



Geo-information for Disaster Management



The First International Symposium on Geo-information for Disaster Management (Gi4DM)

May 18, 2005

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Symposium goal: treat disaster management in its entirety

- Technology: developers and researchers
- user requirements for geo-information information
- providers (data and standards).

- Aspects addressed:
 1. state-of-the-art in Disaster Management
 2. review of tools, software, geo-information sources, organizational structures and methods for work in crisis situations
 3. outline of the drawbacks in current use of geo-information
 4. some suggestions for future research directions

...and this had its advantages and disadvantages

What was said:

'they what to sell us GIS'

'GIS is a tool, it does not solve everything by itself'

'there is difference between 'small' disasters and 'big' disasters'

'we have to educate disaster managers'

'geo-ICT has to learn from disasters'

'technologically everything is possible'

'the problem is organization and communication between partners'

'we succeeded because we are working together'

'our geo-information dates 1973'

'response phase cannot be isolated from prevention'

'data integration should be based on ontology and semantics'

'data are available after 3 days' vs. 'data were available after 3 hours'

'we have to stay close to the users'

'not all the people can work with total station but everybody can measure with steal
type'

'can it be extended in 3D?'

...

'I have learned a lot'



333 Participants from 59 Countries

Afghanistan	1	Guatemala	1	Romania	3
Algeria	1	Hungary	1	Russia	5
Armenia	1	Iceland	1	Saudi Arabia	1
Australia	2	India	5	Sierra Leone	4
Austria	7	Indonesia	8	South Africa	1
Belgium	11	Iran	2	South Korea	4
Botswana	1	Italy	13	Spain	1
Brunei	2	Ivory Coast	1	Sri Lanka	2
Bulgaria	4	Japan	2	Sweden	16
Cameroon	1	Macedonia	1	Switzerland	2
Canada	6	Malaysia	10	Syria	1
China	12	Nepal	3	Thailand	3
Congo	2	Nigeria	7	The Netherlands	102
Czech Rep.	1	Norway	1	Turkey	4
Denmark	5	Oman	1	Uganda	1
Egypt	3	Pakistan	2	United Kingdom	8
Ethiopia	1	Philippines	1	USA	12
Finland	1	Poland	2	Vietnam	2
France	9	Portugal	2		

Factors

- Type and extend of the disaster
- Phase of disaster management
- Decision-making level
- Available data & technology (vary from country to country)
- Legislation
- Human factor (behavior in stress)

Technology for emergency response



- Fast
- Context awareness 'what/who/where/how'
- Integration from multiple sources
- 3D and temporal aspect very important
- Mixed indoor (CAD) and outdoor (GIS) information
- Enables analysis (evacuation routes, flooding prediction,...)
- Provides clear presentation (image, 2D/3D graphics, video, text, sound/voice)
- Up to date information: monitoring by terrestrial, airborne, satellite sensors
- Positioning and navigation (GPS, Galileo, telecommunications)
- Wireless communication and services
- Web-based, open source
- Multidisaster, multiteam



International Society for Photogrammetry and Remote Sensing

WG IV/8 Spatial Data Integration for Emergency Services

Home ToR Members Events Links Contact

Home - WG IV/8 Officers (2004-2008)

Chair: Sisi Zlatanova, The Netherlands

Co-chair: Jonathan Li, Canada

Scientific secretary: Andrea Fabbri, The Netherlands

<http://www.geomaticseng.ryerson.ca/isprs/>



information from imagery

International Society for Photogrammetry and Remote Sensing

WG IV/8 Spatial Data Integration for Emergency Services

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Terms of Reference, WG IV/8 (2004-2008)

- Integration of 3D GIS and intelligent image analysis systems for emergency management in urban environments;
- Application of low-cost and real-time digital imaging and mobile mapping technologies for emergency response;
- 3D data structures, algorithms, and standards for emergency data management and exchange;
- Geo-ontology and semantics for emergency response;
- Innovative knowledge-based systems for browsing and analysis in distributed environments;
- 3D visualization of scenes and situations (including indoor) on different mobile front-ends;
- Analysis of emergency management needs for production and updating of spatial information.

ISPRS book series – “GeoICT in Emergency Response”

1. Policy and organizational aspects

Frans von der Dunk on Legal aspects of geo-information in emergency

2. Data collection approaches

Orhan Altan on Remote sensing and aerial approaches

Norman Kerle, Fran van de Heuvel, Ben Gorte - oblique imagery, laser scanning and close range

Jonathan Li on mobile mapping

3. Data Management and analysis

Robert Laurini on spatial indexing for disaster management

Zuilekom on evacuation routes

TUD on 3D GIS and DBMS

4. Visualization/simulation and LBS

Remco Torg on mobile technology and positioning

Lar Bodum on VR approaches for simulation and visualization of disasters

Michael Jern on Web visualization

5. Standards and exchange of information

Hardy Pundt on semantic aspects of data

Thomas Kolbe on 3D standards and GML

Chris Parker on the role of Geo-providers

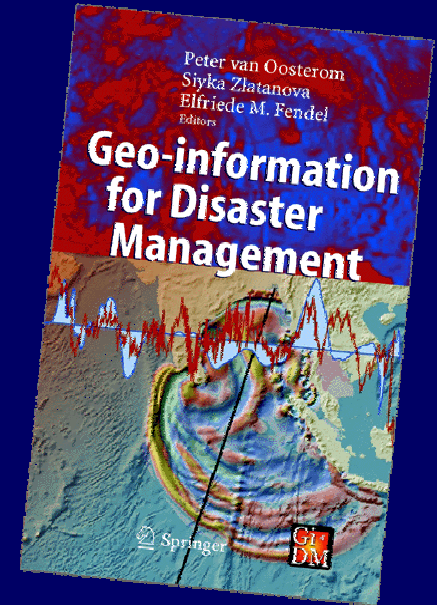
6. Systems for particular Applications

Christian Castle on GIS for London underground

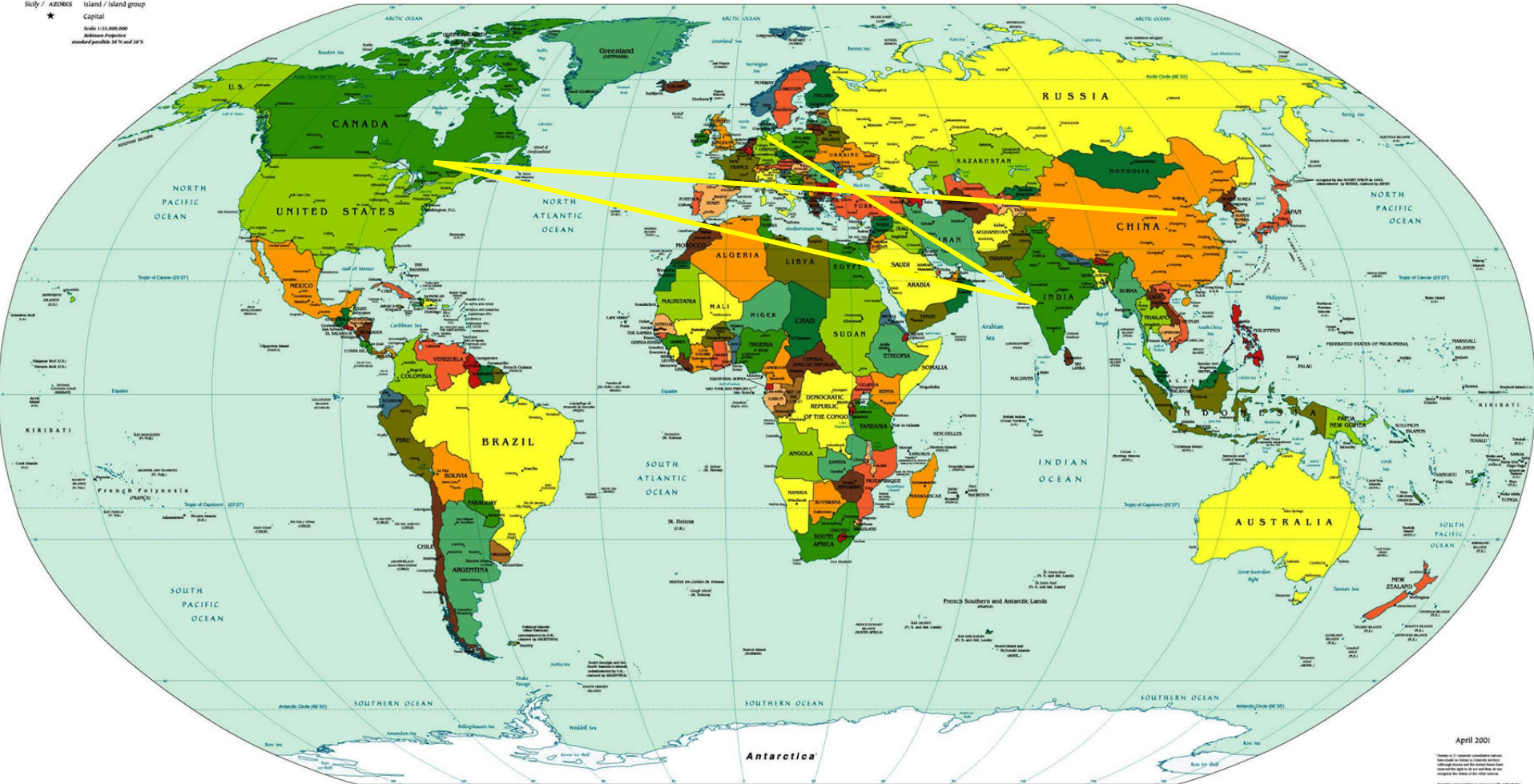
Michel Grothe on Web services for Water management

Stefan Diehl on data sharing

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AUSTRALIA Independent state
Bermuda Dependency or area of special sovereignty
Stuy / AZORES Island / island group
★ Capital
Scale 1:3,000,000
Reference Population
standard parallels 30° N and 30° S



Series Symposia across the continents

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Next Symposia in 2006

October 9-13, 2006 in Goa, India



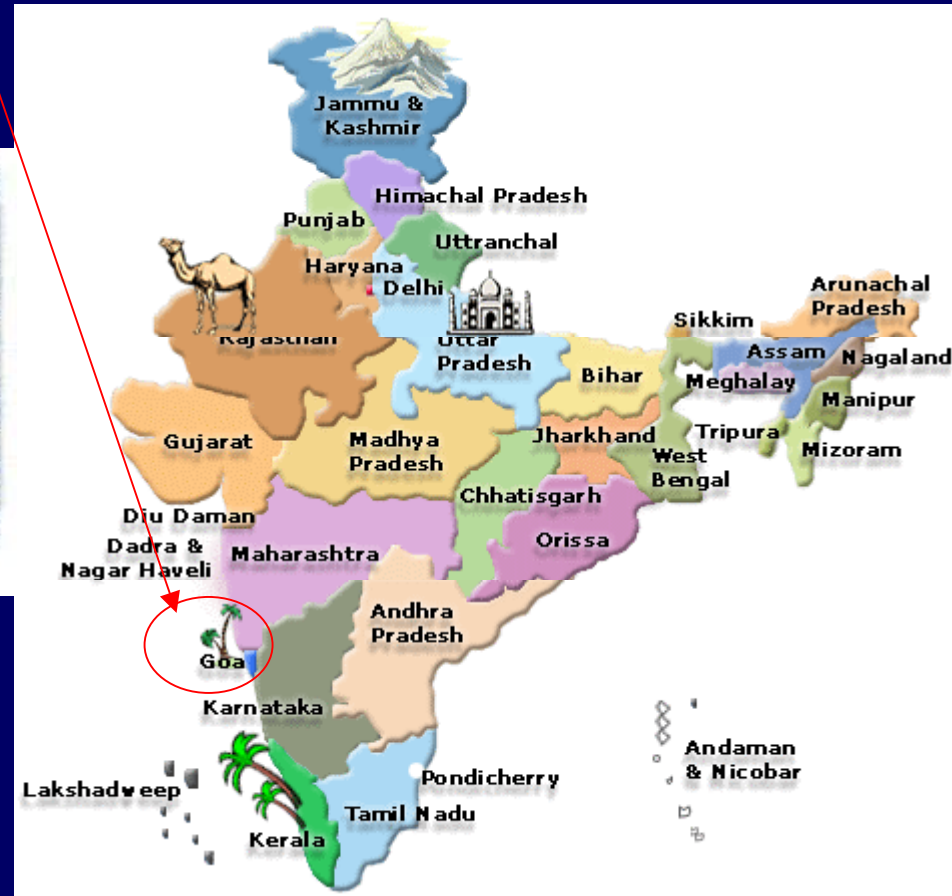
Anjuna Beach



Basilica Church

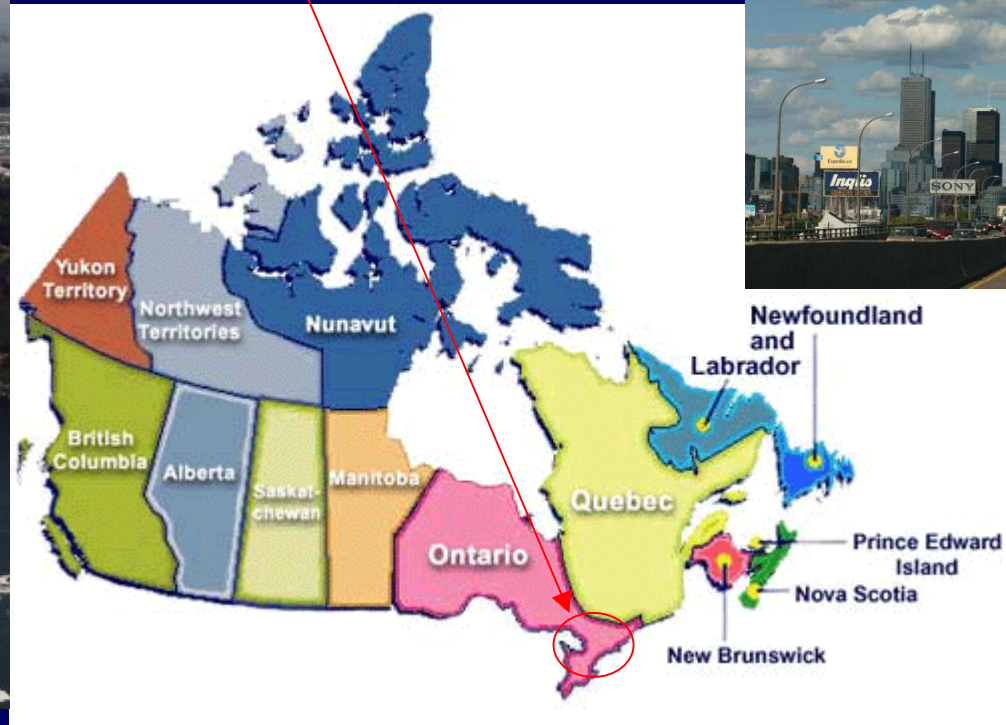
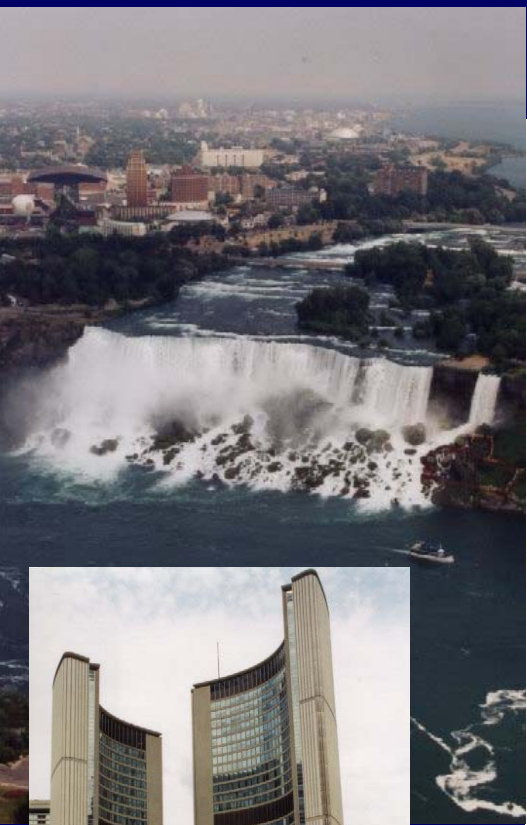


Mahadev Temple, Tambdi Surla



Gi4DM in 2007, Toronto Canada

May or June 2007, Toronto, Ontario



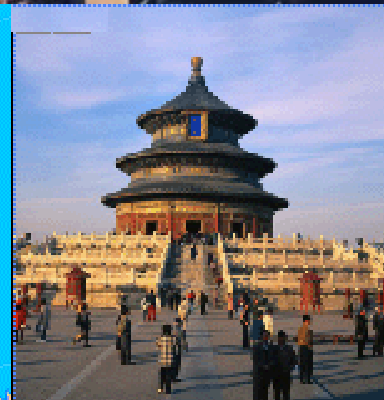
Gi4DM in 2008, Beijing, China

July 2008, Beijing China



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International Cooperation

- Co-organizers: ISPRS, EuroSDR, AGILE, UN OOSA, ICA, FIG, OGC

Working groups:

- Hazards, Disasters and Public Health, ISPRS WG VIII/2
- Early Warning and Risk management (ICA)
- Risk and Crisis Management (OGC)
- Disaster Management – Preventing Environmental Catastrophes by Spatial Planning and Land Management (FIG)

FIG, April, Cairo, Joint Board of Spatial Information Societies

Coming events



June 21-22, 2005 Bonn, Germany, **1st International Workshop on Next Generation 3D City Models**,
Dr. Thomas Kolbe

July 13-15, 2005, Toronto, Canada, **15th World Conference on Disaster Management**, Alysone Will

July 25-27, 2005, Xiamen, China, **4th International Conference on Environmental Informatics**, Dr.
Jonathan Li

August 17-19, 2005, Toronto, Canada: **13th International Conference on Geoinformatics "Coping
Disasters across Continents"**, Dr. Songnian Li

August 29-30, 2005, Vienna, Austria, **Joint Workshop of ISPRS and DAGM Object Extraction for 3D
City Models, Road Databases and Traffic Monitoring**, WGIII/4, III/5, WGIV/8, Dr. Franz
Rottensteiner
and Dr. Uwe Stilla

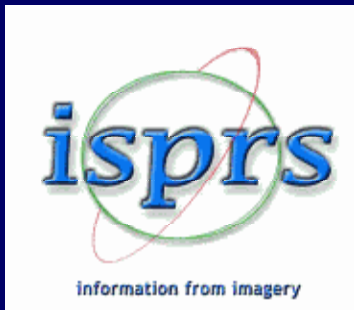
October 14-16, 2005, Hangzhou, China, **ISPRS Workshop on Service and Application of Spatial Data
Infrastructure**, WGIV/1, WGVI/8, WGII/IV Dr. Jie Jiang

November 28-30, 2005, Vienna, Austria, **3rd International Symposium on LBS and TeleCartography**,
ICA Commission on Maps and Internet, ISPRS WG IV/8, Dr. Georg Gartner,

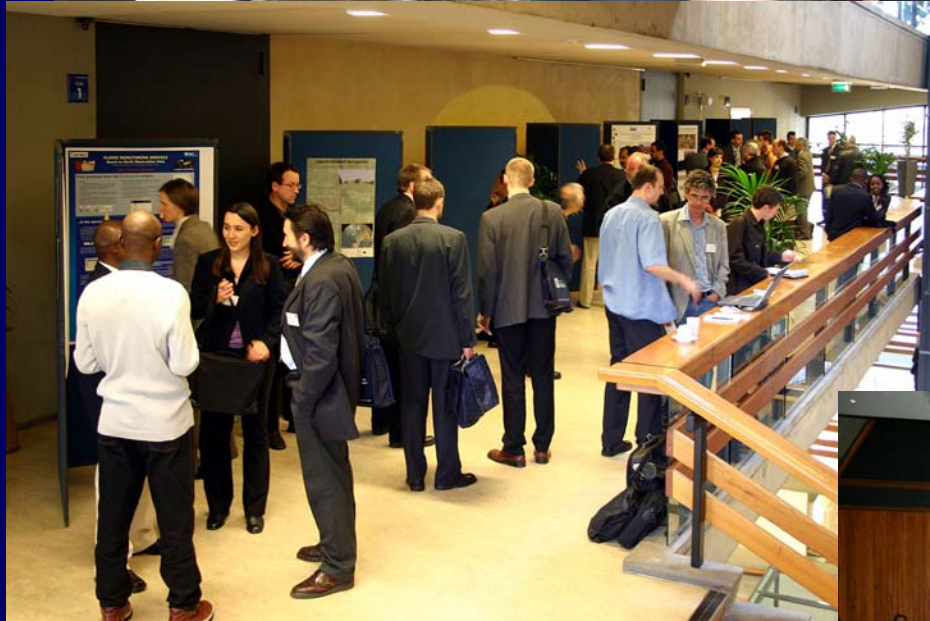
Industrial sponsors



Organizations







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lft

Local organising committee

- Delft University of Technology, Congress Centre Aula
- OTB, Research Institute for Housing, Urban Planning and Mobility Studies
- Section GIST Technology
- MSc and PhD students

Peter van Oosterom
Elfriede Fendel



See you next year!
October 9-13, 2006 in Goa, India

