

Reading the Ozone Test Strip

Field Guide

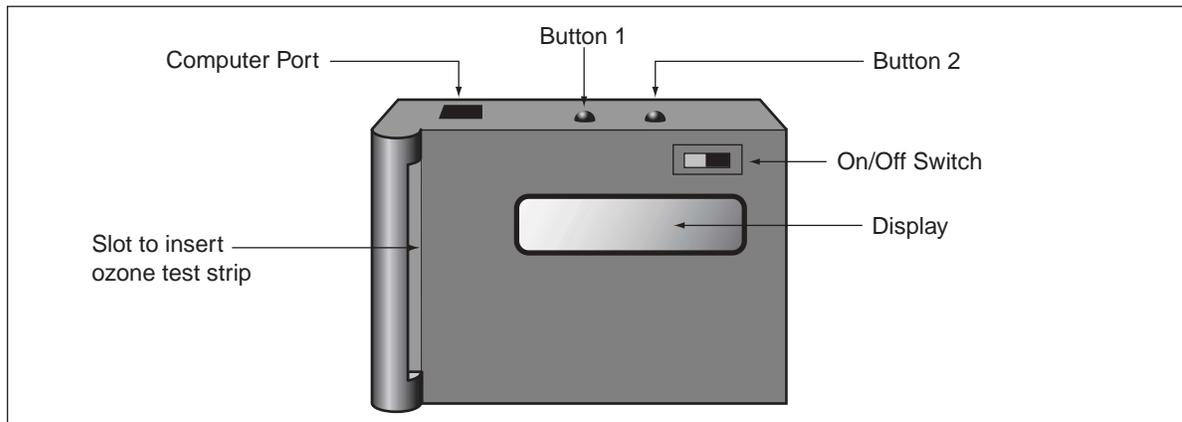
Task

Complete the measurement of surface ozone concentration after the ozone test strip has been exposed for one hour.

Record cloud conditions, wind direction, and current atmosphere temperature.

What You Need

- Ozone Test Strip Scanner
- Clipboard
- Ozone Data Sheet
- Pen or pencil
- GLOBE Cloud Chart
- Cloud Cover Field Guide
- Cloud Type Field Guide
- Measuring Wind Direction Field Guide
- Wind Direction Instrument
- Key to your instrument shelter
- A clock or watch accurate to the nearest minute



In the Field

Ten minutes before the ozone strip has been exposed for one hour:

1. Determine cloud cover and cloud type following the *Cloud Cover* and *Cloud Type Protocols*.
2. Read and record the current temperature on the thermometer.
3. Determine and record the wind direction.

After the ozone strip has been exposed for one hour:

4. Remove the test strip from the clip; be careful not to touch the chemical part of the strip.

In the Field or Classroom

5. Turn on the scanner. You should see something like the following display:



6. Slide the strip into the slot on top of the scanner until the bottom of the strip touches the base of the scanner and won't slide in any further. The chemical part of the strip should face the display and be in the center of the end of the scanner.
7. Place the scanner on a stable surface out of direct sunlight. The reading should stop fluctuating after 5-10 seconds. If it fluctuates between two numbers, choose the lower of the two readings after the test paper has been in the scanner for 10-15 seconds.
8. Record the ppb reading on your *Data Sheet*.
9. Record the time you read the ozone strip.

Note: It is not uncommon for the scanner to display more than one value. Because of the nature of the electronics in the scanner and the fact that the color on the exposed strip is rarely completely uniform (although it may appear that way to the naked eye), it is most common that the concentration shown in the display fluctuates among several values and eventually starts to increase the longer the strip remains in the unit. Because the measurement accuracy is 10 ppb, fluctuating numbers within a range of 1-5 ppb are acceptable. The goal of the surface ozone measurement protocol is to be able to distinguish between values that are regarded as low (0-20 ppb), normal (30-50 ppb) and high (>60 ppb).