



Designation: F3048 – 13 (Reapproved 2022)

Standard Guide for Swiftwater/Flood Search and Rescue Operations¹

This standard is issued under the fixed designation F3048; 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 a framework within which swiftwater/flood Search and Rescue (SAR) operations shall be conducted as part of the National Incident Management System (NIMS)/Incident Command System (ICS).

1.2 The requirements of this guide shall apply to individuals, agencies, and organizations that respond to swiftwater/flood SAR operations, including those not regulated by government mandates.

1.3 This document does not define the specific training required for personnel involved in swiftwater/flood SAR operations. Refer to local, state, federal, public, and private swiftwater rescue certification and operations courses that satisfy the existing authority having jurisdiction (AHJ) requirements.

1.4 This guide includes references more common to the United States of America, but may be adapted for use elsewhere.

1.5 *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.*

1.6 *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 Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

¹ This guide is under the jurisdiction of ASTM Committee F32 on Search and Rescue and is the direct responsibility of Subcommittee F32.02 on Management and Operations.

Current edition approved July 1, 2022. Published July 2022. Originally approved in 2013. Last previous edition approved in 2013 as F3048 – 13. DOI: 10.1520/F3048-13R22.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

F1422 Guide for Using the Incident Command System Framework in Managing Search and Rescue Operations
F1768 Guide for Using Whistle Signals During Rope Rescue Operations
F2752 Guide for Training for Basic Rope Rescuer Endorsement

2.2 Other Documents:

FEMA National Incident Management System, December 2008³

FEMA National Response Framework (NRF), January 2013⁴

3. Terminology

3.1 Acronyms:

3.1.1 AHJ—Authority Having Jurisdiction

3.1.2 EMS—Emergency Medical Services

3.1.3 IAP—Incident Action Plan

3.1.4 IC—Incident Command or Incident Commander

3.1.5 ICS—Incident Command System

3.1.6 NIMS—National Incident Management System

3.1.7 PFD—Personal Flotation Device

3.1.8 PPE—Personal Protective Equipment

3.1.9 PWC—Personal Water Craft (for example, jet ski, water bike)

3.1.10 PTB—Position Task Book

3.1.11 SAR—Search and Rescue

3.1.12 SWFT—Swiftwater/Flood Technician

3.1.13 TFL—Task Force Leader

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *authority having jurisdiction*—an organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, installation, or a procedure.

3.2.2 *boat-assisted*—swiftwater/flood SAR operations aided by a boat, in which the boat is operated on a tether.

3.2.3 *boat-based*—swiftwater/flood SAR operations conducted from a boat only.

³ http://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf

⁴ <http://www.fema.gov/national-response-framework>

3.2.4 *flood*—a great flowing or overflowing of water, especially over land not usually submerged.⁵

3.2.5 *helicopter-based*—swiftwater/flood SAR operations conducted by a helicopter crew, which intends to make direct contact with the subject(s) while remaining airborne.

3.2.6 *in-water contact*—swiftwater/flood SAR operations conducted by rescuers in the water who make direct contact with the subject(s).

3.2.7 *near shore*—the side of the watercourse where operations or Incident Command may occur.

3.2.8 *personal flotation device (PFD)*—a buoyant device suitable for use by one person to stay afloat in a water emergency. This may be a vest, ring buoy, life preserver, cushion, or other special purpose buoyant apparatus. Types include:

3.2.8.1 *Type I*—offshore life jacket

3.2.8.2 *Type II*—near shore buoyant vest

3.2.8.3 *Type III*—flotation aid

3.2.8.4 *Type IV*—throwable device

3.2.8.5 *Type V*—special use device

3.2.9 *recovery*—an operation to retrieve deceased persons from the current position and move them to a designated place.

3.2.10 *rescue*—an operation to retrieve persons in distress, provide for their initial medical or other needs, and deliver them to a place of safety.⁶

3.2.11 *search*—an operation using available trained personnel and facilities to locate persons in distress.⁷

3.2.12 *shore-based*—swiftwater/flood SAR operations conducted from land adjacent to the water.

3.2.13 *swiftwater*—water moving with sufficient force to present a significant life and safety hazard to a person entering it.

3.2.14 *swiftwater/flood search and rescue operations*—actions intended to locate and save individuals caught in, or stranded by, swift or flood waters, conducted using the NIMS/ICS, or equivalent.

3.2.15 *swiftwater/flood search and rescue technician*—an individual trained to perform swiftwater/flood SAR operations.

3.2.16 *type*—a classification series developed to identify an incident's level of complexity ranging from most complex (Type 1) to least complex (Type 5).

4. Significance and Use

4.1 This guide establishes a framework within which swiftwater/flood SAR operations shall be conducted.

4.2 Every person, agency, and organization that responds to, or participates in, swiftwater/flood SAR operations should operate within the framework established by this guide.

4.3 This guide and the framework it establishes should be used in conjunction with established and authorized guidelines and procedures mandated by an AHJ.

4.4 The AHJ shall determine which personnel, agencies, and/or organizations are qualified and authorized to participate in swiftwater/flood SAR operations.

4.5 This guide is to be used by individuals and AHJ that wish to perform swiftwater/flood SAR operations as part of the NIMS/ICS.

4.6 This guide does not stand alone and must be used with the referenced documents to safely and effectively perform swiftwater/flood SAR operations.

4.7 The AHJ will determine the evaluation process to assess the extent to which the requirements of this standard are met.

4.8 Because operations in the swiftwater/flood environment are inherently dangerous, and individuals involved are frequently required to perform rigorous activities in adverse conditions, regional and national safety standards should be included in agency policies and procedures.

4.9 Swiftwater/flood personnel should only perform activities in the swiftwater environment after a thorough risk assessment and appropriate risk mitigation efforts (for example, use of personal protective equipment (PPE), restricting efforts to shore-based techniques, delaying a recovery until more favorable water conditions exist, etc.) have been performed, or at the very least, should follow the appropriate federal, state, tribal, provincial, and local safety standards as they apply to activities in swiftwater environments.

5. Initial SAR Response to Swiftwater/Flood Incidents

5.1 Determine scene safety.

5.2 Establish command.

5.2.1 The command structure of swiftwater/flood SAR operations must allow for a wide range of incident complexity, the potential for involvement of multiple jurisdictions, incidents that increase in scope and area, and the impact of NIMS incident types on resource requirements. See Guide F1422 for information on utilizing ICS in a swiftwater/flood ICS.

5.2.2 *Command Personnel Qualifications:*

5.2.2.1 Those directly supervising swiftwater/flood SAR operations, or the personnel conducting such operations, must be qualified, at a minimum, at the level of Swiftwater/Flood Search and Rescue Technician (SWFT) appropriate for the environment and conditions.

5.2.2.2 Personnel that operate within 10 ft of the edge of swiftwater must have basic swiftwater rescue awareness training and be provided with a properly fitted personal flotation device (PFD).

5.3 Perform scene size up.

⁵ <http://dictionary.reference.com/browse/flood?s=t> Accessed February 7, 2013.

⁶ Land Search and Rescue Addendum to the National Search and Rescue Supplement to the International Aeronautical and Maritime Search and Rescue Manual, Version 1.0, November 2011, http://www.uscg.mil/hq/cg5/cg534/nsarc/Land_SAR_Addendum/Published_Land%20SAR%20Addendum%20%281118111%29%20-%20Bookmark.pdf

⁷ Adapted from Land Search and Rescue Addendum to the National Search and Rescue Supplement to the International Aeronautical and Maritime Search and Rescue Manual, Version 1.0, November 2011, http://www.uscg.mil/hq/cg5/cg534/nsarc/Land_SAR_Addendum/Published_Land%20SAR%20Addendum%20%281118111%29%20-%20Bookmark.pdf