



# ITU-R activities – reducing the effects of disasters

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# Outline

- Brief overview of the ITU
- Disaster phases and the radio services involved
- Studies in the ITU Radiocommunication Sector (ITU-R)
- Future work

# ITU Overview

ITU

Helping the World Communicate

189 Member States  
700 Sector Members

ITU-T

Telecommunication  
standardization  
- network and service  
aspects



ITU-R

Radiocommunication  
standardization and  
global radio spectrum  
management

ITU-D

Assisting implementation  
and operation of  
telecommunications in  
developing countries

# Disaster phases and the radio services involved

- **Disaster prediction and detection** – meteorological and Earth exploration satellite services
- **Disaster alerting** – broadcast, fixed, mobile and related satellite services
- **Disaster relief** – Amateur, broadcast, fixed, mobile and related satellite services

# Disaster prediction and detection

## Meteorological and Earth exploration satellite services

- operated in the main by government and international agencies
- play a major role in prediction and detection of disasters (such as hurricanes, earthquakes and tsunamis, floods, fires, dangerous pollution, etc.)

# Disaster alerting

- Alert the central/regional/local authorities responsible for warning the public – fixed, mobile, fixed/mobile-satellite
- Issue warnings to the people likely to be affected
  - broadcast, sound and television
  - mobile (such as SMS)

# Disaster relief

- **Amateur** – a long history of aiding with communications during disasters
- **Earth exploration satellite** – damage assessment
- **Fixed/mobile satellite** - to rapidly restore communications capabilities
- **Fixed** – transportable, higher capacity - point-to-point and local area
- **Mobile** – coordination of relief activities, both private and public systems used

# ITU-R studies

## WRC-03 agenda item 1.3

“... identification of globally/regionally harmonized bands ... for the implementation of future advanced solutions ..., including those dealing with emergency situations and disaster relief, ...;”

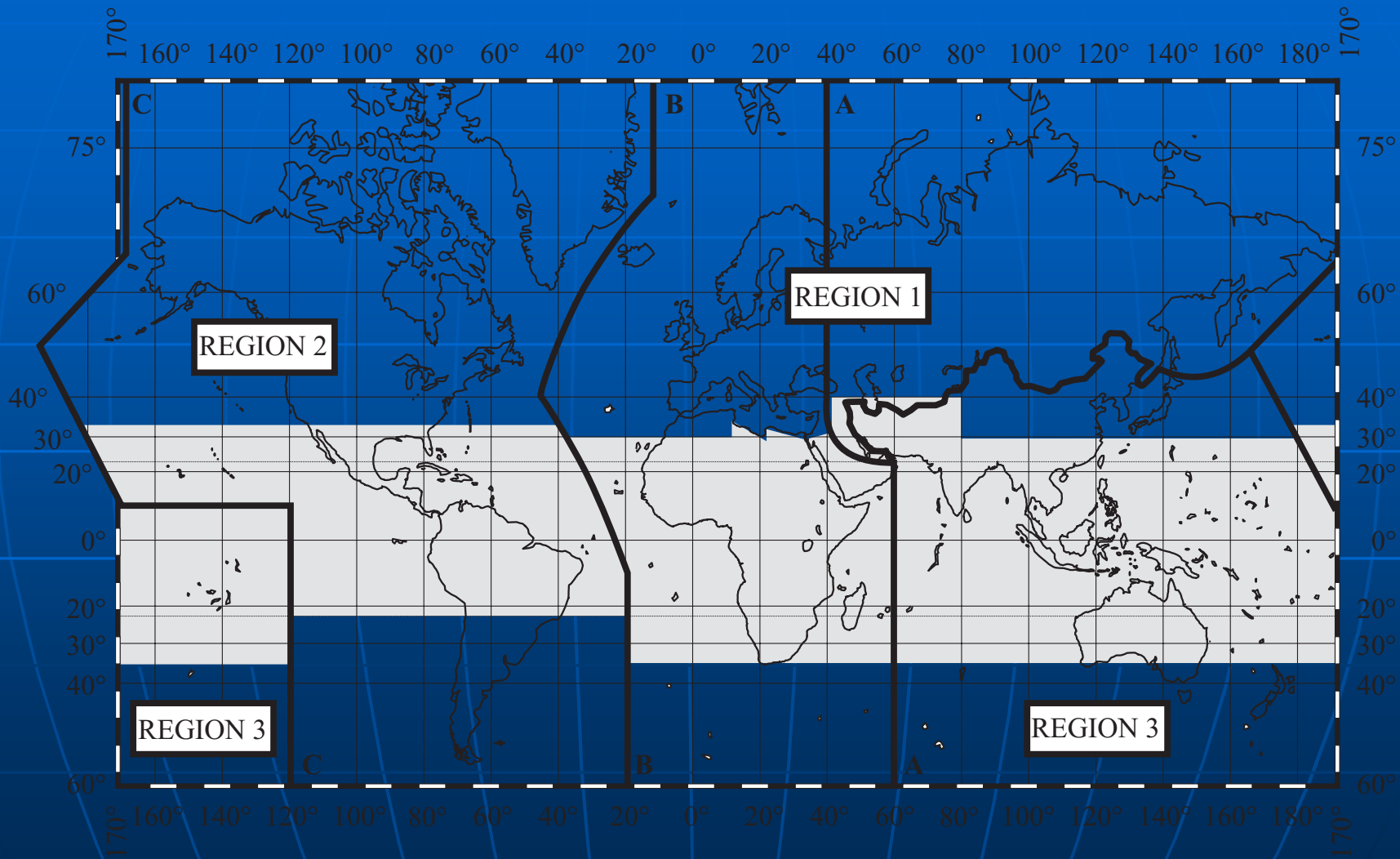


# Resolution 646 (WRC-03)

Strongly recommends use of regionally harmonized bands :

- **Region 1:** 380-470 MHz as the frequency range within which the band 380-385/390-395 MHz is a preferred core harmonized band for permanent public protection activities within certain countries of Region 1;
- **Region 2:** 746-806 MHz, 806-869 MHz, 4 940-4 990 MHz;
- **Region 3:** 406.1-430 MHz, 440-470 MHz, 806-824/851-869 MHz, 4 940-4 990 MHz and 5 850-5 925 MHz;

# ITU Regions



# Resolution 646 (cont'd)

- Encourages administrations to facilitate cross-border circulation of radio equipment intended for use in disaster relief situations
- Invites ITU-R to continue its studies concerning technical and operational implementation and possible additional identification of other frequency ranges for certain countries in Region 1

# Status of studies – global circulation

## *Recommendation ITU-R M.1637*

*“Global cross-border circulation of radiocommunication equipment in emergency and disaster relief situations”*

## *Recommendation ITU-R M.1579*

*“Global circulation of IMT-2000 terminals”*

- Recognize the importance of the needs of organizations dealing with disaster relief

# Status of studies – needs of future systems

## *Report ITU-R M.2033*

*“Radiocommunication objectives and requirements for public protection and disaster relief (PPDR)”*

- Defines objectives and needs for the implementation of future PPDR solutions
- Focuses on operational needs around 2010

# Status of studies – Amateur involvement

## Recommendation ITU-R M.1042-2

*“Disaster communications in the amateur and amateur-satellite services”*

- encourages the development of robust, flexible and independent amateur service and amateur-satellite service networks, capable of providing communications during disasters and relief operations

# Future activities

- Study the protection and spectrum needs of advanced meteorological/Earth exploration satellite systems (WRC-07)
- Study implementation technologies for disaster alerting and disaster relief communications solutions
- Revise and update the Report on PPDR systems and characteristics in line with operational and technology developments

# Summary

- Regionally harmonized frequency bands have been identified for disaster relief operations
- Studies are continuing regarding the development of meteorological and Earth exploration services
- Further studies are required on advanced technical and operational solutions for disaster alerting and disaster relief communications



**Thank you**

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