Swiss Water Partnership
committed to global water

Swiss Water Partnership

Olga Darazs – Chair
Geneva, June 4th 2015

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2. Outcomes of the first exchange SWP – WB in Washington / January 2015
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1. What is the SWP?

A SHORT INTRODUCTION

SWP was founded in 2012

- **Water is vital for human development**
- Switzerland is the water tower of Europe. But 80% of fresh water consumed in Switzerland comes from abroad
- It's in Switzerland's interest and a moral obligation to show **solidarity** with water stressed countries **to solve global water challenges**
- SWP was founded to **foster coordination and dialogue across sector and scale** and promote Swiss high quality water solutions.

SWP in a nutshell

Goal

Bring together relevant stakeholders to promote a sustainable and equitable use and management of water resources and universal access to water and sanitation

Vision

By 2017 SWP is a globally recognised brand of high quality solutions for water security.

Founded in 2012, Shared values: solidarity and integrity

Objectives

Organes

79 member organisations

12 steering board members

the Secretariat

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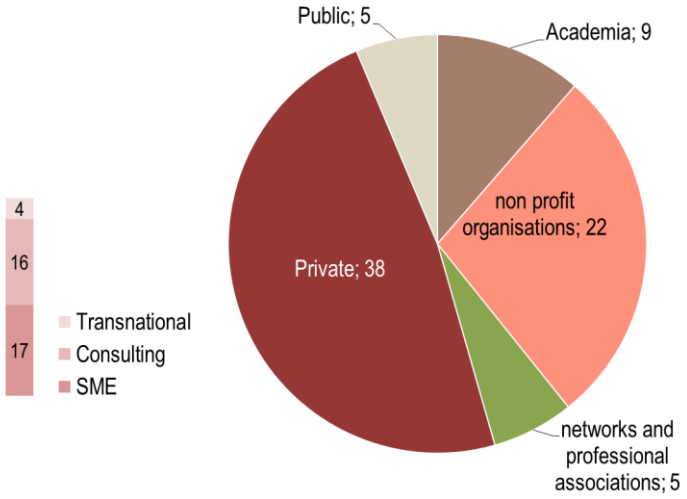
From 37 to 79 members



associations

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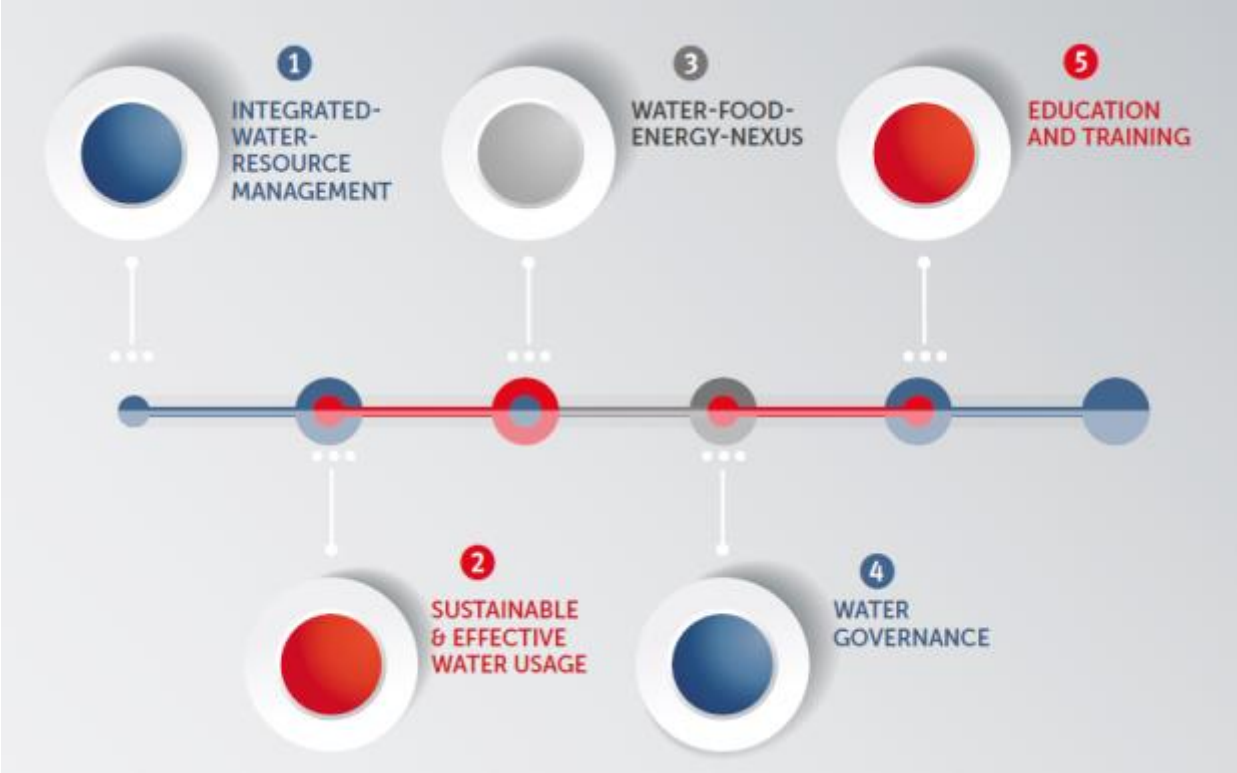
SWP flagships in a nutshell



1. **IWRM** payment for watershed services, transboundary water management, multistakeholders agreements;
2. **SUSTAINABLE USAGE** innovative technologies, management of decentralized water systems, business models & behaviour changes;
3. **NEXUS** small hydropower/energy efficiency; recycling waste to value;
4. **GOVERNANCE** human rights, water integrity (accountability, transparency etc.)
5. **EDUCATION** e-learning, capacity development, business development.

SWP aims

OURS AIMS

SWP aims at promoting a sustainable and equitable use and management of water resources and universal access to water and sanitation. To achieve this we have organised our activities in line with the above objectives.

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2. Exchange WB – SWP

Outcomes of the January 2015 meeting

SWP – WB meeting January 2015

Who

François Muenger (SDC), Olga Darazs (SWP) and Christophe Jacob (WRG2030) participated at the strategy workshop of WB's Water Global Practice (WGP)

Objectives

- Present SWP and the specific **Swiss expertise**
- Understand WGP, their needs and identify key topics and **entry points for SWP**
- Propose support of Swiss expertise

Main outcomes

- Identified entry points: WSP, WPP, Collaboration with Partners
- Identified topics of interest by WGP:
  - Dams and hydro-management;
  - Water resources mapping and monitoring;
  - Trans boundary river basin management;
  - Climate change (floods and droughts) and resilience;
  - Urban water/ groundwater (subsidence);
  - Extractive industry (mining) and water [IFC]

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3. SWP member expertise

Selected highlights

SWP Key Expertise

- Transboundary Water Management
- Dams & Hydromanagement
- Sustainable water & sanitation utilities
- Extractive industries & Water
- Water Integrity

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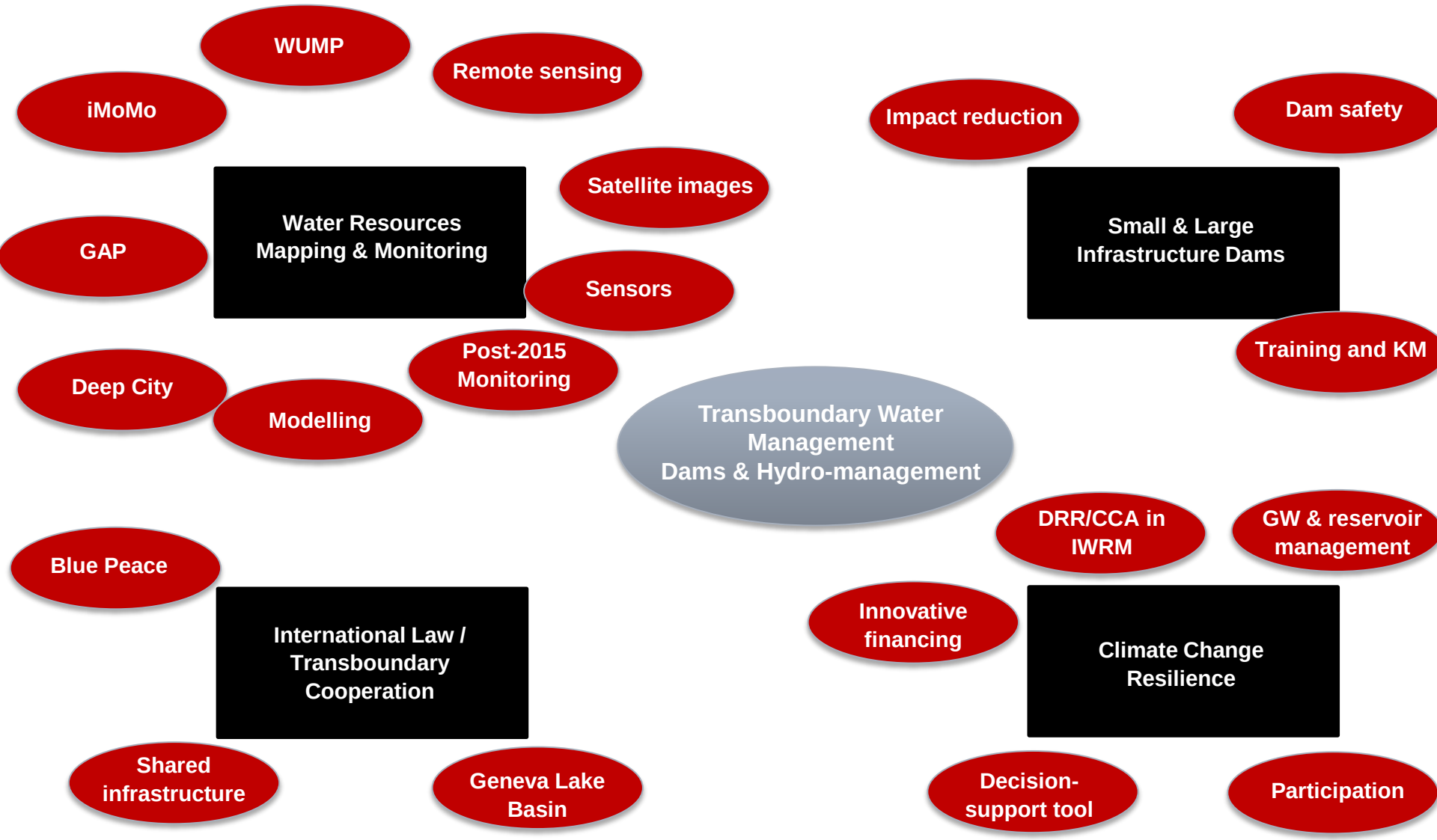
‘Blue Peace’



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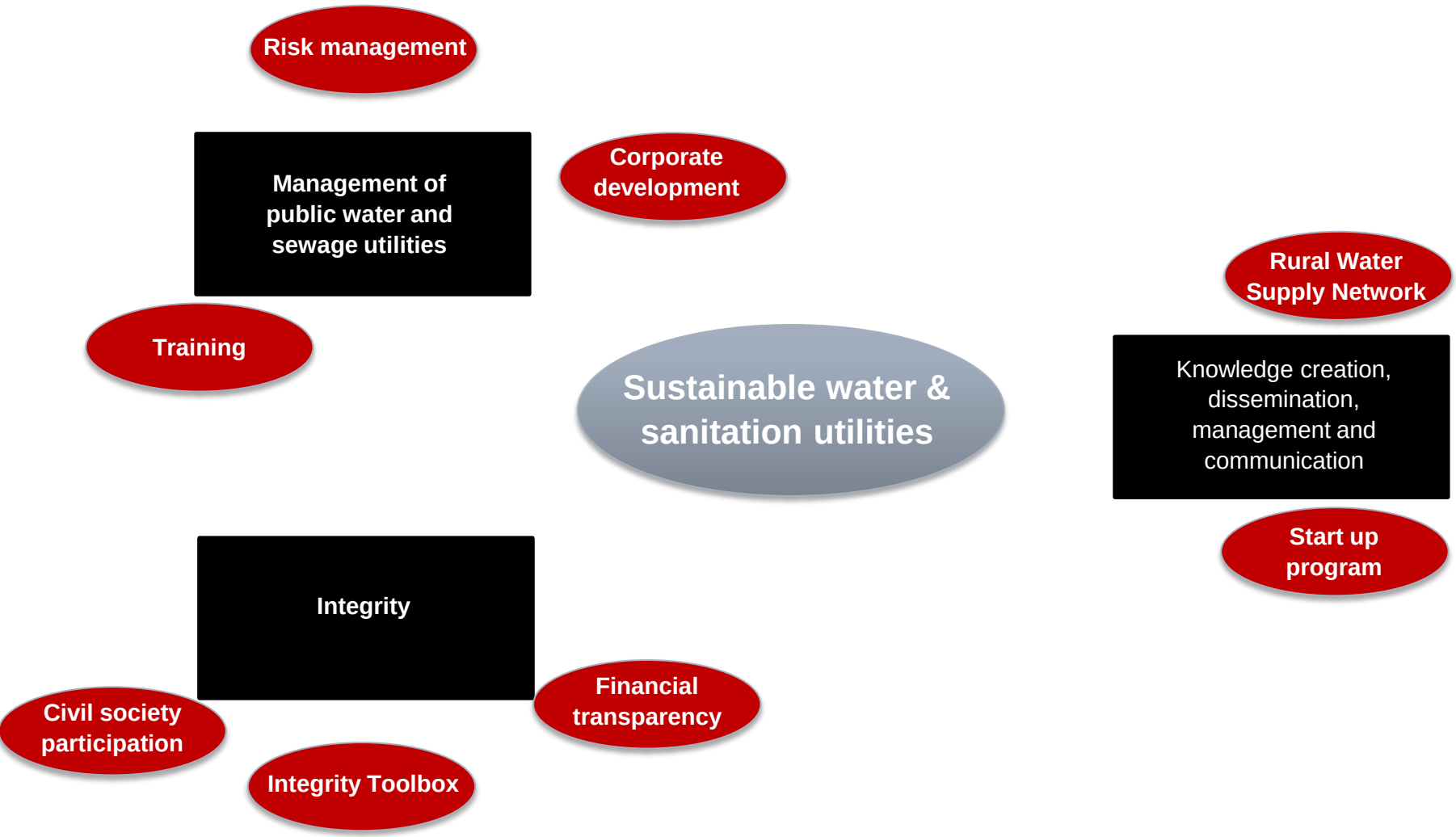
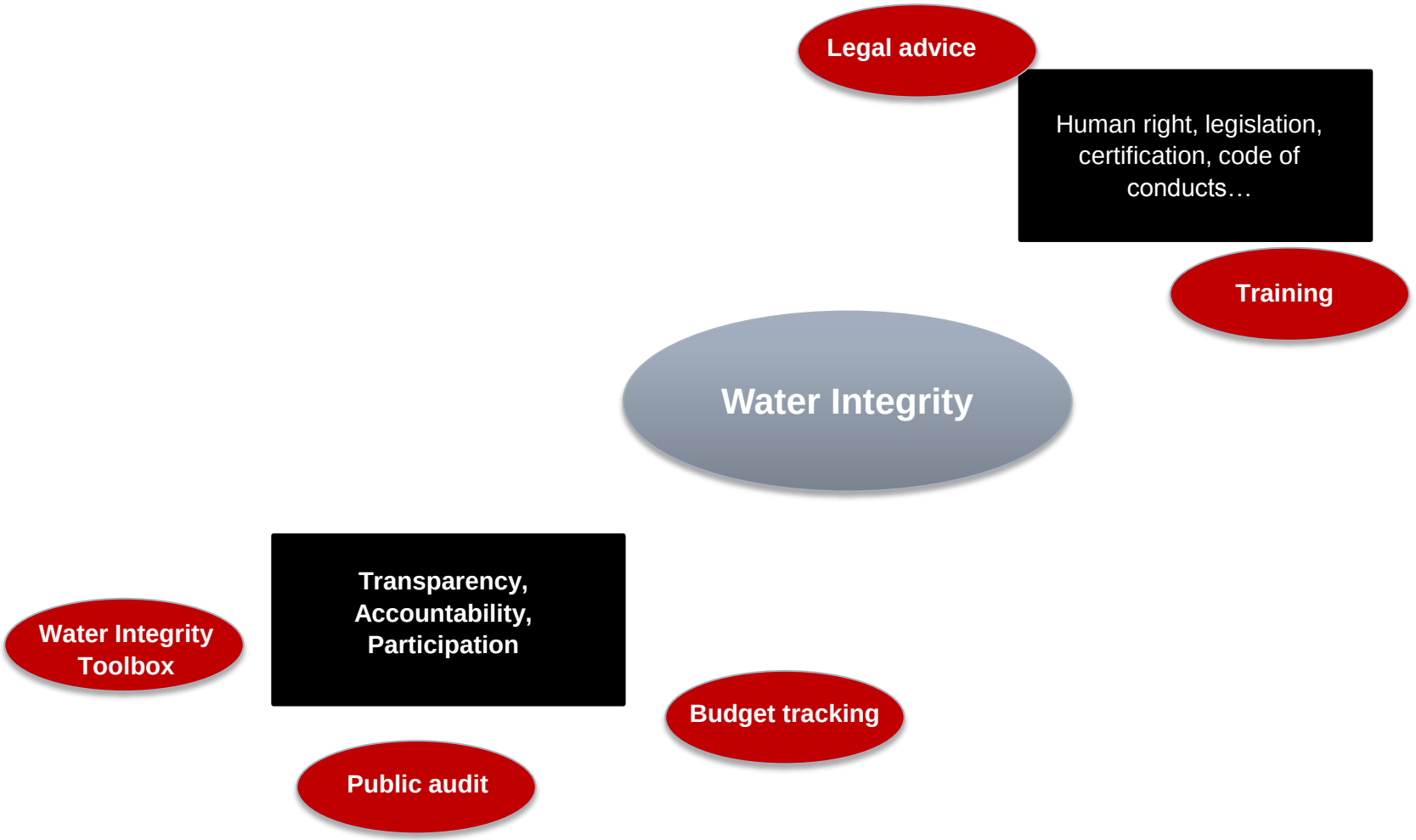
‘Sustainable Water Utilities’



‘Water Governance’



‘Extractive industries & Water’

Original Approaches in International Water Law

Platform for International Water Law

UNIVERSITÉ DE GENÈVE
FACULTÉ DE DROIT

Developing environmental and human-based approaches in the development of law applicable to freshwater resources

Goals of the Platform:

- Promote the involvement of local communities in the management and protection of freshwater resources
- Support the sustainable management of international watercourses, lakes and aquifers
- Contribute to international peace and security

Tools:

- Research activities in international law and freshwater through various perspectives, notably human rights, environmental law, international economic law
- Participation in international conferences and field missions
- Teaching activities

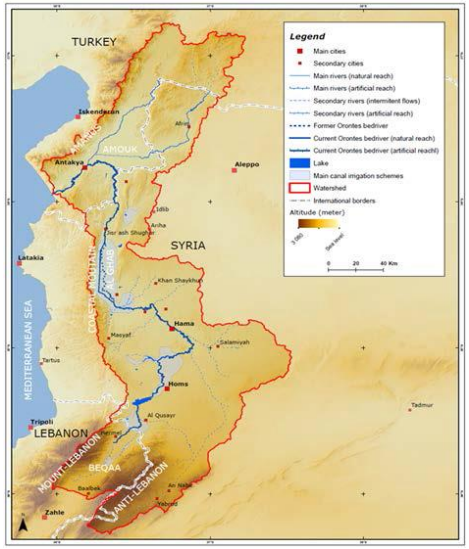
Agreements on joint infrastructures taking into account interest of local populations (e.g. Senegal river)

Litigation & dispute settlement (Baglihar hydroelectric plant India-Pakistan)

E-learning: International water law, law of transboundary aquifers

Global Blue Peace: an innovative approach for water security

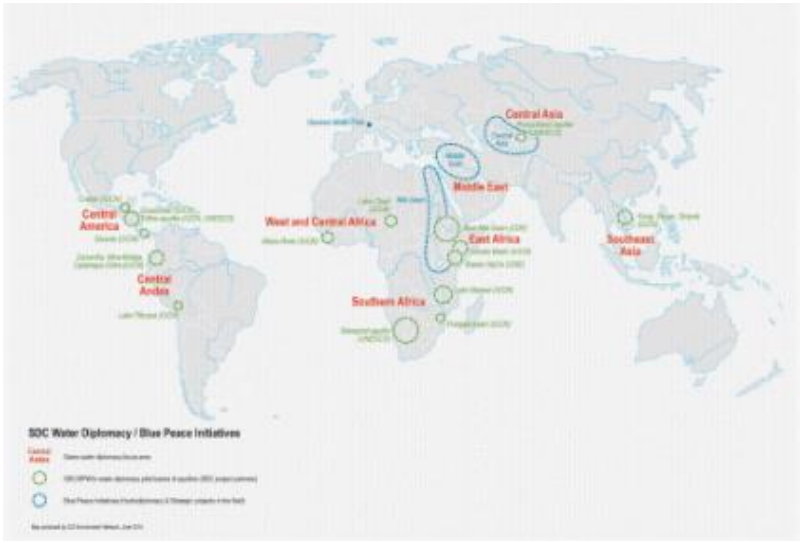
- Enables country leaders and experts to speak a common language on water management and identify and reach common goals, on the basis of sound technical information
- Assists policy makers to define priorities concerning “hard” physical infrastructure needs and “soft” governance
- Builds a path for the creation of a sound and well-grounded political constituency to foster water cooperation and creates new opportunities for resolving protracted water related conflicts



Ex: Middle East Orontes River Basin

Concrete and consensual actions

- Develop viable hydrological modelling and water flow level measurements
- Support common standards for the collection, management and exchange of water data



- Contribute to shaping transboundary basin plans, legal frameworks and joint river management institutions

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iMoMo

Transboundary Water Management
Dams & Hydro-management

Innovative Technologies for Monitoring, Modeling and Managing Water

More effective water resources management through innovations in low-cost open-innovation sensor and communication technology, hard- and software integration as well as modern data synthesis via mathematical modelling and visualization.

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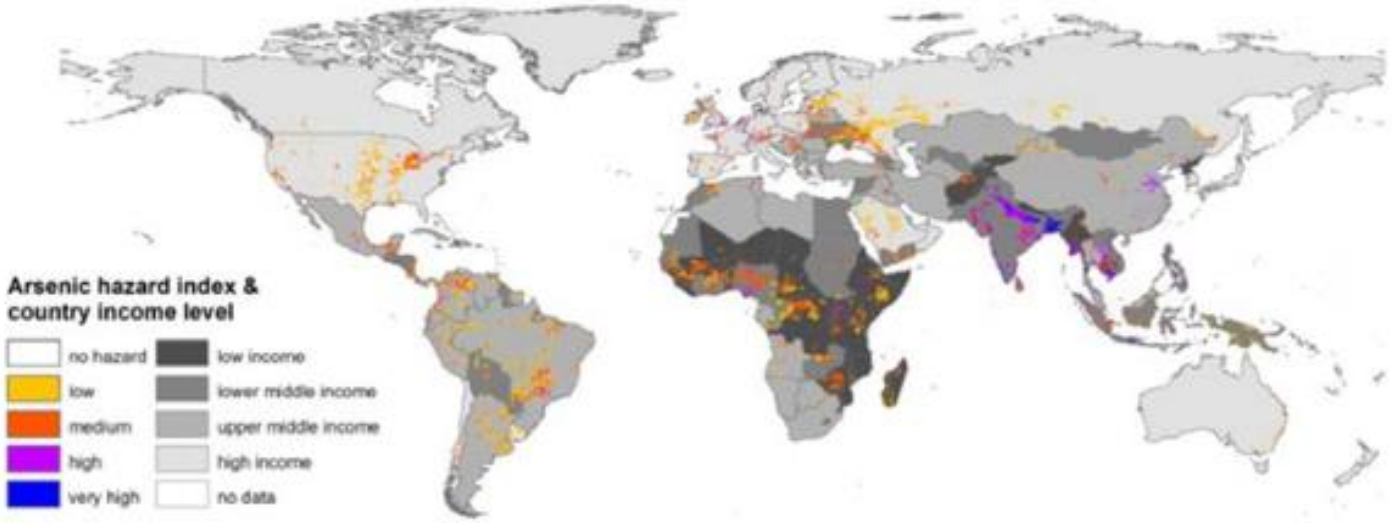
GAP - Groundwater Assessment Platform

Transboundary Water Management
Dams & Hydro-management

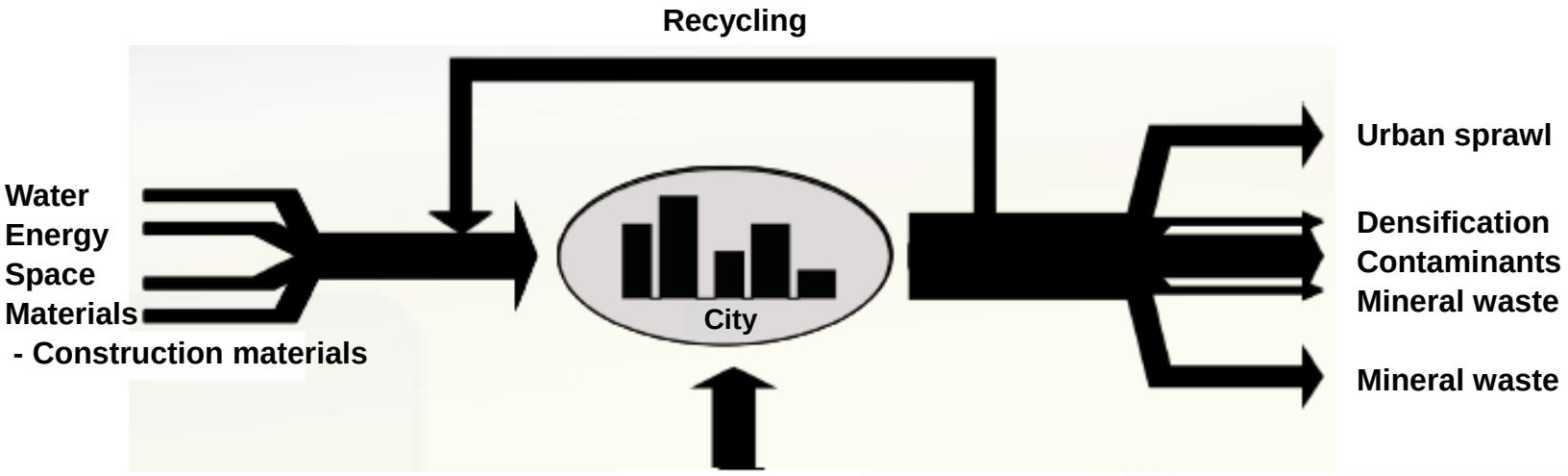
Awareness creation and action to mitigate geogenic contamination in drinking water

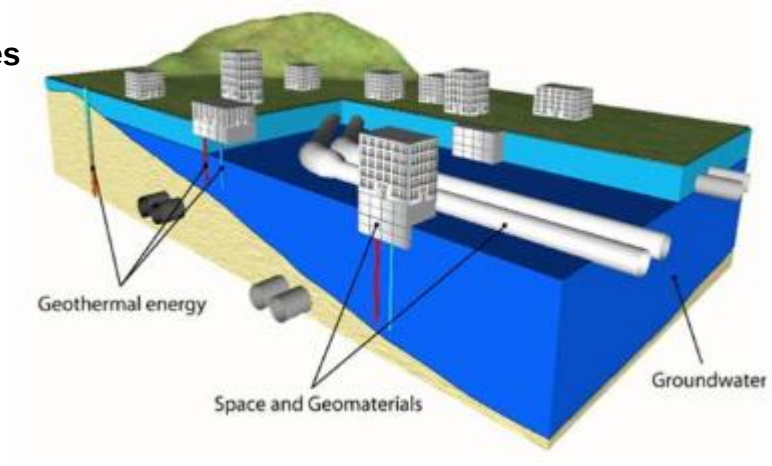
Roughly 10 percent of wells are contaminated with the natural geogenic contaminants arsenic and fluoride that cause severe health effects, particularly in those with poor nutrition. The platform aims at helping to identify regions at risk through state-of-the-art modeling techniques that will be deployed on the web.



Deep City - Planning of underground resources

The Deep City concept takes into account the four resources space, groundwater, geothermal energy, and geomaterials in an integrated way





Info4Dourou2.0. Low-cost soil moisture monitoring techniques to improve irrigation efficiency in Burkina Faso

Farmers receive an alarm (SMS) to irrigate **only** when the plants need water

Irrigation is triggered when the **soil matrix potential** is below a defined value to avoid water stress

Soil matrix potential is monitored with soil **sensors**

Information is available on line and in real time via www.climaps.com for remote users

First results :

- Always an improvement of the ratio production/water
- In the best case : 37% more yield using 20% less water

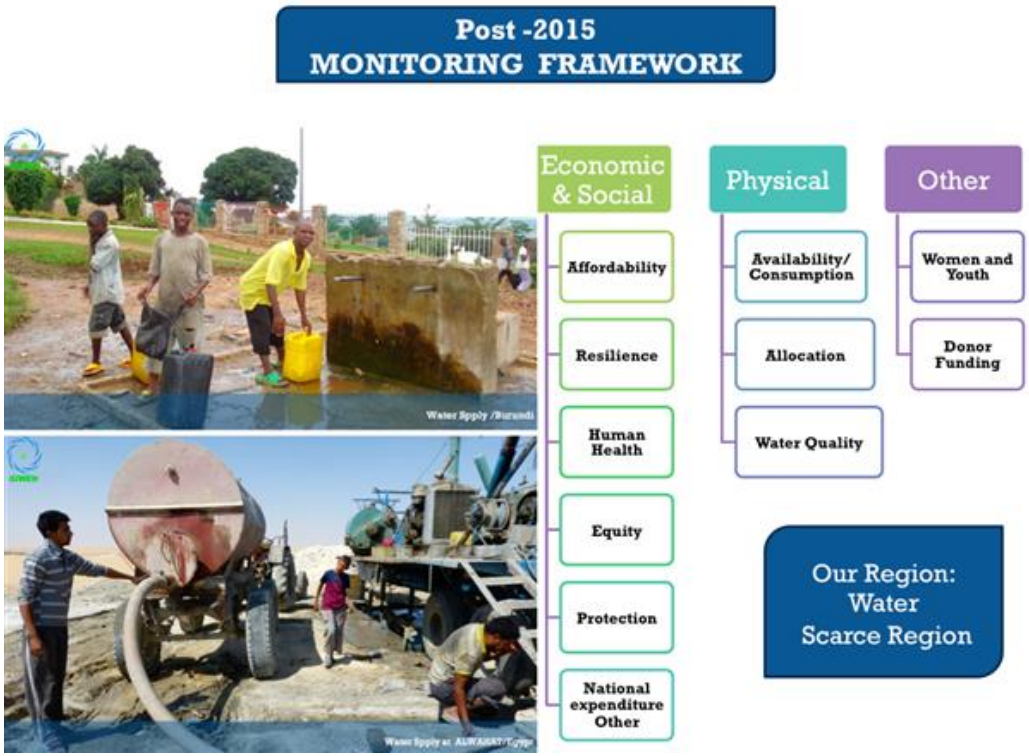
IWRM at local level

An approach to participatory and inclusive planning for integrated water resources management that proved successful in empowering disadvantaged groups to participate and prevent conflicts.

Post-2015 Monitoring Framework

A post-2015 monitoring framework combining different data to inform policy decisions

GIWEH is currently developing a **post-2015 water monitoring framework**. The framework comprises economic & social, physical and other indicators. The framework will cover water scarce regions and combine both data collected through remote sensing and surveys. The tool is targeted to inform policy decisions.



Dams & Hydro-management

Switzerland is a mountainous country with **over 100 years of expertise and experience** in dams and hydro management. We have learnt how to deal with adverse environmental impacts and today offer a wide range of **integrated, innovative and sustainable solutions** (taking other water uses, operation and maintenance, dam safety, resilience to climate change, unused energy potentials into account)

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Mitigating impact of dams

Transboundary Water Management
Dams & Hydro-management

Mitigation social and environmental impact of dams

In Switzerland, obligation to undertake **mitigation measures** is established by the revised Water Protection Act

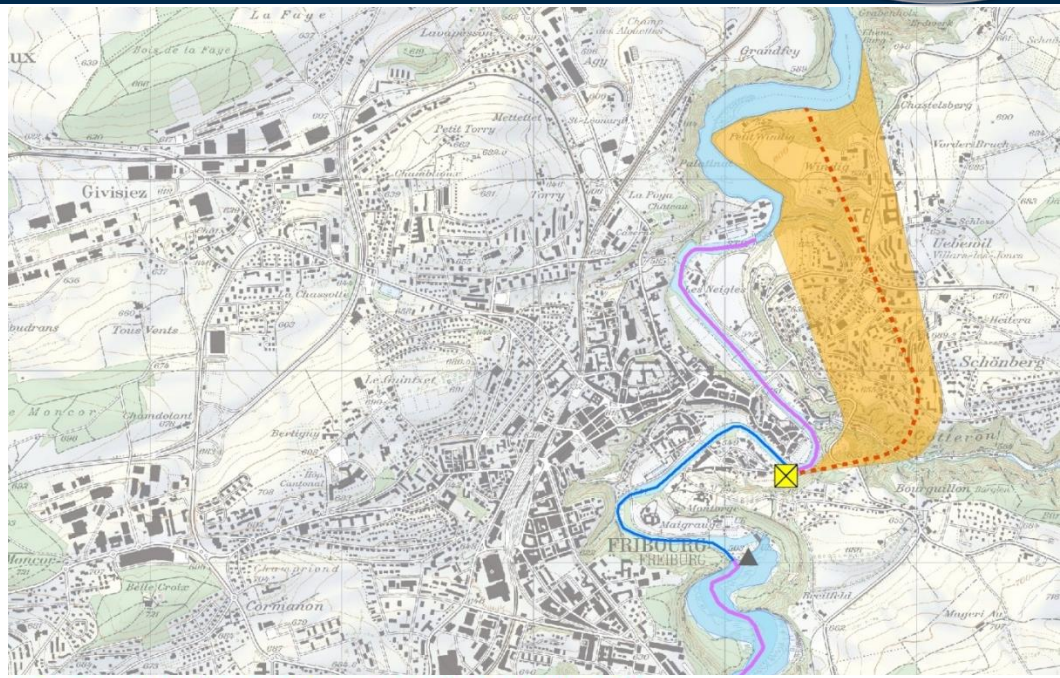
Remediation measures for hydropeaking

- restitution directly into a lake or in separate water course (parallel tailwater channel)
- retention / compensation basin,
- shelters for aquatic life improving / “reshaping” morphological conditions

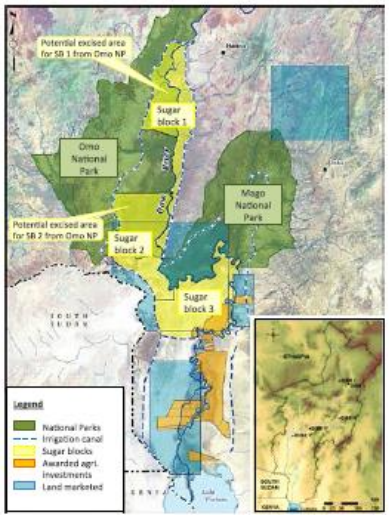
Mitigating social impact (ETHZ)

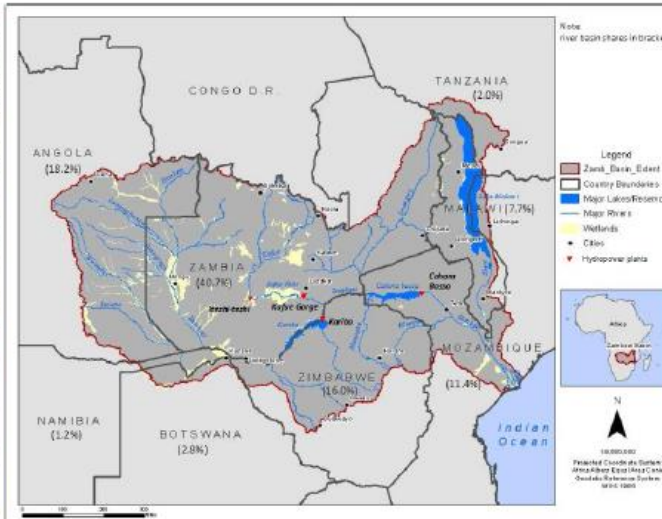
Decision-analytic framework for participatory and integrated planning

Omo River (Ethiopia) and Zambezi River



Case studies: Omo and Zambezi

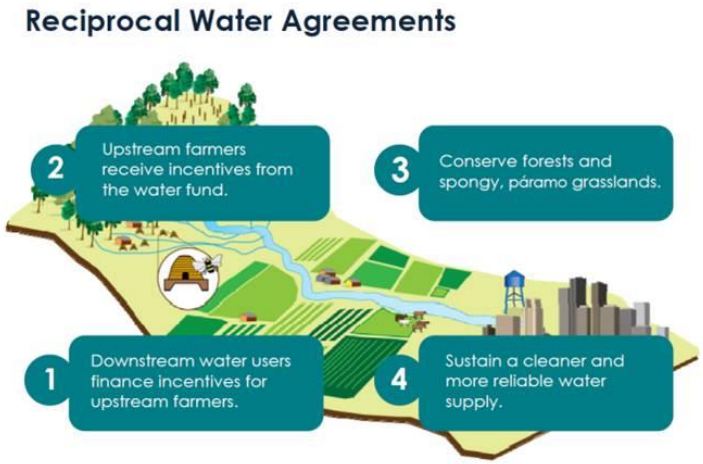




Innovative financing

- Water Benefit Standard: A Results-Based Finance Approach To Address The Global Water Crisis
- Promoting water valuation and ecosystem services (payment for environmental services) based on waterfootprint and risk analysis

Water Benefit Standard (Gold Standard, First Climate, SDC)



Payment for watershed services (Aquasis)

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Training for water and sanitation professionals

Sustainable water & sanitation utilities

VSA

F·E·S

Aus- und Weiterbildung KLÄRWERKPERSONAL

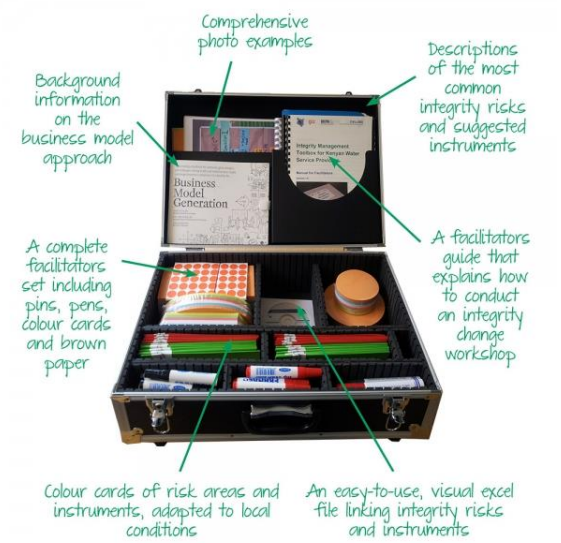
Lehrgang und eidg. Berufsprüfung

Brunnenmeister/in

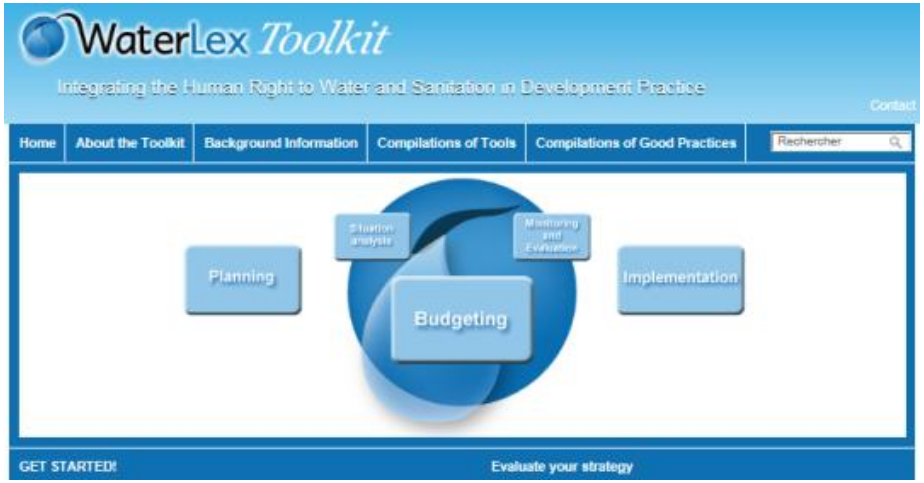
Allgemeine Informationen

Practical implementation of the Human Right to Water and Sanitation

- Improving transparency and accountability (e.g. for municipalities in Kenya, rural communities in Nepal, Mozambique and Guatemala, etc.)
- Human right to water and sanitation toolkit



Integrity Management Toolbox for Water Service Providers (cewas)

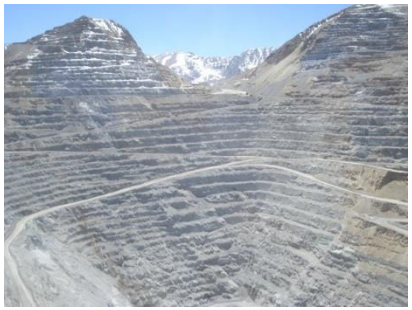


Human Right to Water and Sanitation Toolkit (Waterlex)

Public audit in Nepal (HELVETAS Swiss Intercooperation)

Extracting Industries & Water

- Many years experience and know-how on mitigating conflicts and **fostering dialogue** in extractives sector in different parts of the world (research & consulting)
- Proven methodologies regarding contents and procedures to **develop water monitoring concepts** for extractive industries' operations, bridging knowledge gaps and fostering sustainable development (e.g. Water Risk Assessment, overall assessment of direct and indirect environmental, social and economic impacts; elaboration of mitigation measures)



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4. First ideas for collaboration

Potential collaboration

- **Short term missions of Swiss experts** (possible SDC fund to cover travel and accommodation) and/or **fact finding mission of WGP/WSP experts to visit SWP members** of their interest
- **Field visit in Switzerland** to get to know Swiss actors and their expertise
- …
- …

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Annex
Field visit proposal

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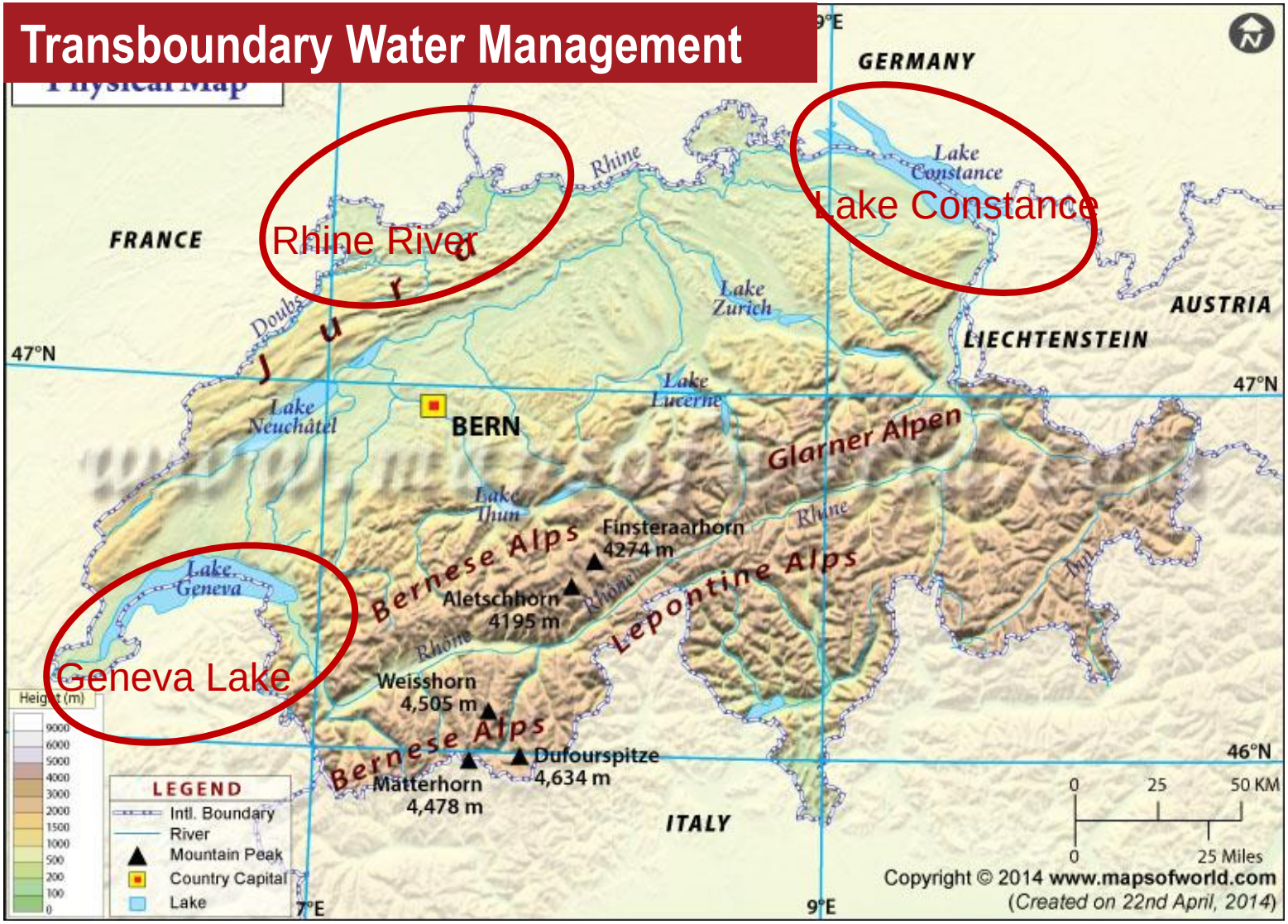
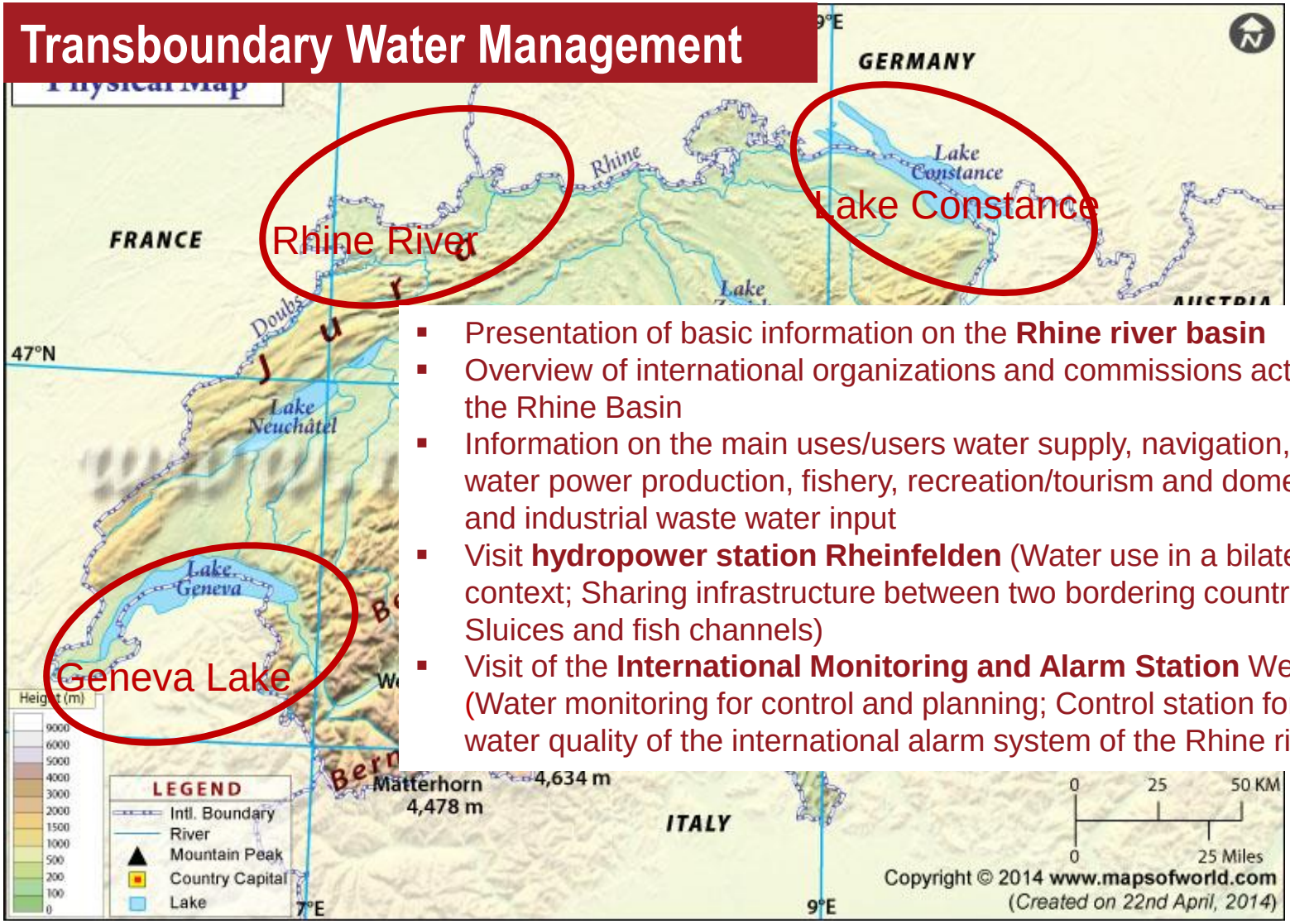
Field visit in Switzerland

Transboundary Water Management



Field visit in Switzerland

Transboundary Water Management



- Presentation of basic information on the **Rhine river basin**
- Overview of international organizations and commissions active in the Rhine Basin
- Information on the main uses/users water supply, navigation, water power production, fishery, recreation/tourism and domestic and industrial waste water input
- Visit **hydropower station Rheinfelden** (Water use in a bilateral context; Sharing infrastructure between two bordering countries; Sluices and fish channels)
- Visit of the **International Monitoring and Alarm Station** Weil (Water monitoring for control and planning; Control station for water quality of the international alarm system of the Rhine river)

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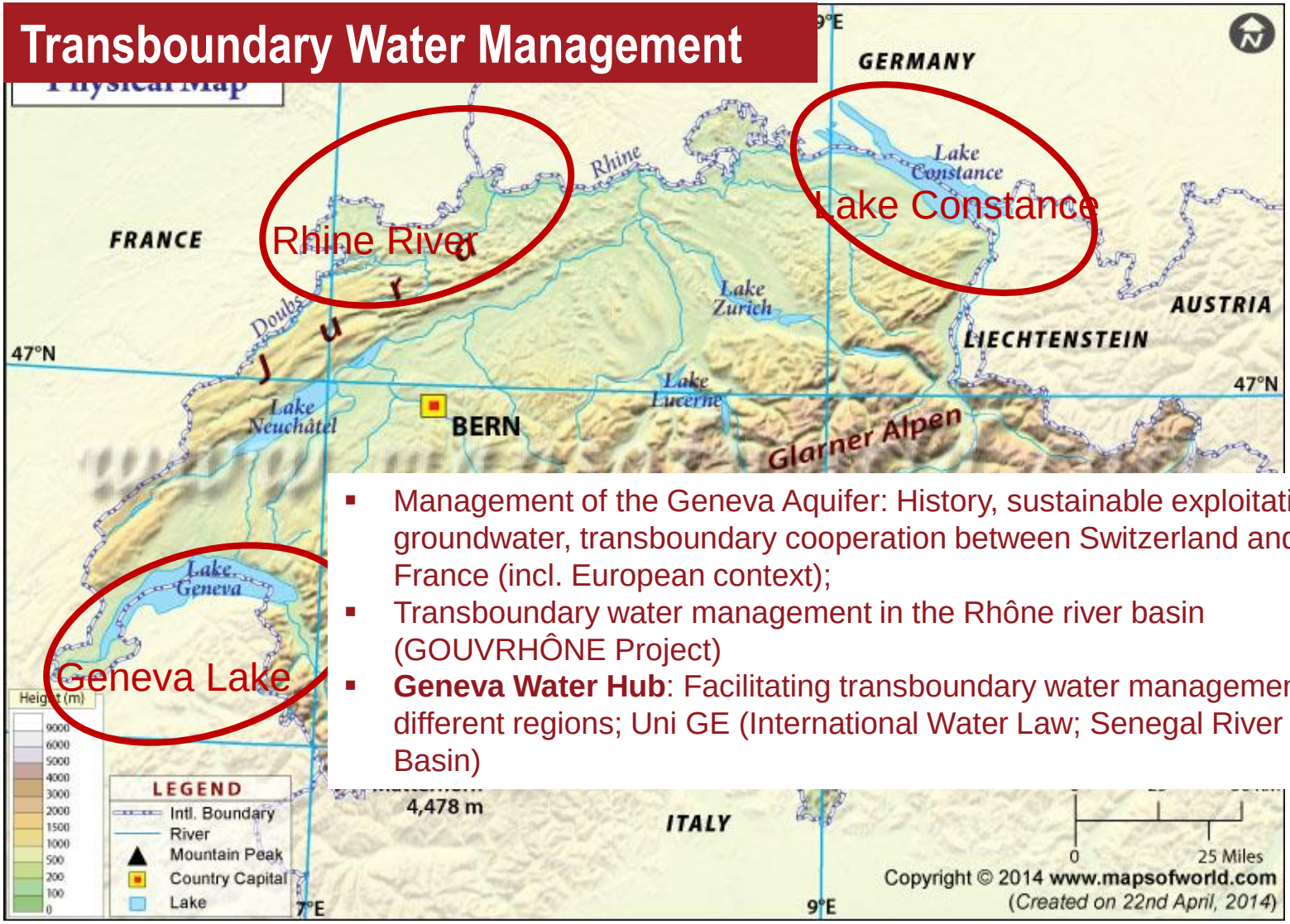
Field visit in Switzerland

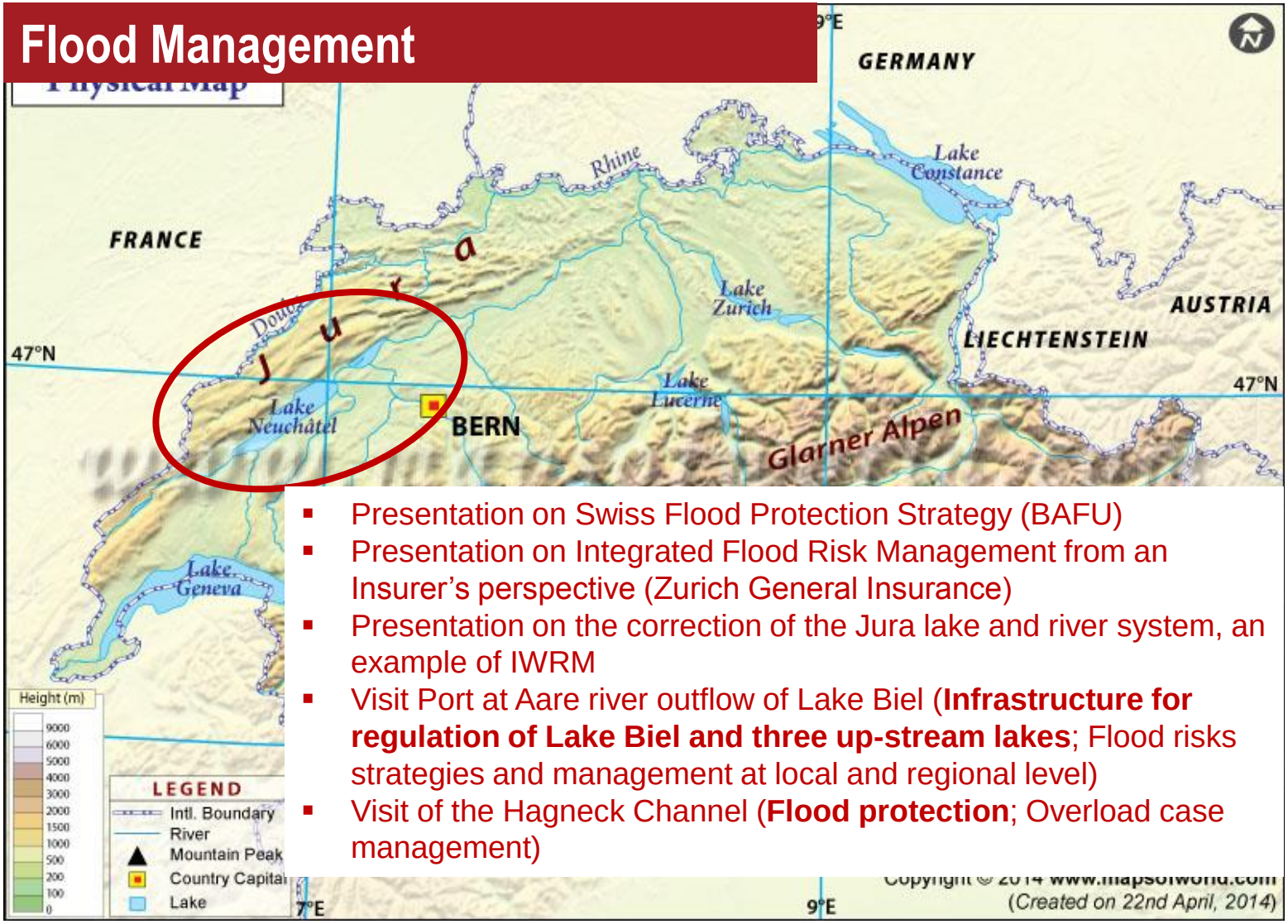
Transboundary Water Management



- Management of the Geneva Aquifer: History, sustainable exploitation of groundwater, transboundary cooperation between Switzerland and France (incl. European context);
- Transboundary water management in the Rhône river basin (GOUVRHÔNE Project)
- **Geneva Water Hub**: Facilitating transboundary water management in different regions; Uni GE (International Water Law; Senegal River Basin)

Field visit in Switzerland

Flood Management



- Presentation on Swiss Flood Protection Strategy (BAFU)
- Presentation on Integrated Flood Risk Management from an Insurer's perspective (Zurich General Insurance)
- Presentation on the correction of the Jura lake and river system, an example of IWRM
- Visit Port at Aare river outflow of Lake Biel (**Infrastructure for regulation of Lake Biel and three up-stream lakes**; Flood risks strategies and management at local and regional level)
- Visit of the Hagneck Channel (**Flood protection**; Overload case management)

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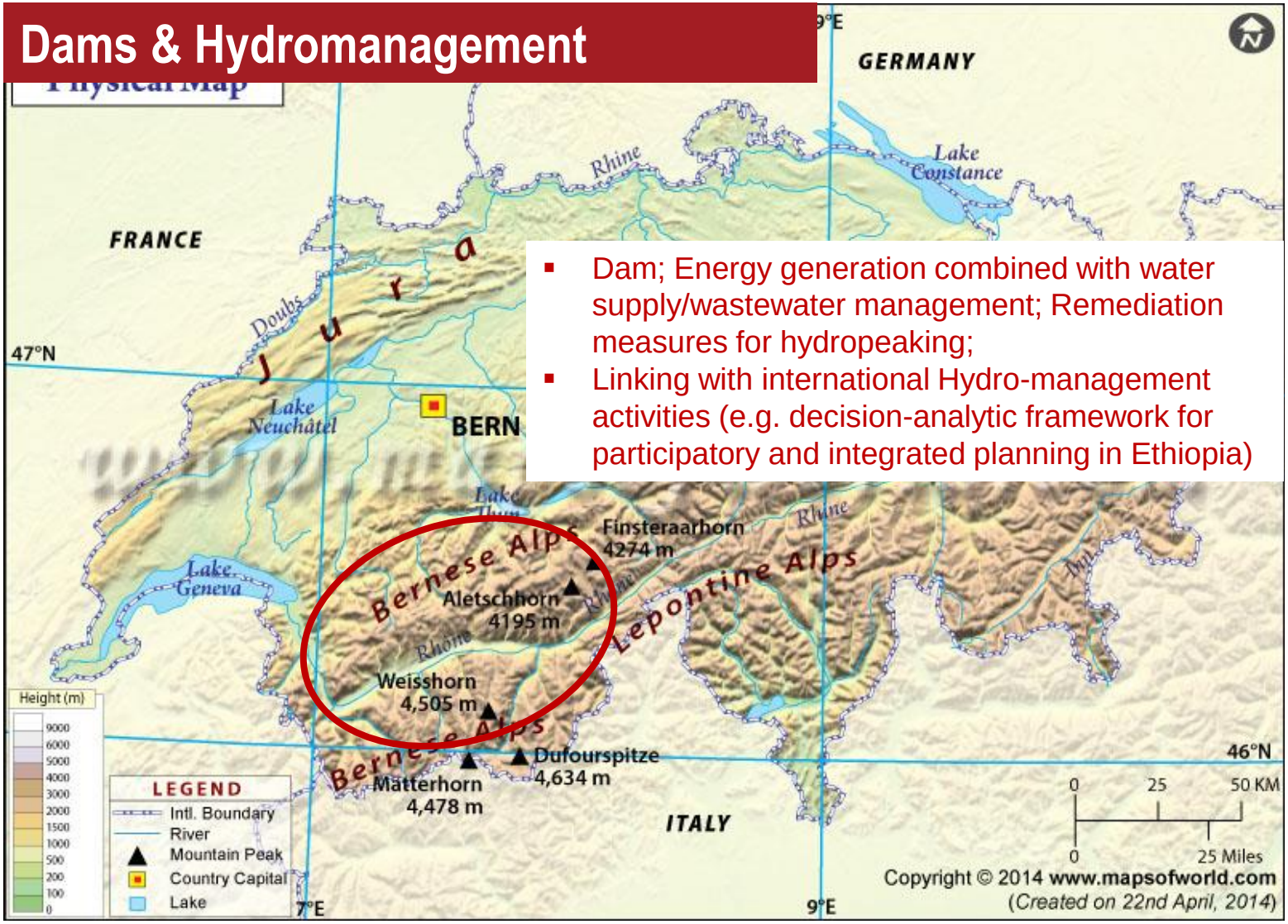
Field visit in Switzerland

Dams & Hydromanagement



- Dam; Energy generation combined with water supply/wastewater management; Remediation measures for hydropeaking;
- Linking with international Hydro-management activities (e.g. decision-analytic framework for participatory and integrated planning in Ethiopia)

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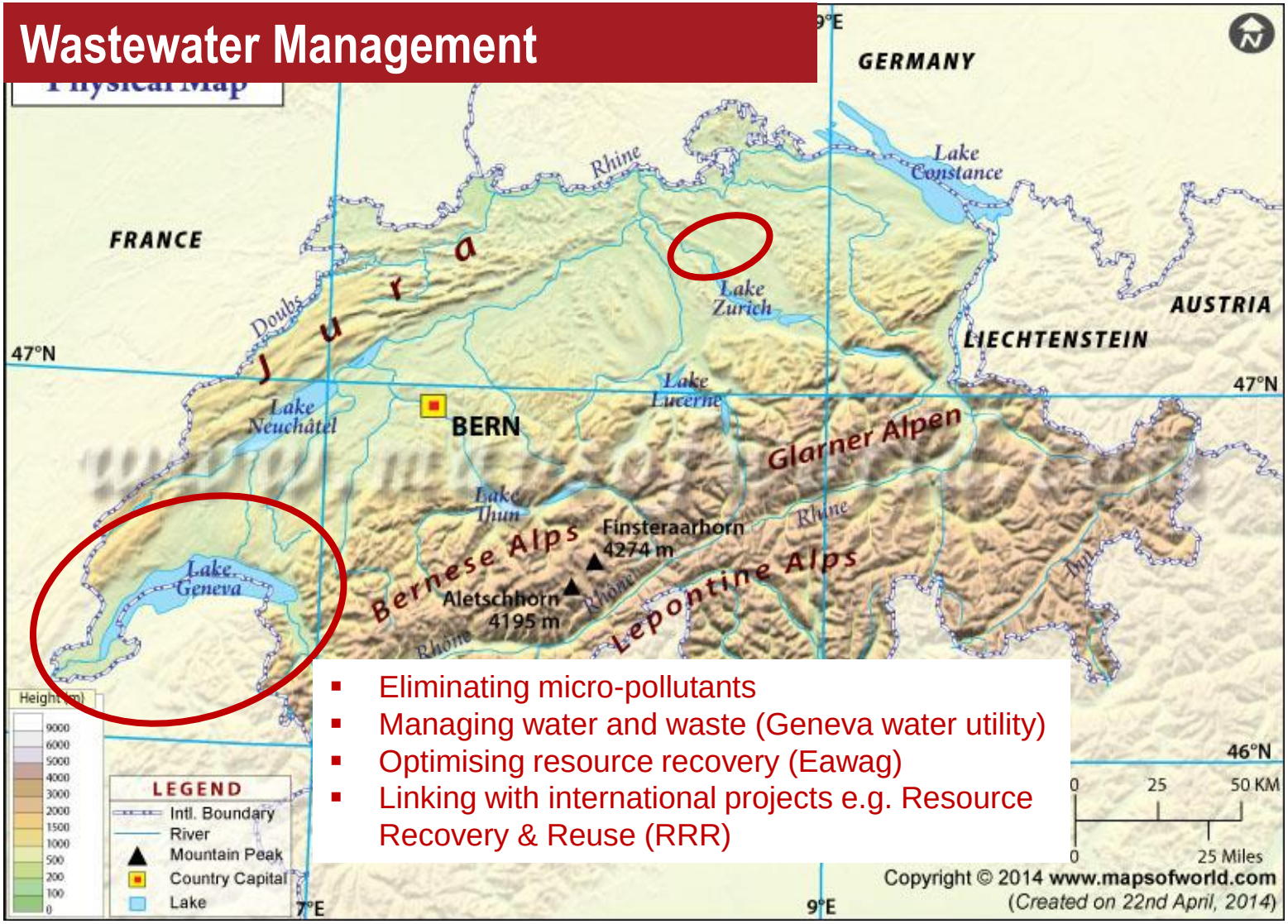
Field visit in Switzerland

Wastewater Management



- Eliminating micro-pollutants
- Managing water and waste (Geneva water utility)
- Optimising resource recovery (Eawag)
- Linking with international projects e.g. Resource Recovery & Reuse (RRR)

Field visit in Switzerland: possible program

Day	Topic
1	**International Geneva** **Transboundary Cooperation Geneva Lake** ▪ Management of the Geneva Aquifer: History, sustainable exploitation of groundwater, transboundary cooperation between Switzerland and France (incl. European context); transboundary water management in the Rhône river basin (GOUVRHÔNE Project) **Underground Resources Management** ▪ Deep City (EPFL, CSD, Canton Geneva) **Geneva Water Hub** ▪ Facilitating transboundary water management in different regions of the world (Pôle Eau) ▪ Uni Geneva: Platform for International Water Law (e.g. Senegal River Basin Management)
2	**Wastewater Management Strategies of the Future** **Research on Future Wastewater Treatment Concepts (Eawag/Zurich)** ▪ Improving elimination of micropollutants; decentralized management and improved resource recovery ▪ Environmental sanitation planning, Faecal Sludge Management **Wastewater Treatment Utilities (VSA)** ▪ Challenges and solutions from the perspective of the utilities
3	**Dams & Hydro-management** **Mitigating Impact** ▪ Remediation measures for hydropeaking ▪ Decision-analytic framework for participatory and integrated planning (EPFZ research Ethiopia) **The hidden potential** Combined water supply/energy generation: potential in Switzerland and abroad

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Thank you very much!!!

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