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Educational, Scientific and
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Water education in Rokua UNESCO Global Geopark

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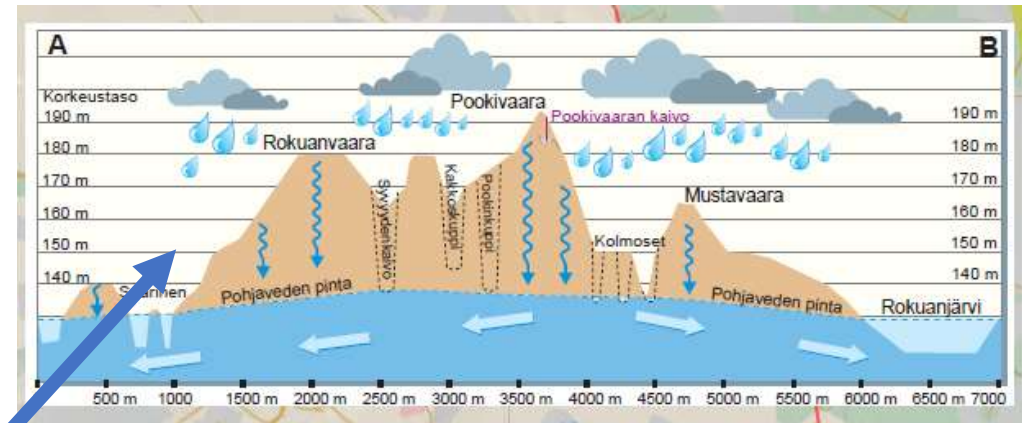


*More information about the best practice:
www.rokuageopark.fi*

Water education: Introduction / Main targets

BACKGROUND

- In early 2000's the water levels of small lakes at the Rokua esker had been sinking significantly for several years, in some cases even close to 1,5 meters
- This caused worry as the reason was unknown
- Many blamed the peat production areas around the esker
- A research project together with the University of Oulu was started, it has now lasted for almost two decades
- Resulting that the Rokua esker's aquifer and structure is now the best known in Finland
- The research done in Rokua works as a reference point to other similar areas
- Main reasons behind the changes in water levels were revealed to be due to climate variation and to small part because of peat production and other commercial forest use activities
- The research results are used in education as well as in water management and protection

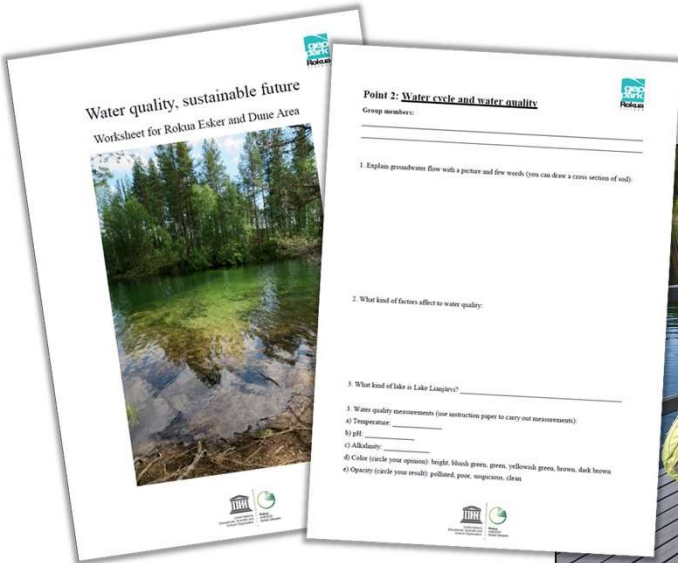
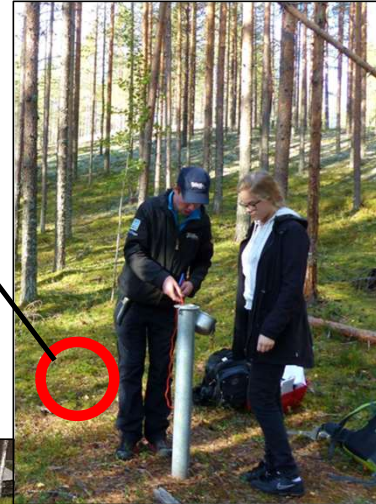


MAIN TARGETS IN WATER EDUCATION

- Informing people of the reasons behind the changing water table
- Increasing the understanding:
 - of the cycle of water in Rokua Esker
 - of the variations in water quality
 - of the role of climate and human actions to the water table and quality
- Protecting the water and the fragile esker ecosystem

Water education: Implementation

- What are the elements of water cycle?
- How does the groundwater form?
- Which factors affect to the annual change in water level?

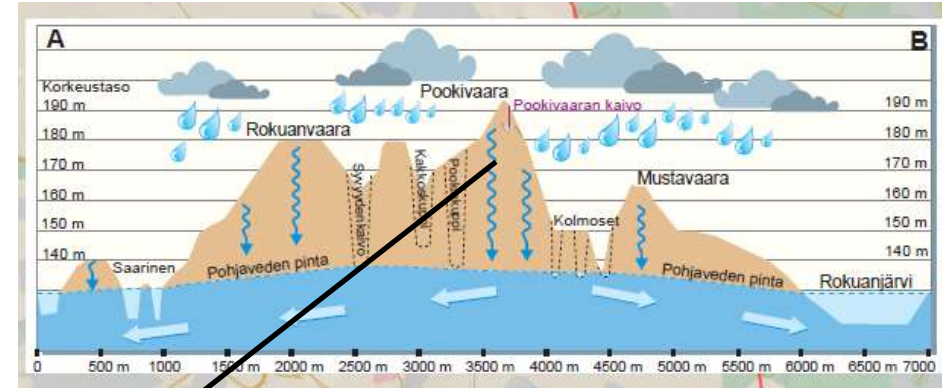


- Which factors affect to water flow and water quality?
- If there exist differences in water quality, what are the reasons?

Results achieved / Impact

Achieving understanding through analysing results

- The measurements reveal differences in water quality.
- This causes questions and requires searching of answers.
- The students learn how different natural and artificial factors affect to water quality in space and time.
- This gives them understanding on water cycle and finally on possibilities to protect watersheds.



Water sample, Pookivaara well

- We took a water sample from a well.
 - **Results:**
 - pH: 6,92
 - Temperature: 12C
 - Obscureness: suspicious
 - Color: yellowish
- Because there is clay in the ground, which doesn't let water run through, the water stays afloat and it can be used as a well.

Using the knowledge globally through camp school tourism and exchange projects



Lessons learnt / Future steps

- **The basic concept has been to:**
 - Implement scientific research to understand the ongoing processes.
 - Popularize the results to get the audience realize the phenomena (processes).
 - Develop educational methods to measure and observe the phenomena and to get the students realize the processes themselves (=problem solving).
 - Achieve competences to broaden the understanding from local to global issues.
- **This approach has been successful both for local students and for students arriving from other side of the globe!**





Thank You!

