



Designation: F3071 – 26

Standard Guide for Basic Land GNSS Receiver Use (GNSS-I) Endorsement¹

This standard is issued under the fixed designation F3071; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide establishes the minimum knowledge, skills, and abilities required to use a GNSS² receiver to determine one's position and collect location data in wilderness and non-wilderness environments.

1.2 This guide applies to the use of a GNSS receiver on land, on and off roads, and on small bodies of water, wherever GNSS signals can be received.

1.3 This guide applies to the use of a GNSS receiver in disaster areas where local positioning aids or references may be lost or damaged.

1.4 This guide does not apply to the use of a GNSS receiver on large bodies of water, at sea, or in the air.

1.5 A person who meets the requirements in this guide is only prepared to operate a GNSS receiver to determine his or her location and collect position and movement information on the land or small bodies of water, in wilderness and non-wilderness environments.

1.6 This guide does not imply that a GNSS receiver is a replacement for a map and compass. Use of the latter is strongly recommended as a backup for GNSS navigation.

1.7 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.8 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recom-*

mendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

2. Referenced Documents

2.1 *ASTM Standards:*³

F1633 Guide for Techniques in Land Search

F1773 Terminology Relating to Climbing, Mountaineering, Search and Rescue Equipment and Practices (Withdrawn 2024)⁴

F2209 Guide for Training of Land Search Team Member

F3222 Terminology Relating to F32 Land Search and Rescue Standards and Guides

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *BeiDou Navigation Satellite System (BDS)*, *n*—the GNSS owned and operated by the China National Space Administration.

3.1.2 *Galileo*, *n*—a GNSS owned and operated by the European Space Agency.

3.1.3 *GLONASS (Globalnaya navigatsionnaya sputnik-ovaya sistema)*, *n*—the GNSS owned and operated by the Russian Aerospace Defense Forces.

3.1.4 *GNSS (Global Navigation Satellite System)*, *n*—a navigation system utilizing a constellation of dedicated satellites to determine a location on or above the Earth's surface.

3.1.5 *GNSS receiver*, *n*—a radio receiver that uses satellite signals to fix its location on or above the Earth's surface. This radio receiver may be a purpose-built unit or a mobile device using a software application to manage navigation data.

3.1.6 *GPS (Global Positioning System)*, *n*—the GNSS owned and operated by the United States government.

3.1.7 *map datum*, *n*—the set of values used to define a particular geodetic model used by a GNSS receiver to determine its location.

¹ This guide is under the jurisdiction of ASTM Committee F32 on Search and Rescue and is the direct responsibility of Subcommittee F32.03 on Personnel, Training and Education.

Current edition approved Jan. 1, 2026. Published January 2026. Originally approved in 2014. Last previous edition approved in 2020 as F3071 – 14 (2020). DOI: 10.1520/F3071-26.

² This guide refers to GNSS rather than simple GPS receivers due to the increasing number of global satellite navigation systems worldwide. Currently, there are four global satellite navigation systems in operation. Satellite navigation receivers are now manufactured which are capable of utilizing GPS, GLONASS, BeiDou, and Galileo satellites to determine a position on or above the Earth's surface.

³ For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at www.astm.org/contact. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

⁴ The last approved version of this historical standard is referenced on www.astm.org.