



Ship Type: All

Trade Area: Worldwide

Bulletin 173 - 01/01 - Errors in Plotting Satellite Navigation System Positions on British Admiralty Charts

This summary is intended to raise the awareness of the possible errors in plotting satellite derived positions, such as GPS, onto British Admiralty Charts without taking into account datum corrections.

Satellite derived positions are referred to World Geodetic System 1984 (WGS84) Datum. The majority of charts are currently drawn to local or region datums such as OSGB36 or ED50. Plotting a WGS84 position on a chart drawn to a different datum can result in large errors often in excess of 150 metres

When the extent of this difference has been established by the United Kingdom Hydrographic Office (UKHO) a "SATELLITE-DERIVED POSITION" note is added to the chart, providing a latitude and longitude shift value to apply to a WGS84 position before plotting onto the chart. This note must be studied carefully by mariners, as the largest current known shift is seven miles.

HOWEVER the absence of such a note must not be taken to imply that WGS84 Datum positions can be directly plotted on a chart. It simply means that the chart has not been examined and updated since 1981 and therefore the size of the shift could be very large or insignificant. Mariners must take extreme caution when using WGS84 positions on such charts, if possible other forms of fixing such as visual or radar would be advisable.

Charts are being updated by the UKHO so as to be referred to WGS84, such charts will carry the prominent legend "WGS84 POSITIONS can be plotted directly on this chart".

Most GPS receivers are able to apply corrections to the WGS84 position generated. These corrections are generalised and may differ from the parameters used by the UKHO. This could result in the positions not agreeing with the chart even if the stated datum is the same. **It is therefore recommended that the GPS receiver is kept referenced to WGS84 Datum and the position shift values provided on the chart are applied before plotting.**

Mariners are referred to the following publications for more information:

Annual Summary of Admiralty Notices to Mariners.
Admiralty List of Radio Signals vol. 8.
Admiralty Notice to Mariners NM4672(P)/99
Marine Guidance Note (MGN) 138

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