

## Meteorology

Date:    /    /

Name \_\_\_\_\_

### Dendrochronology and Climate

#### Objectives:

- To extract and prepare tree cores of high quality.
- To determine if there is a correlation between past climate and tree ring growth.
- To observe any climate trends that may be present in the local area.

#### Graphs:

Construct a point to point line graph showing the amount of precipitation received at Mohonk since 1940.

Construct a second line graph that shows the thickness of the tree rings beginning with the most recent growth.

Overlap the two graphs and shift them back and forth to determine if there is a correlation between them

#### Questions:

How old does your sampled tree appear to be? \_\_\_\_\_

What is the radius of the tree sampled? \_\_\_\_\_ What is the tree's average rate of growth? \_\_\_\_\_

Does the precipitation data appear to be cyclic or random? How can you tell? \_\_\_\_\_

\_\_\_\_\_

If it is cyclic was it the average length of the cycle? \_\_\_\_\_

If you did find a correlation, by how many years did you need to shift your tree ring graph to see the relationship? Why was it necessary to shift the graph? \_\_\_\_\_

\_\_\_\_\_

What trends, if any seem to be present in either the precipitation or tree ring data? \_\_\_\_\_

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#### Uncertainty Analysis:

Describe non-human reasons why your data may have some uncertainty.

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## Data Table

Estimate and record the width of each tree ring to the tenth of a mm.

Years before present	Ring Width		Years before present	Ring Width
0			30	
1			31	
2			32	
3			33	
4			34	
5			35	
6			36	
7			37	
8			38	
9			39	
10			40	
11			41	
12			42	
13			43	
14			44	
15			45	
16			46	
17			47	
18			48	
19			49	
20			50	
21			51	
22			52	
23			53	
24			54	
25			55	
26			56	
27			57	
28			58	
29			59	