NOAA Nautical Charting Calendar

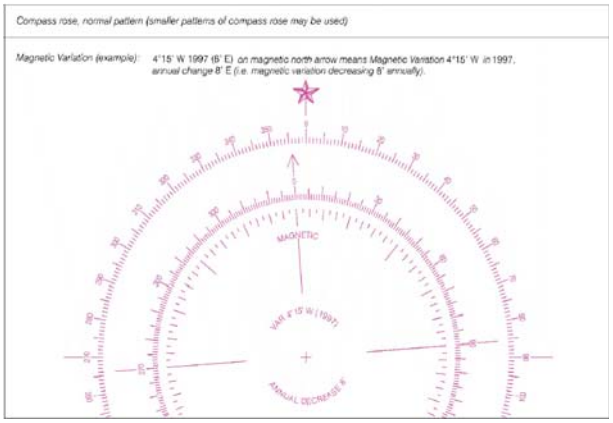
Direction and Magnetics

True direction and magnetic direction information is provided on nautical charts in various ways. Latitude and longitude lines provide north-south and east-west orientation. True and magnetic directions are provided with one or more compass roses located on the chart.

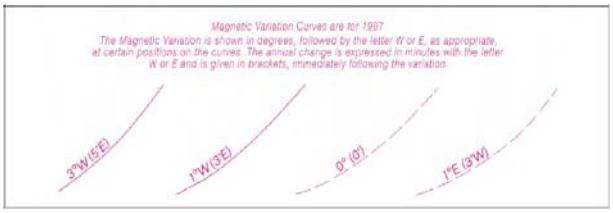
Compass roses help mariners plot courses and bearings. A compass rose consists of two concentric graduated circles. The outer circle (true rose), is graduated in increments from 0° through 360°, and is aligned with true north. The inner circle (magnetic rose) is aligned with magnetic north. The arrow atop the magnetic scale points to magnetic north. A second set of graduations within the magnetic rose is graduated in the older 32-point system (1 point = 11.25°). Another label, e.g. VAR 4° 15'W (1985) ANNUAL DECREASE 8', shows the magnetic variation for the area and the annual change. This permits adjustment to the current date because magnetic variation changes with fluctuations of the earth's magnetic field. The earliest known compass rose to indicate magnetic variation appeared on a map in the Cosmographiae Introductio of Apianus printed at Ingolstadt in 1529.

Magenta compass roses are plotted to be convenient to the most important navigational areas and at sufficiently frequent intervals so that all water areas are within reach of a parallel ruler. Compass roses are not put in water areas at the entrance to a harbor, at or near hazards to navigation, nor do the graduations obscure relevant soundings.

Local magnetic disturbances, which may cause substantial compass deflections, occur commonly in shallow water near mountain masses. Notes printed in magenta alert mariners to areas where deviations of 2° or more (3° in Alaska) exist. Magnetic variation is shown by isogonic lines on smaller scale charts. Isogonic lines connect points of equal magnetic variation.



Compass Roses with Magnetic Variation



Isogonic Lines Showing Lines of Constant Magnetic Variation

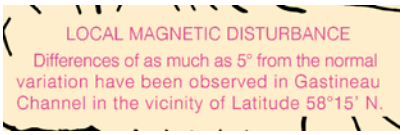


Chart Note Warning of Local Magnetic Disturbance

April 2010

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Prepared by the Office of Coast Survey, National Ocean Service, NOAA, www.NauticalCharts.NOAA.gov, 1-301-713-2770. Note: Add your information to the Calendar using Adobe Reader 7 or later. The tools are found at the Tools -> Commenting, and Tools -> Drawing Markup features of Adobe Reader.				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	