## TM5: Water Resources and Water Balance for Sustainable Community

David C. Finger 16 May 2022, Reykjavik, Iceland EEA EnvEdu-OERs meeting



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COUNTRIES TOPICS & PROGRAMMES

APPLY FOR FUNDING

Q MENU -

HOME COUNTRIES

### Romania



#### Allocation



On 13 October 2016 Iceland, Liechtenstein and Norway signed new cooperation agreements with Romania on new programmes under the EEA and Norway Grants 2014-2021.

#### Areas of support

- Fighting poverty and improving living conditions for the Roma population.
- Strengthening the business and innovation sector with a focus on green industry development, blue growth and ICT.
- Supporting improvement of correctional services and strengthening the rule of law.
- Increasing the generation of energy from renewable sources and the reduction of CO<sub>2</sub> emissions.



Continuing the strong support to strengthen civil society.





Google Earth: High Resolution Satellite Worldwide Coverage - Free!

## **Geographic basics**

Iceland is located on the Mid-Atlantic ridge approximately 1200 km from the European mainland.

Iceland sits upon a "hot-spot" and has plentiful geothermal energy and volcanic activity.

Despite its northerly latituded the climate is tempered by the Gulf Stream.

The country is mountainous with plenty of Precipitation –glaciers cover 11% of the surface area

Fishing grounds in the ocean are abundant.

The country is just over 100,000 km<sup>2</sup> with a population of 300,000.





### Þrándarjökull – estimations of water resources



## Geothermal resources



### The Great Geysir in Iceland



#### Hafralónsá

16 Mai

- North-east. 700 km from Reykjavik
- Salmon but also arctic char
- catch pr. year: 516 salmon (2007-2011)

### **Extreme precipitation events - Reykjavik**

https://www.wunderground.com/wximage/Sendibill/199

### Harpa, Reykjavik, Icelandic Storms



#### guidetoiceland.is

### Breiðamerkurjökull (Outletglacier of Vatnajökull)





The Hellisheiði Power Station Geothermal power station Near Reykjavik, Iceland The plant has a capacity of 303 MW of electricity and 133 MW of hot water

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### Circulation recovery from geothermal resources



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### Recovery of resources from HS Orka geothermal power plant



\*Thermal fluid in 10<sup>4</sup> m<sup>3</sup> for Spa has high salinity and is not usable for district heating

### Dynamic discharge patterns: Skeiðará

- is a 30 km long glacier river
- Its source is the glacier Skeiðarárjökull (part of Vatnajökull)
- during Jökulhlaup discharge is estimated to reach 45,000 m<sup>3</sup>s<sup>-1</sup>
- 880 m long bridge

# Land restoration: Gunnarsholt in Rangárvellir, over 100 years of experience on restoration



Soil Conservation Service of Iceland Gunnarsholt, the headquarters of the Soil Conservation Service of Iceland

- a governmental agency founded in 1907
- promotion of sustainable land use and reclamation and restoration of degraded land

### Degraded land: Gunnarsholt in Rangárvellir, in 1944

### Natural forests: mainly downy birch (Betula pubescens)

#### Source of Hróarslækur

- Near Gunnarsholt
- Fenced off area used for drinking water



### Additional monitoring: new discharge station in Hróarslækur



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