

GPS Systems: Warning of Interference

The United States Department of Transportation Maritime Administration (MARAD) has issued revised advisory notice [2020-016-Variou-GPS Interference](#) on multiple instances of significant GPS interference that have been reported worldwide.

This interference is resulting in lost or inaccurate GPS signals affecting vessel navigation, GPS-based timing, and communications equipment. Satellite communications equipment may also be impacted. Over the last year, areas from which multiple instances have been reported include the eastern and central Mediterranean Sea, the Persian Gulf, the Black Sea, and multiple Chinese ports. The U.S. Transportation Command “Message for Industry” at <https://go.usa.gov/xdSpq> provides additional GPS interference information.

MARAD advises the exercise of caution when operating underway and prior to getting underway. The U.S. Coast Guard Navigation Center (NAVCEN) and NATO Shipping Center websites contain information regarding effective navigation practices for vessels experiencing GPS disruption. The information reaffirms safe navigation practices when experiencing GPS disruptions, provides useful details on reporting disruptions, and is intended to generate further discussion within the maritime community about other disruption mitigation practices and procedures. This guidance also recommends reporting such incidents in real time; noting critical information such as the location (latitude/longitude), date, time, and duration of the outage/disruption; and providing photographs or screen shots of equipment failures experienced to facilitate analysis.

- ◆ **US Coastguard Maritime Commons** on *Good navigation practices – How one vessel master managed safe navigation during a GPS outage* <https://mariners.coastguard.dodlive.mil/2017/09/21/9212017-good-navigation-practices-how-one-vessel-master-managed-safe-navigation-during-a-gps-outage/>
- ◆ **U.S. Coast Guard Navigation Center (NAVCEN)** <https://www.navcen.uscg.gov/>
- ◆ **NATO Shipping Center** <https://shipping.nato.int/nsc>

Members may also wish to look into how to mitigate GPS jamming and spoofing.

- ◆ Various types of anti-jamming antennas, which have mitigated all but the strongest local jamming, are available, for example Controlled Reception Pattern Antennas;
- ◆ Multiple constellation GNSS (as distinct from GPS only) solutions;
- ◆ Ensuring GNSS receivers are modern and up-to-date;
- ◆ Message authentication services from GNSS system providers;
- ◆ INS blending or alternative local positioning solutions.

See also:

- ◆ **Information Note IMCA S 02/19** [GNSS interference, jamming and spoofing](#) (briefing ID 1436)