

MAPS OF THE SKY

Sky Charts

These are maps of the sky useful for the identification of constellations and of stars and other celestial objects. They differ from star atlases in that they lack a grid of coordinates. They also generally provide much less detail.

Sky and Telescope: star chart in the centerfold every month for the northern hemisphere with the sky appropriately oriented for that month and showing horizons for various latitudes. A similar chart appears bi-monthly for the southern hemisphere. Indicates some double stars and variable stars and includes a few Messier and other non-stellar objects.

Edmund Star and Satellite Path Finder. Similar to Sky and Tel. chart but far less detailed. A ***planisphere***, the chart rotates on a pivot to show changes of date and time.

Astronomical Calendar (annual publication): Gives much information for the current year useful to observers. Includes monthly sky chart with information; published in the January issue of Sky and Telescope.

Atlases and Catalogues

There are three basic kinds of atlases:

plotted atlases (stars are plotted against a grid of right ascension and declination).
photographic atlases (charts that are direct reproductions of photographs of the sky) and
digital (CCD images or scanned photos of the sky, accessible by computer)..Below are some of the most used atlases.

BECVAR - Atlas Coeli - Skalnate Pleso Atlas of the Heavens: Whole celestial sphere in 16 color charts, 27" by 18". Limiting magnitude 7.75. Epoch 1950.0. 35,000 celestial objects including stars, visual doubles, variables, nebula, clusters, galaxies and radio sources. Also, - **Skalnate Pleso Atlas of the Heavens - Field Edition**: is the same as above but 2/3 the scale and designed for outdoor use. White stars on black background.

BECVAR Catalogue: To accompany Becvar Atlas, 359 pages of tables give data on objects shown on Becvar Atlas. Includes coordinates and other data on 6,500 stars. Epoch 1950.0. Tables of double stars, variables, and novae, open and globular clusters, galaxies and radio sources. Contains catalogue of Messier's 109 objects, constellations and names of the bright stars

Norton 2000.0: Whole celestial sphere in 8 double page maps. Limiting magnitude 6.5. 8,400 stars and 600 nebula and clusters. Epoch 2000. Indicates variables and some star colors. Shows boundaries of constellations and milky way. Table accompanying maps give coordinates and descriptive information on variables, doubles and clusters. Size suitable for outdoor use. 65 pages of text give wide range of information useful to amateurs.

Edmund Mag. 5 Star Atlas: Similar to Norton but less complete.

Smithsonian Astrophysical Observatory Atlas: Whole celestial sphere in 152, 11" by 14" charts. Non-stellar objects included to 13th magnitude.

SAO Star Catalogue: basic data from which SAO star positions are plotted. 4 volumes, 258,997 stars each assigned an SAO number. Gives coordinates, magnitude, and proper motions.

Sky Atlas 2000.0 : Most up to date plotted general atlas, to magnitude 9.0, by celestial cartographer Wil Tirion. Available as field editions, desktop (color) charts, and a liminated version. Also, the two companion volumes ***Sky Catalogue 2000.0***, for stars and nonstellar objects.

Uranometria 2000.0: Larger scale, covers the entire sky to magnitude 9.5, with selected areas in greater detail. In two volumes for both northern and southern skies.

AAVSO Star Charts: Covers the entire sky to magnitude 9.0, plus around variable stars, to a faint as mag. +14.

Photographic Atlases

Vehrenberg Atlases: Covers whole sphere in two atlases. Northern atlas includes 303 charts each covering 100 square degrees and extending from +90 deg. to -26 deg. Limiting magnitude 13. Epoch 1950.0.

National Geographic Society - Palomar Observatory Sky Survey: Prints from plates taken by the 48" schmidt telescope at Palomar and covering the whole sky from +90 deg. to -33 deg. Limiting magnitude 21. Now available on CD-Rom format.

Early Star Catalogues

Bonner Durchmusterung: Argelander's massive 3 volume charts, hand-plotted (at the eyepiece of a 3 inch f/8 refractor telescope!), the "**BD**" plots 324,198 stars from dec. -2 to 90 degrees. 1852-59.

Henry Draper Catalogue: Harvard University Observatory 1918 - 1924. The "**HD**" includes 225,000 stars.

Boss General Catalog of 33,342 Stars: 1937.

Catalogues of Non-Stellar Objects

Messier's Catalogue: A list of 110 nebula, clusters and galaxies. Available in a table in the Observers Handbook.

New General Catalogue of nebula, clusters and galaxies. Update of William and John Herschel's observations by J.L.E. Dreyer - 1888. Contains 7840 non-stellar objects with coordinates and descriptions.

Revised New General Catalogue of Non-Stellar Objects: Sulentic and Tifft - 1973. A modern revision of the above. Includes 7840 objects and corrections and updates the descriptions of the N. G. C..

Digital Atlases/Programs

The Hubble Guide Star Atlas (NASA, StSci) – Used ostensibly for the control of HST, it is a wealth of data and accurate star positions down to 23rd magnitude.

The_Sky for Windows (Software Bisque) – easily the best catalog and digital sky maps currently available.

Starry Night – A digital planetarium for computers.

Sloan Digital Sky Survey – still in progress, this ambitious project is mapping and recording the northern hemisphere sky to magnitude 22 or lower. Its results will be made available to the astronomical community via the Internet.

Specialized Catalogues

New General Catalogue of Double Stars Within 120 deg. of the North Pole: Aitden - 1932. Lists 17,181 double stars.

General Catalogue of Variable Stars - Kukarin and Parengo - 1948. In Russian - English translation of introduction.

Ephemerides

Astronomical Almanac: Published annually by the U.S. Naval Observatory, this text has ephemerides of the sun, moon, planets and the four brightest minor planets. Data on eclipses. Tables of universal and sidereal times, etc. Also available on floppy disks for computer users.

Ephemeris of Minor Planets: Ephemerides of over 4,800 minor planets.

Other Sources of Information

R.A.S.C. Observers Handbook: Published annually by the Royal Astronomical Society of Canada, it has over 200 pages of useful information and data including lists of stars, double stars, variable stars, nebula, clusters, galaxies and radio sources.

Most of the charts and catalogues discussed here can be obtained from the AAI Sales and Promotion committee or from Sky Publishing Corporation. Check S+T magazine or obtain a Sky Publishing catalogue.

