

## Bristlecone Pine Data Collection Worksheet

Objectives:

- 1) Learn the background of Bristlecone pines and what environmental information we can learn from these very special and very old trees that grow at high elevation.
- 2) Answer the questions on the second page of this handout using the information from lecture on Monday, March 31<sup>st</sup>. (see the **powerpoint: Lecture24\_bristlecone**)
- 3) Review the websites listed on the second page. These websites contain information about five bristlecone pine sites that we will be studying in our activity on Friday. Use the websites on the following page to fill in the site data table.

### Bristlecone pine sites:

Three in California:

**Sheep Mt (SHP) – temperature-sensitive**

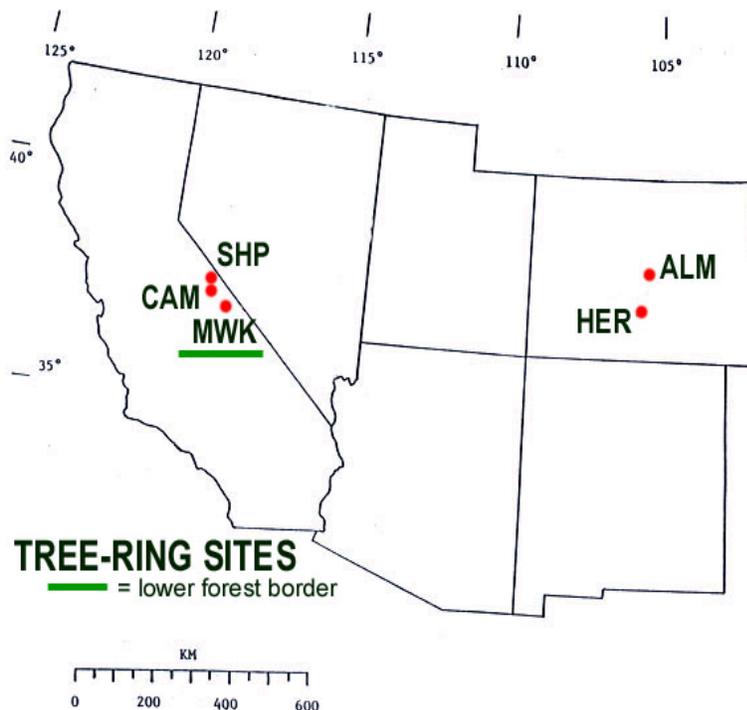
**Campito Mt (CAM) -- temperature-sensitive**

**Methuselah Walk (MWK) – moisture sensitive**

Two in Colorado:

**Almagre Mt (ALM) -- temperature-sensitive**

**Hermit Lake (HER) -- temperature-sensitive**



**Part 1) Use the lecture slides from class on Monday (Lecture24\_bristlecone), and answer the following questions:**

- 1) What is the difference between a temperature-sensitive and moisture-sensitive site?
  
- 2) What is a skeleton plot master?
  
- 3) What information is shown in a skeleton plot master?
  
- 4) What is a frost ring?
  
- 5) What causes a frost ring to form in a bristlecone pine?

**Part 2) Fill in the site data table:**

There are three websites with about each site, necessary to fill in the data table:

**Site Photo and information:** [http://www.ltrr.arizona.edu/kkh/natsgc/5-site\\_photos.htm](http://www.ltrr.arizona.edu/kkh/natsgc/5-site_photos.htm)

**Skeleton plot masters:** [http://www.ltrr.arizona.edu/kkh/natsgc/skeleton\\_plots.htm](http://www.ltrr.arizona.edu/kkh/natsgc/skeleton_plots.htm)

**Ring width indices:** <http://www.ltrr.arizona.edu/kkh/natsgc/indices.htm>

**Site Date Table (use the site photos website)**

<b>Site Name</b>	<b>Sheep Mountain (SHP)</b>	<b>Campito Mt (CAM)</b>	<b>Methuselah Walk (MWK)</b>	<b>Almagre Mt. (ALM)</b>	<b>Hermit Lake (HER)</b>
<b>Geographic Location</b>	White Mountains, California	White Mountains, California	White Mountains, California	Rocky Mountains, Colorado	Rocky Mountains, Colorado
<b>Elevation (meters and feet)</b>					
<b>Upper Forest Border</b> <b>Lower forest border</b>	Upper	Upper	Lower	Upper	Upper
<b>Moisture-sensitive vs. Temperature sensitive</b>	Temperature	Temperature	Moisture	Temperature	Temperature
<b>Rock Type</b>					
<b>Describe something interesting from the site photos website</b>					
<b>Go to the skeleton plots website: Look at the skeleton plot masters for each site and collect the examine the data about frost rings</b>					
<b>What is the number of frost rings for the site?</b>					
<b>Which century has the most frost rings?</b>					
<b>Go to the indices website: Look at the time-series plots of tree ring width for each site. Describe the trends in the data.</b>					
<b>Describe the trend in the ring widths over time</b>					
<b>Is there a difference before and after 1850?</b>					
<b>Is the variance high or low for the plot? (look at all plots first)</b>					
<b>Is there anything interesting you see in the plot?</b>					