

ITU-R activity for emergency & disaster relief communications

ITU resolutions

Resolution 36 (Rev. Guadalajara, 2010) “Telecommunications/information and communication technology in the service of humanitarian assistance”

Resolution 136 (Rev. Busan, 2014) “The use of telecommunications/information and communication technologies for monitoring and management in emergency and disaster situations for early warning, prevention, mitigation and relief”

Resolution 646 (Rev. WRC-15) “Public protection and disaster relief”

Resolution 647 (Rev. WRC-15) “Radiocommunication aspects, including spectrum management guidelines, for early warning, disaster prediction, detection, mitigation and relief operations relating to emergencies and disaster”

Resolution 647 (Rev. WRC-12) “Radiocommunication resources for early warning, disaster mitigation and relief operations”

Resolution ITU-R 55 (2015) “ITU studies of disaster prediction, detection, mitigation and relief”

ITU-R Study Groups



- efficient management and use of the spectrum/orbit
- characteristics and performance of radio systems
- operation of radio stations
- radiocommunication aspects of distress and safety matters

ITU-R Study Groups

Disaster phases	Major radiocommunication services involved	Major tasks of radiocommunication services	ITU-R
Prediction and Detection	<ul style="list-style-type: none"> - Meteorological services (meteorological aids and meteorological- satellite service) - Earth exploration-satellite service 	Weather and climate prediction. Detection and tracking of earthquakes, tsunamis hurricanes, typhoons, forest fires, oil leaks etc. Providing warning information	SG 7
Alerting	- Amateur services	Receiving and distributing alert messages	WP 5A
	- Broadcasting services terrestrial and satellite (radio, television, etc.)	Disseminating alert messages and advice to large sections of the public	SG 6
	- Fixed services terrestrial and satellite	Delivering alert messages and instructions to telecommunication centres for further dissemination to public	WP 4A, 5C
	- Mobile services (land, satellite, maritime services, etc.)	Distributing alert messages and advice to individuals	SGs 4,5
Relief	- Amateur services	Assisting in organizing relief operations in areas (especially when other services are still not operational)	WP 5A
	- Broadcasting services terrestrial and satellite (radio, television, etc.)	Coordination of relief activities by disseminating information from relief planning teams to population	SG 6
	- Earth exploration-satellite service	Assessment of damage and providing information for planning relief activities	SG 7
	- Terrestrial and satellite	Exchange of information between different teams/groups for planning and coordination relief activities	WP5A, 5D, 4A, 4C
	- Mobile services (land, satellite, maritime services, etc.)	Exchange of information between individuals and/or groups of people involved in relief activities	WP 5A, 5B, 5D

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The scope of ongoing studies/activities within Study Group

Study Group 1	Studies on spectrum management aspects and requirements in support of disaster radiocommunications fall. Considering that administrations may have different operational needs and spectrum requirements, depending on circumstances, there is a need to define the appropriate mechanism(s) for the identification and registry of spectrum resources. Exploration of monitoring techniques is another key responsibility of SG 1 and such work could be especially beneficial when applied to all phases of disaster radiocommunications (prediction, detection, mitigation, and relief).
Output	Report SM. 2092. “Studies related to the impact of active services allocated in adjacent or nearby bands on Earth exploration-satellite service (passive)”

The scope of ongoing studies/activities within Study Group

Study Group 3

Study Group 3 will undertake the necessary studies to assess the propagation conditions for the frequency bands and services used for disaster warning and disaster relief, especially those identified as regionally harmonized bands (Res. 646 (Rev. WRC-15)). It will further study possible changes in the local propagation conditions associated with the disaster itself.

Space weather Influence on propagation conditions

The scope of ongoing studies/activities within Study Group

Study Group 4

Satellite appears as the most appropriate means to quickly set up a communication link with remote facilities in relief operation. It is desirable that a small earth station, such as a fixed VSAT, a vehicle-mounted earth station or a transportable earth station should be available for transportation to the disaster area. It is also desirable that the system relies on widespread standards so that equipment is readily available and interoperability are ensured. Mobile-satellite service systems are ideally suited to support disaster response and relief efforts. The wide coverage area of such systems is particularly helpful as disaster events are unpredictable and can happen at any time or location. Most mobile earth stations are battery powered and so can operate for some period of time if the local electricity supply is disabled.

Output

Recommendation ITU-R S.1001 "Use of systems in the fixed-satellite service in the event of natural disasters and similar emergencies for warning and relief operations".
Recommendation ITU-R M.1854 "Use of mobile-satellite service in disaster response and relief"
Report ITU-R M.2149 "Use and examples of mobile-satellite service systems for relief operation in the event of natural disasters and similar emergencies"
Report ITU-R S.2151 "Use and examples of systems in the fixed-satellite service in the event of natural disasters and similar emergencies for warning and relief operations"
Question ITU-R 290/4 "Broadcasting-satellite means for public warning, disaster mitigation and relief"

The scope of ongoing studies/activities within Study Group

Study Group 5	The mobile, fixed, amateur and amateur-satellite services have proven to be of huge importance in the fields of disaster prediction, detection, mitigation and relief. Mobile service cellular applications may be used in an early warning system, as they enable authorities to establish direct contact with the citizens having a mobile receiver. The maritime mobile service is familiar with the Global Maritime Distress and Safety System. Amateur and amateur-satellite services enable communication links in areas affected by natural disasters to be maintained
Output	<p>Question ITU-R 209-5/5 “Contributions of the mobile and amateur services and associated satellite services to the improvement of disaster communications”.</p> <p>Report ITU-R M.2085 "Role of the amateur and amateur-satellite services in support of disaster mitigation and relief"</p> <p>Question ITU-R 248/5 “Technical and operational characteristics for systems in the fixed service used for disaster mitigation and relief”</p> <p>Recommendation ITU-R F.1105 “Fixed wireless systems for disaster mitigation and relief operations”</p> <p>Reports ITU-R F.2061 HF fixed radiocommunications systems</p> <p>Report ITU-R M.2291. “The use of International Mobile Telecommunications for broadband public protection and disaster relief applications”</p> <p>Report ITU-R M.2377. “Radiocommunication objectives and requirements for Public Protection and Disaster Relief”</p>

The scope of ongoing studies/activities within Study Group

Study Group 6

The Study Group initially focused on the means by which the broadcasting-satellite service (BSS) can assist in warning the public of impending disasters and in disseminating information relating to relief operations. Use of satellite and terrestrial broadcast infrastructures for public warning, disaster mitigation and relief, the aim of which is to help permit the rapid deployment of equipment and networks currently available in the terrestrial and satellite-broadcasting services. These services can provide means for alerting the public, for informing them of preventive measures and for disseminating information on the coordination of rescue procedures.

Output

Question ITU-R 118/6 "Broadcasting means for public warning and disaster relief".

Recommendation ITU-R BT.1774 "Use of satellite and terrestrial broadcast infrastructures for public warning, disaster mitigation and relief"

Report ITU-R BT. 2299 "Broadcasting for public warning, disaster mitigation and relief"

The scope of ongoing studies/activities within Study Group

Study Group 7	Disaster prediction and detection are major fields of study supported by Study Group 7. Remote sensing systems provide observations of the Earth's atmosphere and surface that enable the prediction and detection of meteorological, climatic and other environmental conditions that are the basis for major natural disasters.
Output	Report RS.1859 Use of remote sensing systems for data collection to be used in the event of natural disasters and similar emergencies RS.2178 The essential role and global importance of radio spectrum use for Earth observations and for related applications

More info

Web page	ITU-R Study Group http://www.itu.int/en/ITU-R/study-groups/Pages/default.aspx Emergency Telecommunications http://www.itu.int/en/ITU-T/emergencytelecoms/Pages/default.aspx
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