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Major Effects of Water Stress Related Issues in Disaster Management

Orhan ALTAN
1st VP of ISPRS

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The Earth System

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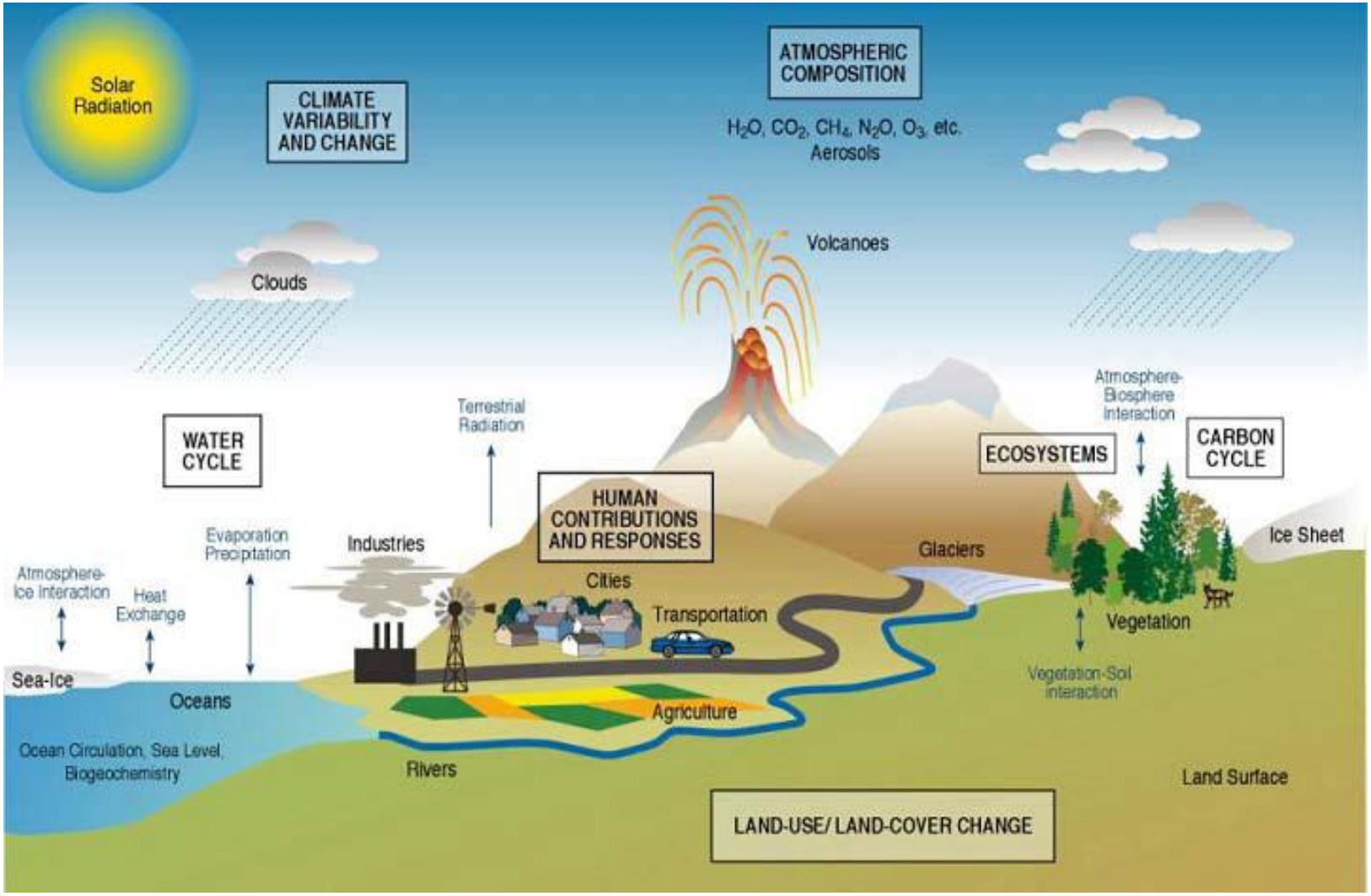

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What is Changing?

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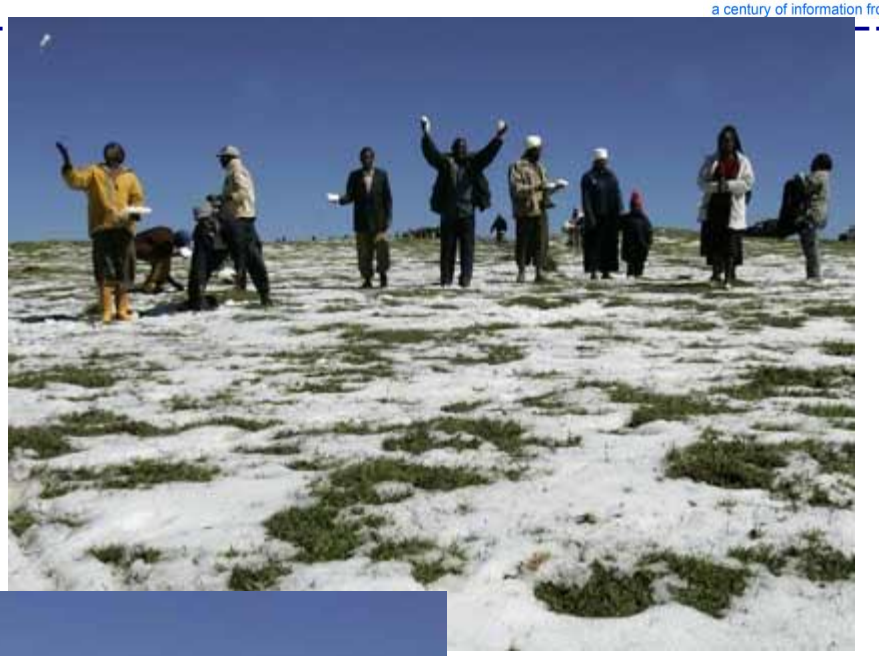
Hailstorm in Nyahururu, RiftValley Province

Mr Joseph Mwangi, samples the ice that snowballed Gathanji Forest in Nyahururu Town last evening.

Sotik ODM nominations

Obama acceptance speech

What is Changing?



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What is Changing?

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Heavier precipitation, more intense and longer droughts….

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What is Changing?

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What is Changing?

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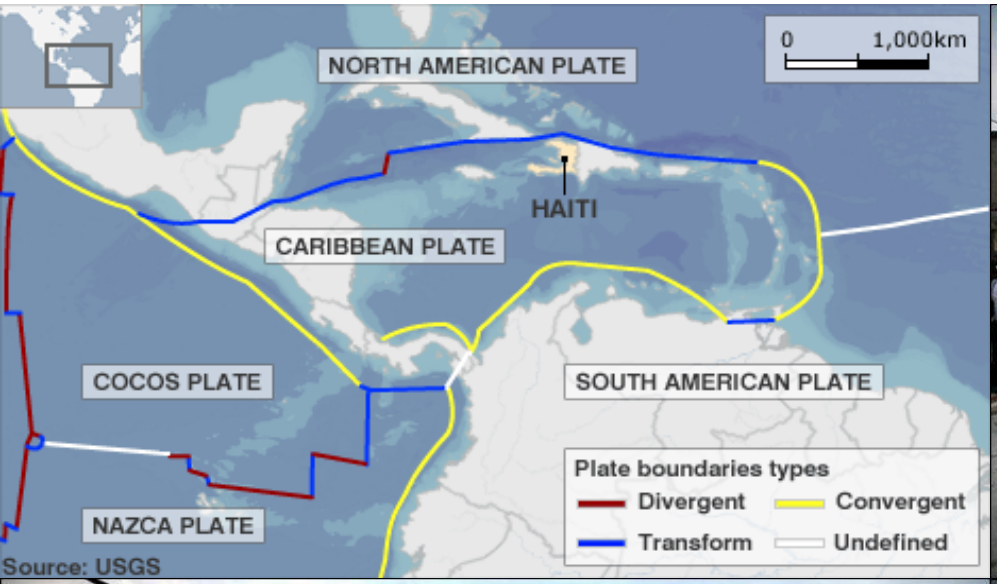

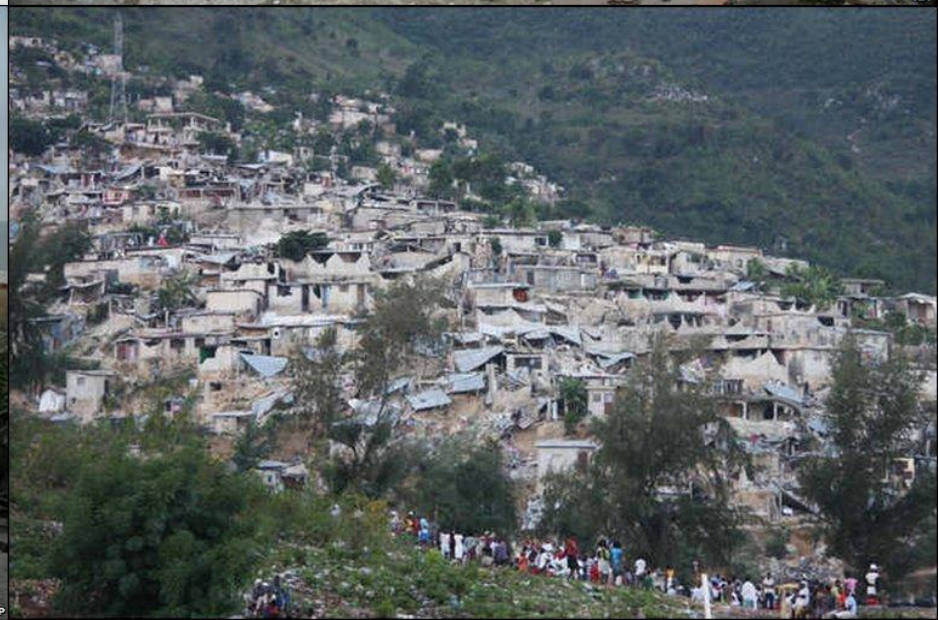

What is Changing?

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What is Changing?

Floods in Germany
June 2013

What is Changing?

Floods in Germany
June 2013

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What is Changing?

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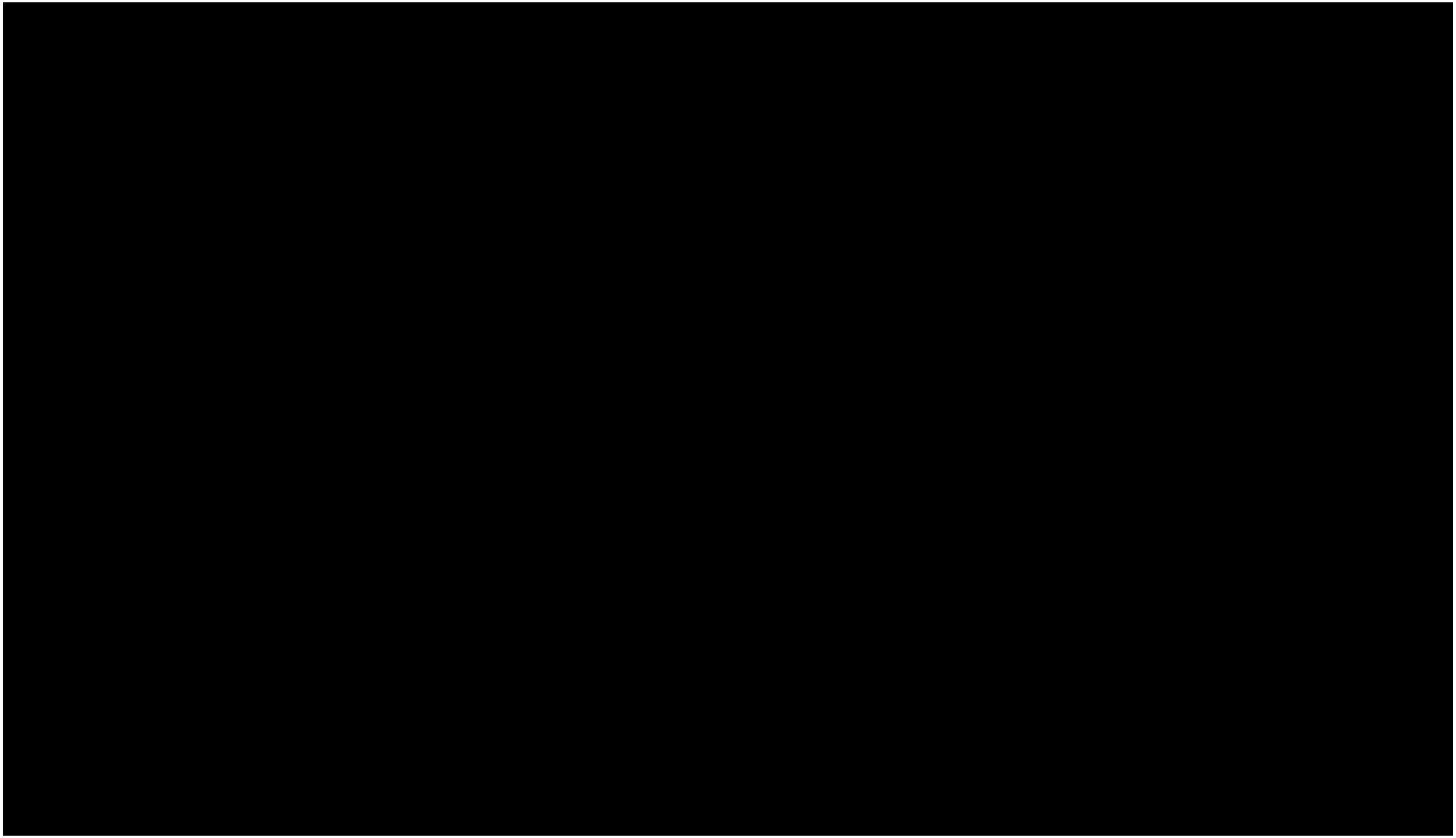

What is Changing?

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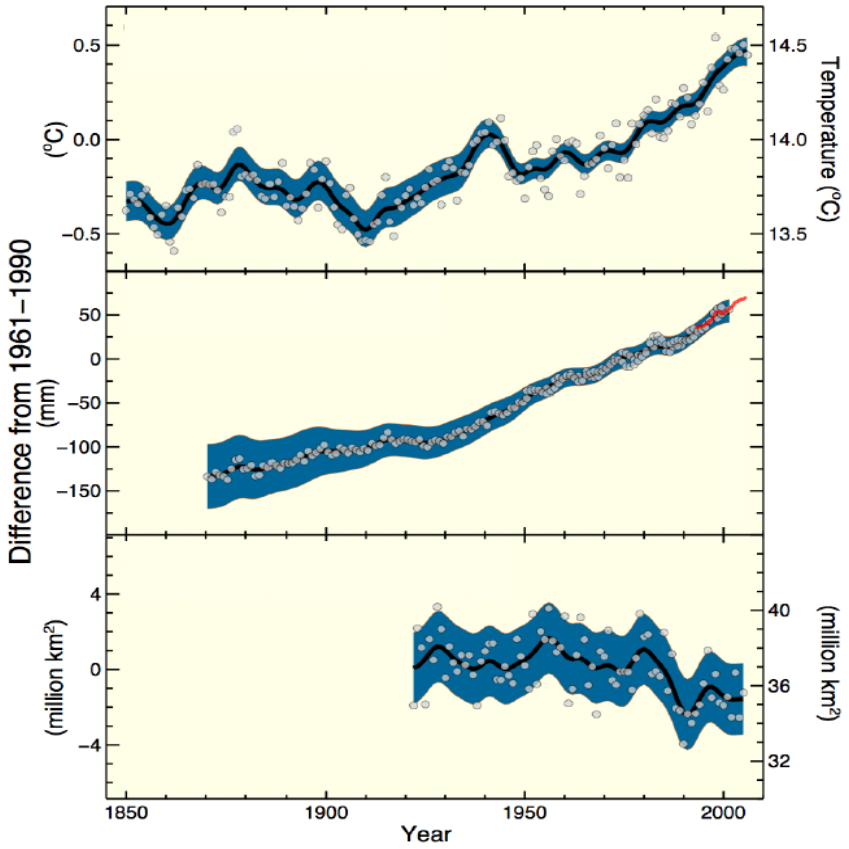
Direct observations of recent climate change

Global average temperature

Global average sea level

Northern hemisphere snow cover

Changes in temperature, sea level and northern hemisphere snow cover



Dr R K Pachauri: IPCC REPORT

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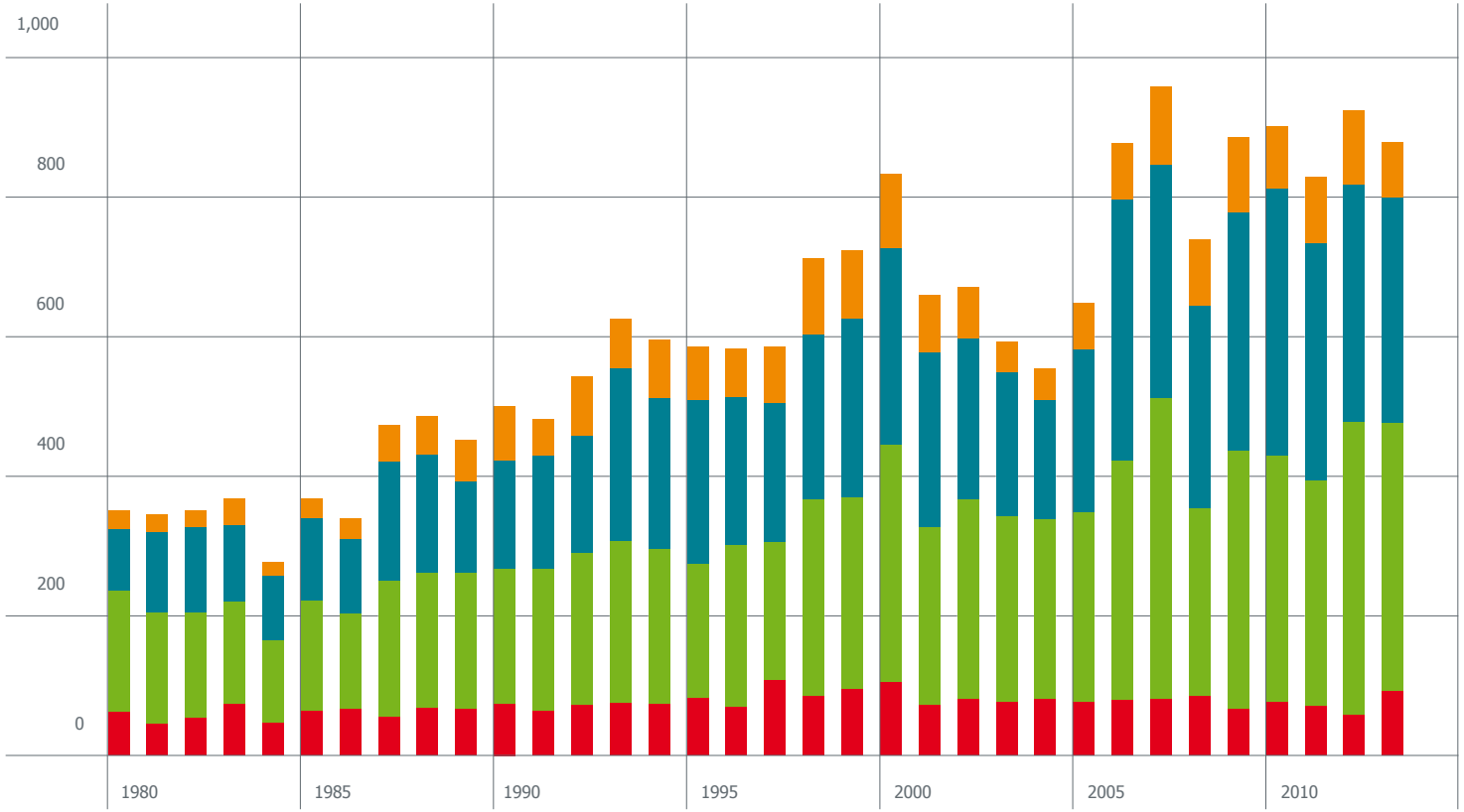
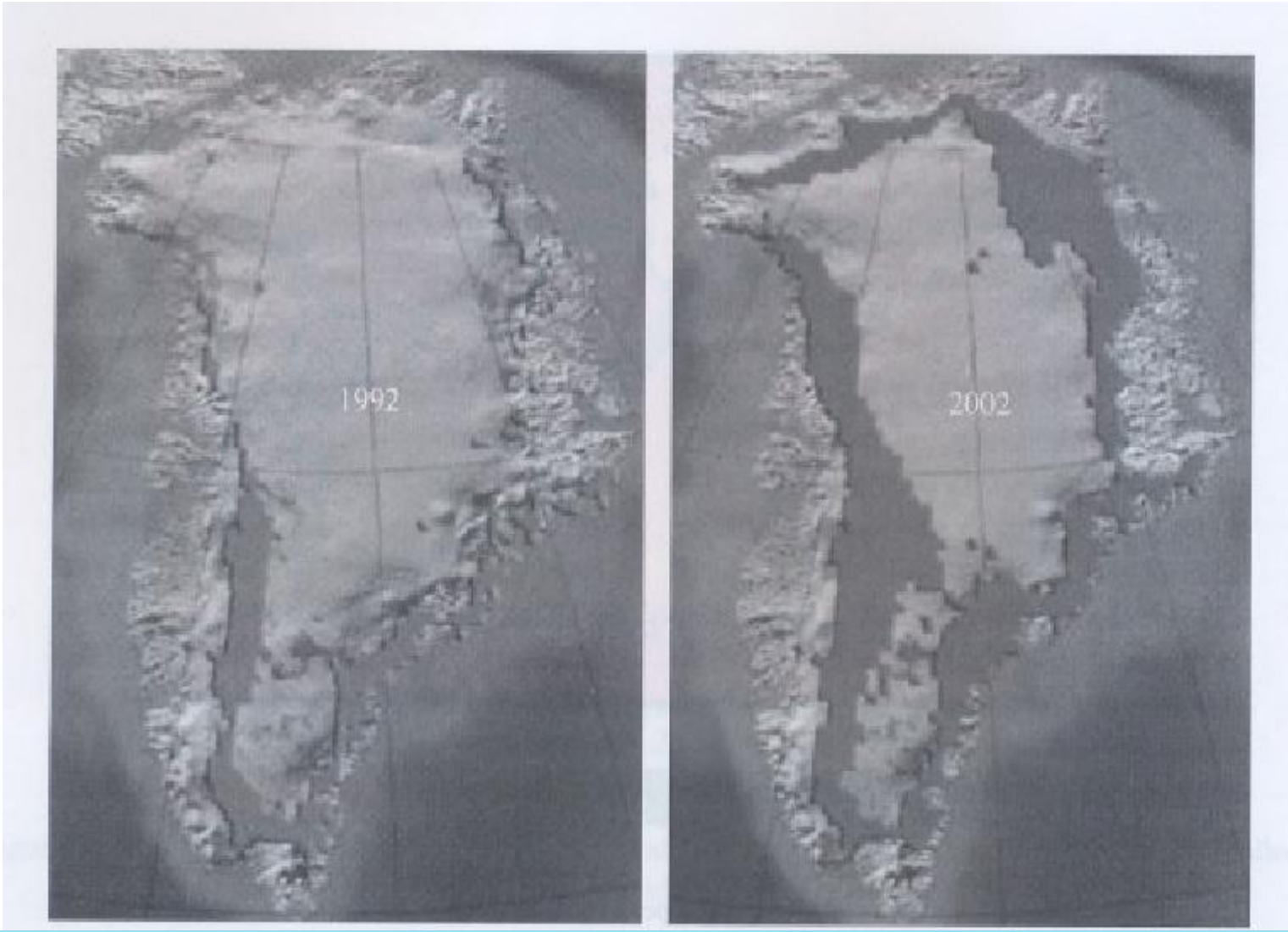


What is Changing?



(L) 1992, (R) 2002: more melting occurred than model prediction

What is Changing?

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Coastal settlements most at risk

Is this also a possible area of Danger…?

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Conclusion

- Geo-Information Sciences is an important tool for observing human induced and natural disasters.
- Scientific research and different applications show this is a very important tool
- BUT!!!
- How can we assure that the **decision makers and governmental institutions realize this fact ???**
- **How can we CONVINCE THEM?**

Convincing(!) people

"The politicians are learning about the importance of geo-information after an event has happened"

Therefore they have to be aware on the importance of use of geo-information especially in Disaster Management.

So it was proposed Publication of

"Booklet on Best Practices of Geo-information on Risk and Disaster Management"

A joint initiative of JBGIS and UNOOSA

This booklet is released by a Press Conference in Vienna on 2nd July 2010 at UNOOSA

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Joint Board of Geospatial Information Societies United Nations Office for Outer Space Affairs

Geoinformation for Disaster and Risk Management

Examples and Best Practices




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Booklet Launch, 2nd of July 2010, Vienna

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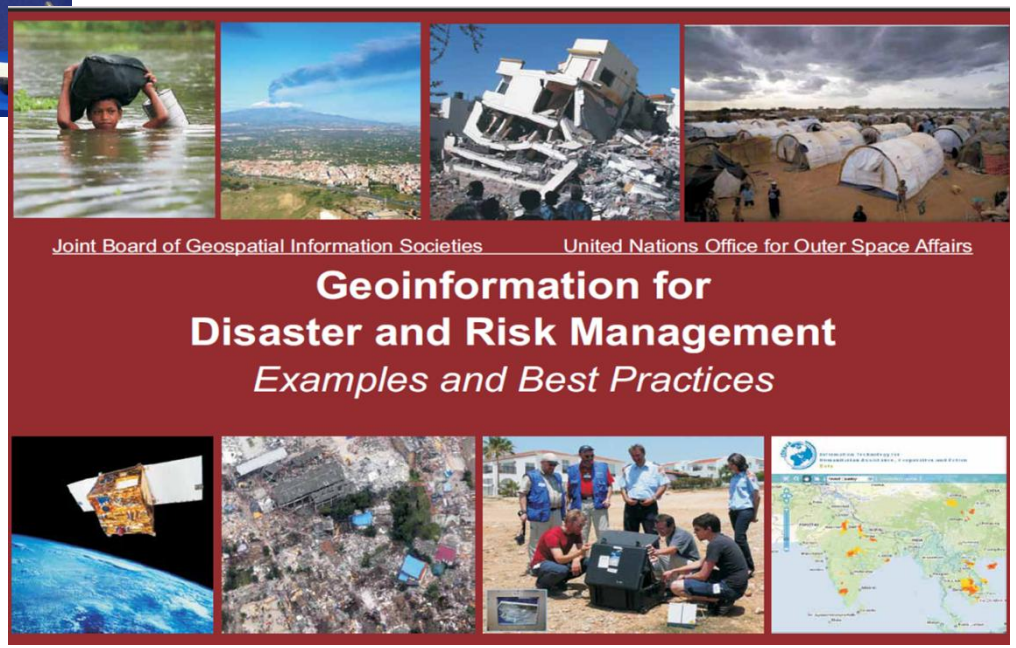

The Value of Geo-Information for Disaster and Risk Management (VALID)

- A joint JBGIS; UNOOSA; ICSU GeoUnions project

UNITED NATIONS
Office for Outer Space Affairs / UN-SPIDER

JBGIS
Joint Board of Geospatial Information Societies

International Council for Science
GEOUNIONS

UNOOSA-JBGIS and ICSU-GeoUnions Project

The Value of Geoinformation for Disaster and Risk Management (VALID)

Benefit Analysis and Stakeholder Assessment

International Council for Science - GeoUnions

Joint Board of Geospatial Information Societies

United Nations Office for Outer Space Affairs

UNOOSA-JBGIS and ICSU-GeoUnions Project

Valid Booklet Launch on 3 September 2013;

From left to right: **Alik Ismail-Zadeh**, Representative of **ICSU-GEOUNIONS**; **George Gartner**, Representative of **JBGIS**; **Mazlan Othman**, Director of **UNOOSA** and Deputy Director-General of **UNOV**; **Orhan Altan**, Istanbul Technical University **- ISPRS 1st VP**; **Robert Backhaus,** United Nations Platform for Space based Information for Disaster Management and Emergency Response (**UN-SPIDER/DLR**)

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Total poll results in counts per type of hazard

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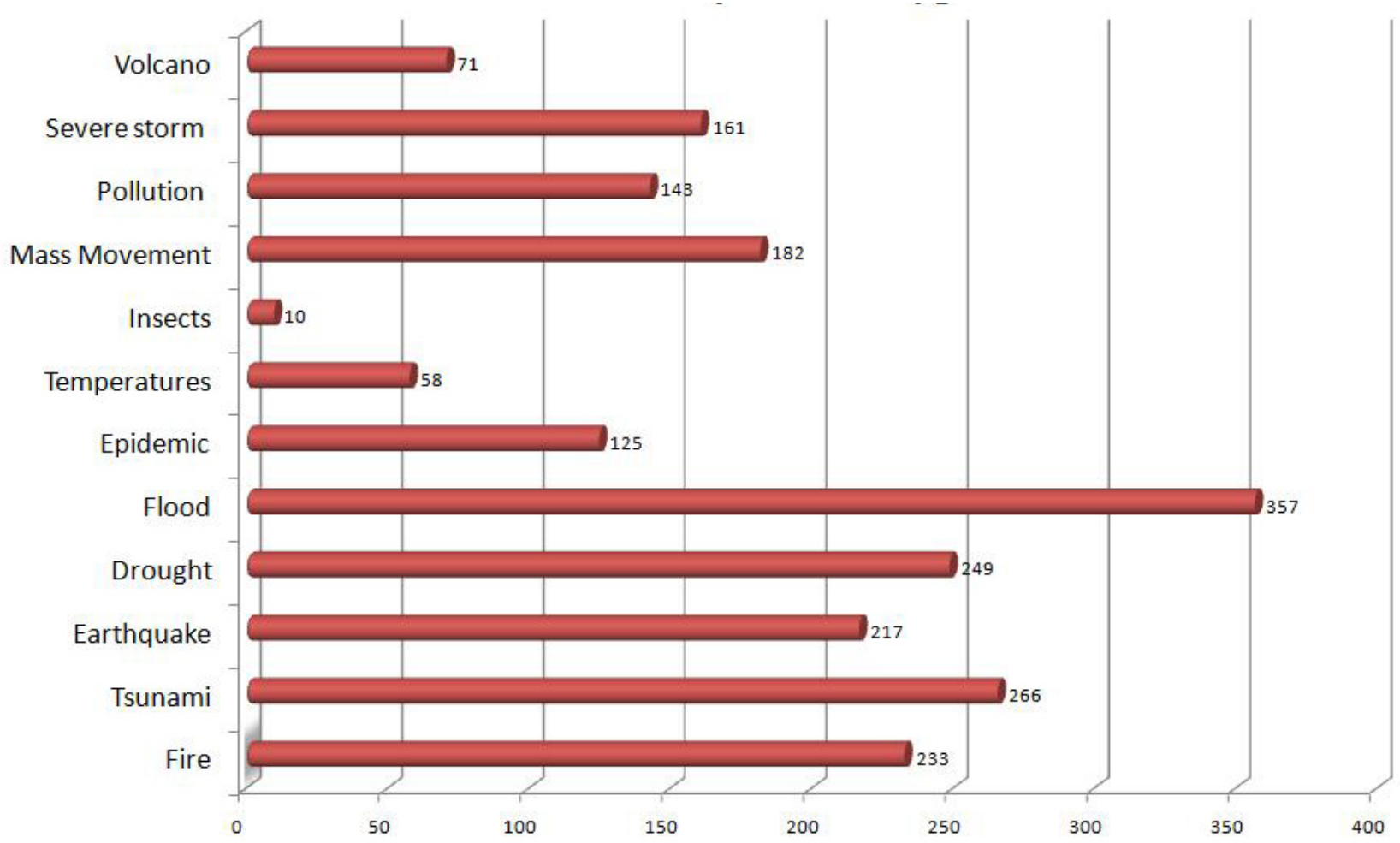

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Millennium Development Goal	Role of water management in agriculture
Goal 1 Eradicate extreme poverty and hunger	Increase agricultural production and productivity to keep up with rising demand and maintain affordable food prices for the poor; improve access to factors of production and markets for the rural poor.
Goal 3 Promote gender equality and empower women	Enhance equitable access to water and thus the ability to produce food.
Goal 4 Reduce child mortality	Contribute to better hygiene and diets, particularly through the appropriate use of marginal-quality water and the integration of multiple water-use approaches into new and existing agricultural water management systems, including domestic and productive functions.
Goal 5 Improve maternal health	
Goal 6 Combat HIV/AIDS, malaria, and other diseases.	
Goal 7 Ensure environmental sustainability	Integrate the principles of sustainable development into agricultural water development to reverse the loss of environmental resources.
Goal 8 Develop a global partnership for development	Involve the diverse range of practitioners, researchers, and decisionmakers in the preparation of water management actions.

EARTH Observation

From the data obtained by the Earth Observation trough satellites we can focus on the following areas;

•Atmospheric Chemistry and Composition
• Carbon Cycle and Ecosystems
• Climate Variability and Change
• Earth Surface and Interior
•Water and Energy Cycle
•Weather

In order to achieve these data current missions of Earth Observation focus on

- Flood mapping/damage assessment
- Groundwater changes (GRACE mission)
- Precipitation
- Evapotranspiration
- Irrigation
- Lake and reservoir monitoring; stream flow forecasting
- Wetland mapping
- Soil moisture,

Future (?)

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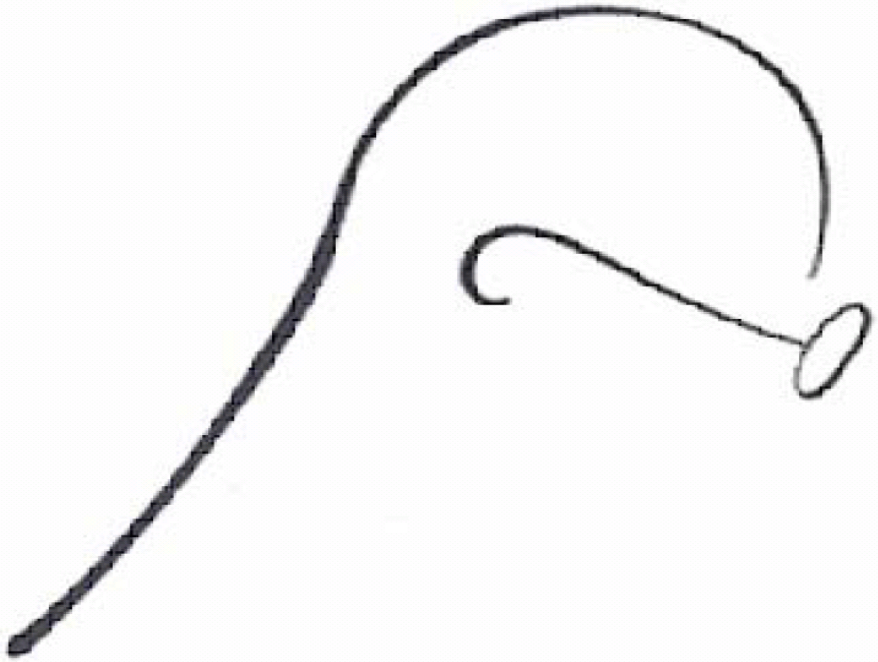

A technological society has two choices. First it can wait until catastrophic failures expose systemic deficiencies, distortion and self-deceptions…

Secondly, a culture can provide social checks and balances to correct for systemic distortion prior to catastrophic failures.