

Geology by Lightplane

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photos: L.J. Maher

<http://www.geology.wisc.edu/~maher/air.html>

Editor's note: The journal *Science* featured Lou's *Geology by Lightplane* website in their weekly *NETWATCH* (*Science*, 6 April 2001, vol. 292, p. 19).

A problem arose while I was working on a closed-circuit educational television class in geology in 1966. Many of the available photographs and films that I wanted to use were copyrighted. Although they could be shown free to normal classes, royalties were required once they were put on videotape. I decided to solve the problem by getting a couple of cameras and spending a month in the West filming my own material. Then a happy thought occurred to me. Why not take some of the pictures from the air? I had earned a private pilot rating in 1964 and had logged about 90 flight hours. It happened that the geophysics section of our geology department owned a Cessna 170B that had been purchased for aeromagnetic research. At the time N2398D was sitting empty at Middleton's Morey Airport, and the University of Wisconsin agreed to absorb 100 hours of flight time for the project. Graduate student and project assistant Charles F. Mansfield indicated he was willing to come along as photographer; I could not have found a more able colleague.

I have used the color film taken during the flights of 1966 long after the black and white videotapes were discarded, and I have added to the collection over the years. While it is important to have detailed ground-based slides to illustrate geological features for introductory classes, a few shots from the air help to establish their overall relationship.

These air photos have been very useful in my teaching. I think they can be useful teaching aids for others. I have copyrighted the digital image files, but I am making 335 of them available at no cost for noncommercial educational use.

The photos were taken of South Dakota's Badlands and Black Hills; Wyoming's Devils Tower and Bighorn Mountains; Colorado's Spanish Peaks, Great Sand Dunes National Monument, and the San Juan Mountains; New Mexico's San Juan Basin and Shiprock; Arizona's Meteor Crater, Chevelon Fork Sinkholes, San Francisco Peaks, and Colorado River;

Utah's San Juan River, Arches National Park, Salt Lake, and Bonneville Beaches; Idaho's Craters of the Moon; Wyoming's Yellowstone Park, Jackson Hole, Glaciers of the Wind River Mountains, Owl Creek Mountains, Sheep Mountain, and Bighorn Basin; Illinois' strip mines; Kentucky's sinkholes; Indiana's limestone quarries; Shorelines of Michigan, Superior's Apostle Islands and Long Island in Chequamegon Bay. There are glacial features of the Midwest, scenes of floods, tornadoes and streams, the Baraboo syncline and Devils Lake.

You can examine these photos by pointing your Internet browser to <http://www.geology.wisc.edu/~maher/air.html> where the photographs are reduced to a width of 640 pixels. They are generally arranged geographically by a particular day's flight. Each picture is accompanied by a caption that provides photo identity number, geographic orientation, location, and the date it was taken.

Detailed 2000-pixel-wide JPEG versions of these photos (averaging 1MB in size and suitable for video projection or for slides) can be downloaded individually by photograph number from the ftp site listed below. (This site can be reached directly by clicking on a hot link at the website listed above.) First make a list of the identity numbers of the pictures you want. At the ftp site, those using a Netscape Web Browser can click on the photograph number in order to load the photo to your screen; then right-click your screen to "Save the image as...." Click on "Back" to load another image. (The Microsoft Browser has a somewhat different procedure for getting and saving the file.) Do not forget to take a copy of 00readme.txt, an ASCII file that contains all the photograph captions. The URL address of the ftp site is:
<ftp://geology.wisc.edu/pub/air>

Graphics files tend to be large, and they are easiest to download if you have fast access to the Internet. If you are working from a modem, you might want to contact me about obtaining all the slides on a CD-ROM; you could make a donation to the department to cover its expenses. There is a mailto link at the website.