



EFFECTIVE CRISIS RESPONSE THROUGH MAPPING PREPAREDNESS

CASE STUDY: JAPAN EARTHQUAKE TSUNAMI

Who What Where Maps for a Common Operational Picture

The few days following a disaster are critical for the affected population. Responders need to know where the affected area is, who is affected, what infrastructure is damaged, and what relief efforts are occurring or needed. MapAction has been helping relief agencies since 2004 to gather this crucial information, and are helping to pass on their experience to national disaster agencies, NGOs and Red Cross/Red Crescent Movement.

MapAction has many valuable lessons that can help these agencies be prepared for emergency response mapping in turn decreasing suffering of affected populations and increasing their resilience for the future. These include:

- Having a good set of basemaps and information shared amongst responders before disaster strikes,
- Having local skills in mapping and information management,
- Using templates and standard procedures speeds up the ability to make good maps,
- **Maps help responders make a common picture of a disaster, area affected and where relief efforts exist.**

This is one of a series of case studies to show why these learning points help organisations become more resilient in emergency preparedness.



AREA: Honshu Island, Japan, Asia Pacific

DISASTER: Earthquake, Tsunami, Nuclear

YEAR: 2011



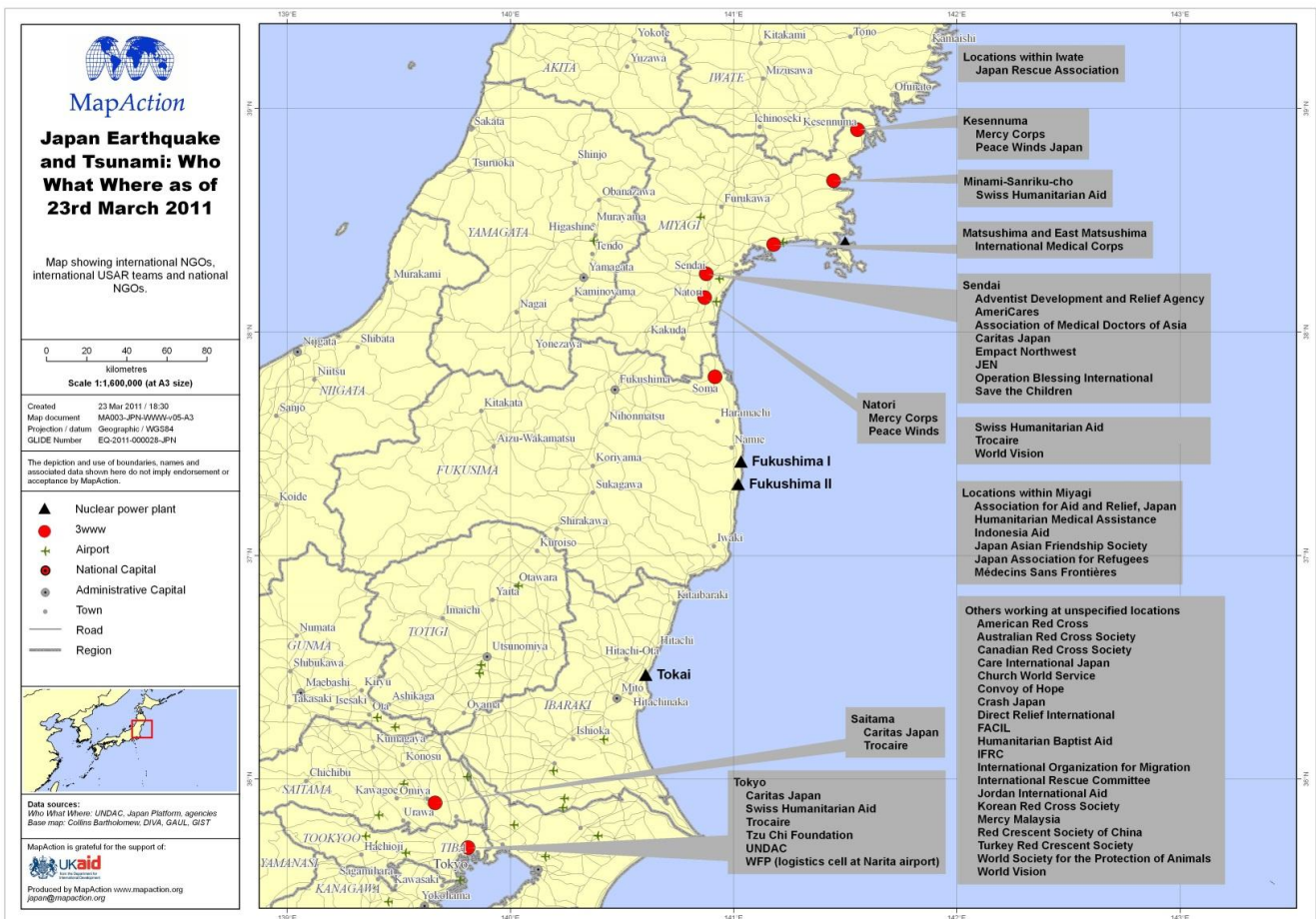
On Friday, 11 March 2011 at 05:46 UTC, an earthquake of magnitude 9.0 occurred off the East coast of the Japanese Island of Honshu, triggering a tsunami. While few buildings were affected by the earthquake, due to the successful building regulations of the Japanese authorities, the resulting tsunami breached any defences in place, immediately affecting coastal populations of the eastern prefectures of Iwate, Sendai, Fukushima and Ibaraki. In addition, the earthquake and tsunami caused significant damage to the Fukushima 1 Nuclear Power Plant, threatening possible nuclear meltdown and radiation leaks. Japan, one of the most disaster prepared countries in the world was facing three disasters in one: earthquake, tsunami and nuclear.

In any disaster there are often a number of agencies involved in the humanitarian response; and for these responses to be effective, they need to be well coordinated. In turn, providing valuable coordination depends on having access to the right information about which agencies are working (**who**), **what** relief they are providing, and **where** they are working on the ground. In response to the events in Japan in 2011, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) deployed a UN Disaster Assessment



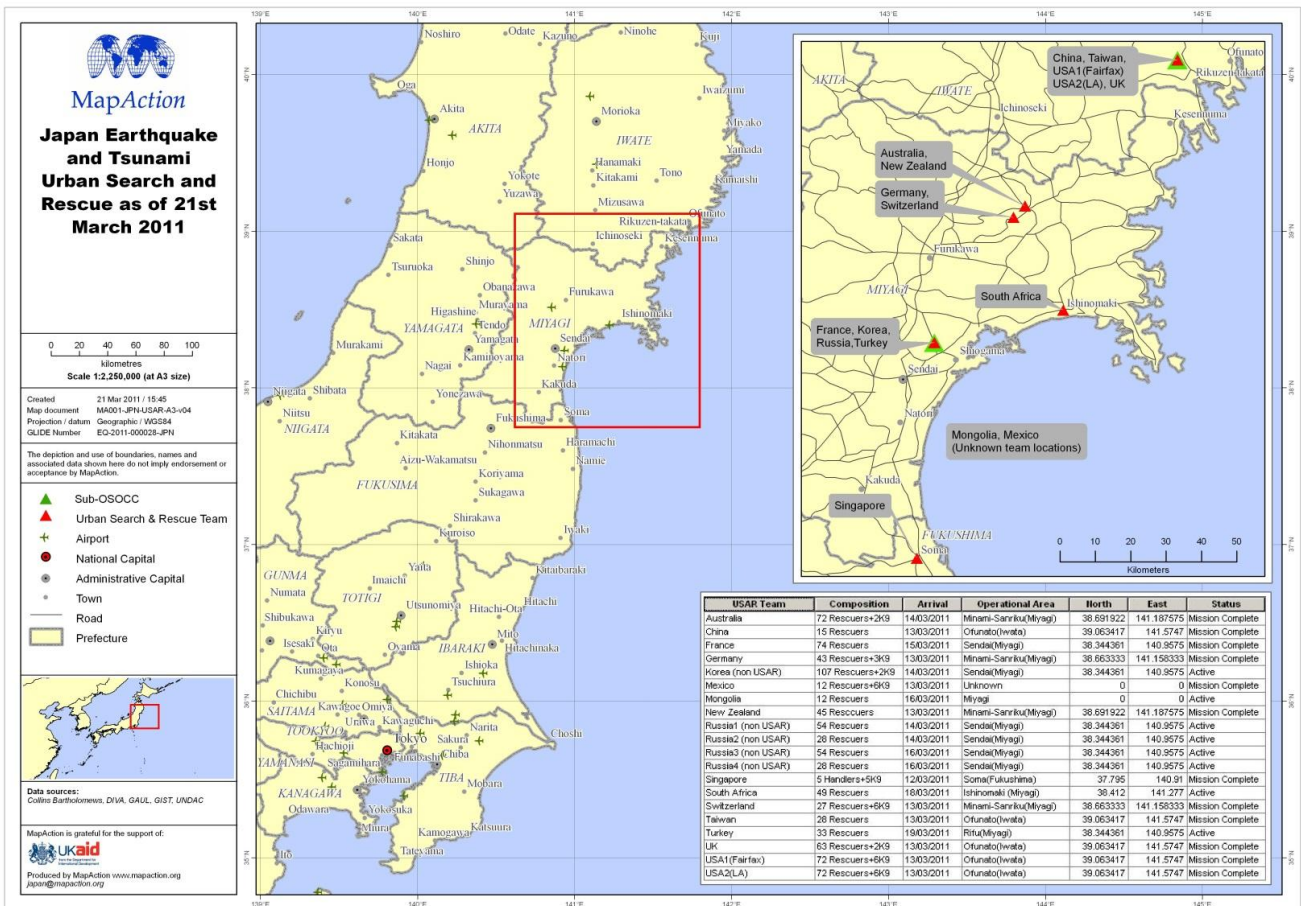
and Coordination (UNDAC) team to Japan, and requested MapAction's support to help them meet their three core objectives: (i) coordination of the international urban search and rescue (USAR) teams; (ii) daily reporting of the situation to the international community through the consolidation and translation of Japanese government reports and media articles; and (iii) providing advice to the Government of Japan regarding what relief and support should be accepted from the international community.

The primary UNDAC team were based in an "On-Site Operations Coordination Centre" or OSOCC in Tokyo, overseeing the USAR and relief phases. In addition to the base in Tokyo, two sub-OSOCCs were established to provide additional coordination closer to the teams in the fields. These were located near Sendai in the Miyagi Prefecture, and in Ofunato in Iwate Prefecture. MapAction were based only in the OSOCC in Tokyo, and on arrival they started creating one of the key information products needed to coordinate relief efforts: A map showing which agencies are involved (Who), the kind of work being carried out by these agencies (What) and where in particular they are working (Where). These maps are also known as **Who, What, Where** maps, or **3W** (see below).





The principles behind this type of product are simple; create a map broken down by geographical areas, and indicate which agencies are working in each area. Relief agencies often concentrate on one or two sectors of relief - provision of food, shelter, dealing with water and sanitation or providing protection to vulnerable people. If the information is available, the agencies can also be broken down into these **sectors** (often called **clusters** when many agencies are working together on the same theme) and mapped as individual cluster maps of with different symbols on one map, providing the 'What' of the 3W. In Japan, the breakdown was done by both prefecture and city. The background map itself needs to be quite simple, usually only having basic mapping of the region (usually administration boundaries) affected by the disaster. The value is in the 3W data added to the map, providing coordinators with a visual representation of relief efforts and informing decisions on where additional resource may be required, or where effort is being duplicated.



In addition to showing the provision of relief, 3W mapping can also be used during the search and rescue phase to see which USAR teams are working in which regions. Given the small areas to be meticulously searched, the area is often sectorised by blocks, and maps can show which areas have been covered and which remain to be allocated to a team.

The situation reports included the 3W maps were sent back to OCHA's headquarters in Geneva, who could then both gauge whether the level of response was appropriate and ask the disaster community for more assistance if needed, and also use it as a tool to request and secure further donor funding in the



sectors required. The 3W maps created in Japan were also used by other coordination agencies working in the region. The **Japan Platform (JPF)** is a multi-sector consortium of 32 NGOs in partnership with the Government of Japan and the business community, and provides humanitarian relief to countries affected by natural disasters and armed conflicts. This was the first time it had responded to a crisis within Japan. JPF were mobilised to address coordination of NGO response to the disaster. They found the 3W maps invaluable in understanding the **common operational picture** of the response.

KEY LEARNING POINTS

3W maps are a **visual representation** that provides additional information hard to detail in written text. Decisions can become obvious when a map shows where one team has been working, and if there is a shortage of teams in the next prefecture.

Second, 3W maps included in a situation report give readers a clear **common operational picture (COP)** much more easily than if they had to read through figures in tables or long paragraphs in reports.

One set of maps showing the same information can be relevant both to those working at the location of the disaster, and also the international community NGOs and wider public. They provide a single story to many agencies, and help ensure new information on 3W is streamlined through coordination agencies.

Although 3W maps created in Japan were based on a simple map base with freely available data, overlaying of operational information of **Who** agencies are, **Where** they are working, and **What** work they are carrying out, transforms these maps into key information products for disaster relief agencies. With access to these maps, those coordinating the response to disaster either in country, or from international headquarters, have the tools they need to make informed decisions.



Partner Organisations

United Nations

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