

My name is Kelly Elder and I am a research hydrologist with the Rocky Mountain Research Station in Fort Collins, Colorado and I also am the Scientist

in Charge at the Fraser Experimental Forest.

In the Western United States, about 90 percent of the water that we actually have to use comes in the form of snowmelt runoff.

So, the research branch of the Forest Service studies water.

The primary thing that I work on is water distribution and water yield,

What do you do

or the amount of water that we get out of the mountains.

My specialty happens to be snow.

We partner with a number of other agencies; NASA, USGS, NOAA, a number of universities,

and we're all working on this problem together.

Then the ultimate goal is to put something in space that will help us map snow over space.

Once we can map this over larger spaces and map it accurately,

we're going to have a large improvement in our ability

to forecast runoff and hydrologic processes.

Tools

Along with the remote sensing, there's three tools that we really use

to do our research in watersheds.

The first is meteorological towers which you see behind me.

There's a number of instruments on here that help us use weather for modeling.

We also use ground-based surveys; we go out in the woods and work on skis

and off of snowmobiles and snowshoes and take a lot of measurements.

The last tool that we use are discharge measurement structures.

We have six weirs in this basin and these give us a very accurate measurement

of water discharge or stream flow.

That integrates all the processes in the basin.

We then translate that to water supply that helps people in cities and agriculture, places where water is needed.