# NOAA NGDC has a solar image scanning data rescue effort funded by the NOAA CDMP (Climate Database Modernization Program) program.

The National Oceanic and Atmospheric Administration (NOAA) Climate Database Modernization Program (CDMP) funds some data rescue efforts within NOAA line organizations to make climate and environmental data more accessible and easier to use. Data restricted to file cabinets and Warehouse storage are becoming accessible via the World Wide Web. NOAA's National Geophysical Data Center (NGDC) holds solar imagery back to the 1920s, available on 35 mm microfilm, as well as printed photos and drawings. A CDMP project was funded to scan many solar images to digital format and make them available on the NGDC Website. The scanned daily images document many phases of solar activity, from decadal variation to rotation variation to daily changes. The images include the wavelengths Calcium K, Hydrogen Alpha, and white light photos, as well as sunspot drawings and the comprehensive drawings of a multitude of solar phenomena on one daily map (Fraunhofer maps and Wendelstein drawings).

**Boulder H-alpha film strips** are scanned at 4000 pixels per inch 16-bit gray scale on a Nikon Super Coolscan 500 ED scanner (see PDF description) with a density range of 4.8. The scanner has a 3,964-pixel, two-line linear CCD image sensor.  The Boulder H-alpha film strips have 12 images per day, with two overexposed images showing the solar prominences on the limb of the solar disk, and occasionally an underexposed black background image that can be used to subtract out any artifacts in the system.  Daily images can be 10 seconds apart and are useful for identifying scratches, lint, speckling, and emulsion deposits or other non-solar phenomena on each individual frame.

On the daily images, North is at the top and East is on the left.  No corrections are made for the solar P (position angle of axis), Bo (heliographic latitude), and Lo (heliographic longitude) angles.  The file names indicate the approximate time of observation (YYYYMMDD_HHMMHFxBO, where HFx=Hydrogen, Film, sequence letter, and BO indicates the station Boulder).  The user should read the actual time of observation from the clock located at the top of the image.  Some offband images are available, as well as some blowup images of interesting regions of solar activity.