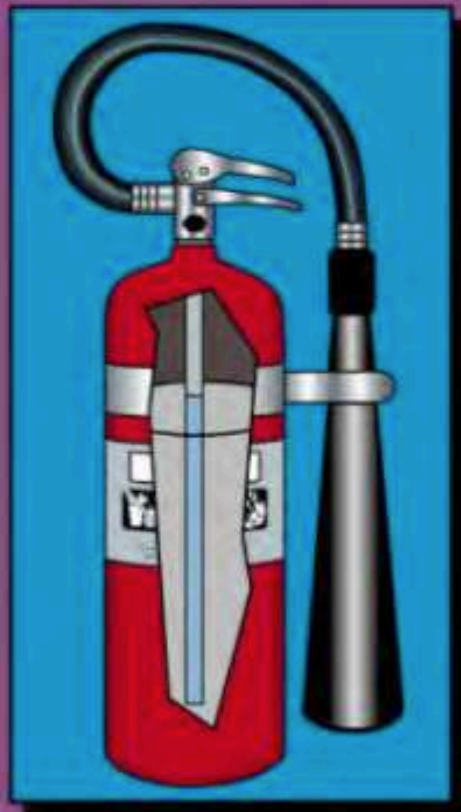
Air Pressure

PORTABLE FIRE EXTINGUISHER SAFETY

Characteristics

CARBON DIOXIDE

5-5



Size

2½ lb to 20 lb
(1 kg to 9 kg)

Application

Classes B and C

Operating Principle

Liquefied
Compressed Gas

PORTABLE FIRE EXTINGUISHER SAFETY

Characteristics

DRY CHEMICAL

5-6



Stored-Pressure

Cartridge-Operated



- Size**
2½ lb to 30 lb
(1 kg to 14 kg)
- Application**
Ordinary Base —
Classes B and C
Multipurpose —
Classes A, B, and C
- Operating Principle**
Stored Pressure
or Gas Cartridge

Quick Check

Is It Ready?



- Where is it located?
- Check pressure gauge
- Pin seal in place
- Does it feel full when lifted?
- Check inspection tag
- Ensure annual inspection is conducted

PORTABLE FIRE EXTINGUISHER SAFETY

General Guidelines
(or Rule of Thumb)

Dry chemical extinguishers

1. Discharge approximately 1 pound per second
2. Have a reach of approximately 1 foot per pound

PORTABLE FIRE EXTINGUISHER SAFETY

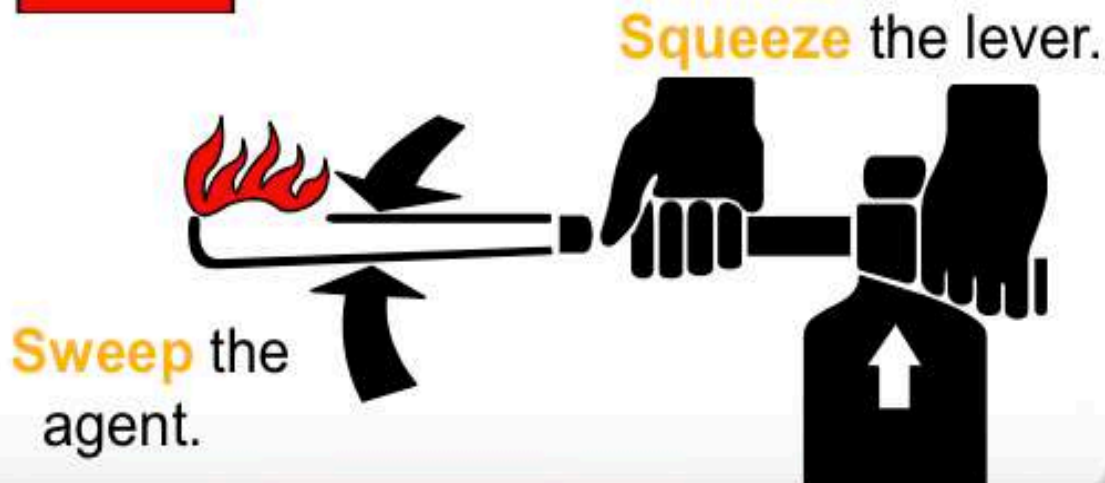
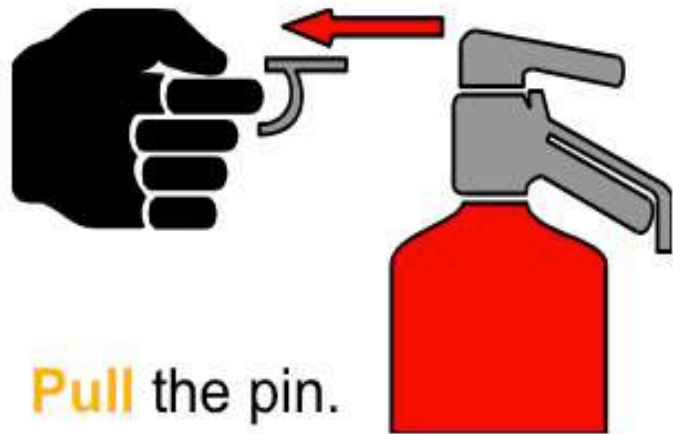
Making That “Right” Decision

- 📄 The fire is small & not spreading rapidly.
- 📄 You are trained in the use of extinguishers.
- 📄 You know what is burning.
- 📄 Smoke and heat has not filled the area.
- 📄 You have a clear path of escape.
- 📄 Follow your instincts.



PORTABLE FIRE EXTINGUISHER SAFETY

The P.A.S.S. Method





Rapid Damage Assessment

Section 4

RAPID DAMAGE ASSESSMENT



Post – Disaster Response

- **Command and Control**
- **Damage Assessment**
- **First Aid**
- **Search and Rescue**
- **Communication**
- **Fire Suppression**
- **Shelter and Special Needs**

Personal Safety During Damage Assessment

- **Your safety is the first priority**
- **Use appropriate safety equipment**
- **Prepare your inspection kits in advance**
- **Travel in teams of two or more**
- **Identify access and risks in travel area**
- **NEVER ENTER IF RISK OF COLLAPSE**
- **Work only in daylight**
- **Stay within communications range**

PERSONAL SAFETY DURING DAMAGE ASSESSMENT

- ➔ YOUR SAFETY IS FIRST PRIORITY “HEIGHT X 2”**
- ➔ USE APPROPRIATE SAFETY EQUIPMENT**
- ➔ PREPARE YOUR INSPECTION KITS IN ADVANCE**
- ➔ TRAVEL IN TEAMS OF 2 OR MORE “2 DEEP”**
- ➔ IDENTIFY ACCESS AND RISKS IN TRAVEL AREA**
- ➔ NEVER ENTER IF RISK OF COLLAPSE**
- ➔ WORK ONLY IN DAYLIGHT**
- ➔ STAY WITHIN COMMUNICATIONS RANGE**

ASSESSMENT PROCEDURES

1. CHECK FOR DAMAGE AND SAFETY CONCERNS IN THE FOLLOWING AREAS:

A – AREA AND GROUND AROUND PROPERTY

B – BUILDING EXTERIOR

C – CONTENTS OF BUILDING, IF NOT UNSAFE


2. DISCUSS THE FINDINGS WITH TEAM

3. POST BUILDINGS / HAZARDS AND INFORM OCCUPANTS

4. AS NECESSARY, NOTIFY SAFETY OFFICIALS


ASSESSMENT CRITERIA

- **1. COLLAPSE OR OFF FOUNDATION**
- **2. NOTICEABLE LEANING**
- **3. SIGNS OF SEVERE DISTRESS**
- **4. FALLING HAZARDS**
- **5. GEOTECHNICAL HAZARDS AND SLOPE DISPLACEMENT**
- **6. SUBMERGED FIXTURES**
- **7. OTHER LIFE SAFETY RISKS / HAZARDS**



**Can you identify the
Rapid Damage
Assessment Criteria?**

**Match the pictures with
the yellow heading.**



**What issues do you
notice in these
following pictures?**










06/29/2012 19:33



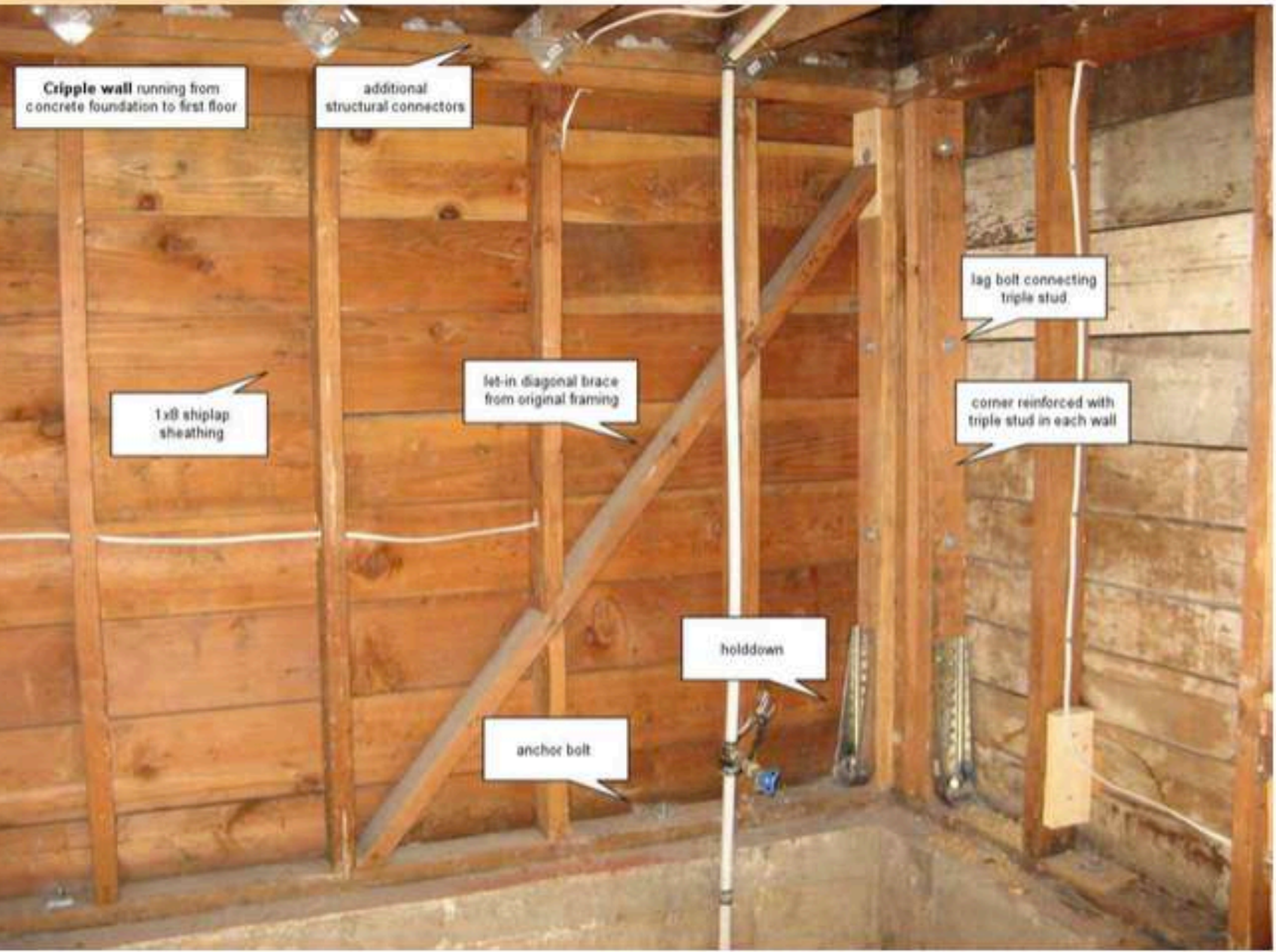
Small Group Exercise – Your group has been asked to complete a rapid damage assessment on the following site

- 1. What steps would your team take to ensure your safety and to complete this rapid damage assessment most effectively?**
- 2. What additional information, if any, would your time like to know?**
- 3. What was UNSAFE and what actions did or would your team take to reduce/eliminate these hazards?**
- 4. Are there any further actions your team should take prior to leaving this site?**

Characteristics of Wood Frame Buildings

- Generally, wood is a flexible material that can allow the energy of an earthquake to be dissipated safely.
- Most damage is due to lack of connection between structural elements.





Cripple wall running from concrete foundation to first floor

additional structural connectors

1x8 shiplap sheathing

let-in diagonal brace from original framing

holddown

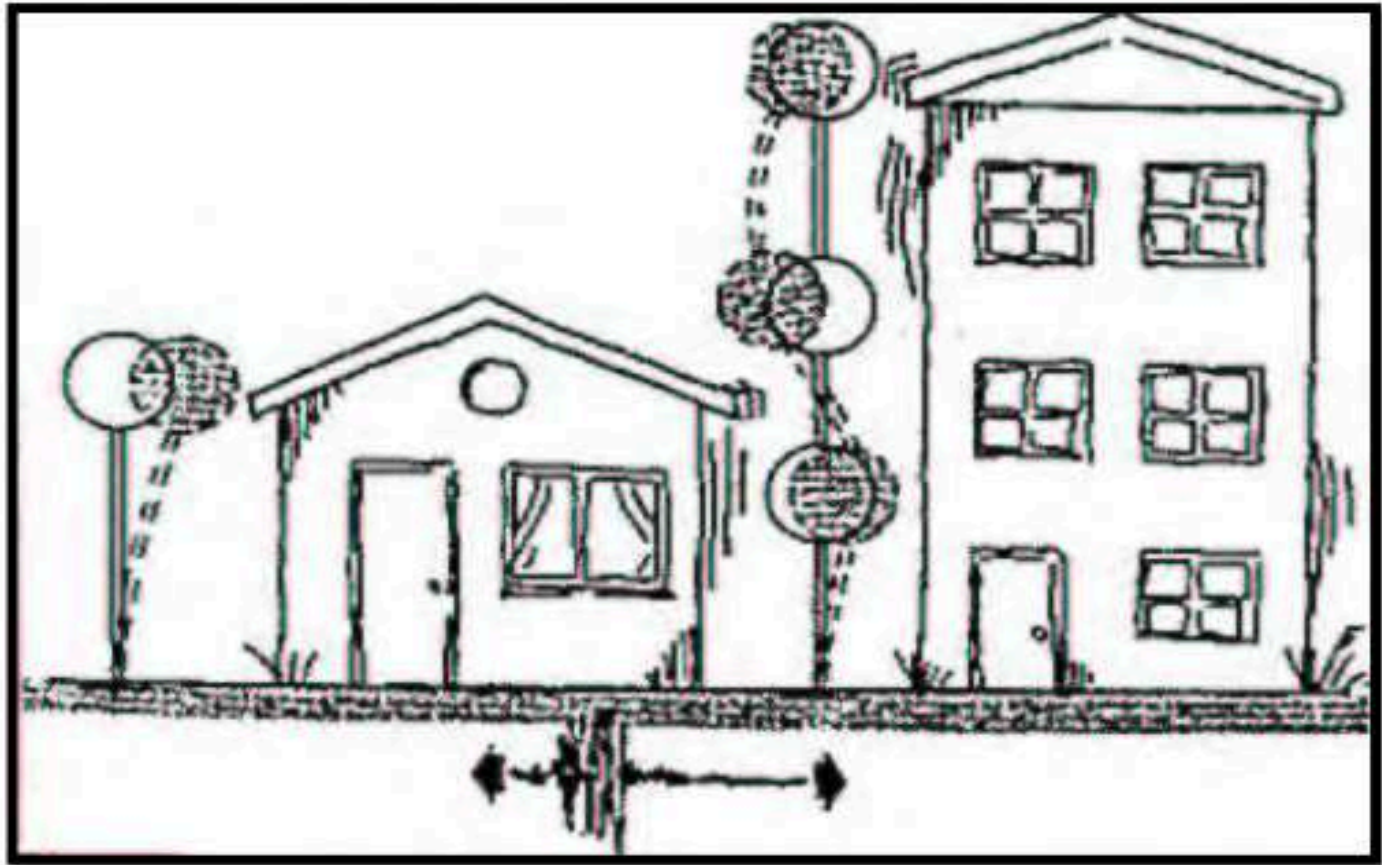
anchor bolt

lag bolt connecting triple stud

corner reinforced with triple stud in each wall



Response of a building to an Earthquake









LUSAR Program

Light Urban Search and Rescue

Consists of three separate operations

- **Sizeup: Using 9-step, continual model**
- **Search: Locating victims and documenting**
- **Rescue: Extricating victims**



Deciding To Attempt Rescue

- Decision based on three factors
 - The risks involved for the rescuer
 - Greatest good for the greatest number
 - Resources and manpower available



Goals of Search and Rescue

- ➔ **Rescue greatest number in shortest amount of time**
- ➔ **Get walking wounded out first**
- ➔ **Rescue lightly trapped victims next**
- ➔ **Keep the rescuer safe**

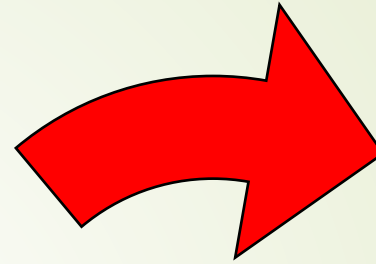
Effective Search and Rescue

- ➔ Depends on:
 - ➔ Effective sizeup
 - ➔ Rescuer safety
 - ➔ Victim safety

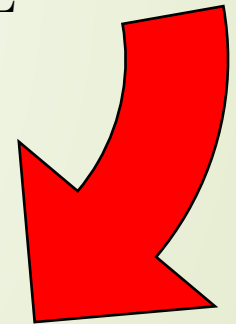
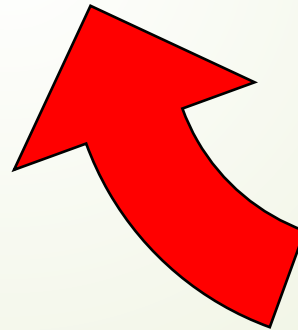


Sizeup Process

1. Gather Facts
2. Assess Damage
3. Consider Probabilities
4. Assess Your Situation
5. Establish Priorities
6. Make Decisions
7. Develop Plan of Action
8. Take Action
9. Evaluate Progress



REMEMBER:
CERT SIZEUP IS A
CONTINUAL
PROCESS



Sizeup: Step 1

Gather Facts

- Time of event and day of the week
- Construction type/terrain
- Occupancy
- Weather
- Hazards



Sizeup: Step 2

Assess and Communicate Damage

The mission changes if:

- ➔ Damage is light
- ➔ Damage is moderate
- ➔ Damage is heavy

Light Damage

- Superficial
- Broken windows
- Superficial cracks or breaks in wall surface
- Minor damage to the interior contents
- Safe to enter and remain



Moderate Damage

- Visible signs of damage
- Decorative work damaged or fallen
- Many visible cracks or breaks in wall
- Major damage to interior contents
- Building still on foundation
- Enter only to save lives



Heavy Damage

- Partial or total collapse
- Tilting
- Obvious structural instability
- Building off foundation



Do not enter a building with heavy damage under any circumstances

Sizeup: Step 3

Consider Probabilities

- ➔ **How stable is the situation?**
- ➔ **What else could go wrong?**
- ➔ **What does it mean for the search and rescue?**

Sizeup: Step 4

Assess Your Situation

- ➔ Is the situation safe enough to continue?
- ➔ What risks will rescuers face?
- ➔ What resources are needed?
- ➔ What resources are available?

Rescue Resources

- **Personnel**
 - **Firefighters**
 - **Police**
 - **Nurse, M.D.**
 - **Contractor**
- **Tools**
 - **Crowbars**
 - **Auto jacks**
 - **Chainsaws**
- **Equipment**



Sizeup: Step 5

Establish Priorities

- What should be done?
- In what order?
- How to rescue the greatest number in the shortest amount of time?



Sizeup: Step 6

Make Decisions

- **Keep in mind:**
 - **Safety of CERT members**
 - **Life safety for victims and others**
 - **Protection of the environment**
 - **Protection of property**

Sizeup: Step 7

Develop Plan of Action

- ➔ **Focus operation on established priorities and decisions**
- ➔ **Provide for documentation to give to responding agencies**
- ➔ **Provide for documentation to become part of CERT records**

Sizeup: Step 8

Take Action

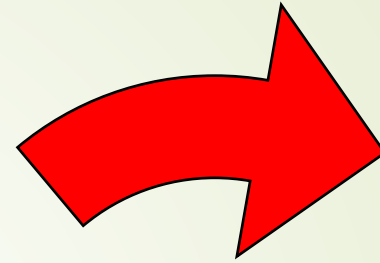
- ➔ Based on plan developed during Step 7



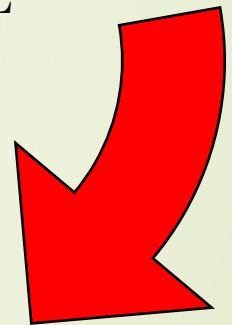
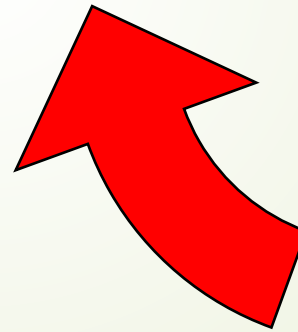
Sizeup: Step 9

Evaluate Progress

- Most critical step
- Monitor plan's effectiveness and safety



REMEMBER:
SIZEUP IS A
CONTINUAL
PROCESS



Specific Safety Considerations



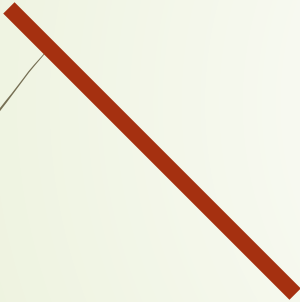
- **Make rescuer safety primary concern**
- **Use a buddy system**
- **Be alert for hazards**
- **Use safety equipment**
- **Rotate teams**

Individual Voids

- ➔ **Spaces where victims may seek protection**
 - ➔ **Bathtubs**
 - ➔ **Underneath desks**
 - ➔ **Inside cabinets**
 - ➔ **Under/next to beds**
 - ➔ **Inside closets**

Search Markings

WHEN YOU ENTER



**SINGLE SLASH
STRUCTURE OR ROOM**

WHEN YOU EXIT



**SECOND SLASH
STRUCTURE OR ROOM
(Identify Victims & Hazards)**

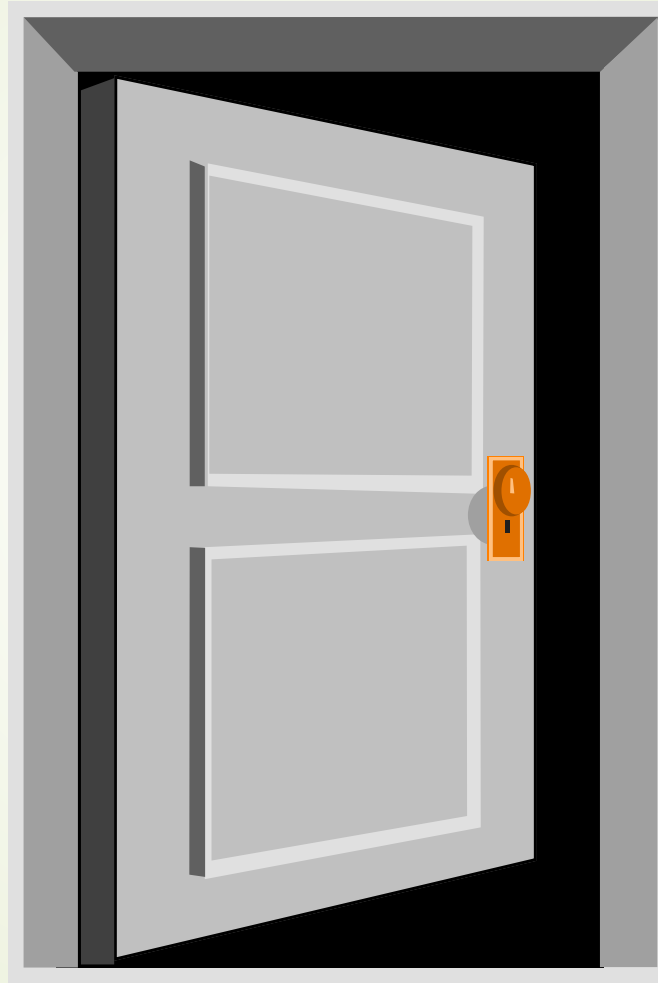
Search Markings

➔ Upon entering search area:

- ➔ Make a slash
- ➔ Enter info

● Upon leaving search area:

- Complete 'X'
- Enter info



Search Markings

What information do you mark?

Date

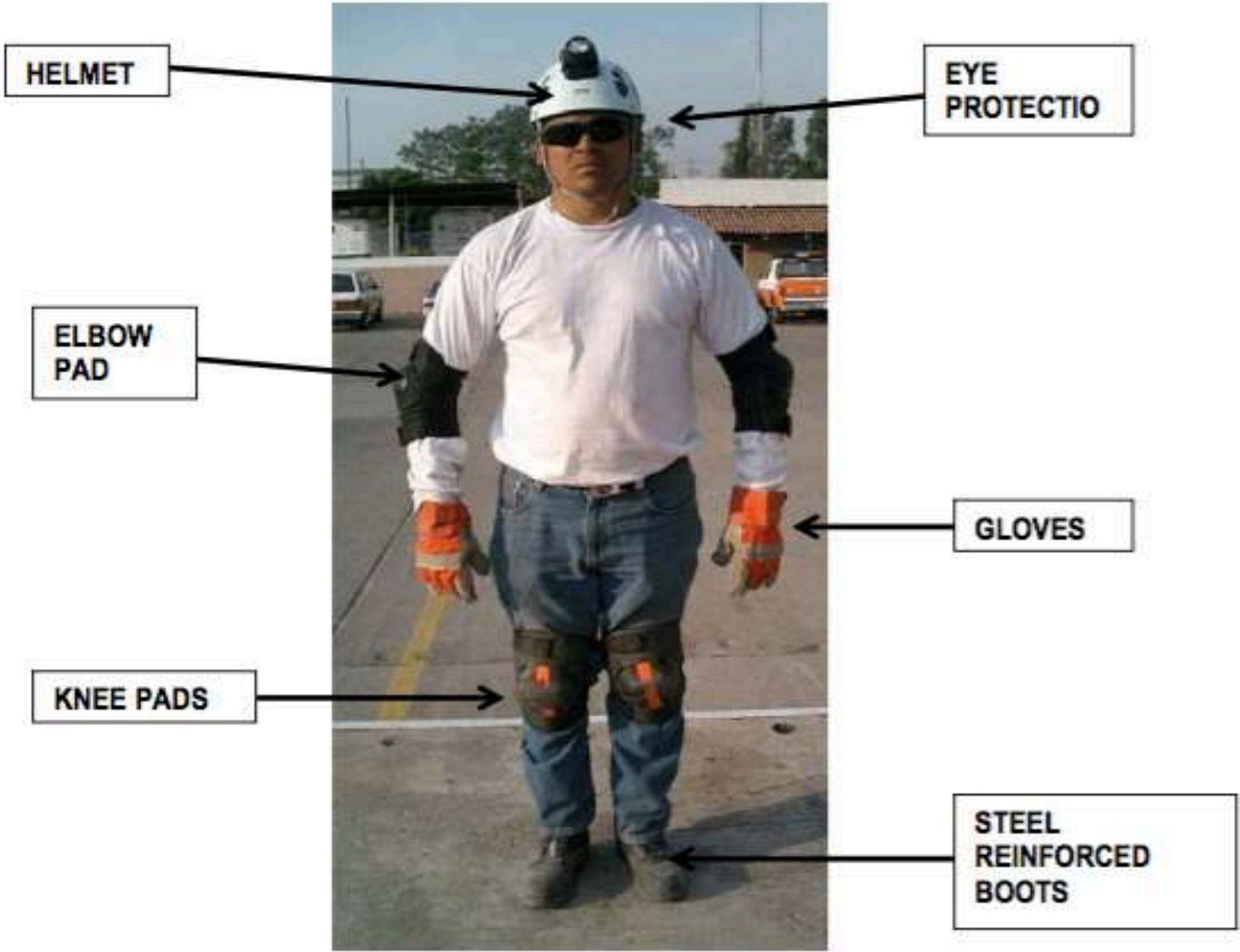
Time In

Time Out

**Areas
Searched**

Victims

Personal Protection Equipment



HELMET

EYE PROTECTIO

ELBOW PAD

GLOVES

KNEE PADS

STEEL REINFORCED BOOTS

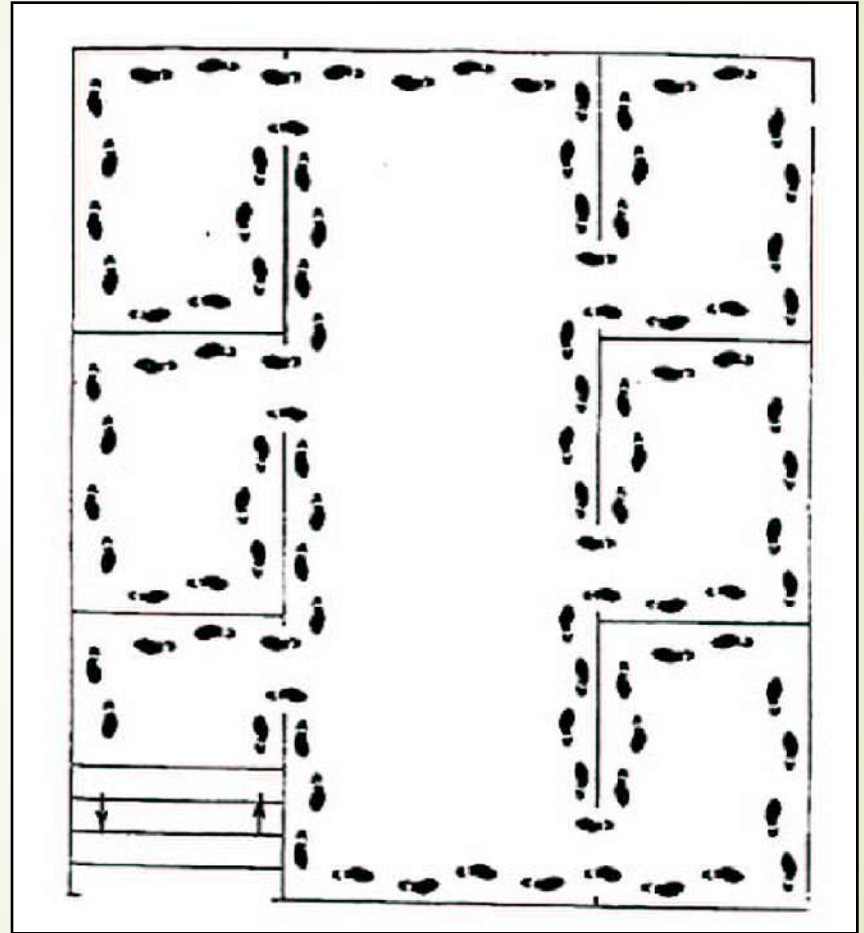
Victim Entrapment Survival for Structural Collapse

Of the victims that survive the initial event:

- ➔ 30 minutes later = 91% survive
- ➔ 1 day = 81%
- ➔ 2 days = 36.7%
- ➔ 3 days = 33.7%
- ➔ 4 days = 19%
- ➔ 5 days = 7.4%

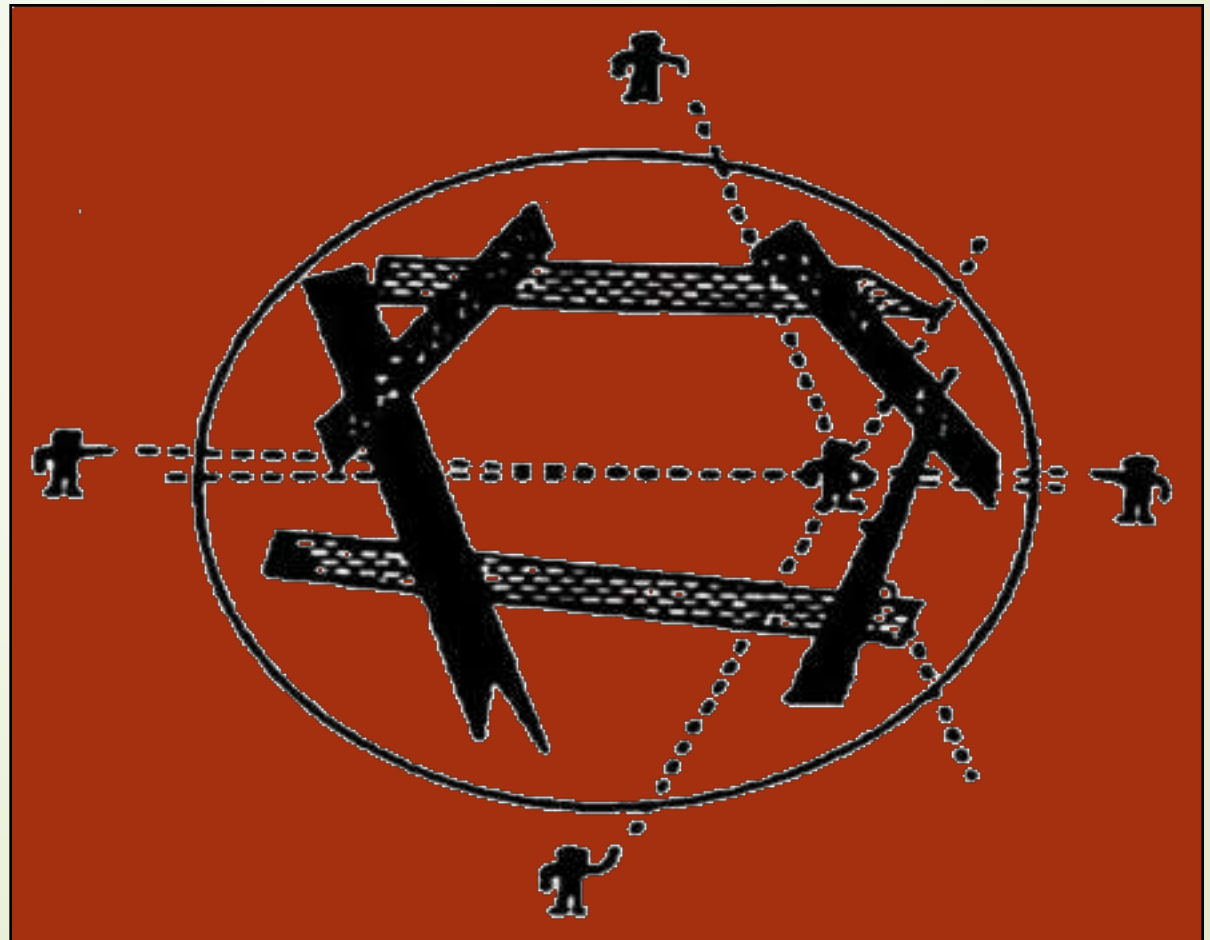
Search Methodology

- ➔ **Bottom-up/top-down for a multi-story building**
- ➔ **Right wall/left wall for a single floor**
- ➔ **Stop frequently to listen**



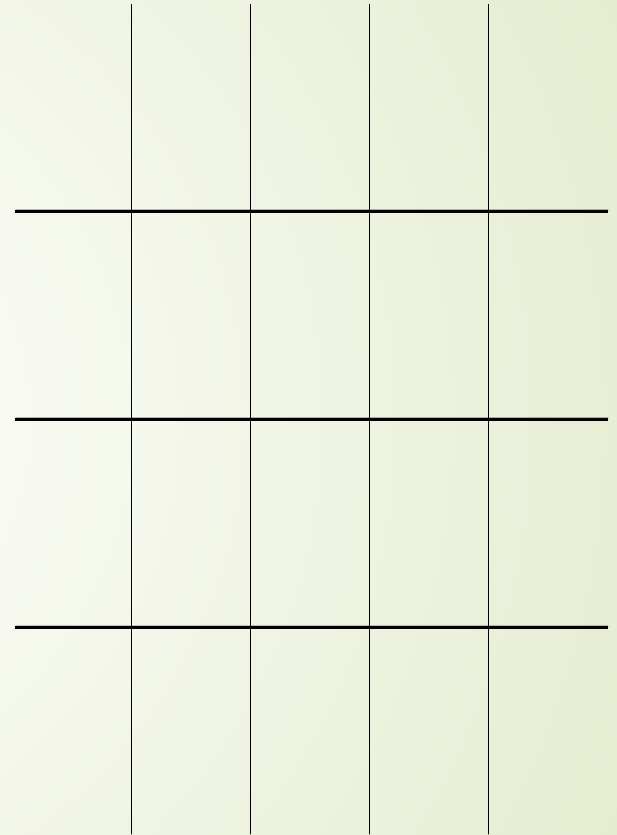
Search Methodology

- ▶ **Triangulation allows rescuers to view a location from several perspectives**



Exterior Search

- **Set up a grid search**
 - **Set distance between searchers according to visibility and debris**
 - **Overlap patterns for full coverage**
 - **Search in as straight a line as possible**
 - **Mark areas that have been searched**



Proper Lifting Procedures



- **Back straight**
- **Bend knees**
- **Keep load close to body**
- **Push up with legs**

Leveraging and Cribbing



- For heavy lifting
- Performed in tandem
- Helps extricate victims

- Various materials and objects may be used

Two Types of Removal

- ➔ Self removal or assist
- ➔ Lifts and drags



Which Extraction Method

- **General stability of the immediate environment**
- **Number of rescuers available**
- **Strength and ability of the rescuers**
- **Condition of victim**



One Person Arm Carry

- Lift around victim's back and under knees
- Lift victim by keeping your own back straight and lifting with legs



Pack Strap Carry



Two Person Carry



Chair Carry



Blanket Carry



Blanket Drag

