

IGOS Geohazards approach



3 stages of DRMC

PRE-DISASTER

- Risk Assessment
- Mitigation/Prevention
- Preparedness

DISASTER RESPONSE

- Warning/Evacuation
- Saving People
- Providing Immediate Assistance
- Assessing Damage

POST-DISASTER

- Ongoing Assistance
- Restoration of Infrastructural Services
- Reconstruction (Resettlement /Relocation)
- Economic & Social
 Recovery
- Ongoing Development Activities
- Risk Assessment Mitigation/Prevention

DMCVIII - @TORQAID 20

Policies
focusing on
crisis finally
save lives, but
recovery costs
continue to
increase

Mitigation policies:

- reduce vulnerability of exposed elements, saving lives and costs
- contribute to sustainable use of natural resources



How do observation help reducing the risks?

Observations can help:

reducing hazard



Need of information to identify hazards and level of threat

reducing exposure



Need of input information for LAND USE PLANING

reducing vulnerability

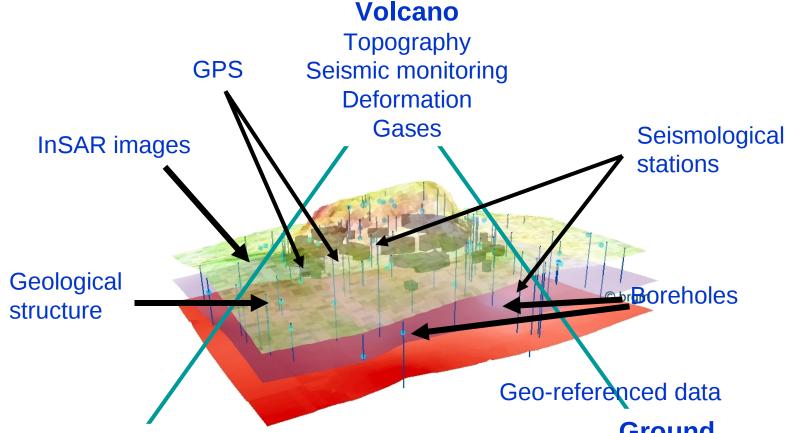


Need of information for the assesment of systemic and physical vulnerabilities



Need to collect all available information and data and to use it for multi-risk assessment

Geohazards observations





Earthquake

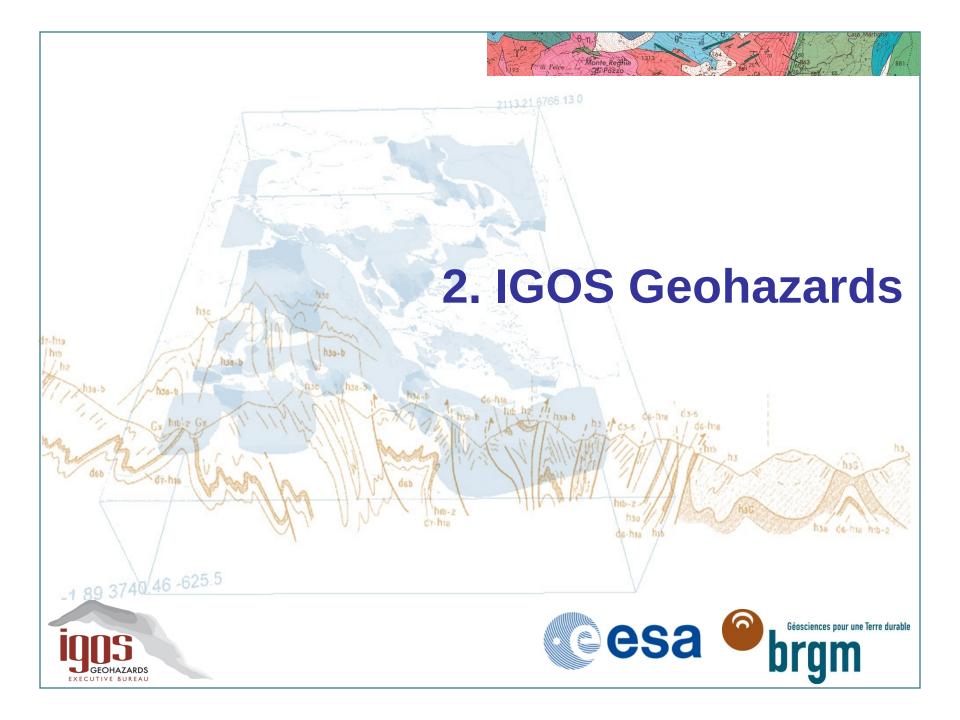
Seismic monitoring Topography Soil behavior Hydrogeology

+ Tsunami

Topography
Bathymetry
Seismic monitoring
Buoys...

Ground Instability

Topography
Deformation
Hydrogeology



IGOS Geohazards: objectives and strategy

- Objective: The IGOS Geohazards initiative intends to respond to the scientific and operational geospatial information needs for the prediction and monitoring of geohazards, namely earthquakes, volcanoes, land instability and tsunamis.
- <u>Strategy:</u> involvement within GEO:
 - GEO Geohazards Community of Practice
 - Coordination of tasks:

DI-06-03: InSAR and in-situ data integration

DI-06-07: Hazard maps inventory

— Involvement within other tasks:

DI-06-08: Multi-hazard approach definition and progressive implementation

DI-06-09: Use of satellites for risk management

DI-06-02: Seismographic networks improvement and

coordination



IGOS Geohazards – Members

International Organisations



Space Agencies









Geological Surveys







Scientific organisations









New members (2007):
 EuroGeoSurveys, IASPEI, German Insurance Association



Transition to GEO Plenary and executive Committee Advice & **Committees GEO Recommendations** Capacity Building & Secretariat Outreach Director **Architecture & Data Coordination &** Management and **Facilitation Coordination Team** Science & Technology **Work Plan Team User Interface Inputs Expert Communities of** Coordination **Practice** Dialogue

Some recent publications

- IGOS Geohazards
 Theme Report (2007)
- Geohazards Earth
 Observation
 Requirements (2007)
- GEO South East Asia Geohazards
 Workshop (2006)



GEO South East Asia Geohazards Workshop

29-30 June 2006

Macres, Kuala Lumpur, Malaysia



Geohazards Earth Observation Requirements

BRGM/RP 55719-FR August, 2007



IGOS Geohazards Theme Report

(OM/ICF-55/55-1 IV

August, 2007

J. Salichon, G. LeCozannet, H. Modaressi BRGM S. Hosford, CNES R. Missotter, UNESCO K. McMann, ESA J. Sapanin, ESA C. Ishida, JAXA H. P. Plag, GXA J. Labreeque, C. Dobson, NASA J. Quick, USS B. Giardini, FOSN K. Takara, H. Fukuoka, N. Cassgili, ICL

with collaboration of

Available on www.igosgeohazards.com



Checked by:
Name: John Douglas
Date: 21/08/2007
Original signed by:

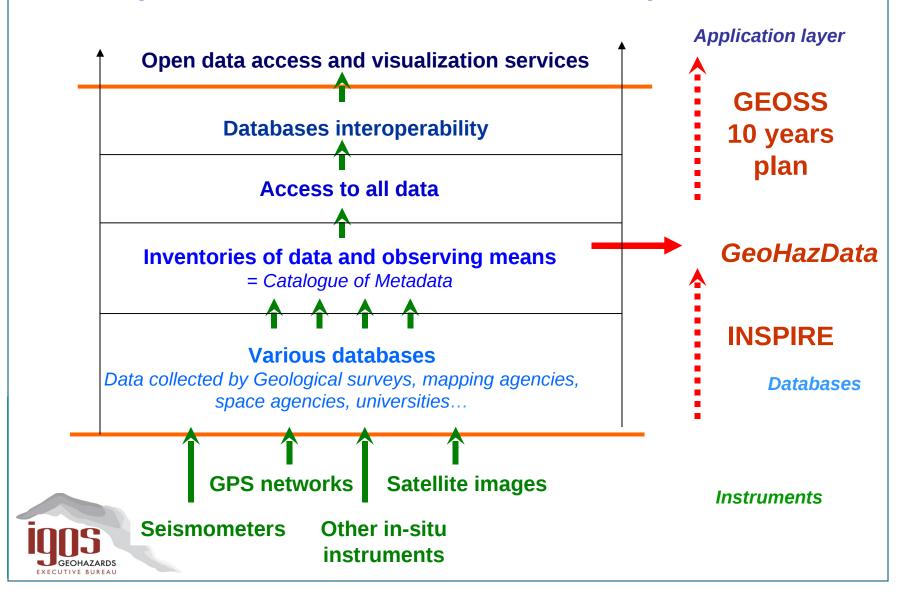
iginal signed by: J. Douglas Approved by:
Name: Hormoz Modaressi
Date: 28/08/2007
Original signed by:
H. Modaressi



BRGM's quality management system is certified ISO 9001:2000 by AFAQ

Filling the gaps: Key issue: Architecture

Toward a geohazards Earth Observation data clearing house

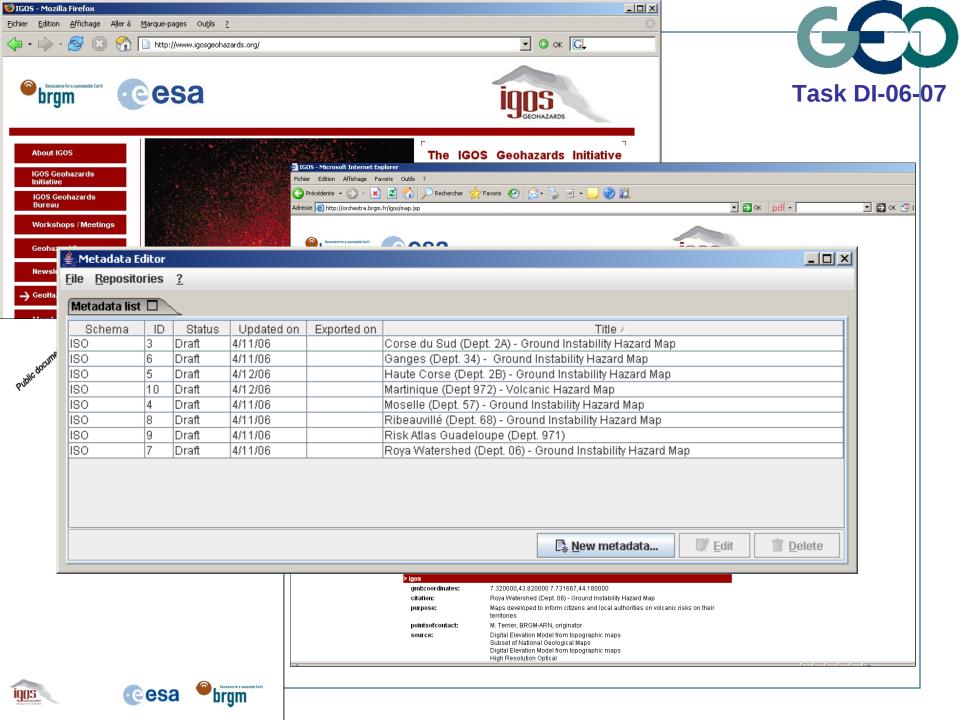








hazard assessment



The Geohazards Communities of Practice (CoP)

Information

Volcano CoP

₩OVO, Geological surveys, volcanologists

Landslides CoP

ICL, Geological surveys

Coastal risks CoP

Science organisations, Geological surveys

Earthquakes CoP

FDSN, Geological surveys. seismologists

Building compagnies, geological surveys, science organisations

Structure engineers

Geohazards

Community of Practice

Space Agencies

Geophysics CoP

Geological surveys, GGOS, WOVO, FDSN, ICL, geophysicists

Risk managers

Local national, european authorities, civil securities, geological surveys

Insurance and re-insurance compagnies



Data

User needs End Users Groups In-sector Providers Public authorities ngineering Media, Requirements Data Process and High Level **Data Providers** International, national, Interpretation **Data Acquisition** local level **Decision Support** Education, Capacity building, Remote Sensing **Operational state** Research Agencies, organisations scientists and In Situ Civil security geological surveys **Monitoring** Raw data information **Disaster Reduction** products **Networks Organisations Earthquakes Reduction** , Alert **Organisations** Geological surveys 2 kind of products: **Information:** hazard maps, risk maps and scenarios are needed to help civil security and land-use planners

for disaster mitigation

hazard and risk.

Data: more efficient access to in-situ and space data

is needed in order to help scientists to estimate



Geohazards Community of Practice: requirement processes World bank, Islamic bank, **European Commission** Asian development bank... Requirements **OGC** (Protocols) **Geohazards** Scientific **GEO (Observatio Community of Practice** community Integrated risk management Lobbying, funding **UNOOSA/Spider** (Space Observations)

Community building: Regional initiatives

the

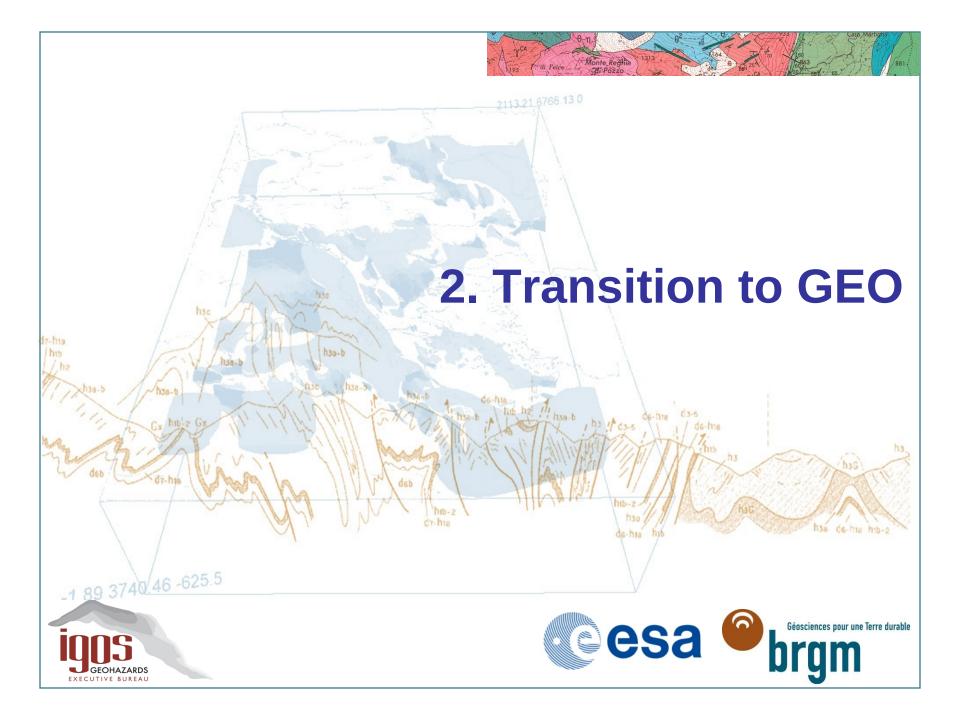
South East Asia: Objective: enhance regional and international cooperation on geological disasters in South East Asia.

GEO Geohazards workshop, June 2006, with support of The Malaysian remote sensing Center (MACRES), the Group on Earth Observation (GEO), NASA, UNESCO and IGOS Geohazards

GEO South East Asia ds Workshop June 2006 a Lumpur, Malaysia **Geohazards Working Group** EuroGeoSurveys IGCP 482/489

Europe: Eurogeosurveys and the Geohazards Community of

Practice support



Conclusions

- Need to focus on an easier data provision disaster mitigation
- IGOS Geohazards aims at
 - -supporting a multi-disaster approach
 - —increase the exchange of data from various sources
 - —moving toward an open access to data
- Involvement within the GEO framework to progress
- Cooperation with other organization programmes (GEO, UNESCO, WMO, UNOOSA, UNISDR) is expected to help coordinating the initiative







Thank you for your attention

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