366 / ~375

Imagine you are a bear living in a forest with plenty of berries, like in the picture in the top left. Resources are high and predictable, so you don’t have search much for food before you get full.

As summer leads to fall and fall to winter, food becomes scarce. Fortunately, you predicted resources would be low and prepared to hibernate until spring.

The warm spring weather wakes you from hibernation, and you start feeding on juicy, young plants. However, this year is different. Food is still abundant, but it isn’t raining as often, so it’s hard to predict where the greenest spots are.

As summer comes, a fire sweeps through the forest. The once lush environment is now a barren landscape you can no longer rely on for food.

*(1 min)*

Resource abundance and unpredictability strongly affect how much space animals need to survive and be healthy. Generally, animals with high resources need less space than those with low resources, and animals with predictable resources need less space than those with unpredictable resources.

However, we don’t have formulas that tell us how big of a difference resource abundance and unpredictability make, and this prevents informed decisions on where and how big protected areas should be. These are critical issues, particularly since the federal government committed to conserving 30% of Canada’s land and waters by 2030.

*(2 min)*

This is where my work comes in. Using tracking data from over 3,000 animals and 85 mammal species around the world, I will estimate the effects of resource abundance and unpredictability on mammals under different climate change scenarios. Through my collaboration with BC Parks, I aim to inform the conservation of mammal species in BC so we can ensure the habitats we protect will be of high quality over the next century.

We all know climate change is a serious threat to both us humans and Nature, but we do not know much about how climate change will affect animal movement. Well-informed predictions of habitat quality are the first step towards providing wildlife a safe place to live long-term and ensuring our children and grandchildren will be able to see wildlife without going to the zoo.