



Pacific Institute  
for Climate Solutions  
Knowledge. Insight. Action.

## Climate Insights 101 Questions and Discussion Points Module 2, Lesson 3: Climate Impacts in British Columbia

Available at: <http://pics.uvic.ca/education/climate-insights-101>

### 1. Climate change impacts

#### Questions

What are at least three ways that climate change may affect water resources? (Ref slide 3)

Why are projected changes in streamflow important in the Campbell River Basin even though the annual total is not projected to change much? (Ref slide 4)

What portion of British Columbia's hydroelectric generating capacity comes from the Canadian Columbia Basin? (Ref slide 5)

How do projected changes in streamflow differ between the Columbia and Peace River basins? (Ref slides 6 and 7)

What are three examples of forest pests that could impact British Columbia's forest industry in future? (Ref slide 10)

Is spruce projected to be a suitable tree species in the Columbia basin in the 2080s? (Ref slide 11)

Is Douglas-fir projected to be a suitable tree species in the Columbia basin in the 2080s? (Ref slide 11)

How much deeper would the depth to the corrosive layer be on the west coast of North America if not for human emissions of greenhouse gases? (Ref slide 15)

How many growing degree days would be contributed to the annual total by a day that was 15°C? (Ref slide 17)

In which months is extreme precipitation projected to increase the most in Vancouver? (Ref slide 18)

By the 2050s how often is what was in the past a 1-in-25 year extreme hot day projected to occur? (Ref slide 18)

### **For Discussion**

Is the watershed where you live snow-dominated, rain-dominated, or hybrid? What role does this play in the projected hydrological changes that could result from warming? From increased winter precipitation? From decreases summer precipitation? (Ref slides 3, 4, 5, 6, 7)

In locations where some climate models indicate that a tree species will be suitable in future and other models indicate that it will not be, what kinds of local knowledge might be used by a forest practitioner to decide which locations to continue to plant that species in and which to use a different species instead? (Ref slides 11, 12, 13)

How does the area of ocean projected to have a low depth of aragonite saturation horizon (below 100 m) compare between the RCP2.6, 4.5, and 8.5 emissions pathways at the end of the 21st century? How do these compare to the preindustrial period? (Ref slide 15)

More growing degree days imply new agricultural opportunities in the future. What other aspects of climate may affect agriculture in British Columbia in future? What about agriculture in your region in particular? (Ref slide 17)

Annual precipitation is projected to increase by 13% in Vancouver by the 2050s. What is the percentage increase in precipitation during very wet days associated with this change? (Ref slide 18) Explain how this change can be larger than the change in annual precipitation – make reference both to the average and variability. (Ref slide 19)