

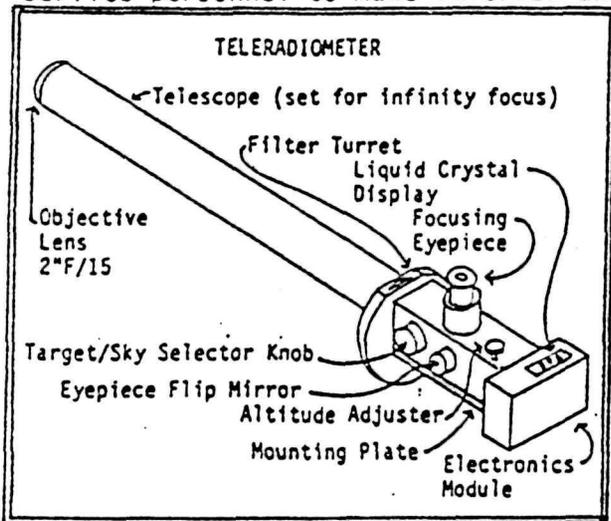


Mesa Verde
National Park
Colorado 81330



MEASURING VISIBILITY FROM FAR VIEW

The ruins, rock art, plants and animals, as well as the quality of the visitor's experience while in Mesa Verde National Park, are susceptible to air quality deterioration. Thus, the monitoring system provides an early warning system concerning pollution problems; it develops a historical record on the condition of the Park's air resources over time; and it provides the basis for National Park Service personnel to make informed and effective air resource management decisions.



The National Park Service wants to assure that the quality of visual resources of the Park is maintained for today's visitor and the generations to follow. This means the Park Service must be aware of the scenic resources and how they may be affected by changing levels of air pollution from sources both near and far.

Every day at 9:00 a.m., 12:00 noon, and 3:00 p.m., a Ranger at the Far View Visitor Center monitors air quality through the use of a "Multi-Wavelength Contrast Teleradiometer." Light reflected from a vista (vistas are distant mountains or buttes that are selected for their importance to the Park's interpretive story) forms an image that as it passes through the atmosphere is progressively

degraded in proportion to the amount of pollution in the air. The teleradiometer measures the amount of image-forming light remaining at an observation point as well as the amount of light present in the sky. By comparing image light to brightness of the open sky, a measurement of loss of visibility due to particles suspended in the air is recorded. The instrument is multi-wavelength, that is, it measures in specific wavelengths or colors of light. In detecting this, the teleradiometer aids in identification of particle source. It is known that fine particles in the 0.1 to 1.0 micron* size interfere the most with visibility, while wind blown sand has a lesser effect. Teleradiometer readings are used with comparative photographs that are taken at 9:00 a.m. and 3:00 p.m.

The National Park Service has installed additional equipment at Spruce Tree House ruin. It is designed to monitor the effects of acid atmosphere and rain on the Anasazi ruins. Information on that station is available at both the ruin and the Archeological Museum information counter.

*A micron is a unit of length, the thousandth part of one millimeter (0.000039 in.).

