# Adapting to Climate Change on the British Columbia Coast

# Video Series

https://www.youtube.com/playlist?list=PL bER4Sxdn0R4RKkJN5sKGzM0CdkOjUQs1

#### Scope

Adapting to climate change can be manageable if its planned early, and if its implemented in small steps. Our relationship with water will be central to our adaptation to climate change.

This Video Series provides an introduction to living with climate change on the BC Coast, with special attention to three subject areas:

- Coastal Flood Management examples of adaptation to sea level rise
- Rainwater Management examples of adaptation to changed precipitation and stormwater patterns
- Water Conservation examples of adaptation to seasonal droughts

## Audience

Our audience for these videos is the general public and their elected representatives. We introduce key concepts, and we show what our colleagues are doing to adapt right now. The actions shown in the video series have benefits that extend beyond resilience to climate change.

For links to the series embedded in web-pages, please use: https://www.youtube.com/playlist?list=

PLbER4Sxdn0R4RKkJN5sKGzM0CdkOjUQs1

For embedding module-specific URLs, please select them from the series on the YouTube channel.



# Viewing the Series

You may choose to watch one or two modules only to address a specific issue. Or you may focus on modules in only one of the three themes: Coastal Flood Management, Rainwater Management, or Water Conservation.

#### B.C. Adapts: Climate Change Backgrounder

Please be sure to review the Backgrounder video in the first module. It introduces recent climate change trends in BC that are relevant to all the videos that follow.

After viewing the Backgrounder video, you may watch the videos in any order. Viewing in numerical sequence provides a 'general to specific' organization. Links to more detailed science-based and technical information are provided at the end of each video module.



Coastal Flood Management

Planning for Sea Level Rise: By planning ahead and building Sea Level Rise

adaptation into our projects now, we can save human lives and property, preserve our coastal ecosystems, and minimize trauma and expense of disaster-response in coastal floodplains.

Coastal Flood Management (2)



Partnerships for Sea Level Rise Adaptation: A wide variety of stakeholders have an interest in avoiding flooding consequences. There are some surprising opportunities for partnerships in funding and implementing adaptation.

Coastal Flood Management (3



Adapting Existing Buildings & Neighbourhoods: We need to avoid building new communities in locations where they will have to be relocated when sea levels rise. Where buildings and neighbourhoods already exist in a coastal floodplain, adaptation innovations can reduce the consequences of coastal flooding.

## Coastal Flood Management

Design of Raised Shorelines: Increased Sea Level Rise may create a need to raise shorelines at existing developments – by dikes, floodwalls, or raised beaches. Careful site-specific design is required for all types of raised shorelines.

#### Coastal Flood Management (5)



Green Shores: Green Shores strive to work with shoreline physical and biological processes to adapt to sea level rise. They often include a raised beach with gentle slopes of sand and gravel, and protect or re-introduce shoreline native vegetation to provide habitat and filter pollutants.













## Coastal Flood Management 6

Integration into Urban Design: High density and mixed use developments can be compatible with climate change. But there are urban design challenges that will require creative solutions, including how raised floors relate to streets, and in phasing of adaptation as redevelopment occurs incrementally.















#### Rainwater Management (1)

Why? An Introduction: In British Columbia, climate change is expected to bring more intense short duration storms and increased runoff from roof and pavement. To adapt to climate change, we need to increase the use of low impact green infrastructure across our urbanizing watersheds.

#### Rainwater Management (2)

**Streets & Surface Parking:** Adding green infrastructure to streets can increase water quality and reduce the volume of runoff entering stormwater pipes. Rainfall can take natural pathways through the soil to support groundwater and ecosystems.

#### Rainwater Management 3



Design for the Rainfall Spectrum: Green infrastructure should be designed to perform in all three tiers of the rainfall spectrum: small (including showers), large (annual storms), and extreme (rare occurrences).

#### Water Conservation



Why? An Introduction: Climate change induced summer droughts are expected to make the need for effective water conservation more urgent than ever. New technologies to make water conservation easy are becoming mainstream around the world.

#### Water Conservation 2

Water Conservation Outdoors: As we adjust to climate change induced summer droughts, reducing our outdoor water use can reduce our impacts on water needed to keep streams flowing and wetland habitat wet.

# Water Conservation 3

**Rainwater Harvesting:** Water from rooftops is relatively clean. While not suitable for human contact without treatment, it has several beneficial uses in our yards and buildings. As climate change creates more summer drought conditions, and water prices rise, rainwater harvesting and reuse will become increasingly common in BC.

# Water Conservation

Water Treatment & Reuse: Tertiary treatment of wastewater can create nonpotable water for irrigation, toilet flushing, laundry, and industrial processes. The 'fit for use' application of water resources is key to climate change adaptation.

# With funding and in kind support from:



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