

6th Annual UN-SPIDER Conference in Beijing

United Nations International Conference on Space-based Technologies for
Disaster Risk Reduction - "Understanding Disaster Risk"

Breakout Session 2

Procedural guidelines for sharing space-based information during emergency response

The International Working Group on Satellite-based Emergency Mapping (IWG-SEM) proposal



Fabio Giulio-Tonolo, ITHACA, Italy
info@ithacaweb.org

IWG-SEM

- **Voluntary group** of organizations involved in satellite-based emergency mapping.
- Founded in April **2012**
- **Monthly teleconferences** and **biannual meetings**
- **Yearly rotating chairmanship:** current chair Peter Zeil from University of Salzburg, Department of Geoinformatics (peter.zeil@sbg.ac.at)



IWG-SEM members

- ADPC
- AHA Center
- AIT
- AKDN-FOCUS
- CNES
- CU-Boulder
- DFO
- DLR
- EC-ECHO
- EC-GROW
- EC-JRC
- ESA
- GEO
- GWU
- HHI-SP
- HRW
- ICIMOD
- ITHACA
- JAXA
- MoT/HydrMet
- NASA
- NASRDA
- NDRCC
- PDC
- RCMRD/SERVIR
- RECTAS
- RIT
- SERTIT
- SaBCh
- UMD
- UN Cartographic Section
- UNDSS
- UNOSAT
- UNOCHA
- UNOOSA-UN-SPIDER
- UNU-EHS
- UN WFP
- USGS/EROS
- WB

[Detailed list](#)

IWG-SEM - Vision and Mission

VISION

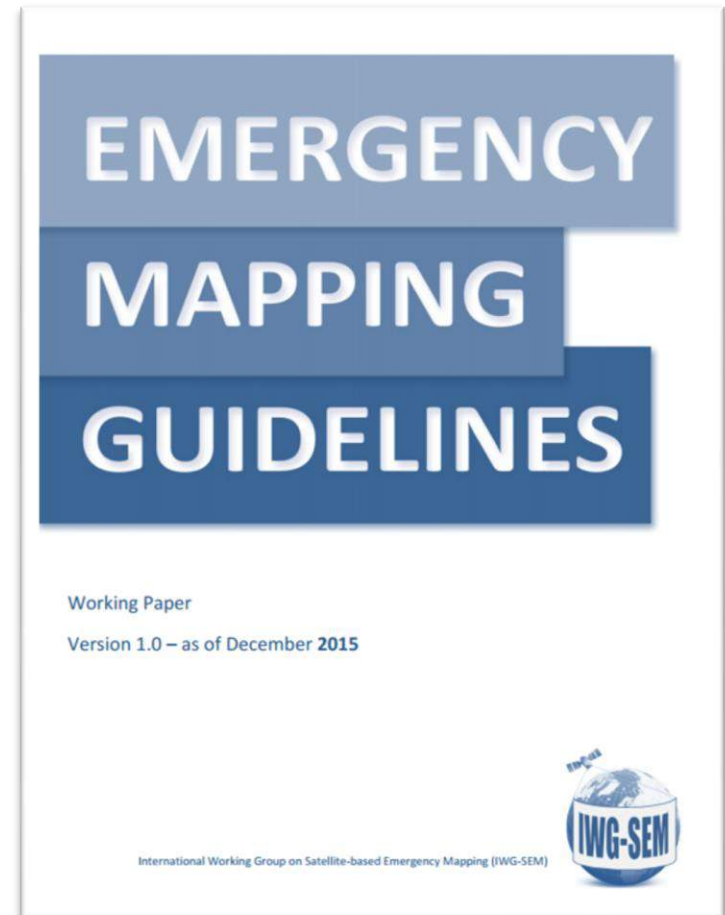
“Supporting disaster response by improving international cooperation in satellite based emergency mapping”

MISSION

“To establish best practices between operational satellite-based emergency mapping programs to stimulate communication and collaboration to include definition of map product generation guidelines, coordination of expertise and capacities, building of training curriculum, participation in common exercises, and **reviewing relevant technical standards and protocols**. To work with the appropriate organizations to define professional standards for emergency mapping.”

Emergency Mapping Guidelines

- [On-line Working Paper](#)
- Define fundamental principles
- **Establish a procedure for interactions and sharing of data, analysis and mapping results**
- Organize mapping products, templates and dissemination policies
- Commit to assurance of capacity and qualification
- Prepare a glossary for emergency mapping vocabulary

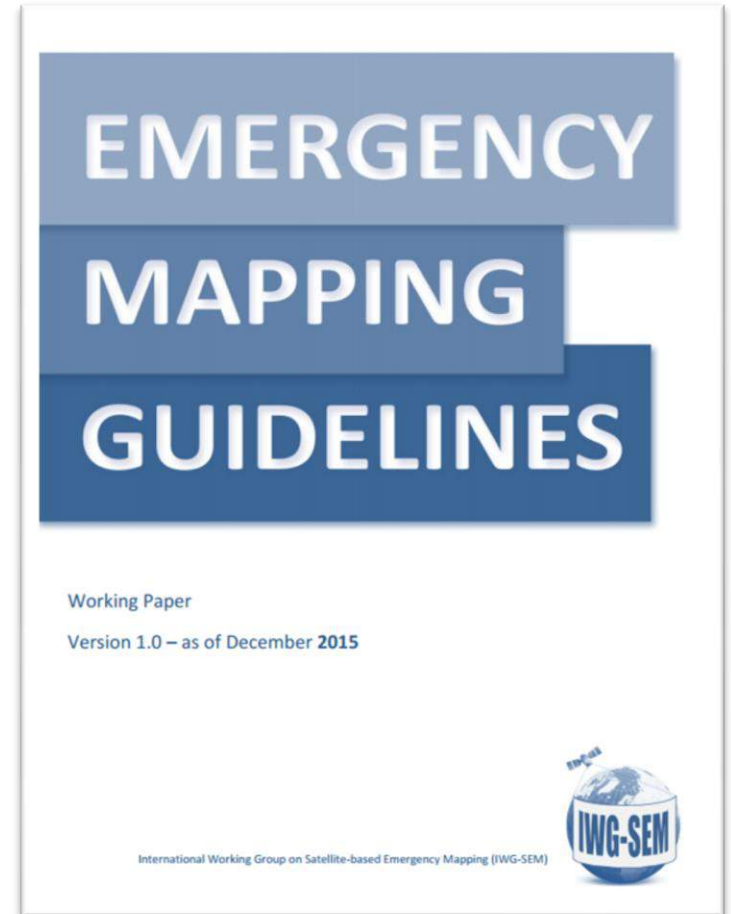


Emergency Mapping Guidelines

Chapter 2.4

SHARING OF SATELLITE DATA, ANALYSIS AND MAPPING RESULTS FOR SEM

- *2.4.1 Definitions of SEM Sharing*
- *2.4.2 Use and Sharing of Reference Datasets*
- *2.4.3 Sharing of Satellite Imagery Data*
- *2.4.4 Sharing of Analysis*
- *2.4.5 Sharing of Delivered Emergency Mapping Products*
- *2.4.6 Use/Licensing/Copyright*



Operational tools/standards


GeoRSS Feed to automatically broadcast information about SEM activations.

Horizontal cooperation/sharing tool, allowing to clearly understand where SEM organization are currently active.

- **1st level:** at SEM activation level
- **2nd level:** at Area of Interest level

Minimum set of **standard metadata** ([technical specifications](#))

TECHNICAL SPECIFICATION OF GEORSS FEED VERSION 1. (26 NOVEMBER 2014)

International Working Group on 
Satellite-based Emergency Mapping (IWG-SEM)

Technical Specification of GeoRSS (Version 1 from 26.11.2014)

The IWG-SEM decided to use the GeoRSS feed to inform IWG-SEM members and other users about the emergency mapping activity. The feed is meant to spread the information as soon as possible after the emergency activation to allow potential cooperation of organizations involved in emergency mapping. The advantage of the GeoRSS feed is that it can be subscribed with normal RSS feed readers (MS Outlook, Mozilla Thunderbird) as well as with the GIS software (QGIS, ArcGIS etc.).

IWG-SEM agreed on the fields which should be included in the GeoRSS feed. There are mandatory and optional fields. The mandatory fields are those which contain substantial information about the activation. (what, where, when, who etc).

The optional fields are those which provide additional information about the activation. It is understood that the information included in the optional fields is not always available at the time of activation. However the organizations are encouraged to use these fields whenever possible to provide more complete information about the activation.

The fields of GeoRSS feed are in Table 1.

Field	Mandatory/Optional	Description/Note
Activation ID	Mandatory	The activation identifier used by an emergency mapping organization. It is expected that each organization have its own unique system of activation identifiers.
Type of event	Mandatory	Type of natural or humanitarian disaster. The use of the following list (small subset used by the GLIDE number specification) is encouraged: forest fire, flood, tsunami, earthquake, windstorm, industrial accident, other (used for disasters not on the list)
Activation notification date and time (UTC)	Mandatory	Date and time of the activation notification in UTC. It is the the time when the RSS feed was issued. It is automatic and it is not part of feed text.
Activation Location (point) specified by coordinates	Mandatory	The point placed in the "middle" of the expected mapping exercise. This serves as a rough indicator for the location. This field is not part of feed text, but it is contained in the feed xml file with appropriate geographic tags and coordinates. The geographic entity is point. It is used to display the location on the map using

PAGE 1 OF 2

Operational tools/standards

Example of GeoRSS Feed – Activation level

Aggregator of Emergency Mapping GeoRSS Feeds

Aggregator of Emergency Mapping GeoRSS Feeds

Source

Copernicus EMS - Rapid Mapping Activations
Copernicus EMS - Risk and Recovery Mapping Activations
DLR - ZKI | Activations GeoRSS Feed
Int. Charter on Space and Major Disasters
SERTIT Activations

Date of publication - from:

2015-09-13

to:

2016-09-14

YYYY-MM-DD, e.g. 2016-09-14

Title contains

Description contains

Ctrl/Cmd + mouse = multiple sources. Unselect all to reset filter.

Location - proximity

100

Kilometers

from

Search

Reset

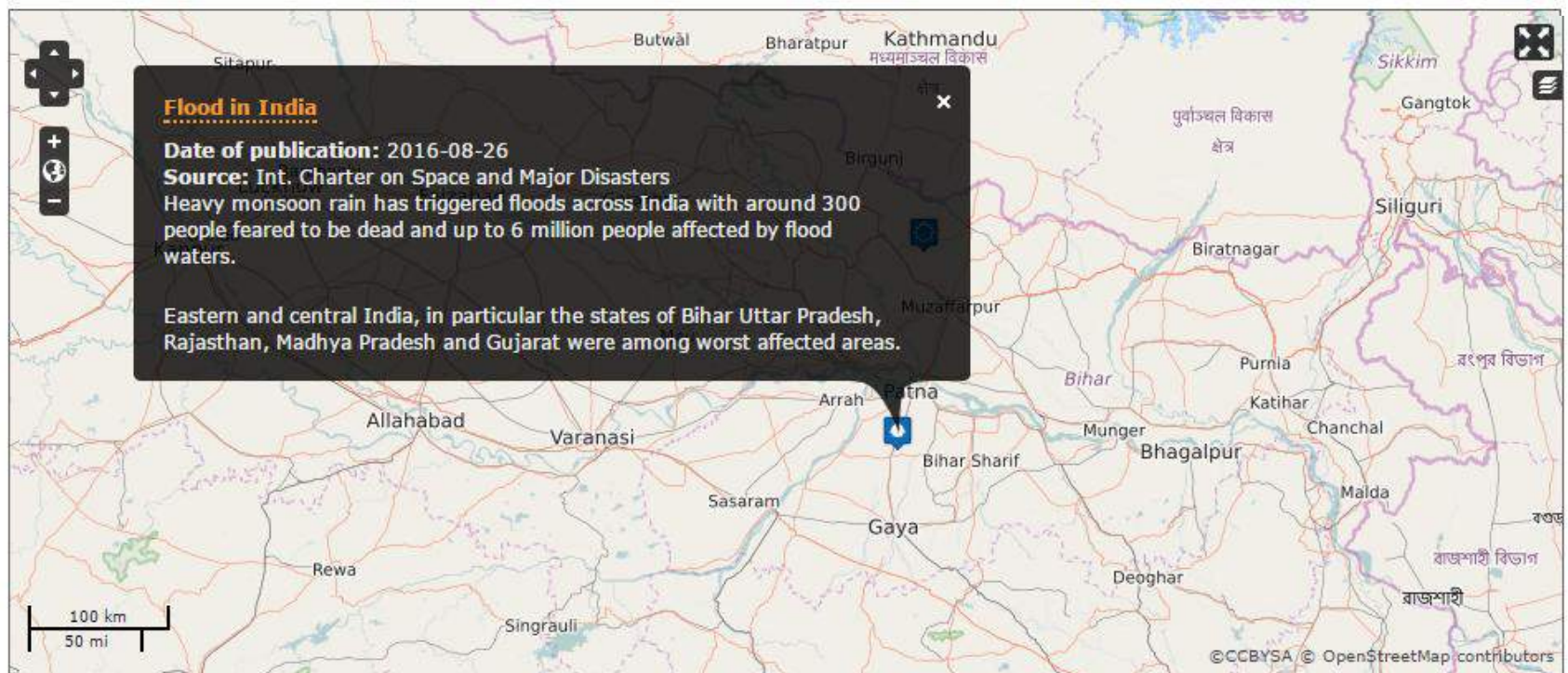
Enter (partial) address for geocoding.



Operational tools/standards

Example of GeoRSS Feed – Activation level

Aggregator of Emergency Mapping GeoRSS Feeds

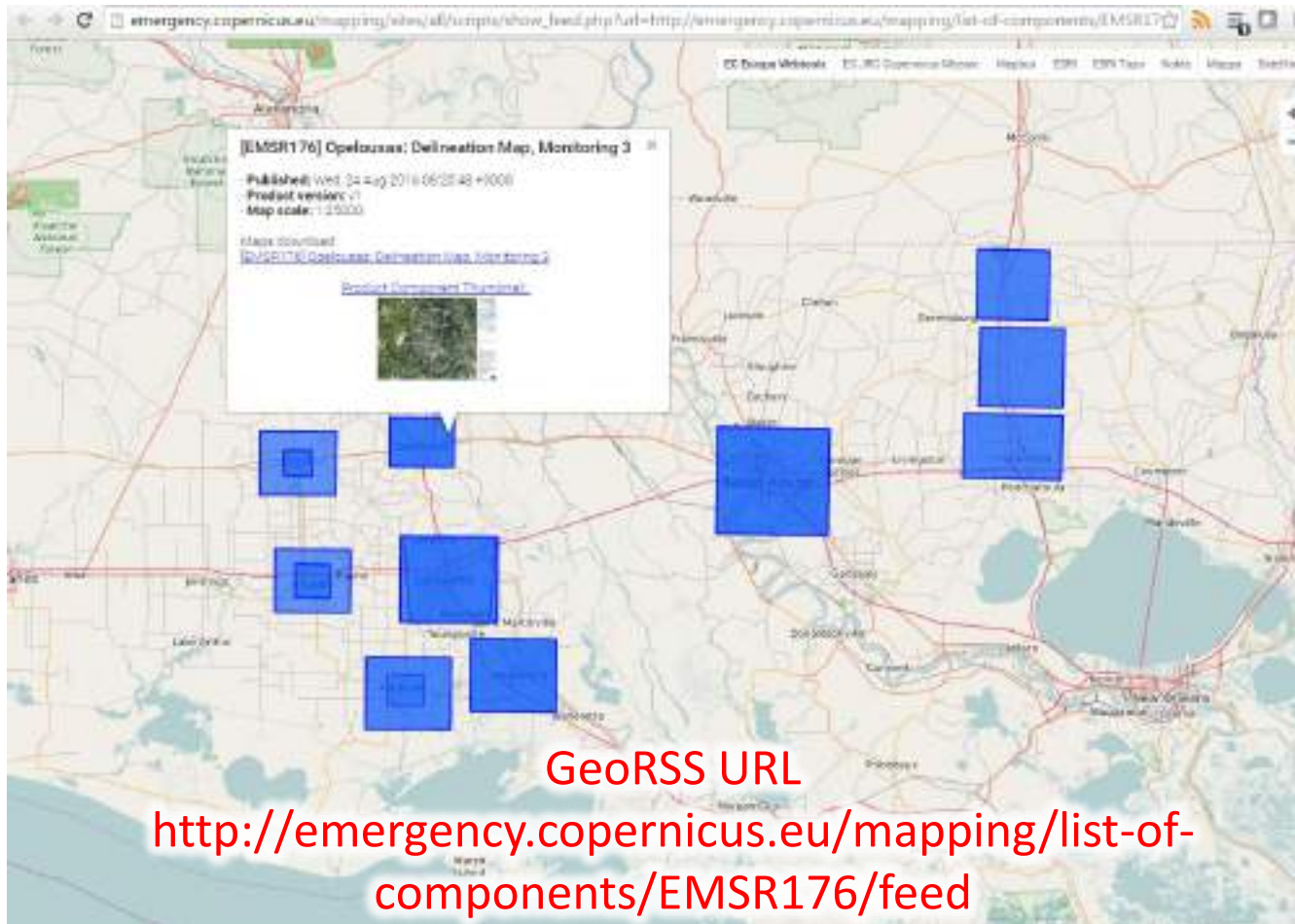


Operational tools/standards

Example of GeoRSS Feed – AOI Level

Example: Floods in Louisiana

Copernicus Emergency Management Service (© 2016 European Union), EMSR143



GeoRSS URL
<http://emergency.copernicus.eu/mapping/list-of-components/EMSR176/feed>

[6th Annual UN-SPIDER Conference in Beijing](#)

United Nations International Conference on Space-based Technologies for
Disaster Risk Reduction - "Understanding Disaster Risk"

Breakout Session 2

Procedural guidelines for sharing space-based information during emergency response

The International Working Group on Satellite-based Emergency Mapping (IWG-SEM) proposal



Fabio Giulio-Tonolo, ITHACA, Italy
info@ithacaweb.org