# Lesson 2: Atmosphere activities – Time Series handout

[A graph with red lines

Description automatically generated](https://codap.concord.org/app/static/dg/en/cert/index.html#shared=https%3A%2F%2Fcfm-shared.concord.org%2F4H0xTFN68m9Py9GO5wRI%2Ffile.json)

1. What can we tell about how the ozone hole has **changed** over time?
2. Which year has the **maximum** value?
3. What could we do to make this graph **better**?

[A graph with orange lines

Description automatically generated](https://codap.concord.org/app/static/dg/en/cert/index.html#shared=https%3A%2F%2Fcfm-shared.concord.org%2F4H0xTFN68m9Py9GO5wRI%2Ffile.json)a) Is this a more **useful** graph than the time series for individual days? Are the trends more **obvious**?

b) What are the **similarities** in the trend of the two graphs?

c) What are the **differences**?

[A graph of the average and maximum ozone hole area

Description automatically generated](https://codap.concord.org/app/static/dg/en/cert/index.html#shared=https%3A%2F%2Fcfm-shared.concord.org%2F4H0xTFN68m9Py9GO5wRI%2Ffile.json)

The graph shows both the maximum and the mean ozone hole area for each month

1. Can you describe the **differences** or **similarities** in shape?
2. Why might the maximum ozone hole area be more **useful** than the mean?

[A graph of a graph

Description automatically generated](https://codap.concord.org/app/static/dg/en/cert/index.html#shared=https%3A%2F%2Fcfm-shared.concord.org%2FWrhBILxS8WwVTsdafvJu%2Ffile.json)

The diagram shows how many months there were with ozone holes of different sizes

a) Is it clearer than the box plot?

b) Which is the most common ozone hole area in Spring?

c) Is the number of months with 0 to 2 million square kilometres ozone hole area larger than you thought from the box plot?