

The river Topl'a



Case study



SLOVAKIA

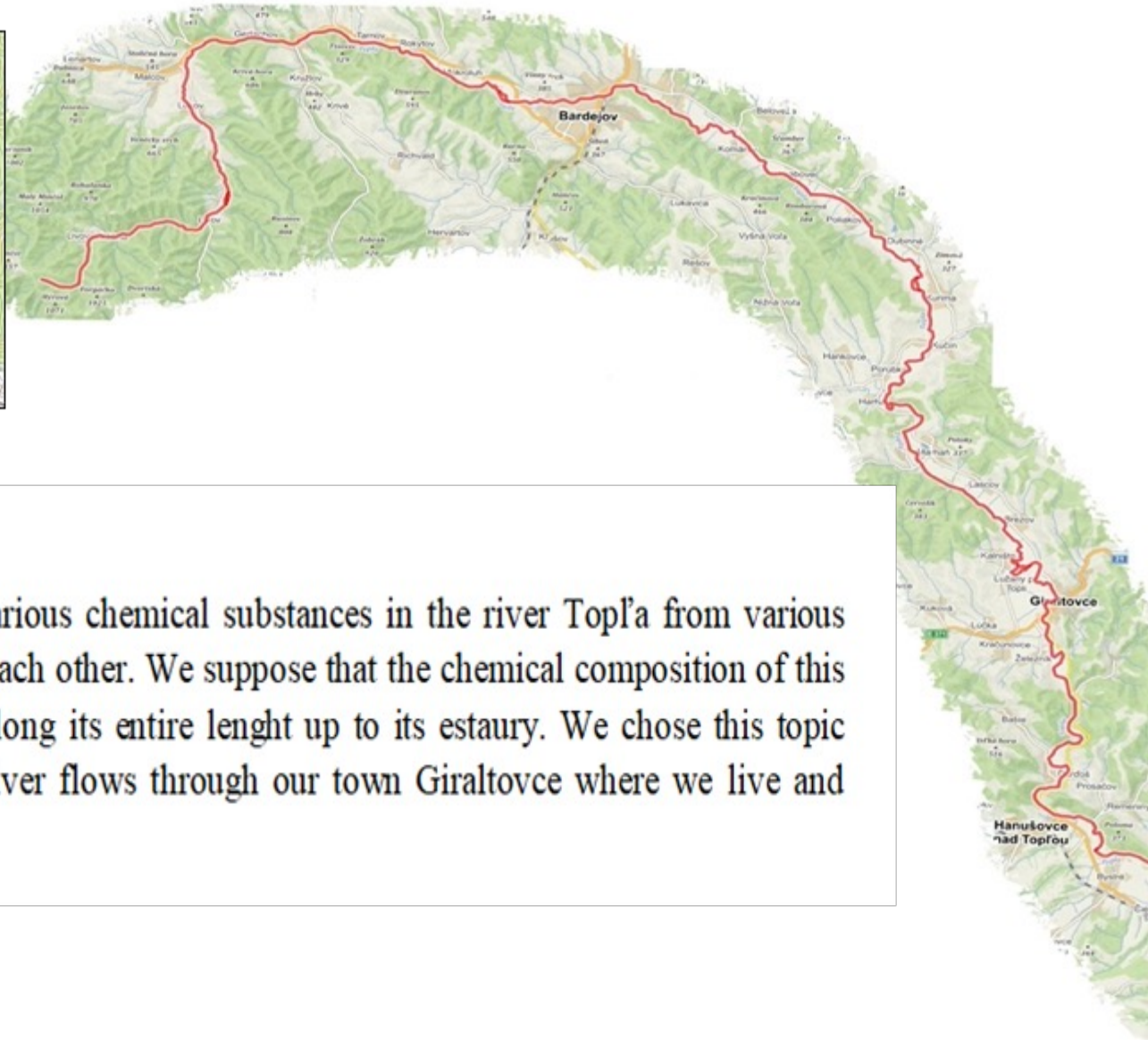
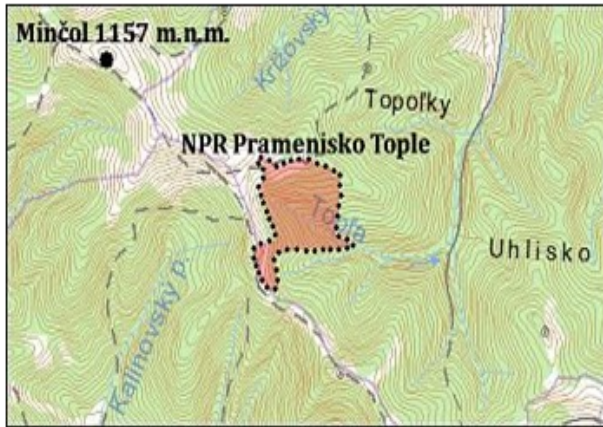
BASIC INFORMATION

Name of school: Private Secondary Vocational
School

Head: PaedDr. Martin Košala, MBA

Address: Dukelska 33, 087 01 Giraltovice, Slovakia

Email: ssosgiraltovice@gmail.com



Topic: The river Topľa

Aim: Find out the presence of various chemical substances in the river Topľa from various places and compare them between each other. We suppose that the chemical composition of this river will change from its stream along its entire length up to its estuary. We chose this topic because of the locality since this river flows through our town Giraltovce where we live and study.

Národná prírodná rezervácia Pramenisko Topľa

Rieka Topľa odvodňuje povodie veľké 1 506 km² a jej dĺžka je 129,8 km. Pramení v pohorí Čergov, pod vrcholom kopca Minčol. Preteká cez Ondavskú vrchovinu, Beskydské predhorie, Východoslovenskú pahorkatinu a Východoslovenskú rovinu. Do rieky Ondava sa vlieva v blízkosti obce Parchovany, v okrese Trebišov. Významnými ľavostrannými prítokmi sú potoky Kamenec (ústí pri Tarnove), Kamenec (ústí pri Bardejove), Radomka a Čičava. Pravostrannými prítokmi sú potoky Šibská voda, Lomnica a Oľšava. Topľa preteká mestami Bardejov, Giraltovce, Hanušovce nad Topľou a Vranov nad Topľou. Rieka Topľa sa po takmer sto tridsiatich kilometroch vlieva do rieky Ondavy. Spojením riek Ondava a Latorica vzniká rieka, ktorá sa nazýva Bodrog.
(odrop: www.kstbardejov.wsl.sk/W90-Pramenisko-Tople.html)

Topľa

Štát	Slovensko
Región	Sever
Prítoky	Kamenec, Čičava ľavostranné pravostranné
Mesta	Bardejov, Giraltovce Vranov nad Topľou
Pramen	pod Minčolom
Ústie	Ondava
podľa	prítok) Pánčohovany
koordinácia	48°44'36"S 21°43'29"E
Dĺžka	129,8 km
účinná plocha	1 506 km ²
úd. Slovensko	
Plocha	1 506 km ² (1947-2003) ha
Pramen	Hanušovce nad Topľou
Prítok	Hanušovce nad Topľou
pravostranný	81,9 m ²



Obtaining information and understanding the case:

The source of the river Topľa is National preserve with natural stands of hemlock (fir and beech trees) and mountain meadows and it is located in the Čergov Mountains in the cadastral territory of the village Livovská Huta in the district of Bardejov in the region of Prešov. The river Topľa drains a basin of 1,506 km² and it is 129,8 km long. It originates below the top of the Minčol Hill at an altitude of 976 - 1000 m above sea level. It flows through 4 major towns where we took water samples for our research – Bardejov, Giraltovce, Hanušovce n/T and Vranov n/T. The river Topľa pours into the river Ondava in the village Parchovany, the district of Trebišov.

Taking samples



Source



Bardejov



Giraltovec



Hanušovce nad
Topľou



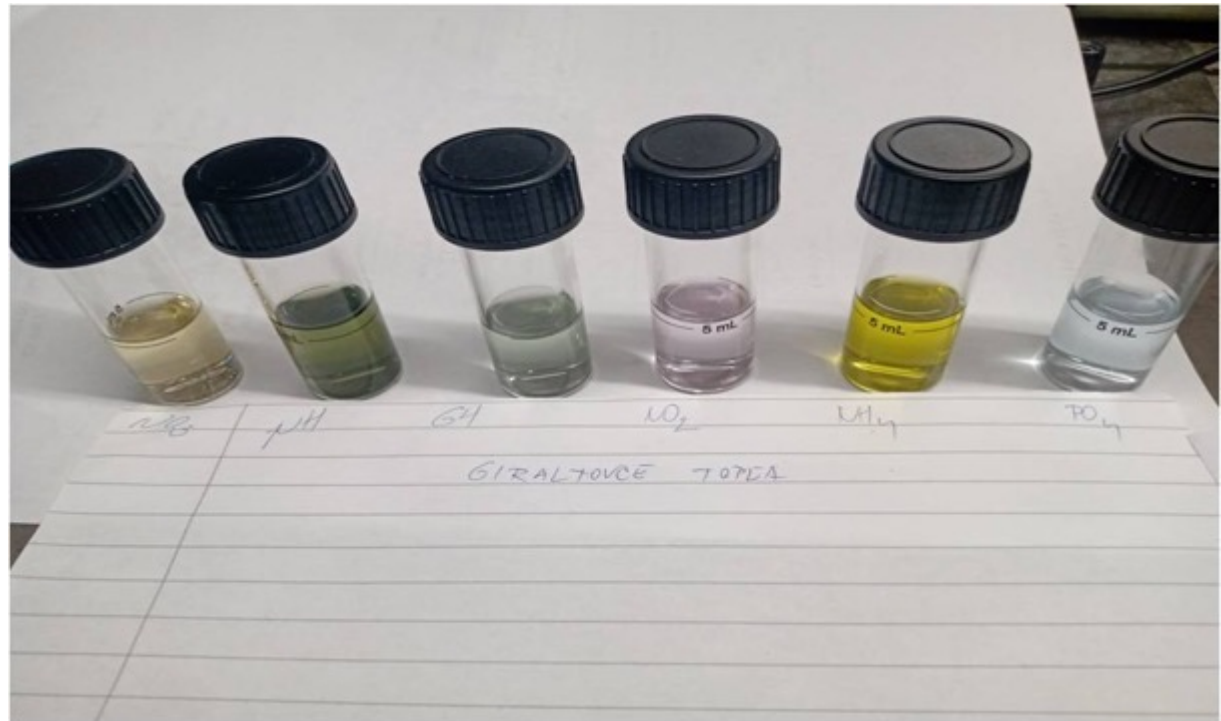
Vranov nad
Topľou



Parchovany

Data analysis:

- pH value(pH),
- total hardness of water (GH),
- ammonium (NH_4),
- nitrites (NO_2),
- nitrates (NO_3),
- phosphate (PO_4).

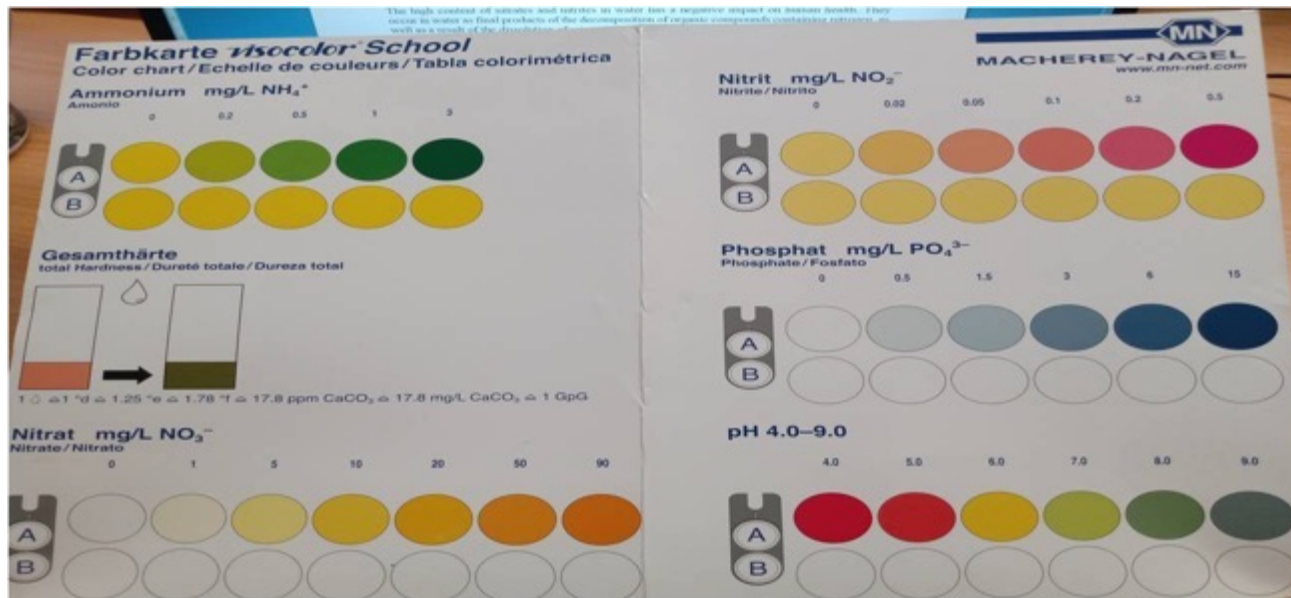


Water samples

Work methodology

We used the agents from laboratory case SERA and EcolabBox to analyse the water samples

The manual in the case was very helpful, because it let us step by step in our research for case study.



Comparator

Conclusion

The river Topľa / substances	pH	GH	NH ₄ (mg/L)	NO ₂ (mg/L)	NO ₃ (mg/L)	PO ₄ (mg/L)
stream	pH 8	10,4 medium hard	0	0,25	1	0
town Bardejov	pH 8	19,5 fairly hard	0	0,3	1	0
town Giraltovce	pH 8	19,5 fairly hard	0	0,3	1	0,4
town Hanušovce nad Topľou	pH 8	24,7 hard	0	0,3	1	0,4
town Vranov nad Topľou	pH 8	24,7 hard	0	0,4	1	0,4

Thanks for your attention

Adam Tomko
Patrik Kozák
Žaneta Jurčišínová
Sofiiia Bulanova
Oleksandra Kopieika