THW - Missions Abroad and Satellite Applications

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Contents

- THW – Structure and Mandate
- National and International Mission Examples and Usage of Satellite Applications
- Lessons Learnt and Outlook

THW

- THW: German Federal Agency for Technical Relief
- Founded in 1950 as a public agency belonging to the Federal Ministry of the Interior
- 80,000 volunteers
- 800 full-time employees
- Annual budget of ~175 million EUR

Mandate

- Civil Protection
- Local and national disaster relief on request of local authorities (e.g. Fire Department)
- International operations on behalf of the Federal Government

Structure of THW

- 668 local sections all over Germany (volunteers only)
- 66 regional offices
- 8 state associations
- National schools in Hoya (Bremen) and Neuhausen (Stuttgart)
- Headquarters in Bonn

Modular Concept - National

SAR

Cleaning

Vacate

Coordinate

Repairs

Pumping

Catering

Illuminate

Wire

Blast

Re-build

Purify

Mission Examples (National)

Floods Eastern Germany, August-October 2010

Several hundred THW rescuers from 40 local sections out of all 8 state organisations

Tasks:

- Pumping
- Sandbag constructions
- Electricity supply
- Illumination
- Repair works

Mission Examples (National)

Storm „Kyrill“, January 2010

7.489 THW members out of 330 local section

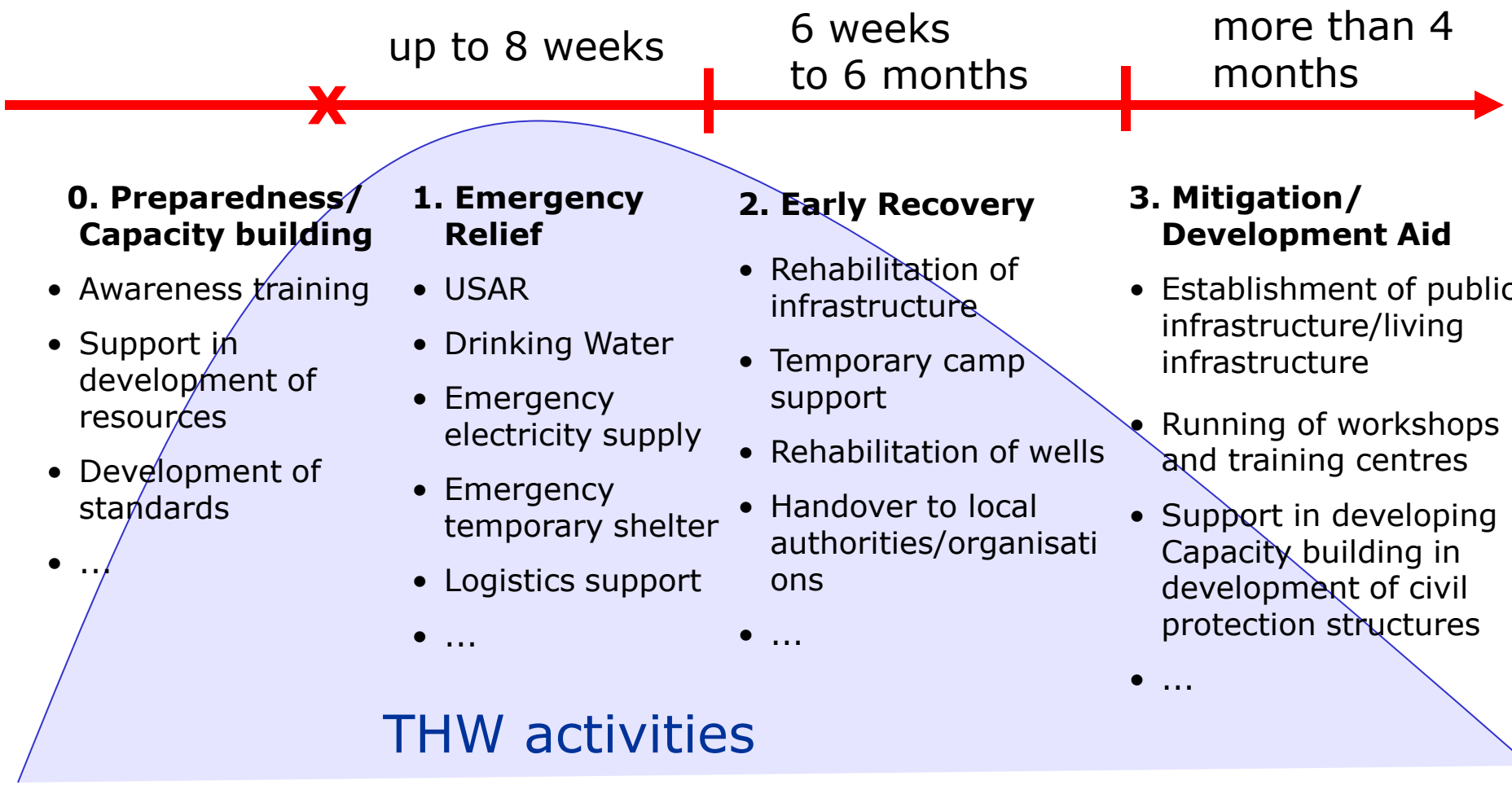
Tasks:

- Rescue operations
- Clearing of damages and railway tracks
- Securing dikes
- Logistics
- Pumping
- Energy supply
- Illumination

International Strategy

- Civilian contribution of Germany in the following areas:
  - Technical and logistical organisation on federal level
  - Focus on emergency response, link to recovery and development aid
  - Support of embassies, NGO etc.
  - Civilian contribution to DPKO, ESDP missions
- Active participation in international relief systems (EU, UN) and networks
- Development and deployment of resources for international missions
- Permanent qualification of personnel

Time Line of Activities



International Networks and Partners

- United Nations
  - UN-OCHA, INSARAG, WFP, UNICEF, UNHCR, DPKO, UNEP ...
- European Union
  - European Community Civil Protection Mechanism, European Humanitarian Aid ...
- Bilateral Cooperation
  - Cross border cooperations, cooperations with third countries
- National Actors
  - German Embassies, Federal Police, NGO, ...

Modular Concept - International

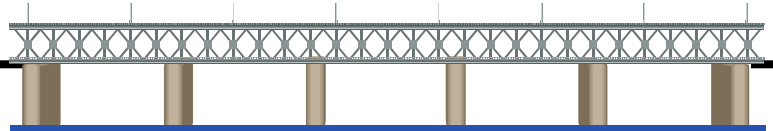
- Rapid deployment units
  (USAR, Water Supply, Airport Support)
- HCP (High Capacity Pumping)
- TAST (Technical Assistance Support Team)
- SEC (Standing Engineering Capacity)
- ETS (Emergency Temporary Shelter)
- Experts & technical advisors incl.
  database for international experts
- Logistics centre for international operations

TAST – Modular Concept

"Technical Assistance Support Team"

Requester

Mission Objectives



BUNDESPOLIZEI

Auswärtiges Amt

International Humanitarian Partnership

Bundes-kriminalamt

Component

1 2 Administration support
Telecommunications support

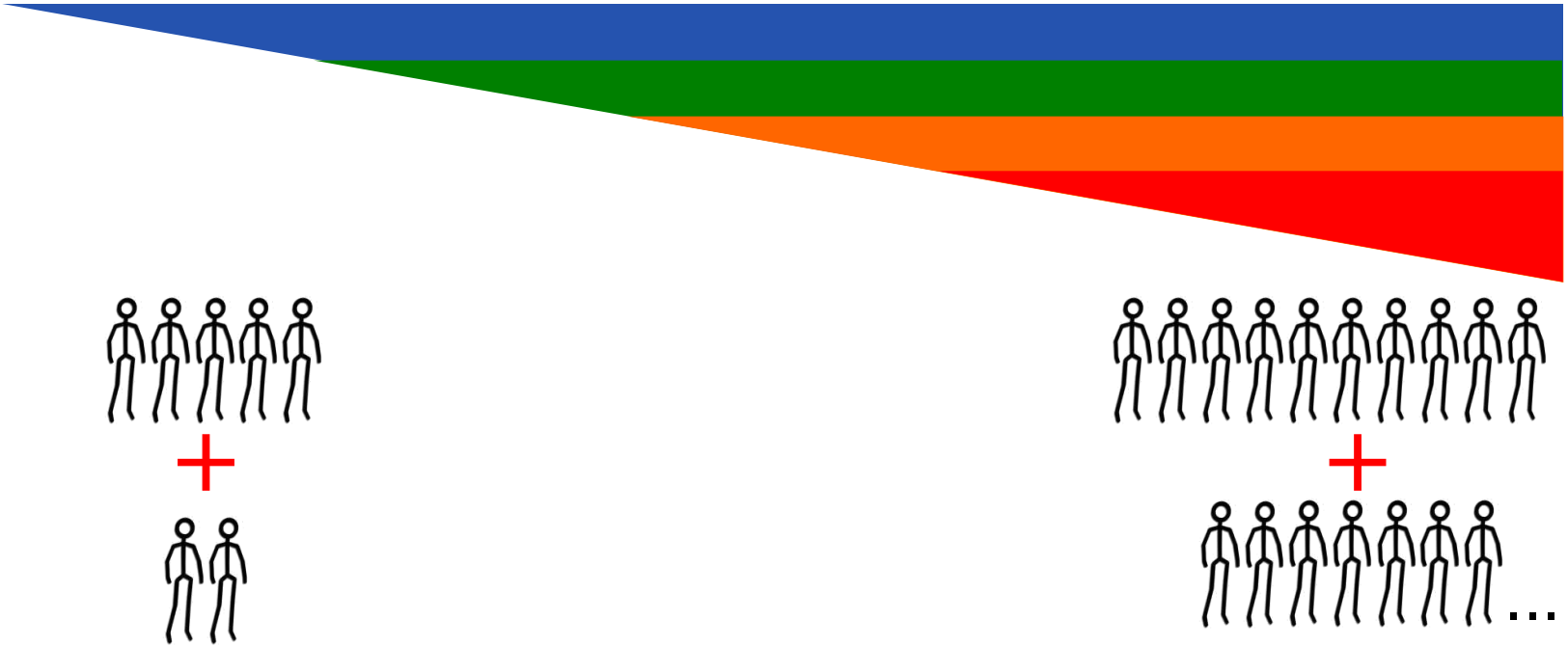
3 Subsistence support

4 Transportation support (on-site)

5 6 Safety and Security (technical) medical support

Paramedic

TAST - Scaleability



On-Site facilities available

TAST: ICT & Admin Support

No local facilities available
No working infrastructure

Full TAST Support

THW and the EU CP Mechanism

- Resources:
  - 14 Modules, 1 TAST
  - Assessment, coordination, technical experts
- Running and participation in EU exercises

- Participation in international missions
- Development and running of training courses
- Running of EU projects

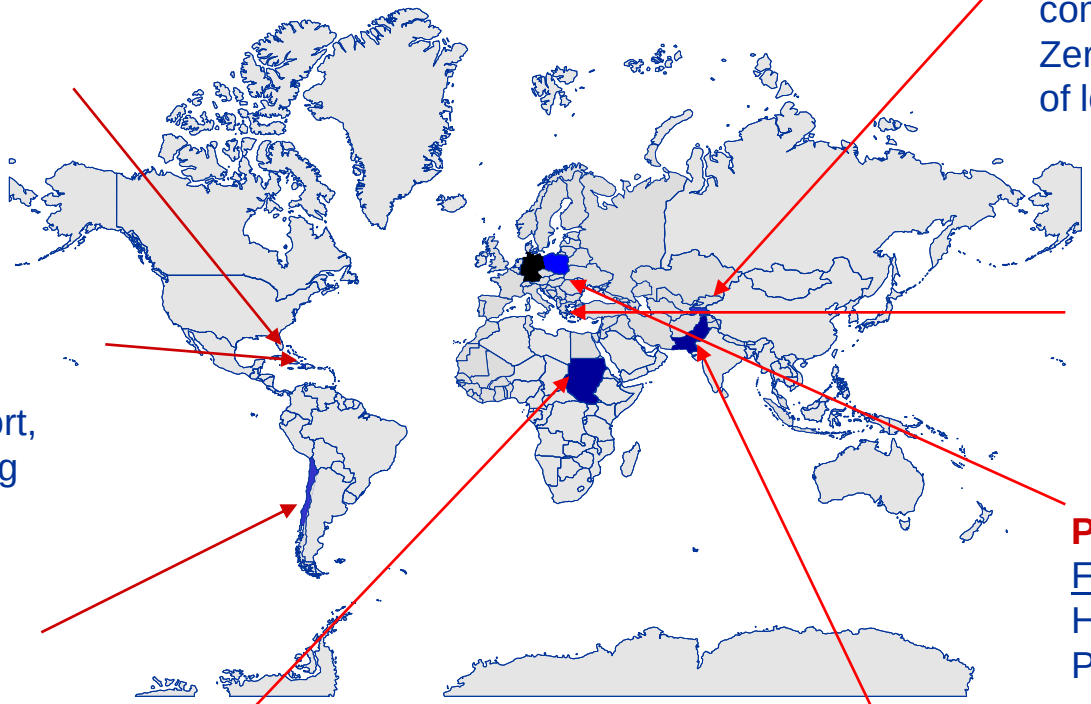
Experts Database

- Around 100 different functions – Terms of Reference (ToR)
  - social competences (ability to work in a team)
  - knowledge of languages
  - age minimum of 25
  - vaccination status
  - health status (special examination)
  - special professional background
  - special knowledge about civil protection, humanitarian aid, international procedures
  - availability: at short notice for min. 2–4 weeks

International Deployments 2010

DOMINICAN REPUBLIC
Earthquake Haiti
1 logistics expert: support of WFP

TAJIKISTAN
Project
Establishment of radio communication in Zeravshan valley; training of locals



HAITI
Earthquake
Drinking water, base camp, embassy support, capacity building

ALBANIA
Floods
1 ICT expert to support EUCP Team

POLAND
Floods
High Capacity Pimping Modules

CHILE
Earthquake
Embassy support; constructional engineers

SUDAN:
Project
2 workshops in Dharfur region for the German Foreign Office

PAKISTAN
Floods
Drinking Water;
IHP support mission

Mission Examples

Earthquake Haiti 2010

Haiti EQ: Assessment

- 4 members THW assessment team started 8 hours after EQ

Haiti EQ: Support for German Embassy

- Coordination of the German assistance
- Supporting the German embassy by implementing a coordination and information desk
- Participation at all relevant UN Cluster Meetings

Haiti EQ: Logistics Officer for WFP

- WFP logistics hub for all Haiti EQ relief operations in Santo Domingo / Dominican Republic
- THW logistics exports seconded to WFP
- Organisation of procurement for THW material apart from duties for WFP

Haiti EQ: Air Logistics

- SEELift prepares several flights for THW crews / equipments and German NGOs, requested by Ministriy of Foreign Affairs and Ministry of Interior

Haiti EQ: Water Purification

- Water distribution point opened at the first of two water purification plants

- The plants purify 6.000 l/h each
  -> a total of 45 Million liters

Haiti EQ: Camp Léogâne

- THW offers technical and logistic assistance to other organizations
- Seven German and one italian NGO based in THW Camp Léogâne

- Two additional water purification plants installed
- THW analyzes water samples of surrounding wells and plants in its mobile labaratory

Haiti EQ: Capacity Building

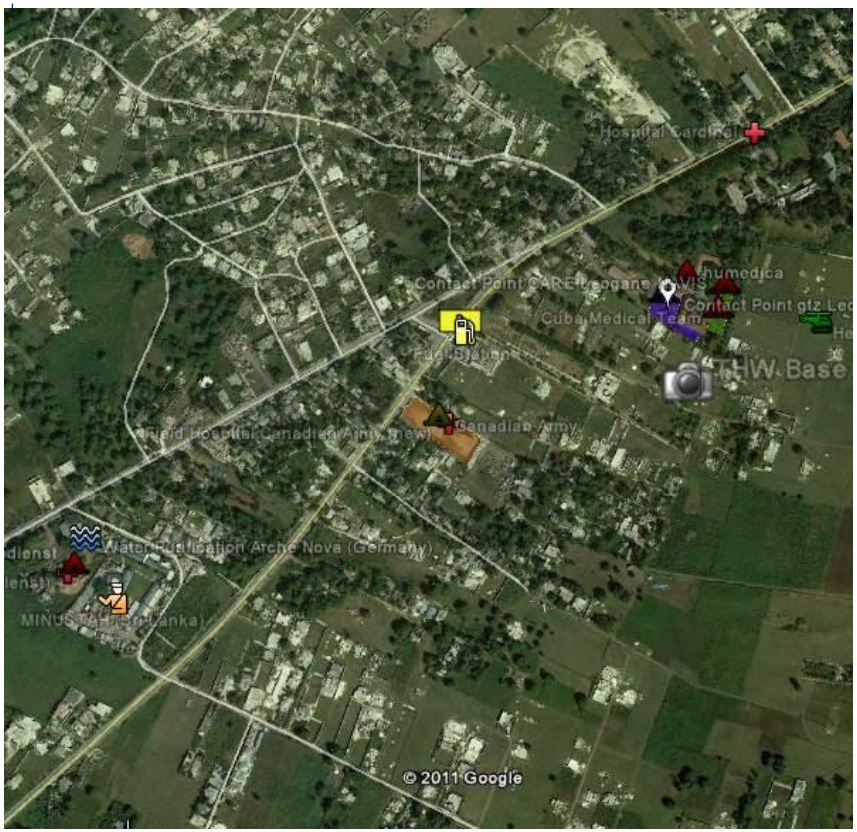
THW carries out two projects for ECHO since 1/5/10:

- Infrastructure for water supply for IDP camps with local water works
  Duration: 3 months
  Staff: 4 THW-epats

- Equipment and Training for Civil Protection (Mobile Teams) to prepare IDP camps for rain season
  Duration: 6 months
  Staff: 5 THW-expats, 25 civil protection,
  200 IDP (cash for work)

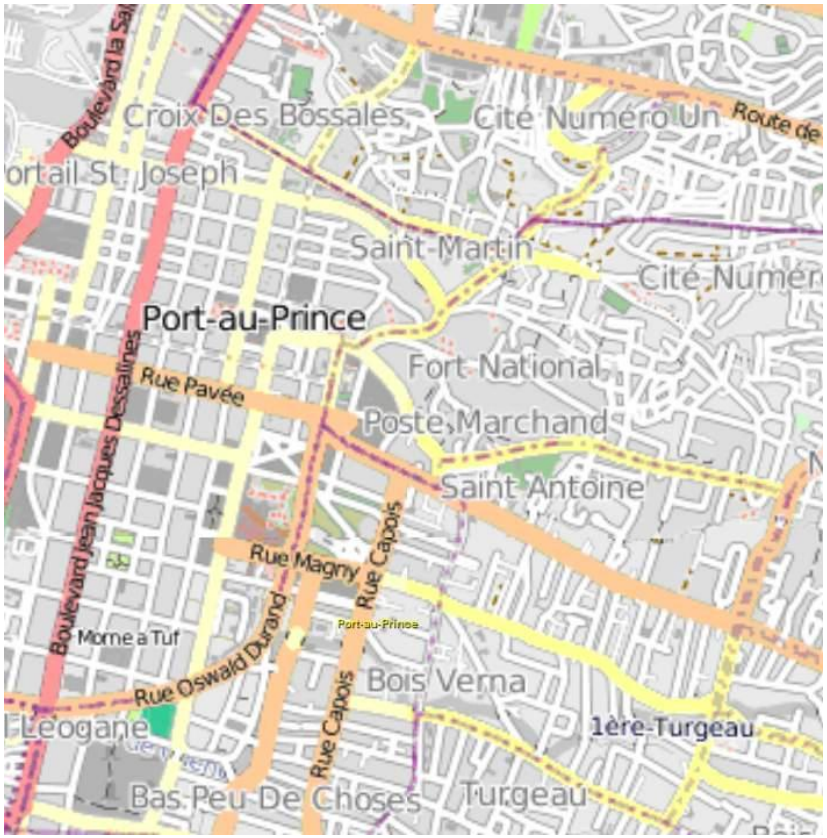
Haiti EQ: Satellite Applications

Mapping, "GIS"



google earth

Navigation



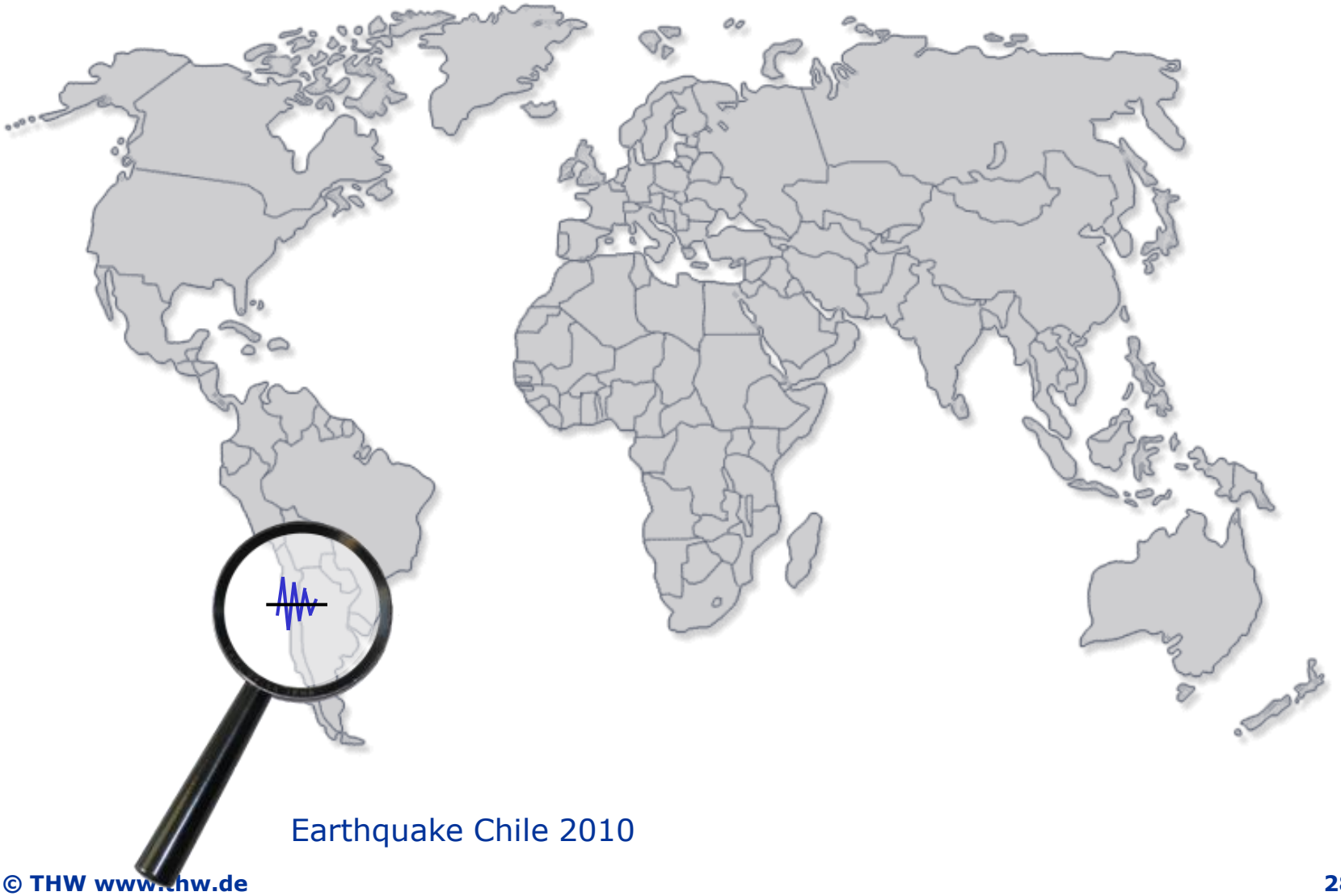
open streetmap

Haiti EQ: Satellite Applications

- Communication:
  - Large affected area
  - Far distances between units
  - Many units to share limited transfer capacities
  - High coordinative effort

  - GSM network unavailable in first phase
    - BGAN, Iridium
  - High volume IP Data for project phase
    - VSAT

Mission Examples

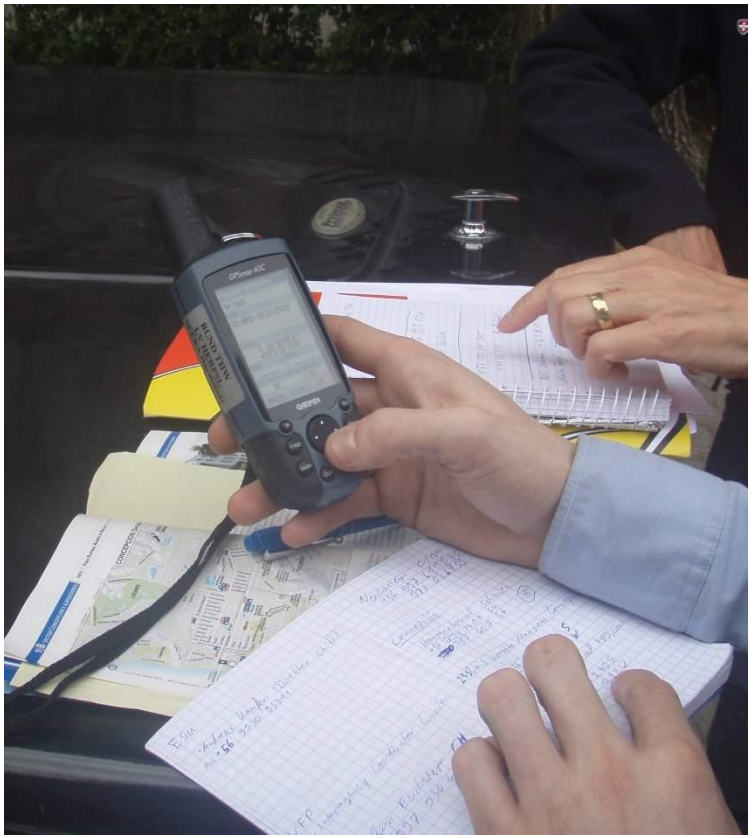


Earthquake Chile 2010

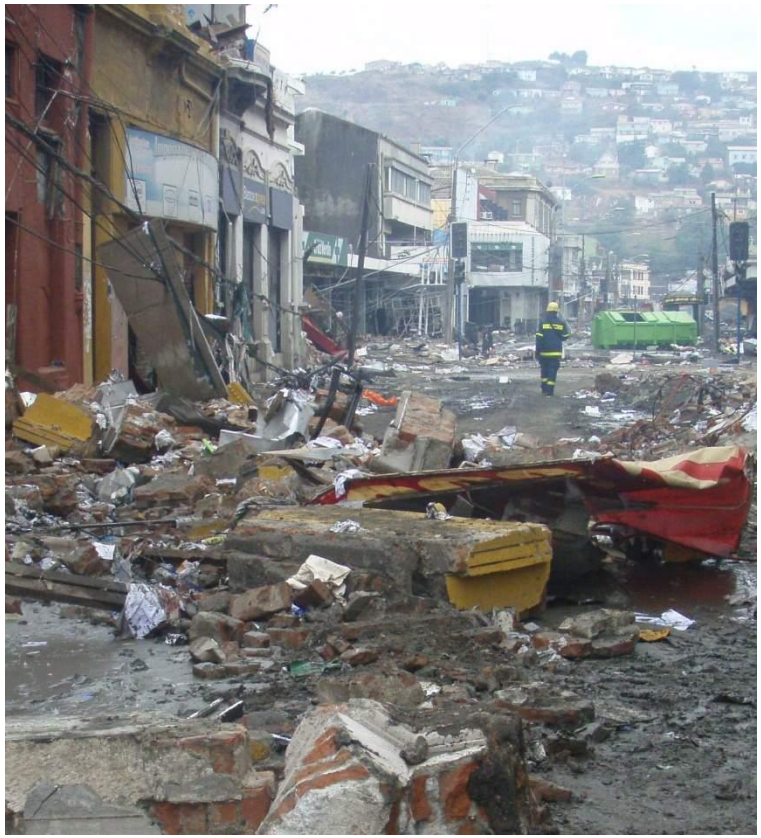
Chile EQ: Embassy Support and Construction Assessment

Chile Earthquake

Navigation



Assessment



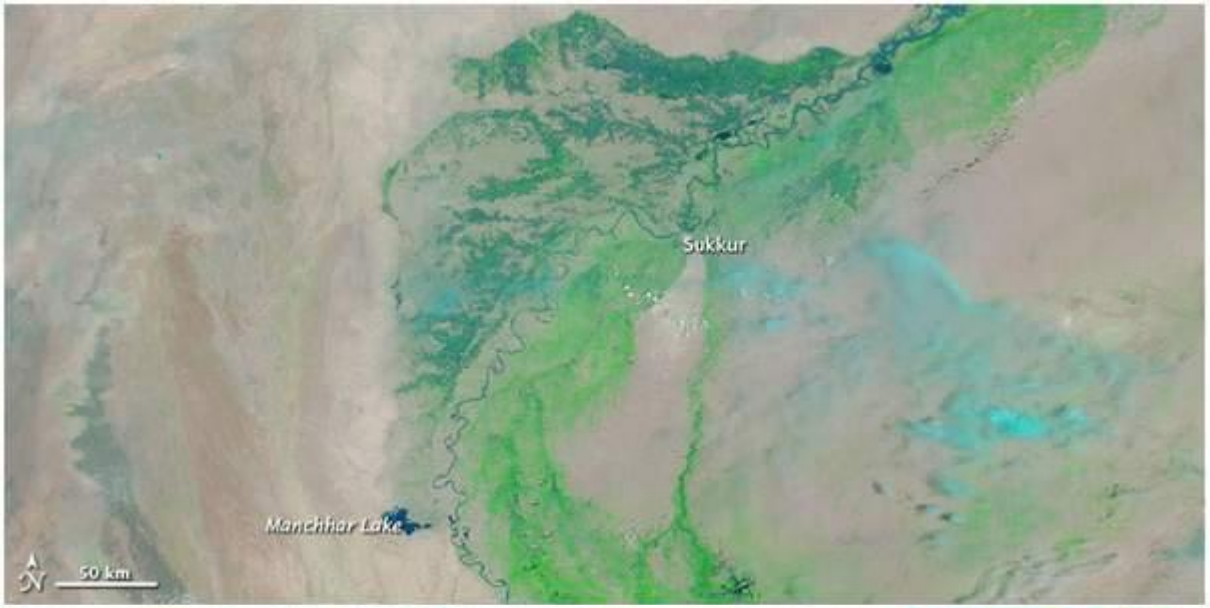
Chile EQ: Satellite Applications

- Communication:
  - Very large affected area
  - Far distances between units
  - Split-up in small, independent teams

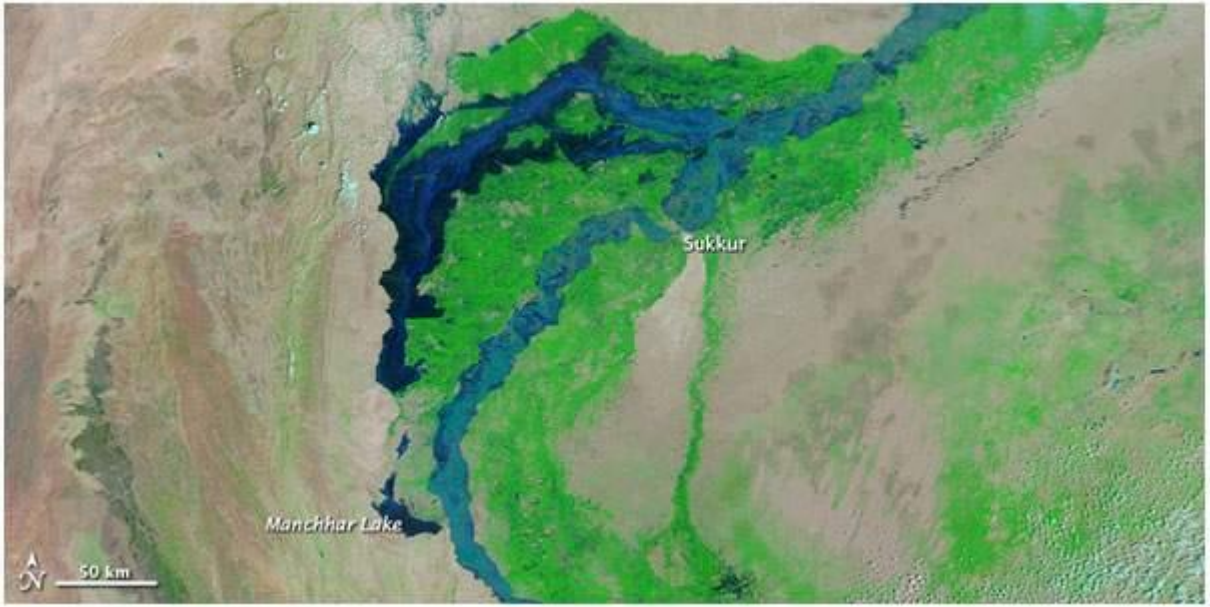
  - GSM network unreliable in first phase and expensive (!)
    - Iridium
  - Low data volume necessary (Compressed SitRep)
    - BGAN

Mission Examples

Floods Pakistan 2010: United Nations Disaster Assessment and Coordination Team



19 Jul 2010



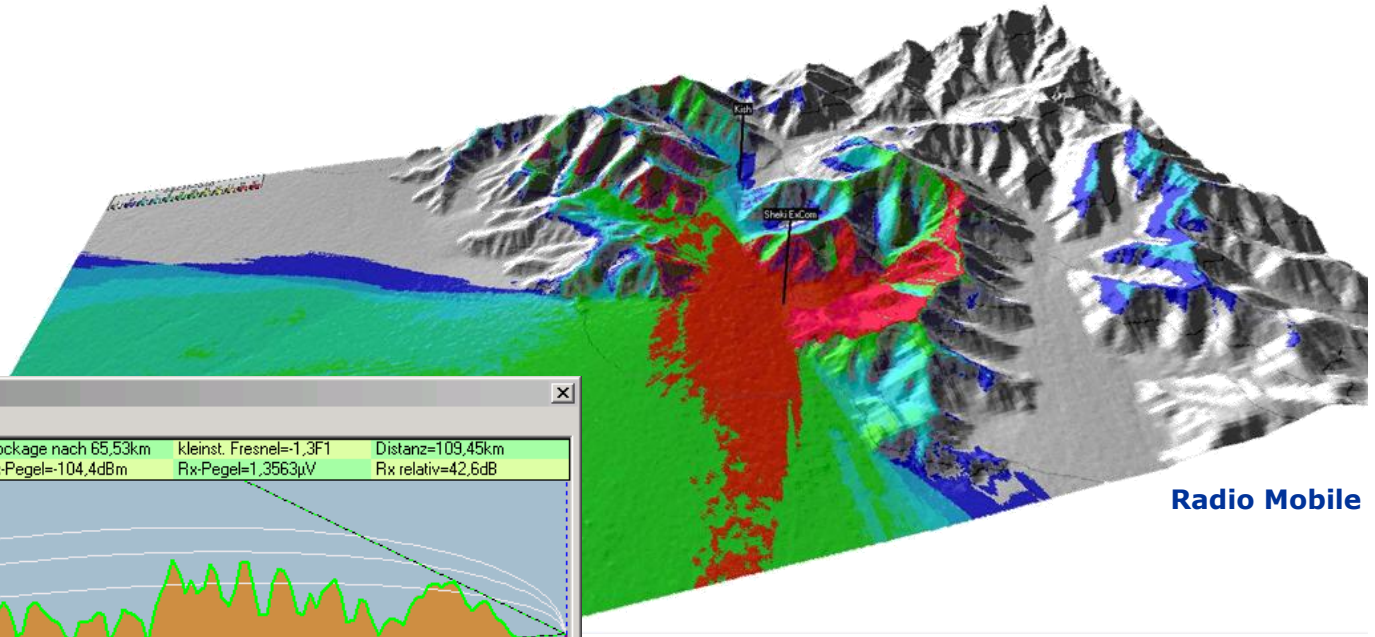
03 Sep 2010

source: reliefweb

Mission Examples

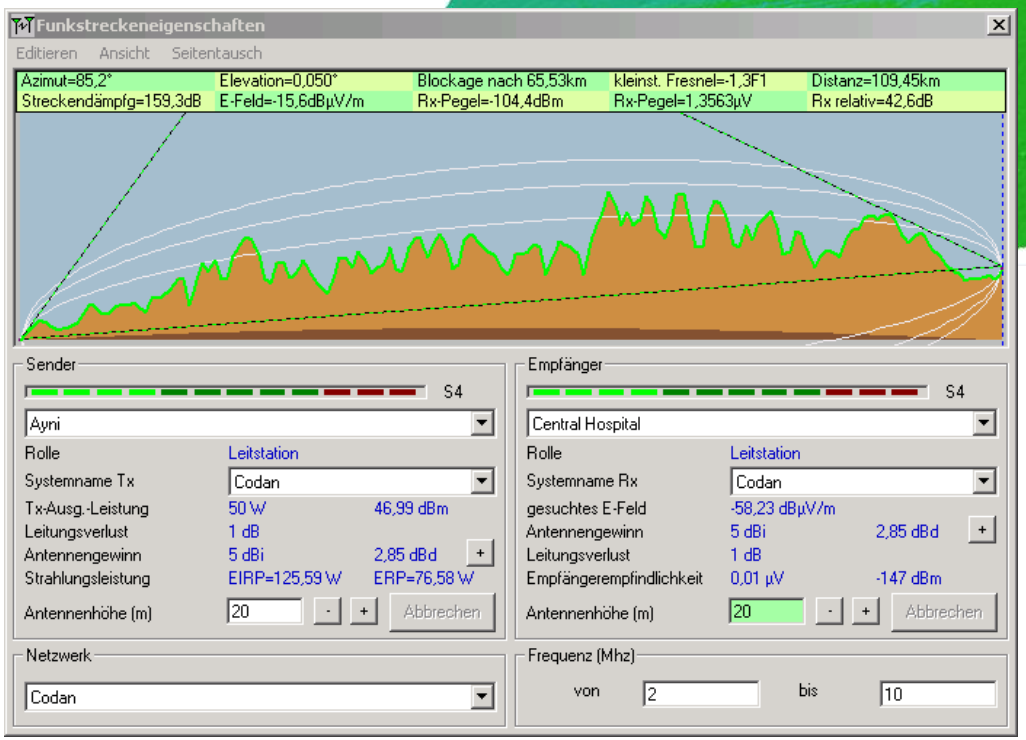
Tajikistan 2009/2010: Capacity Building

Tajikistan: Planning and Construction of a RC Network



Radio Mobile

VOACAP




© THW

Tajikistan: Usage of Satellite Appl.

- Mapping
  - SRTM topographic data
  - Not time-critical
  - GIS-Overlays
- Navigation
  - Standard GPS applications (Tracking, POI)
- Communication
  - NO geostationary systems working
  - Limited GSM coverage
  - Iridium with disruptions
  - HF NVIS mostly reliable

Usage of Satellite Applications

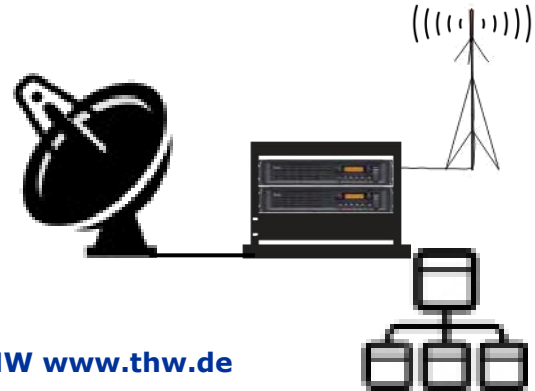
- Mapping
  - Imagery processing (charter activation)
    - Damage assessment and prediction
    - Logistical access and planning asset
  - Situation overview (GIS and Map Database)
- Navigation
  - Roadmaps and routes
  - Unit movement monitoring
- Communication
  - Main coordination tool
  - Safety & Security concerns, reliability

Versatile requirements

- National vs. international missions
- Disaster specific
  - Type of disaster
  - Affected area
  - Dimension of disaster response
- Mission (phase) specific
  - Mission objective
  - Time-critical, real-time?
  - Mission progression
- Level of communication
  - Line of communication
  - Range (local, regional, worldwide) and rate of transmissions
  - Safety & Security concerns, reliability

Lessons Learnt - Sat-Com System

- "There is not one perfect System"
  - Bandwidth and costs
  - Reliability and availability
  - Different phases of mission have different requirements
- Versatile device combining several systems?
- Hybrid applications?



Adaptability & Redundancy...

GSM

VHF Radio

SatCom

GPS, Mapping

HF Radio

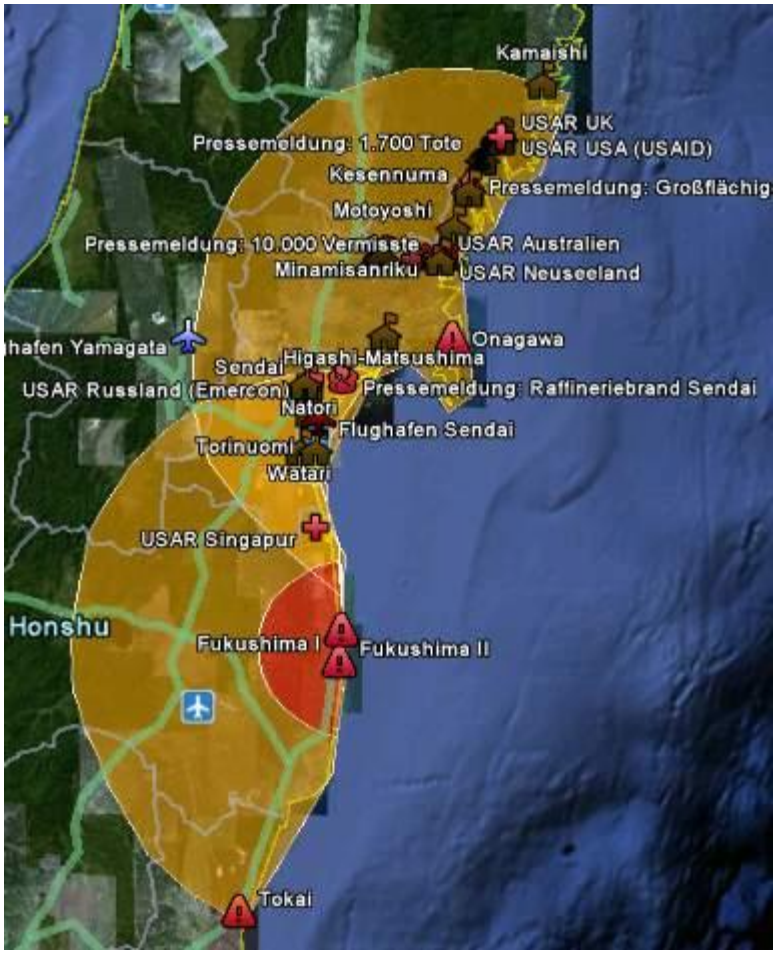
… Versus Limited Capacity

Lessons Learnt – Outlook (2)

- Impact and response estimation by data evaluation of **last** disaster
- Accessible database (maps and geodata)
- GIS
  - Offline map data, different
  - Situation overview
  - Impact estimation (population x damage)
  - Site planning (area measurement)
  - Interface to GPS receivers
- Movement Monitoring: benefits/necessity/effort?
- Automated processes, improve interfaces

Interoperable Interfaces

!?



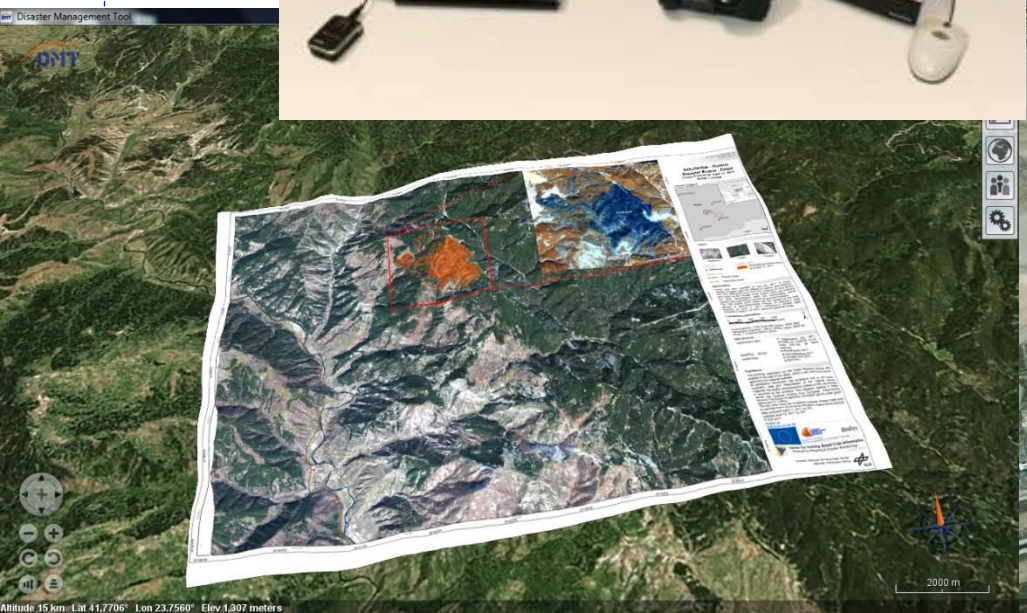
Google Earth

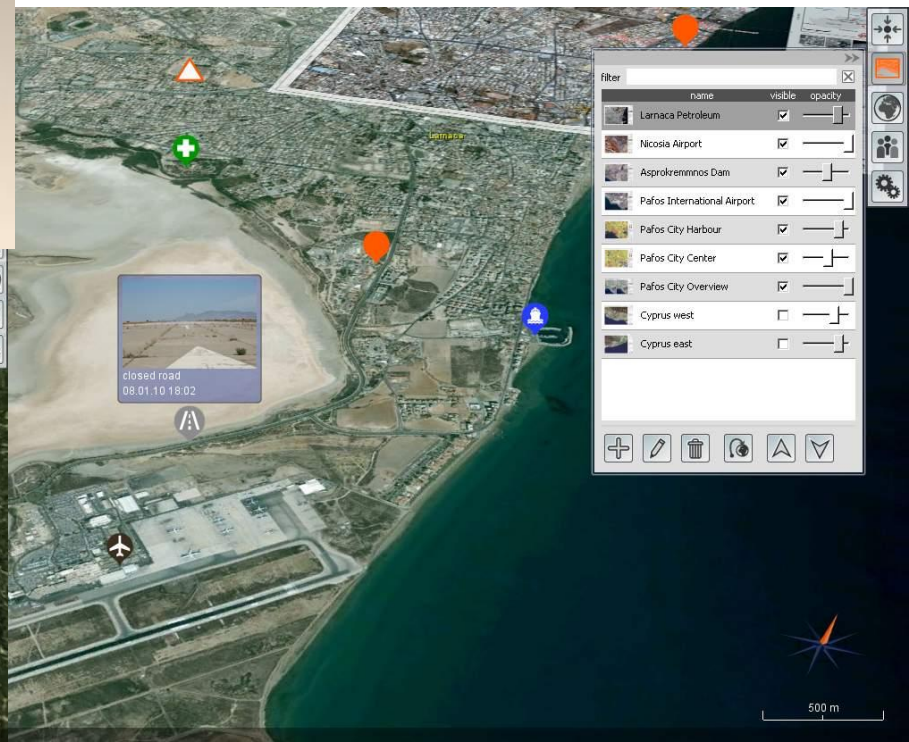
Outlook – An Example

Technisches Hilfswerk

DLR – Disaster Management Tool (DMT)

source: DLR





Lessons Learnt – In Short

- A successful satellite-based application has to be:

  Affordable,

  Easy to set up and use,

  Versatile, adaptable and interoperable,

  Reliable and independent,

  Accepted and commonly used.

Thank you

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