

EUROGEOSURVEYS

The Geological Surveys of Europe

WATER

A Geological Survey core business

2nd Workshop on Groundwater Bodies in Europe
Berlin, 15-16 December 2011

www.eurogeosurveys.org

EuroGeoSurveys
The Geological Surveys
of Europe

Geological Survey? What is that?

GEOLOGICAL

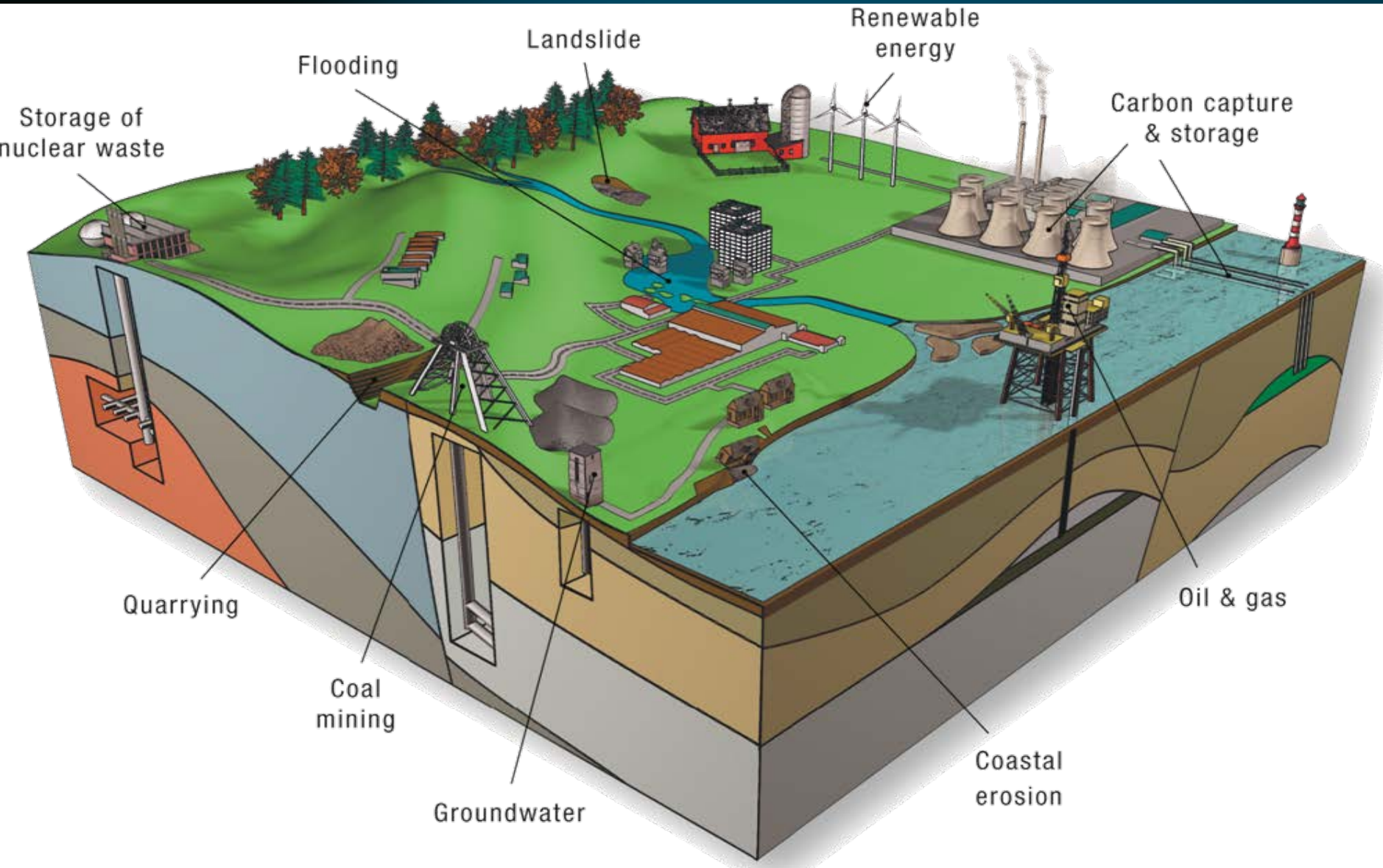
**INVENTORY
MONITORING
KNOWLEDGE
RESEARCH**



**SECURITY
HEALTH
PROSPERITY**

Their area of competence is the solid Earth

Interesting, and so what?



EUROGEOSURVEYS

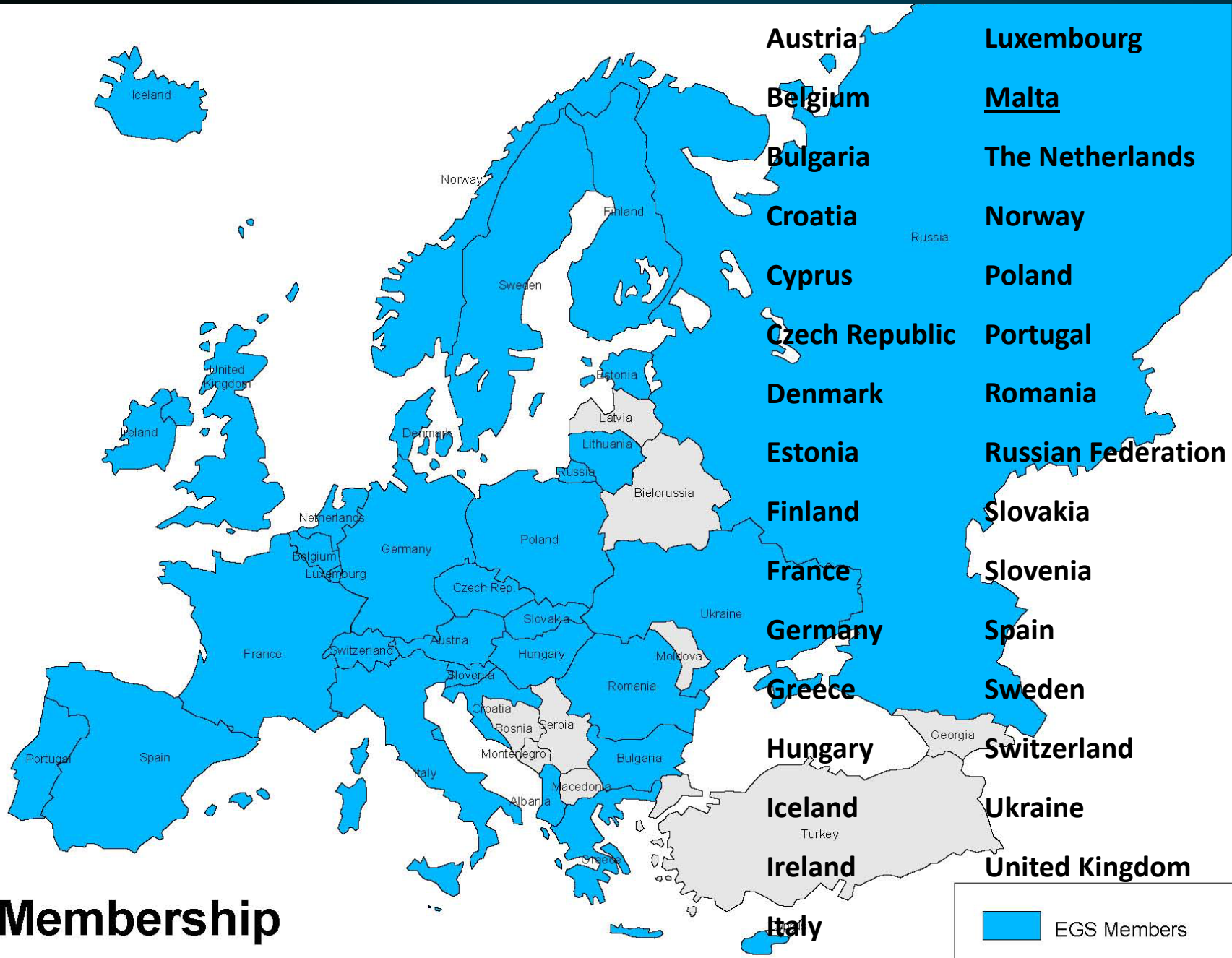
The Geological Surveys of Europe

A photograph of two men in business suits shaking hands. The man on the left is holding a briefcase. They are standing on a light-colored surface, possibly a stage or a walkway, against a dark, cloudy sky. The image is tilted slightly to the right.

Representing 33 national geological surveys
(and the regional surveys of three countries)

Albania

Lithuania



Austria

Belgium

Bulgaria

Croatia

Cyprus

Czech Republic

Denmark

Estonia

Finland

France

Germany

Greece

Hungary

Iceland

Ireland

Italy

Luxembourg

Malta

The Netherlands

Norway

Poland

Portugal

Romania

Russian Federation

Slovakia

Slovenia

Spain

Sweden

Switzerland

Ukraine

United Kingdom

EGS Members

EGS Membership

EUROGEO SURVEYS

The Geological Surveys of Europe



Over **1** billion euro annual budget

Work force of thousands of geoscientists



Natural hazards



2010: volcanic eruption in Iceland



2009: Earthquake in Italy



2010: Flood in Poland



2010: Landslide in Italy

Mineral resources



Aluminium



Health



Energy



Water



Coast and



European Union

EEA (Environmental Data Centre on Water)

EC DG ENV (Protection of Water Resources Unit)

EC DG RTD (Management of Natural Resources Unit)

EC DG JRC (Rural, Water and Ecosystem Resources Unit)

EP Water Group

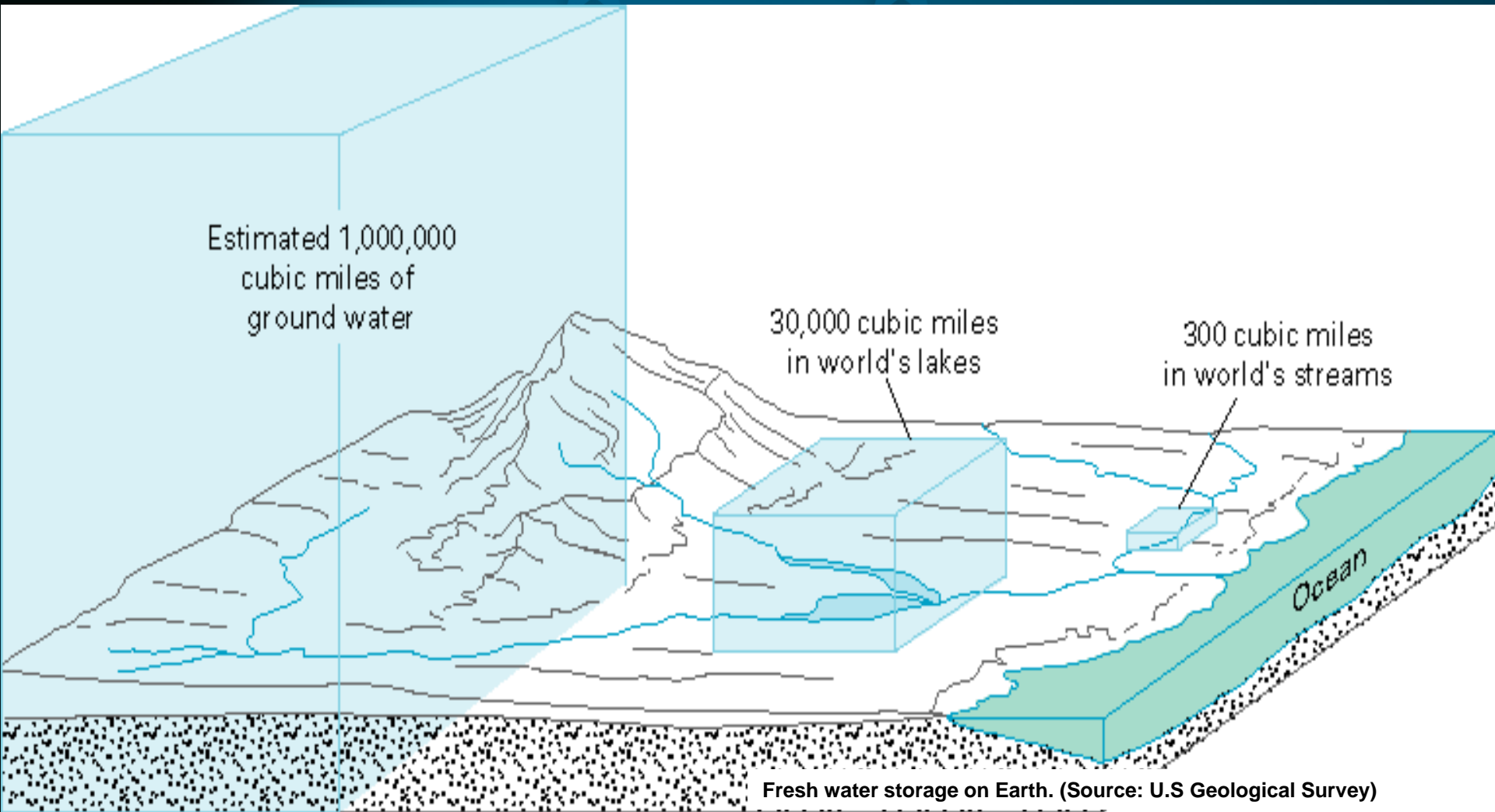
EFBW

EUREAU

EuroGeoSurveys

Earth's fresh water resources consist mostly of glaciers ice caps and groundwater.

Rivers and lakes constitute a very small part of the total global freshwater volume.



Groundwater

Accounts for up to 80% of drinking water in the EU

Where can we find groundwater, how much, how long and at what quality can we guarantee it for the future generations?

What are the flow paths and how does our quest for good drinking water collide with the needs of flora and fauna?

What threatens future water reserves and how can we protect them?

Those questions are constantly in the mind of a geologist



Geological Surveys are in charge of:

- Database management
- Groundwater exploration
- Groundwater survey and sampling
- Groundwater modelling
- Groundwater consultancy and project management
- Hydrogeological field services
- Groundwater protection

National Geological Surveys

Directors and National Delegates

Secretary General

Participation in EC Working/Expert Groups and Thematic Platforms

INSPIRE

Raw Materials Initiative / ETP-SMR

Soils Framework Directive

Thematic Strategy on the Sustainable

Use of Natural Resources

WFD Implementation Strategy

CCS Directive

ETP on Geological Disposal of

Radioactive Waste

Indigenous Fossil Fuels

ETP on Geothermal Electricity

...

Operational EuroGeoSurveys Expert Groups

Water Resources

Geochemistry

Mineral Resources

International Cooperation and Development

Earth Observation (Geohazards)

Marine Geology

Spatial Information (INSPIRE)

Carbon Capture and Storage

GeoEnergy

Soil Resources (Parent Materials)

Communication

...



**SPATIAL INFORMATION
(INSPIRE)**



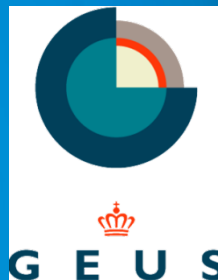
MINERALS RESOURCES



MARINE GEOLOGY



WATER RESOURCES



GEOENERGY



GEOCHEMISTRY



**SOIL RESOURCES
(PARENT MATERIAL)**



**INTERNATIONAL COOPERATION
AND DEVELOPMENT**



**EXPERT GROUPS
&
TASK FORCES
CHAIRMANSHIP**



CCS (EGS.CO2)



**EARTH OBSERVATION
(GEOHAZARDS)**



COMMUNICATION

EuroGeoSurveys
The Geological Surveys
of Europe

Water Resources Expert Group

Scope: focus on groundwater protection

Groundwater aspects of Water Framework Directive (WFD)

Groundwater Directive (GWD 2006)

Common Implementation Strategy (CIS)

Main activities

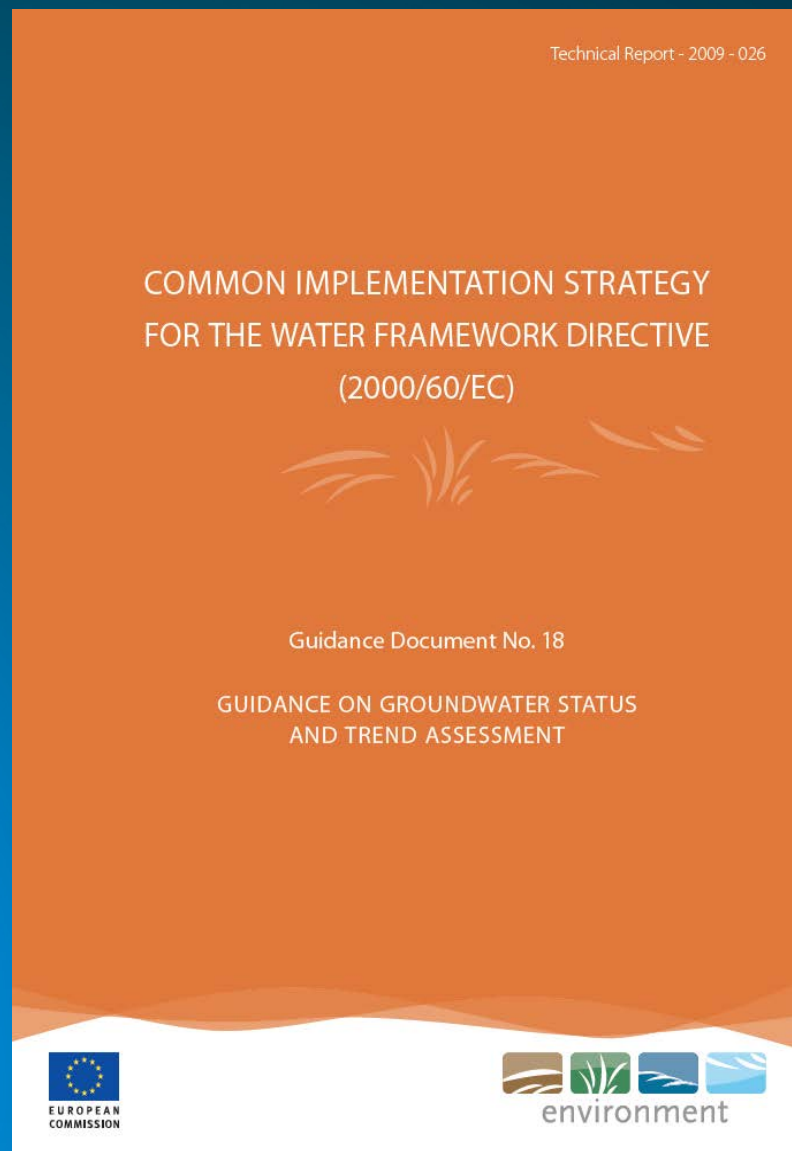
Support and advise to DG-ENV on technical and policy-related issues

Identify knowledge gaps for the EU research agenda

Sharing experiences between member organizations in WFD and GWD implementation

Supporting and advising DG ENV

- Active role in the Common Implementation Strategy: drafting 4 Guidances on groundwater aspects WFD and GWD (chairing, contributing)
- Contributions to EU conferences on groundwater policy (Vienna, Paris)
- Invited talks and contributions at international meetings and conferences
- Contributions to Policy-Science Interface (books edited by Ph. Quevauviller, Policy Officer DG-ENV)



Policy-Science Interface

Edited by Philippe Quevauviller

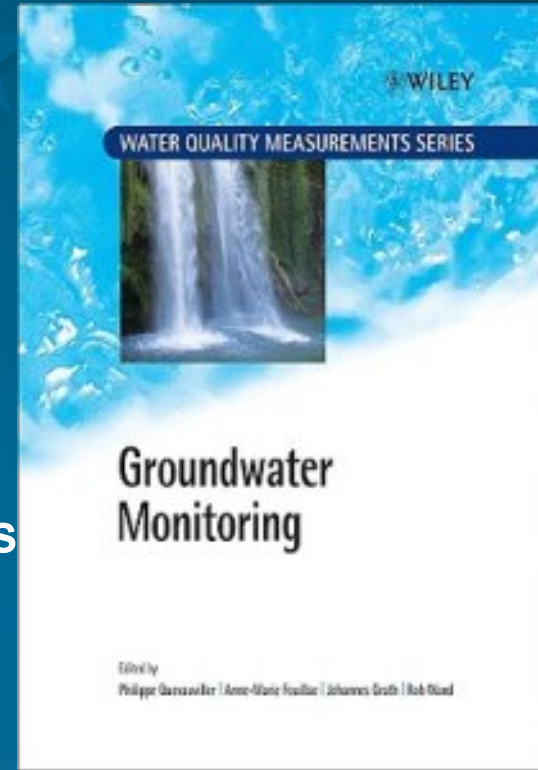
Groundwater Science and Policy

An International Overview



RSCPublishing

Royal Society of Chemistry book '*Groundwater Science and Policy*' (2008): EGS contributions to 12 of the 34 chapters



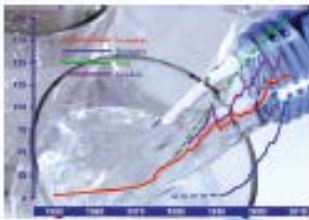
WILEY

WATER QUALITY MEASUREMENTS SERIES

Groundwater Monitoring

Edited by
Philippe Quevauviller / Anne-Marie Foullon / Johannes Grath / Rob Driess

New Wiley book '*Groundwater Quality Assessment and Monitoring*' (2009). Ed. P. Quevauviller, EGS contributions to 13 of the 27 chapters. Results of FP6 and FP7 projects and Working Group C experiences



Clemens Reimann
Manfred Birke (eds.)



Geochemistry of European Bottled Water

Reimann & Birke (eds.)

Geochemistry of European Bottled Water



Borntraeger
Science Publishers



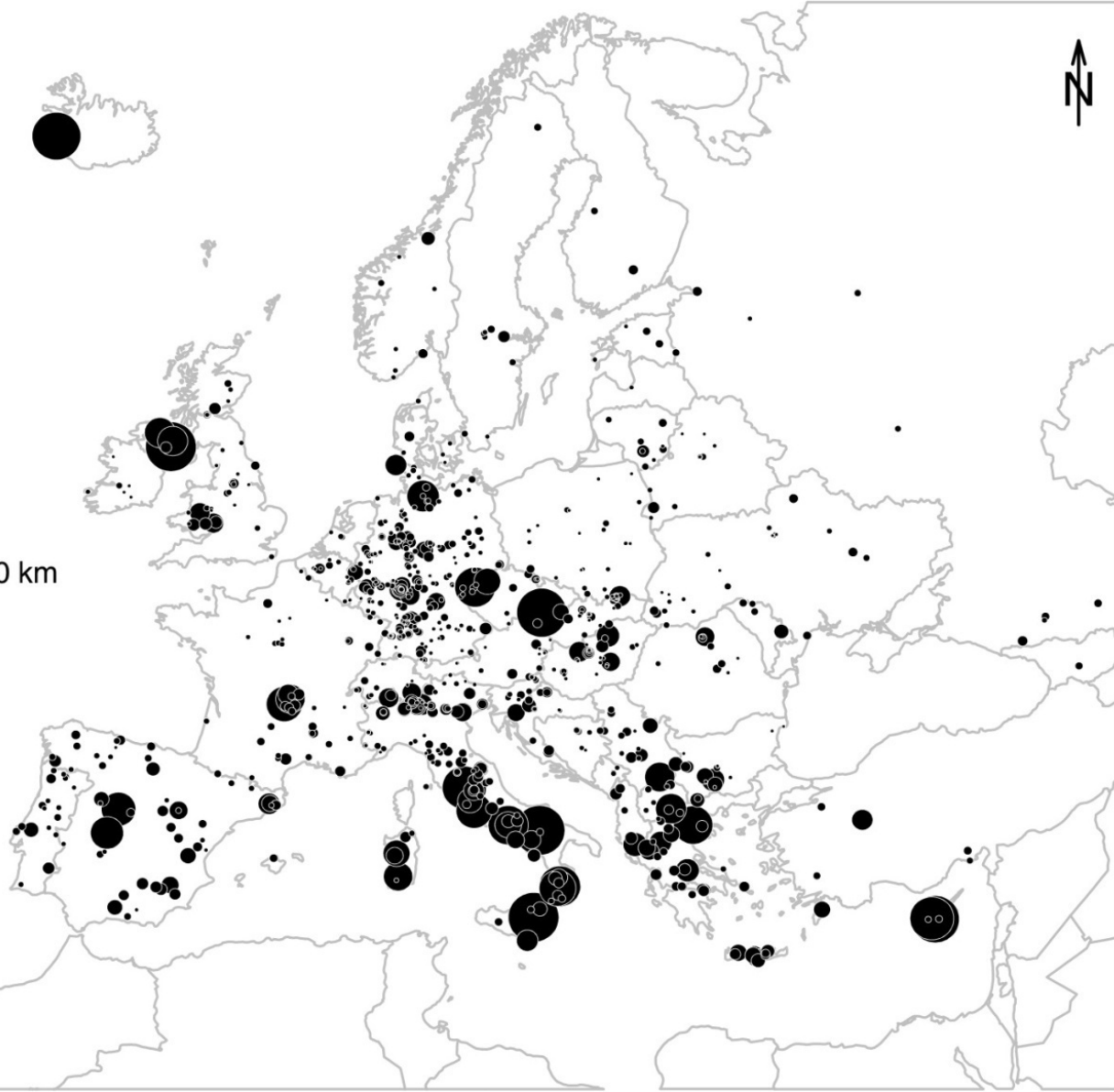
veys
veys

V

$\mu\text{g/L}$

- 48.9
- 2.14
- 1.13
- 0.41
- 0.08
- < 0.01

0 500 1000 km



EGS Geochemistry Expert Group

European Groundwater Geochemistry - bottled water

Vanadium in bottled water: young volcanic centres

EXTERNAL RELATIONS

Agreement between

European Technology Platform on Sustainable
Mineral Resources (ETPSMR)

and

EuroGeoSurveys (EGS), The Geological
Surveys of Europe

concerning Secretariat



EXTERNAL RELATIONS

Agreement on Cooperation

between

The European Environment Agency (EEA)

and

EuroGeoSurveys (EGS)

in the area of integrating environmental and geo-scientific data, information and knowledge



DO EUROCRATS KNOW THAT:

China graduates about 40,000 to 50,000 geologists per year

50 times the number of geologists in training in the USA, while China's population is "only" about four times the population of the US

Geology is putting Europe under
pressure...

...and policies are changing
accordingly

European Union

Are emerging pressures and policies leading to a conflicting use of the underground space in the EU?

Does it affect groundwater?

European Union

Conflicting use of the underground space?

- Mining (and deep mining)
- Carbon Capture and Storage (CCS)
- Geological disposal of radioactive waste
- Geothermal energy
- Shale gas
- Groundwater

Conclusions

The role of geology is nowadays key again to societal development

Even if economic growth is the driving factor, it still seems that environmental protection is the most important issue to deal with

Water is crosscutting to all the emerging challenges geoscience has to face

Geologists have new responsibilities, we must quickly learn to cope with

It is a unique opportunity

WE CANNOT FAIL

THANK YOU!

EuroGeoSurveys

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