

Search and rescue response and coordination (natural disasters)

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Key points

- Search and rescue operations in the field are coordinated by OSOCC, which is usually staffed by an UNDAC team. When appropriate, OSOCC also links the search and rescue response and the humanitarian cluster based response.
- When working alongside a search and rescue operation in the aftermath of a natural disaster, UNHCR should participate in the OSOCC led coordination.
- OSOCCs may establish a 'reception and departure centre' (RDC). (In some cases, these are set up before the OSOCC.) RDCs coordinate international relief traffic and are often the first point of contact for relief teams arriving in an affected country. Services that RDCs are expected to provide include situational updates, operational information, logistical support, and facilitation of immigration and customs procedures for staff, equipment and humanitarian aid.
- The Virtual OSOCC is an important coordination and information sharing tool after natural disasters. With other responders, UNHCR staff can register and create user accounts at this website.

1. Overview

This Entry describes international search and rescue actors, systems and coordination, and how UNHCR teams can link up with them when necessary.

Major sudden onset natural disasters – such as earthquakes, tsunamis, storms) typically damage infrastructure, cause injury and sometimes massive loss of life, and trap people in debris. An immediate life-saving response is required to rescue those who are trapped and stabilise or evacuate survivors. The difference between life and death can be a matter of hours. Initial life-

saving search and rescue operations need to arrive very fast, possess specialised skills, and often need heavy or specialised technical equipment. The operational context may be extremely challenging, as responders work in debris fields and areas where public services and infrastructure are entirely disrupted or destroyed.

A number of national and international actors provide these highly specialised and responsive services. Search and rescue services, emergency medical services, and civil contingency agencies are usually the first responders, sometimes supported by military assets. They are coordinated, pooled and supported by international coordination and response mechanisms.

UN and NGO humanitarian actors are sometimes required to work alongside international 'search and rescue' operations. It is important to understand their methods of work and coordination mechanisms. Relevant bodies include the UN Disaster Assessment and Coordination (UNDAC) mechanism, the On-Site Operations Coordination Centre (OSOCC), and the International Search and Rescue Advisory Group (INSARAG).

2. Main guidance

Underlying rationale / objective of the approach or system

In natural disasters, the goal of a search and rescue operation is to rescue the largest number of people in the shortest time, while minimizing risk to rescuers. 'Urban search and rescue' (USAR) is the name given to efforts to locate and rescue persons from collapsed buildings or other urban and industrial sites.

Due to the specialized nature of their work, most USAR teams are multi-disciplinary and include personnel from police, fire and emergency medical services. Most USAR responders have basic training in structural collapse and the dangers associated with live wires, broken gas lines, and other hazards. Originally set up to deal with earthquakes, USAR operations may nowadays be triggered by cyclones, storms and tornadoes, floods, dam failures, technological accidents, security incidents, and hazardous materials releases.

Policy, strategy and/or guidance

USAR missions typically have three phases:

Assessment

Facts are gathered and a course of action determined. The team establishes what types of structures are involved, the extent of damage, the layout of building(s), hazards (downed power lines, gas leaks, flooding, animals, hazardous materials, structures that may collapse during the rescue, etc.); and what rescue personnel and equipment are required and are available. Structural damage is usually categorized as light, moderate, or heavy. Assessment is an ongoing process that continues through all phases of search and rescue operations; plans are modified as needed.□

Search

Search techniques focus on where victims are likely to be located and areas of entrapment. Areas of entrapment inside damaged structures are called voids; they include spaces that victims get into to protect themselves (under desks, in bathtubs, in cupboards). When potential areas of entrapment have been identified and the potential number of victims estimated, search operations begin. Initially, searchers call out, requesting victims to identify their location, following a systematic search pattern. Patterns include: triangulation (three searchers approach an entrapment zone from three directions); a right/left search pattern (one team searches the left side and another team the right side of a building); or a bottom-up/top-down search pattern. Searchers stop frequently to listen for noises or efforts to communicate. Searchers may all simultaneously stop their activity at specified times to do this. Where many structures are damaged (after hurricanes, for instance) the exterior walls of buildings that have been searched are marked using INSARAG's building marking system (see below).

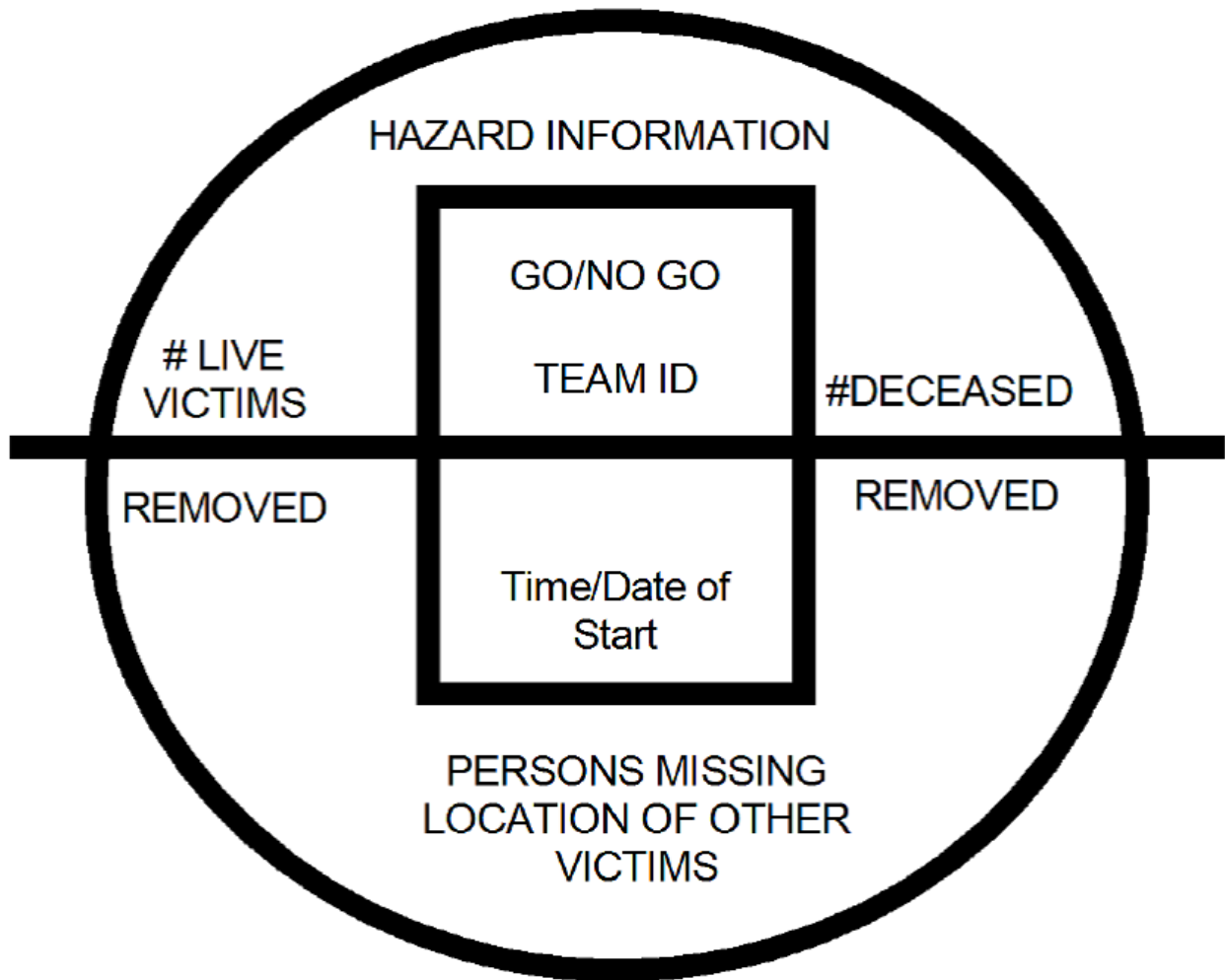
Rescue

Trapped victims are removed and given medical aid as necessary. Triage may be used to prioritize assistance for those who need it most. Before removing victims, it is often necessary to move or stabilize debris. Victims may be able to walk to safety themselves, or may be removed using lifts, drags, or carries. Removal of victims is designed to avoid further injury.

INSARAG building marking system

Search and rescue teams mark buildings according to agreed codes that indicate the status of a structure and persons associated with it.

- The search team marks out a 1 metre by 1 metre square, and inside it writes G or N ('go' or 'no-go'), the team's identity, when the search started (date and time), and when the search was completed (date and time).
- They write the number of live victims rescued to the left of the square; the number of dead victims found to the right of the square; and the number of persons who have not been accounted for below the square.
- They write additional information on hazards associated with the structure above the square.
- When the team has done all it can do, it draws a circle around the entire marking.
- After all work on the structure has been completed and it is confirmed that there are no more victims, a horizontal line is drawn through the entire marking.



Role of partners involved

International Search and Rescue Advisory Group (INSARAG)

INSARAG is a global network of more than 80 countries and organisations under the UN umbrella. It deals with issues related to urban search and rescue, establishes minimum international standards for USAR teams, and promotes a methodology for international coordination of earthquake responses based on the INSARAG Guidelines. These were endorsed by the UN General Assembly in 2002 (Resolution 57/150 on 'Strengthening the effectiveness and coordination of international urban search and rescue assistance').

The INSARAG Guidelines and INSARAG Technical Guidance Notes define a response cycle that includes: preparedness, mobilization, operations, demobilization, and post-mission. They describe what is expected of international USAR teams when they respond to an earthquake, what is expected of affected countries, and how USAR teams should coordinate.

UN Disaster Assessment and Coordination (UNDAC)

UNDAC is a standby roster of disaster management professionals from governments, UN agencies, and other disaster response organizations, that can be deployed within 12-24 hours of an emergency. UNDAC teams are deployed to natural disasters at the request of the host Government. The mechanism was set up to respond to natural disasters and is typically not activated for complex emergencies unless specific circumstances or requests justify deployment.

UNDAC teams normally stay in affected areas for an initial emergency response phase (two to four weeks). They assist the affected Government to assess and analyse needs, and coordinate the international response by establishing an on-site operations coordination centre (OSOCC) which manages information and provides liaison. After earthquakes, UNDAC teams offer reception facilities to incoming international urban search-and-rescue teams and bilateral relief teams. UNDAC teams can request technical support for mapping, connectivity, and relief-related software solutions from partners such as MapAction and Télécoms sans Frontières. UNDAC teams bring their own telecommunications, office and personal equipment.

On-site operations coordination centres (OSOCC)

OSOCCs are established to help local authorities coordinate international relief after a disaster. They are set up immediately by the first arriving international urban search-and-rescue team or the UNDAC team deployed by OCHA. OSOCC methodology is defined and governed by UNDAC's board.

An OSOCC has three primary objectives:

1. To link international responders and relevant institutions of the Government of the affected country.
2. To coordinate and facilitate the activities of international relief efforts at a disaster site, notably after an earthquake, when coordination of many international USAR teams is critical to the effectiveness of rescue efforts.
3. To provide a platform for cooperation, coordination and information management among international humanitarian agencies.

Global disaster alert and coordination system (GDACS) and virtual OSOCC

GDACS is a cooperation framework between the United Nations, the European Commission and disaster managers worldwide, to improve alerts, information exchange and coordination in the initial period after major sudden-onset disasters. The GDAC website provides natural disaster early warning information and alerts, and houses the 'virtual on-site operations coordination centre' (Virtual OSOCC, or VO). The latter is used by many search and rescue actors and civil contingency agencies to coordinate their international preparedness and response.

UNHCR's role and accountabilities

- When UNHCR operates in natural disaster situations in which search and rescue actors are active, it cooperates with OSOCC and UNDAC teams and accepts their responsibility to coordinate the links between search and rescue and humanitarian (cluster) responses in the first weeks of a natural disaster. Note: UNDAC does not coordinate the response to complex emergencies; existing refugee coordination structures are not affected.
- OSOCC is a key meeting and information point during natural disaster responses, and may share office and meeting facilities. Whenever relevant, UNHCR should strive to attend coordination meetings and subscribe to information sharing mechanisms.
- Many natural disaster activities are coordinated through the [Virtual OSOCC](#), especially during the first days of a response. UNHCR staff in natural disaster situations should create a user account and subscribe to relevant groups/mailling lists.
- UNHCR staff can also create a user account at the Virtual OSOCC, and subscribe to alerts and updates on natural disasters.

3. Links

[GDACS/Virtual OSOCC INSARAG](#)

4. Main contacts

Division for Emergency, Security and Supply (DESS). At: hqemhand@unhcr.org