



*Commission on Mineral and Thermal Waters*  
*Commission des Eaux Minérales et Thermales*

**Russian Chapter of the International association of hydrogeologists (IAH)**  
**St.Petersburg University Centre of Geology, LLC (Corporate IAH Member)**  
**Water Centre of St.Petersburg University, LLC**  
**State Commission on mineral reserves of the Russian Federation**

**IAH - CMTW Meeting 2019**

**Mineral waters:  
origin and variety of the chemical types**

**October 2-5 2019**  
**Pyatigorsk, Russia**

**Second circular  
and preliminary program**

**Pyatigorsk, 2019**

The Meeting will take place from October 2 to 5, 2019, and is jointly organized by the Russian Chapter of the International association of hydrogeologists (IAH), St.Petersburg University Centre for Geology, LLC, Water Centre of St.Petersburg University, LCC and State Commission on mineral reserves of the Russian Federation. The meeting will be held together with the annual conference “Groundwater-2019”.

## **Meeting Topic**

The proposed topic of the annual meeting is

**“Mineral waters: origin and variety of the chemical types”.**

All other topics of reports are welcome, too. The sessions will be open to all IAH members and all the interested scientists, engineers and experts in groundwater study.

## **Organizing committee**

Nina Erofeeva (Head of the Department of Oil and Gas Geology, Groundwater and Buildings of the Federal Agency for Subsoil Use of the Russian Federation)

Prof Igor Shpurov (General Director of the State Commission on mineral reserves of the Russian Federation)

Mikhail Leonov (Deputy General Director of the State Commission on mineral reserves of the Russian Federation)

Dr Natalia Vinograd (Associate Professor of St. Petersburg State University, IAH Vice-President, CMTW IAH member)

Dr Aleksandr Pisarnitsky (Chairman of the Board of the Eurasian Union of Subsoil Use Experts) (ECOEN)

Mikhail Kuzmin (Director of the North-Caucasian branch of the State Commission on mineral reserves of the Russian Federation)

Alexey Tudvachev (Deputy General Director, St. Petersburg University Centre for Geology, LLC)

Dr Evgeny Potapov (Head of the Sector of Hydrogeology of the Pyatigorsk Research Institute of Balneology)

Dmitry Kuklin (Director of “Geominvod”, LLC)

Dr Jim Lamoreaux (IAH - CMTW Chairman)

Dr Adam Porowski, (IAH – CMTW Secretary)

## **Scientific committee**

Dr J. Lamoreaux (IAH - CMTW Chairman)

Dr Adam Porowski, (IAH – CMTW Secretary)

Dr Natalia Vinograd (Associate Professor of St. Petersburg State University, IAH Vice-President, CMTW IAH)

Dr Evgeny Potapov (Head of the Sector of Hydrogeology of the Pyatigorsk Research Institute of Balneology)

Dmitry Kuklin (Director of “Geominvod”, LLC)

Alexey Tudvachev (Deputy General Director, St. Petersburg University Centre for Geology, LLC)

## Short information about the region of Caucasian mineral waters

### Geographical Information

The area of the Caucasian Mineral Waters is the most picturesque corner of the North Caucasus located in the southern part of the Stavropol Region of Russia, on the Northern slopes of the Main Caucasian ridge, between the Black and Caspian seas. For several tens of kilometers from the North to the South, the steppe gradually turns here in the mountains. Grass steppes are replaced by luxurious deciduous and pine forests, changed higher by Alpine meadows. The cone-shaped, volcano-like mountains: Byk (Bull), Zmeyka (Snake), Zheleznaya (Iron), Beshtau, Mashuk are very well seen from the steppe plain. The slopes of these low mountains are completely covered with thick hornbeam and oak forests. Caucasian Mineral Waters are located on the distance of only 90 km from the highest mountain in Europe — Elbrus, the two-headed peak of which is clearly visible almost throughout the region. It is situated in the III time zone — GMT + 3 hours (Moscow time).

### Pyatigorsk

Pyatigorsk is located in the Stavropol region; it is one of the oldest balneological resorts in Russia. Numerous mineral springs and mud deposits are compactly located on a relatively small area. However, it is good not only for health, but also as a new interesting route in the tourist collection of a traveler. Situated at the foot of the mount Mashuk, in picturesque groves, this colorful piece of the North Caucasus is always happy to guests regardless of their nationality and social status. Its natural wealth - mineral water, therapeutic mud and clean mountain air - are free for everyone!



## SIGHTS OF THE CAUCASIAN MINERAL WATERS



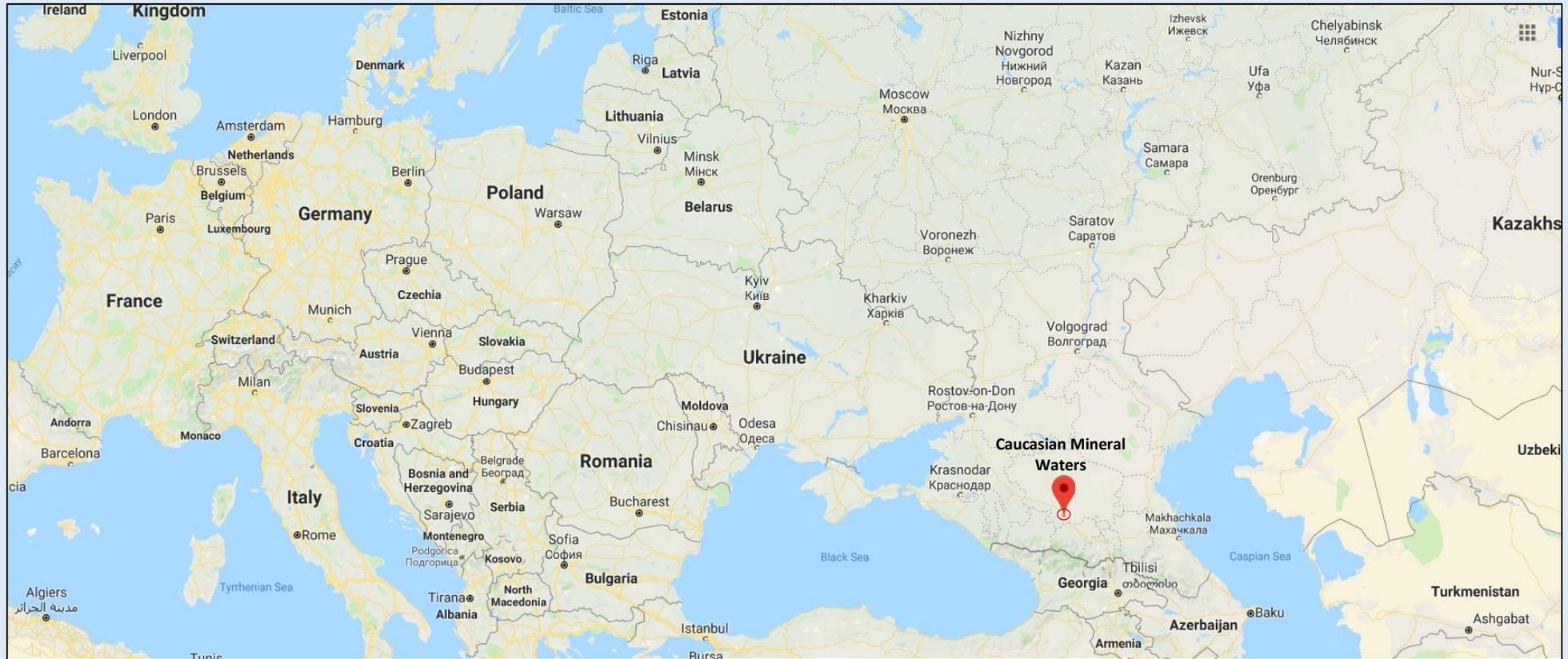


Fig. 1 Geographical location

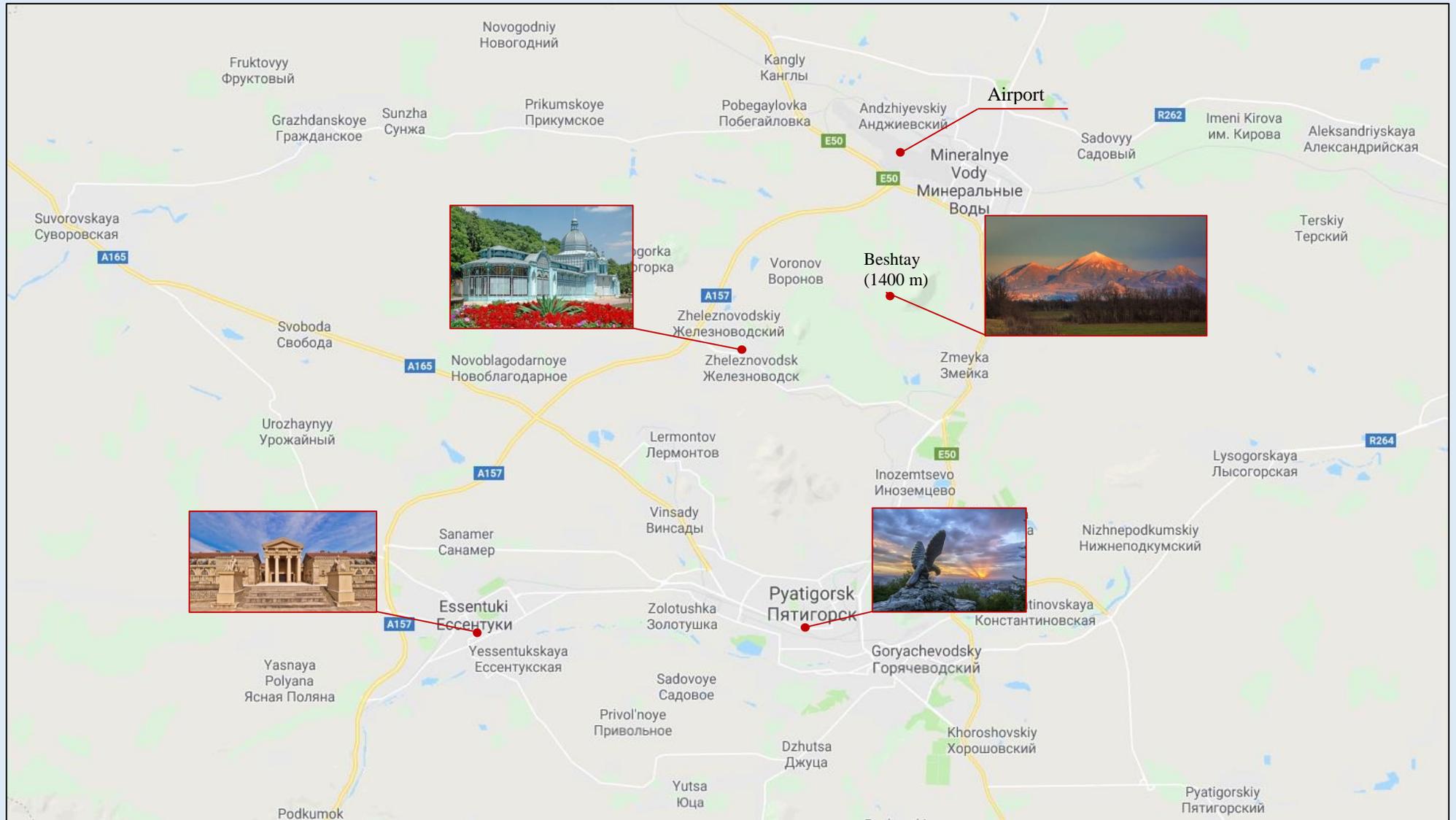


Fig. 2 Sketch map of the area

## Mineral water

As a result of its complex geological structure, the region of Caucasian Mineral Waters has a great variety of mineral water types. Local hydrogeologists will present the information on geology and hydrogeology of the area and mineral water springs.

## Weather conditions

The weather in the beginning of October is very liable for outdoor activities, with day temperatures from +13°C to +18°C; rains are not very probable.

## How to get there

**By plane:** There is an international airport “Mineralnye Vody” (“Mineral waters”): situated about 20 km to the north from Pyatigorsk.

The easiest way to reach Pyatigorsk is by Taxi, the price is about 10 euros. There is also bus and train connection.

**All the participants of CMTW IAH – 2019 will be met in the airport.**

**By car:** The highway M-4 "Don" and the road M 6 "Caspian" connect Pyatigorsk with towns of the central and southern Russia.

**By train:** There is a direct train connection with Moscow, St.Petersburg and some other towns of Russia.

## Terms of payment, money transfer:

Only Russian roubles (RUR) are used for local payments.

Change of foreign currencies (as Euro, CHF and USD) is possible in any bank in town and in big hotels. It is recommended to have some cash for small payments in town (souvenirs, public transport, taxi). Cash machines (accepting most international credit cards) are available in town, banks and hotels. There can be difficulties in smaller villages. Credit cards are accepted in town, at big hotels and shops, but it's better to have some cash during the field trip.

## Conference venue

The conference “Groundwater-2019” and CMTW IAH session will take place at “Beshtau”\*\*\* hotel opened in 2014 and situated in the central part of the town (beshtau26.ru).

## Accommodation

There is a variety of bigger and smaller hotels, hostels and private apartments available for accommodation in Pyatigorsk. Reservation in the **Beshtau Hotel** (conference venue) is possible on request.

All participants of the Meeting will be accommodated in comfortable rooms for one night during the fieldtrip (4-5 of October). The cost of accommodation during the fieldtrip is included in the conference fee.

## Conference fee

The conference fee is **450 euros for IAH members** and **500 euros for non-members**. The fee for accompanying persons is **350 euros**. It is paid on arrival by cash in euros. Alternatively, you can write to [nv.70@hotmail.com](mailto:nv.70@hotmail.com) and get the bank details to pay beforehand by bank draft.

### **The fee includes:**

- Meeting in the airport;
- Welcome party;
- Participation in the conference “Groundwater-2019” and CMTW IAH Session;
- Lunches and coffee-breaks during the conference and Session;
- Excursion around the town of Pyatigorsk;
- Two-days fieldtrip around the Caucasian mineral water region (meals and accommodation included);
- Farewell party.

### **Presentations**

The participants can present oral and poster presentations. The oral presentation lasts 20 minutes including time for questions. In the end of the session there will be a time for more questions and discussions.

If you want your abstracts, presentations or other materials to be distributed among the participants, please, send them to [nv.70@hotmail.com](mailto:nv.70@hotmail.com) prior to **September 20, 2019**.

### **Fieldtrip and excursion**

The 2-days field trip will cover the variety of mineral water types of the region of the Caucasian Mineral Waters, participants will visit mineral water springs and water intakes of the most famous spas of the region. The second day will be devoted to the mountain sceneries: the participants will ascend the Mussa-Achitara peak (3168 m asl) by cable cars and will see the highest peak of Europe – Elbrus (5642 m asl) on the return way.

During the excursion around the town of Pyatigorsk, you will see cultural and natural sights of the place, visit the top of Mashuk mount with a spectacular view and try the water from natural springs of several types.

The program of the fieldtrip is presented below.

### **Visa requirements for foreign participants**

For the citizens of the most countries (excluding Ukraine, Belarus and some others) it is necessary to have Russian visa. The requirements for visa applications can differ depending on the country, so it is better to contact Russian Embassies in your countries to find out what you need to get visa. For those who need an official invitation to arrange visa, please send a copy of the first page of your passport (with a photo) prior to June 30, 2019 to the address indicated on Registration form).

***Please do not hesitate to ask any questions by e-mail or phone!***

### **Contact person:**

**Dr Natalia Vinograd** ([nv.70@hotmail.com](mailto:nv.70@hotmail.com))

**Cell phone: +7 904 3338050**

*It is still not too late to join us. If you need the support letter to get Russian visa, please, fill in this form as soon as possible and attach the copy of your passport.*

**CMTW IAH Meeting**

**Pyatigorsk, Russia**

October 2 – 5, 2019

## Registration Form

Name \_\_\_\_\_

First name \_\_\_\_\_

Title \_\_\_\_\_

Organization \_\_\_\_\_

Position \_\_\_\_\_

Address \_\_\_\_\_

E-mail \_\_\_\_\_

Phone \_\_\_\_\_

Probability of participation (please underline your answer)      **Unlikely**      **Fair**      **Good**

I will be accompanied by \_\_\_\_\_

Expected arrival and departure date \_\_\_\_\_

I need an official invitation letter for visa      **Yes**      **No**

I would like to stay in Russia before / after the Meeting for \_\_\_\_\_ days

I need help in the accommodation reservation (If you do, please, indicate your requirement for the quality and price of the accommodation and dates for reservation)      **Yes**      **No**

\_\_\_\_\_  
Please indicate the title of your presentation

\_\_\_\_\_  
Date, Signature \_\_\_\_\_

**Please, send this Registration form to Dr Natalia Vinograd**

**([nv.70@hotmail.com](mailto:nv.70@hotmail.com)) Cell phone +7 904 3338050**

# **Preliminary program of the Conference “Groundwater-2019” and CMTW IAH Annual meeting – 2019**

**Pyatigorsk, Russia  
October 2 – 5 2019**

## **October 1 (Tuesday)**

Arrival of the participants to the airport Mineralnye Vody, meeting in the airport, accommodation in Pyatigorsk.

## **October 2 (Wednesday)**

9-00 – 10-00 Registration, welcoming tea/coffee

10-00 – 13-30 Conference “Groundwater-2019” and CMTW IAH Annual meeting – 2019  
Opening Ceremony (joint meeting, simultaneous translation into English/Russian will be provided)

Welcome from the state and local authorities

Welcome from the CMTW Chairman

Presentations of the participants of the Conference “Groundwater-2019”

(11-30 – 12-00 Coffee break)

13-30 - 14-30 Lunch

## **14-30 – 16-45 CMTW IAH Session (working language is English)**

14-30 – 14-50 Introduction, welcome from CMTW Secretary and Organizing Committee

14-50 – 15-10 Natalia Vinograd (St.Petersburg University, Russia)

Mineral therapeutic waters in Russia – types and distribution

15-10 – 15-30 Evgeny Potapov (Pyatigorsk Research Institute of Balneology, Russia)

Mineral waters of the Caucasian Mineral Water region

15-30 – 15-50 Mikhail Kuzmin (North Caucasian Branch of the State Commission on mineral reserves of the Russian Federation, Russia). The largest mineral water occurrences of Caucasus and problems of their exploitation

15-50 – 16-10 Nina Brodskaya (State Russian Hydrometeorological University, St.Petersburg, Russia).

Environmental problems of the exploitation of the mineral water occurrences in urban areas

16-10 – 16-30 Barbara Kielczawa (Wroclaw University of Science and Technology, Poland)

Mineral and thermal waters of Southwestern Poland

16-30 – 16-45 Coffee break

16-45 – 17-30 CMTW IAH Business meeting

17-30 - 20-00 Welcome party

**October 3<sup>rd</sup> (Thursday)**

**10-30 – 13-30 CMTW IAH Session**

10-30 – 10-50 Ali Bulbul (Pamukkale University, Denizli, Turkey).

Hydrogeochemical evolution of Baslioglu (Salihli) mineral water

10-50 – 11-10 Anastasia Romanova (Institute of Geological Science of the Polish Academy of Science, Warsaw, Poland).

Hydrogeological features of the mineral therapeutic waters of the Polish Carpathians.

11-10 – 11-30 Adam Porowski (Institute of Geological Science of the Polish Academy of Science, Warsaw, Poland).

Geochemistry of REE in mineral and thermal waters of flysh and crystalline formation: case studies from Carpathian and Sudetes mountains, South Poland

11-30 – 12-00 Coffee break

12-00 – 12-20 Werner Balderer (ETH, Switzerland (retired)).

Observed Fluorescence of mineral and thermal water as precursor phenomena of earthquake occurrence

12-20 – 12-40 Istvan Forisz (Institute for Geological and Geochemical Research, Research Centre for Astronomy and Earth Sciences, Hungarian Academy of Sciences, Hungary)

Hydrogeochemical study of the CO<sub>2</sub> rich mineral medical springs at Balatonfüred, Hungary (authors: Fórizs I., Deák J., Dobos I., Scheuer Gy., Czuppon Gy)

13-00 – 13-20 to be defined later

13-20 - 13-30 Discussion, questions and answers.

**13-30 – 15-00 Lunch**

## **15-00 Beginning of the excursion program (Pyatigorsk)**

15-00 – 17-30 Excursion around the town of Pyatigorsk  
17-30 Departure to Stanitsa Suvorovskaya settlement.  
18-00 – 19-30 Visit to the Suvorovskaya thermal springs  
20-00 Return to Pyatigorsk  
20-00 – 22-00 Dinner in the restaurant  
22-00 Return to Beshtau hotel

## **October 4 (Friday) – October 5 (Saturday) Two-days excursion around Caucasian Mineral Waters area**

### **October 4**

8-00 Departure to Zheleznovodsk spa  
9-00 – 10-30 Excursion around the spa to the springs of famous mineral waters “Slavyanovskaya” and “Smirnovskaya”  
10-30 Departure to Essentuki spa  
11-30 – 12-30 Excursion around the spa to the famous mineral waters “Essentuki – 4” and “Essentuki – 17”  
12-30 Departure from Essentuki  
13-00 – 15-00 Lunch in the restaurant “Karavan-Saray”  
15-00 Departure to Kislovodsk spa  
16-00 – 16-30 Visit to the drinking gallery of the famous mineral water “Narzan”.  
16-30 – 17-30 Excursion around the Kislovodsk park.  
17-30 Departure to Dombay.  
21-00 – 22-00 Dinner in the restaurant and check in the hotel in Dombay.

### **October 5**

9-00 – 10-00 Breakfast in the hotel.  
10-00 – 12-30 Cable car ascent to the Mussa-Achitara peak (3168 m asl) in three stages:  
1<sup>st</sup> stage – Dombay-1 (1590-2277 m)  
2<sup>nd</sup> stage – Dombay-2 (2277-3008 m)  
3<sup>rd</sup> stage - Dombay 3 (3008 – 3168 m)  
13-00 Departure to Karatchayevsk.  
14-00 – 15-30 Farewell dinner in the restaurant in Karatchayevsk.  
15-30 – 19-00 Return to Pyatigorsk through picturesque places of the Northern Caucasus, passing Gum-Bashi passage, where Elbrus mountain can be very well seen. Stop on the road in the Tea house to try famous Caucasian tea and local authentic jams.  
19-00. Arrival to Pyatigorsk. Check in the hotels.

### **October 6 (Sunday)**

Departure.