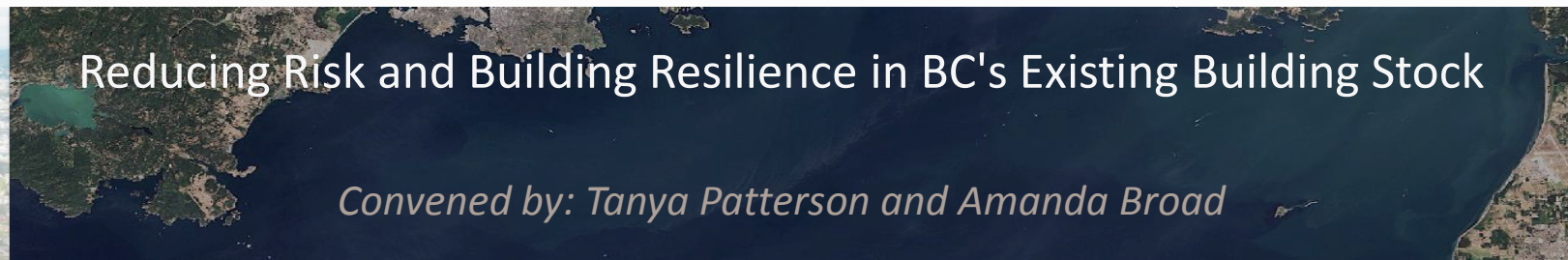
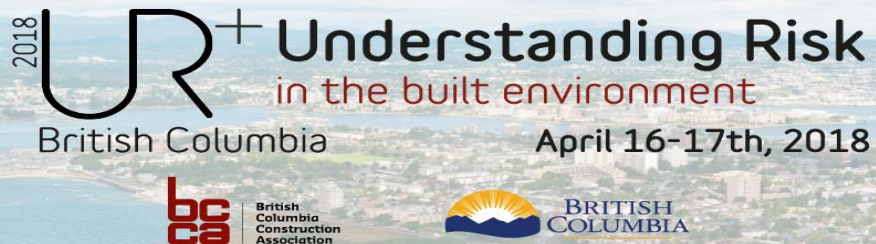


Reducing Risk and Building Resilience in BC's Existing Building Stock is Big Business:

Exploring Opportunities for Synergistic Retrofits





Le-La-La Dancers
First Nations Dance Company
since 1987



2018 **UR⁺ Understanding Risk**
in the built environment
British Columbia April 16-17th, 2018

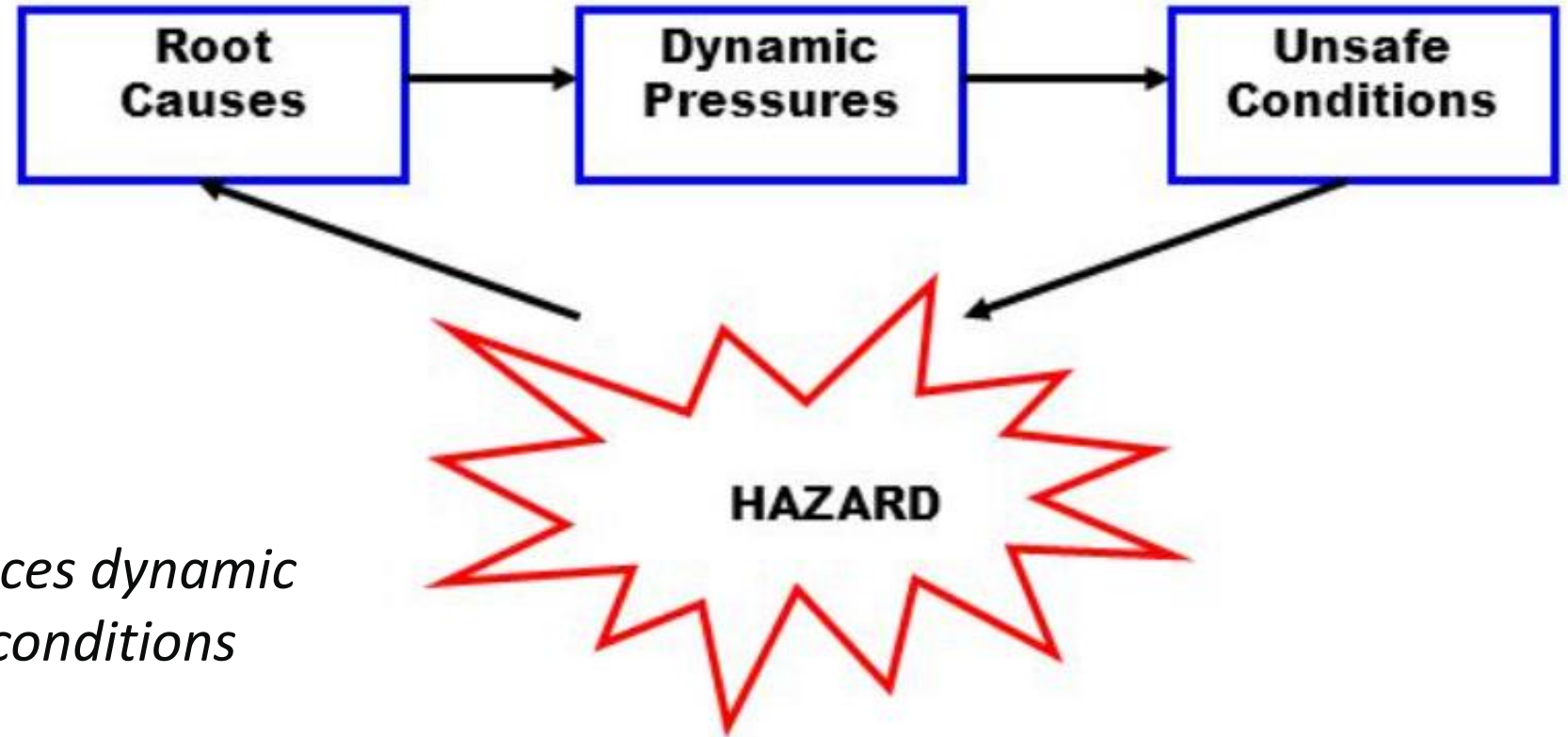


Reducing Risk and Building Resilience in BC's Existing Building Stock

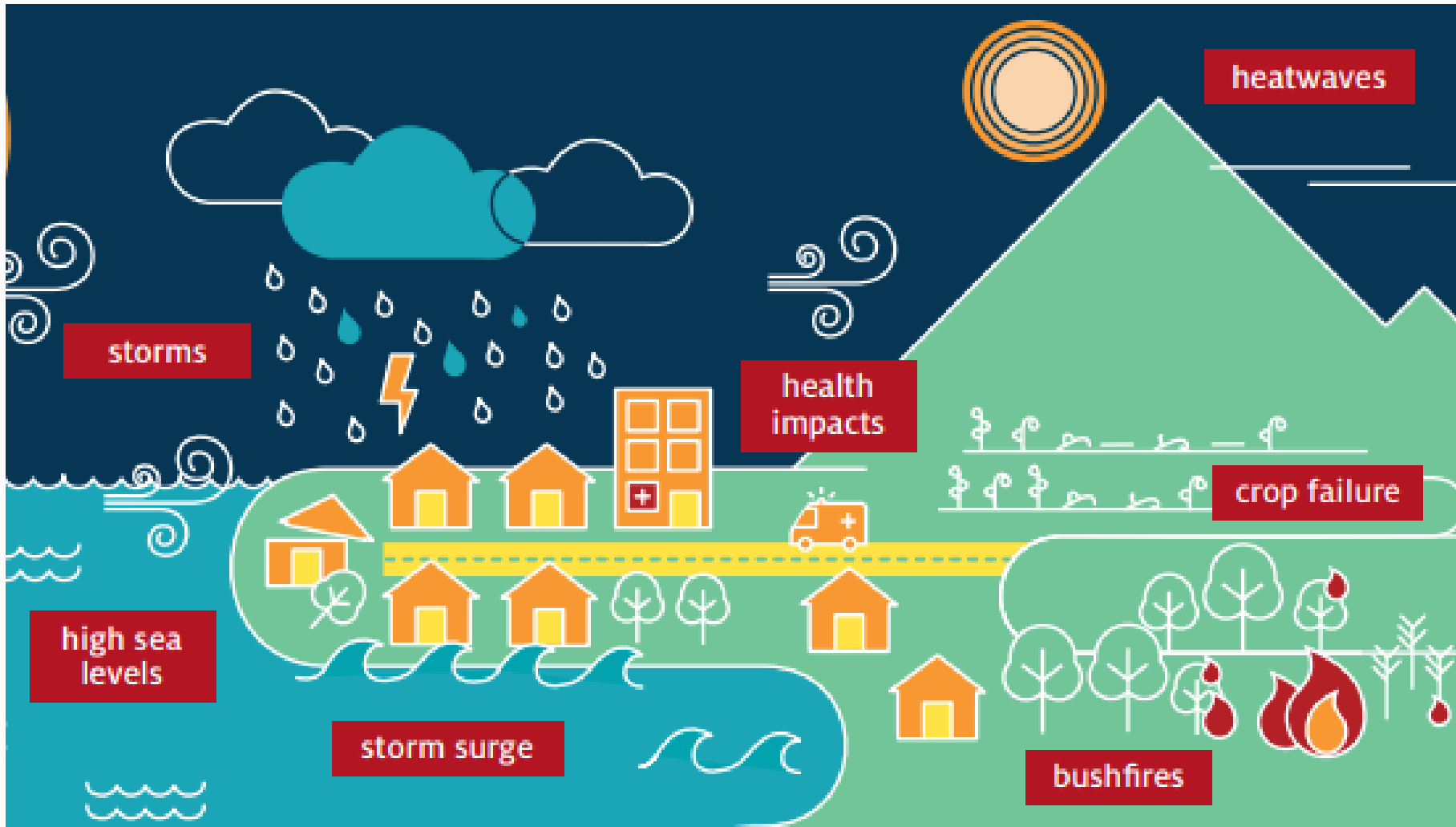
Convened by: Tanya Patterson and Amanda Broad

Why is building resilience so important?

Wisner's Pressure and Release (PAR) Model



Risk mitigation reduces dynamic pressures & unsafe conditions



Source: Australia's Coast Adapt



2018 **UR⁺** Understanding Risk
in the built environment
British Columbia April 16-17th, 2018



Reducing Risk and Building Resilience in BC's Existing Building Stock

Convened by: Tanya Patterson and Amanda Broad

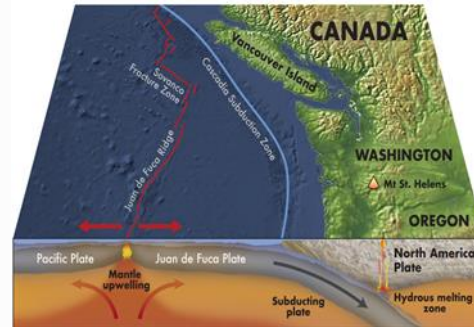
Understanding Disaster Risk

Vulnerabilities
(exposure)



X

Hazard



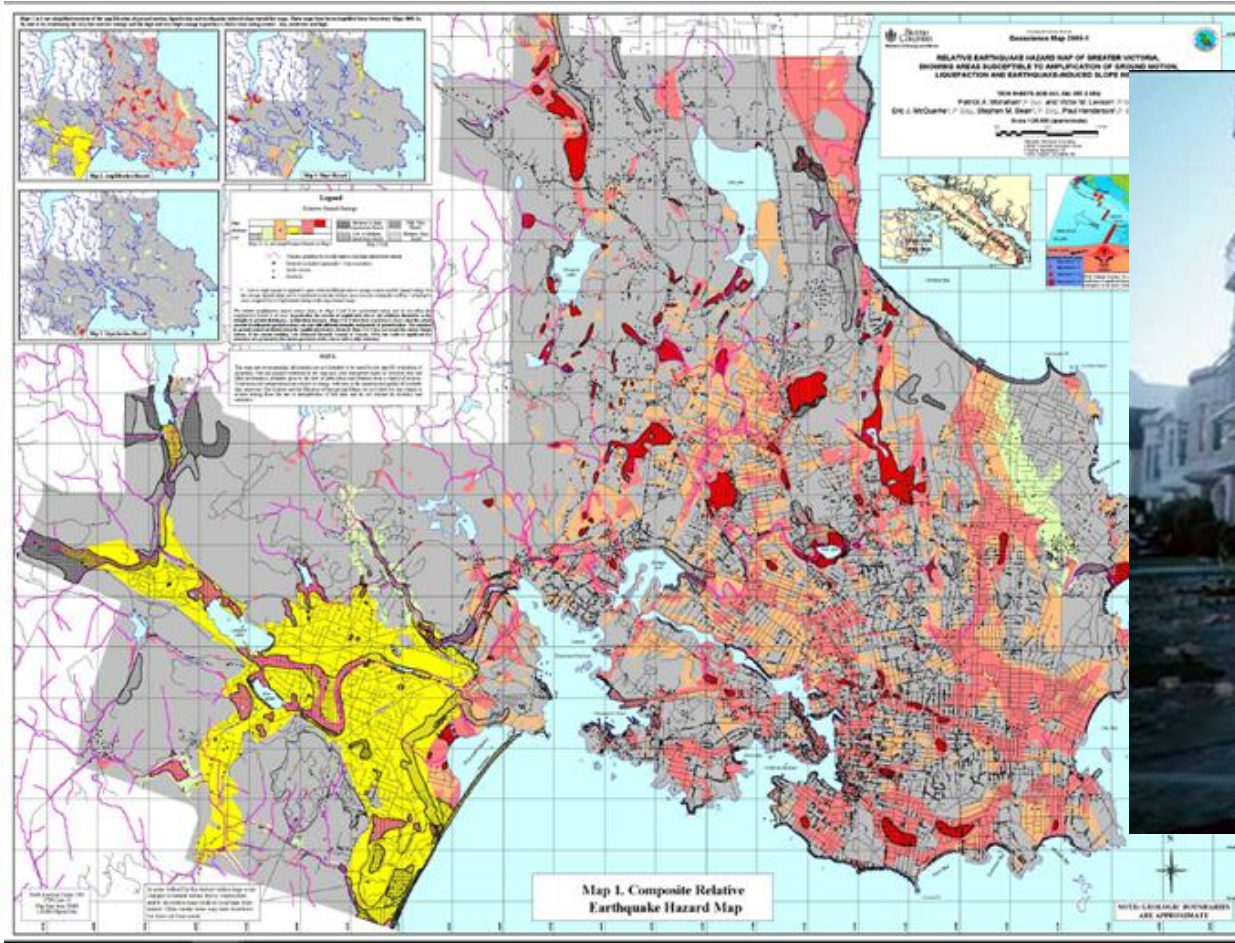
=

DISASTER RISK



Susceptibility to harm and
lack of capacity to cope
and adapt





Liquefaction Map for Greater Victoria

2018 **UR⁺** Understanding Risk
 in the built environment
 British Columbia April 16-17th, 2018



Reducing Risk and Building Resilience in BC's Existing Building Stock

Convened by: Tanya Patterson and Amanda Broad



2018 **UR⁺** Understanding Risk
in the built environment
British Columbia April 16-17th, 2018



Reducing Risk and Building Resilience in BC's Existing Building Stock

Convened by: Tanya Patterson and Amanda Broad



2018 **UR+** Understanding Risk
in the built environment
British Columbia April 16-17th, 2018



Reducing Risk and Building Resilience in BC's Existing Building Stock

Convened by: Tanya Patterson and Amanda Broad

By the 2050s Vancouver will have

HIGHER SEA LEVELS

As our oceans get warmer and glaciers and ice sheets melt, our sea levels will rise a lot faster.

MAJOR IMPACTS:
Sea levels may rise 0.5 metres by 2050

Sea level rise contributes to increased flood risk

WAVE EFFECTS
STORM SURGE
HIGH TIDE
SEA LEVEL RISE

Coastal habitat for birds and fish may shrink

The City of Vancouver has a plan to help limit and prepare for climate change.

Learn more:
vancouver.ca/greenestcity
vancouver.ca/climateadaptation

CITY OF VANCOUVER | GREENEST CITY

City of Vancouver

1 metre

THE EXPECTED SEA LEVEL RISE BY THE YEAR 2100 IN SURREY, IMPACTING ABOUT 20% OF SURREY'S LAND AREA

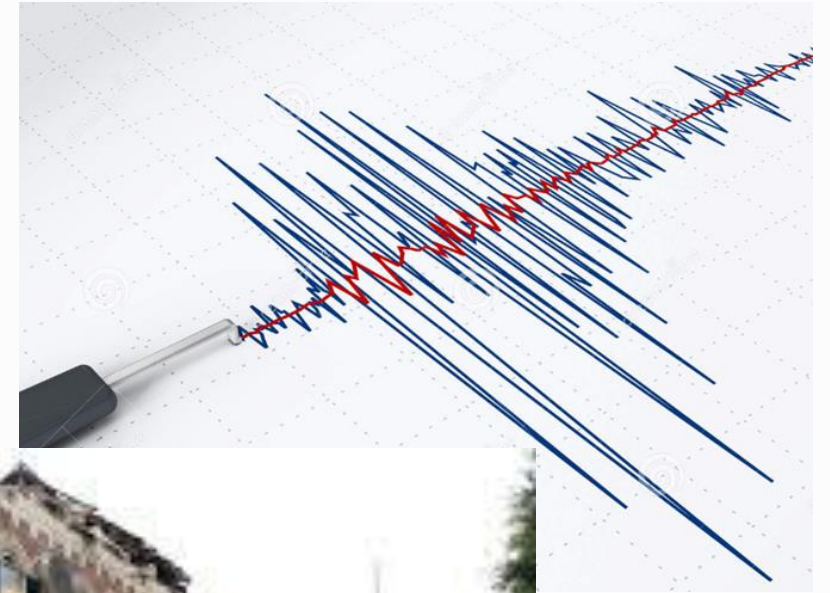
City of Surrey

2018 **UR+** Understanding Risk
in the built environment
British Columbia April 16-17th, 2018



Reducing Risk and Building Resilience in BC's Existing Building Stock

Convened by: Tanya Patterson and Amanda Broad



2018 **UR⁺** Understanding Risk
in the built environment
British Columbia April 16-17th, 2018



Reducing Risk and Building Resilience in BC's Existing Building Stock

Convened by: Tanya Patterson and Amanda Broad

By the 2050s Vancouver will have

HOTTER DRIER SUMMERS

The City of Vancouver has a plan to help limit and prepare for climate change.

Learn more:
vancouver.ca/greeneastcity
vancouver.ca/climateadaptation

MAJOR IMPACTS:

- more frequent heat waves
- hottest days even hotter 37°
- twice as many days above 25°C
- WHICH MEANS:** increased health risks to vulnerable people
- 20% less rain
- increased water restrictions

CITY OF VANCOUVER | **GREENEST CITY**

By the 2050s Vancouver will have

WETTER AUTUMNS

The City of Vancouver has a plan to help limit and prepare for climate change.

Learn more:
vancouver.ca/greeneastcity
vancouver.ca/climateadaptation

MAJOR IMPACTS:

- heavy rain events 35% more intense
- 21% more rain on the wettest days
- WHICH MEANS:** a higher flood risk

CITY OF VANCOUVER | **GREENEST CITY**

2018 **UR+** Understanding Risk
 in the built environment
 British Columbia April 16-17th, 2018



Reducing Risk and Building Resilience in BC's Existing Building Stock

Convened by: Tanya Patterson and Amanda Broad



Christchurch New Zealand Earthquake

2018 **UR⁺** Understanding Risk
in the built environment
British Columbia April 16-17th, 2018



Reducing Risk and Building Resilience in BC's Existing Building Stock

Convened by: Tanya Patterson and Amanda Broad



2018 **UR⁺** Understanding Risk
in the built environment
British Columbia April 16-17th, 2018



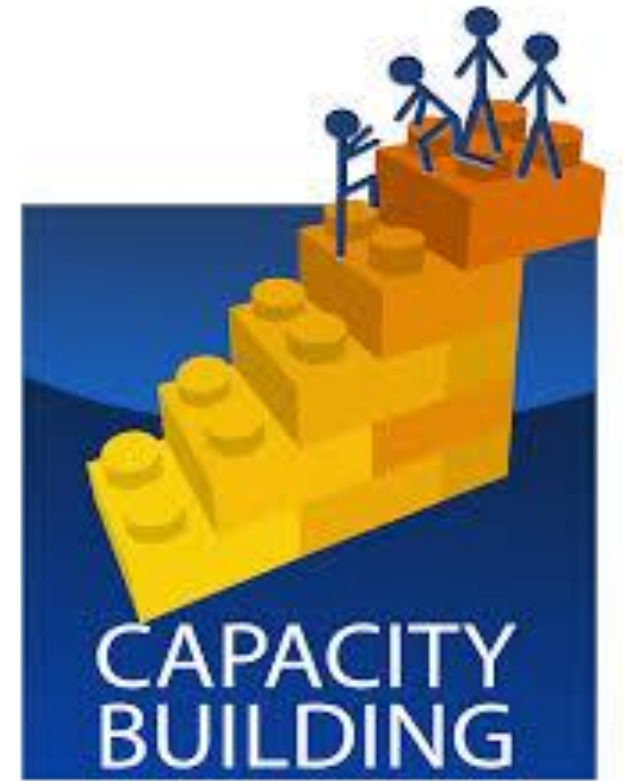
Reducing Risk and Building Resilience in BC's Existing Building Stock

Convened by: Tanya Patterson and Amanda Broad

CITIZEN ED

EDUCATION IS POWER

research



2018 **UR⁺** Understanding Risk
in the built environment
British Columbia April 16-17th, 2018



Reducing Risk and Building Resilience in BC's Existing Building Stock

Convened by: Tanya Patterson and Amanda Broad



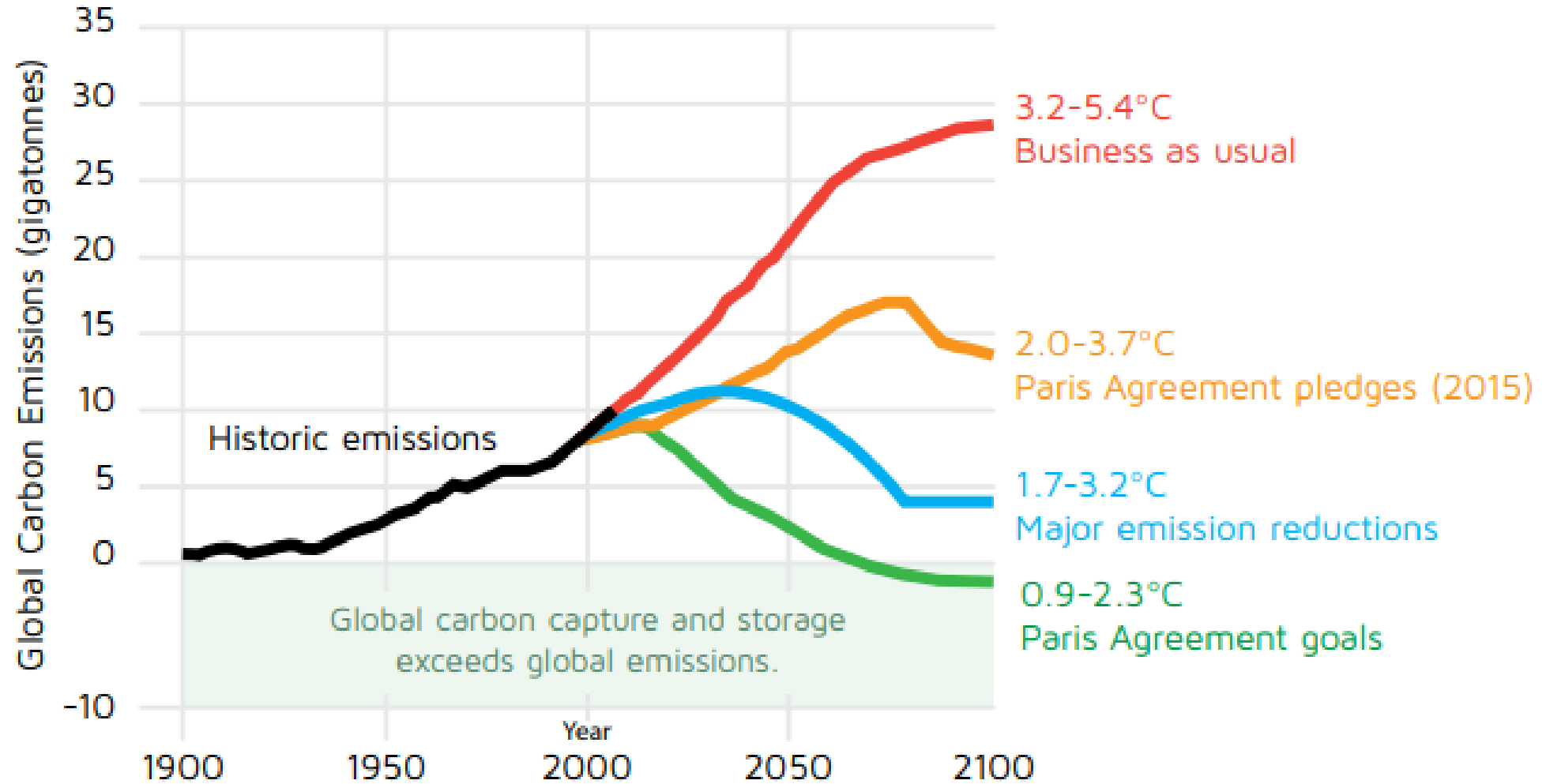
2018 **UR⁺** Understanding Risk
in the built environment
British Columbia April 16-17th, 2018



Reducing Risk and Building Resilience in BC's Existing Building Stock

Convened by: Tanya Patterson and Amanda Broad

Four global emission scenarios to 2100





2018 **UR+** Understanding Risk
 in the built environment
 British Columbia April 16-17th, 2018



Reducing Risk and Building Resilience in BC's Existing Building Stock

Convened by: Tanya Patterson and Amanda Broad



REGULATION



2018 **UR⁺ Understanding Risk**
in the built environment
British Columbia April 16-17th, 2018

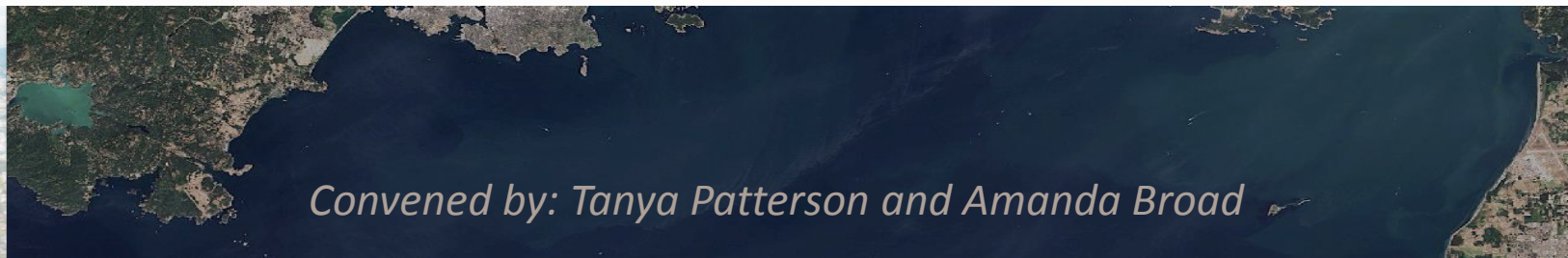


Reducing Risk and Building Resilience in BC's Existing Building Stock

Convened by: Tanya Patterson and Amanda Broad



2018 **UR⁺** Understanding Risk
in the built environment
British Columbia April 16-17th, 2018



Convened by: Tanya Patterson and Amanda Broad



2018 **UR⁺ Understanding Risk**
in the built environment
British Columbia April 16-17th, 2018



Reducing Risk and Building Resilience in BC's Existing Building Stock

Convened by: Tanya Patterson and Amanda Broad

Welcome to

2018 **UR⁺** Understanding Risk
in the built environment

British Columbia

April 16-17th, 2018

#URBC

Sponsored by

