

International Scientific Conference „Natural Disasters in Georgia: Monitoring, Prevention, Mitigation“

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ABSTRACT

Information about the international scientific conference “Natural Disasters in Georgia: Monitoring, Prevention, Mitigation”, which was held on December 12-14, 2019 at Ivane Javakhishvili Tbilisi State University is presented.

The conference was dedicated to 175 and 120 anniversary of the organization in Georgia of regular magneto-meteorological and seismological observations.

Key words: *Natural Disasters; Monitoring, Prevention, Mitigation.*

Introduction

December 12-14, 2019 at Ivane Javakhishvili Tbilisi State University held an international scientific conference “Natural Disasters in Georgia: Monitoring, Prevention, Mitigation”.

The conference was dedicated to the 175th anniversary of organizing regular instrumental Geomagnetic and Meteorological observations in Georgia (1844) and the 120th anniversary of seismic observations (Tbilisi, 1899) with the help of K. Gauss, A. Humboldt and other great scientists.

It should be noted that the Tbilisi Magnetic-Meteorological Observatory was the cradle of exact science in Georgia. This Observatory was first work place of I. Stalin (from 1899 till the end of 1900). The institute of Geophysics (1933) and the institute of Hydrometeorology (1953) were established on the base of Tbilisi (Later of Dusheti) Observatory.

Georgia is located in the disaster region of natural disasters. In Georgia and its adjacent countries have similar problems in the fight against of natural disasters.

Goal of the Conference

- Promoting the historical achievement of Georgia and its current scientific-technical potential related to the theme of the conference.
- Introducing the World Scientific, Governmental Structures, and the other interested organizations and individual persons with the current state of the problems related to the monitoring, prevention and mitigation of natural disasters in Georgia.

- Strengthen international scientific cooperation around the theme of conference.
- Identify the possibility of organizing a unified operational warning system on the hazardous natural phenomena.
- Identify opportunities for improvement of scientific and educational fields of secondary and higher education institutions in the topic of the conference.

Conference Organizers

Georgia: TSU, Institute of Geophysics; GTU, Institute of Hydrometeorology; N(N)LE Association for Science.

Conference Supporting Organizations

Georgia: LEPL State Military Scientific Technical Center "DELTA"; LEPL National Environmental Agency; TSU, Vakhushti Bagrationi Institute of Geography; LEPL Iakob Gogebashvili Telavi State University; BP Exploration Caspian Sea LTD –Georgia; G. Tsulukidze Mining Institute; Ministry of Internally Displaced Persons from Occupied Territories, Labour, Health and Social; LEPL Tbilisi State Medical University; Emergency Management Service of the Ministry of Internal Affairs of Georgia; Georgian Geophysical Association.

Other Countries: Institute of Geology and Geophysics, State Committee on Geology and Mineral Resources of Uzbekistan; Scientific Centre for Aerospace Research of the Earth, National Academy of Sciences of Ukraine; Institute of Helioclimatology, Germany.

Scientific Committee and Editorial Board

Tamaz Chelidze: Academician, Chairman of the Scientific Committee, Editor-in-Chief; **Avtandil Amiranashvili:** secretary; **Demuri Demetrashvili;** **Zurab Kereselidze;** **Nodar Varamashvili,** - TSU, M. Nodia Institute of Geophysics, Georgia.

Nana Bolashvili: Co-Chairman of the Scientific Committee, - TSU, Vakhushti Bagrationi Institute of Geography, Georgia.

Tengiz Tsintsadze: Co-Chairman of the Scientific Committee; **Elizbar Elizbarashvili;** **Marika Tatishvili;** **Giorgi Meladze,** - GTU, Institute of Hydrometeorology, Georgia.

Liana Kartvelishvili; **Emil Tsereteli,** - National Environmental Agency, Georgia.

Tamar Nadiradze; **Magda Davitashvili,** - Iakob Gogebashvili Telavi State University, Georgia.

Bezhan Asanidze - BP Exploration Caspian Sea LTD – Georgia.

Omar Lanchava - G. Tsulukidze Mining Institute, Georgia.

Ketevan Khazaradze - Georgian State Teaching University of Physical Education and Sport, Georgia.

Nino Japaridze - Tbilisi State Medical University, Georgia.

Bakhtier Nurtaev - Institute of Geology and Geophysics, State Committee on Geology and Mineral Resources of Uzbekistan, Uzbekistan.

Sergey Stankevich - Scientific Centre for Aerospace Research of the Earth, National Academy of Sciences of Ukraine, Ukraine.

Bakhram Nurtaev - Institute of Helioclimatology, Germany.

Organizing Committee

Nugzar Ghlonti: Chairman of Organizing Committee; **Manana Nikolaishvili:** Deputy Chairman of Organizing Committee; **Sophiko Matiashvili;** **Ekaterine Mepharidze;** **Irma Glonti;** **Inga Janelidze,** - TSU, M. Nodia Institute of Geophysics, Georgia

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Mikheil Pipia: Deputy Chairman of Organizing Committee; **Narine Arutiniani,** - GTU, Institute of Hydrometeorology, Georgia.

Rusudan Kakhishvili - Office of the National Security Council, Georgia.

Nodar Javakhishvili - State Military Scientific Technical Center "DELTA", Georgia.

Nino Taniashvili - Georgian Geophysical Association

Conference Themes

I. Monitoring (measurements, analysis, modeling, forecast)

- Earthquake and related events;
- Hydrometeorological Disasters;
- Climate change and related disasters;
- Heliocosmic Disasters;
- Forest fires;
- Mathematical, empirical, laboratory modeling of natural disasters (and induction among them);
- Satellite and ground distant measurements;
- Geological networking measurements;
- Point Measurements;
- Assessment of social and economic losses caused by natural disasters

II. Prevention

- Weather modification;
- Engineering protection from natural disasters;
- Early Notification Systems;

III. Mitigate results

- Planning events for mitigating natural disasters results;
- Improvement of Emergency Response Services Activities;
- International cooperation;
- Improve the legislative basis.

Expected Results

- Promotion of historical and modern achievements of Georgia on natural disaster survey issues
- Introducing a wide range of problems for the world. What is connected to monitoring, prevention and mitigation of natural disasters in the Black Sea and Caspian Sea areas.
- Extend International Cooperation for scientific and Practical usage of modern advances on monitoring, prevention and mitigation of natural disasters in the Black and Caspian Seas.
- Assessment of social and economic risk of natural disasters
- Identify the organization's common cause for prevention of natural disasters
- Identify opportunities for improvement educational and academic base of secondary and higher education of the issues related to natural disasters

The conference was opened by Chairman of the Scientific Committee, Editor-in-Chief, Academician T. Chelidze, who made a general review on the problems of natural disasters in Georgia and wished the conference participants fruitful work.

Co-Chairman of the Scientific Committee, Director of Institute of Hydrometeorology of Technical University of Georgia, T. Tsintsadze made a report about progress of hydrometeorological observations in Georgia for 175 Years.

Leading Specialist of M. Nodia Institute of Geophysics, TSU, L. Darakhvelidze, made detailed information about 120 years of seismic observations in Georgia.

Member of Organizing Committee, Leading Specialist of Office of the National Security Council of Georgia, R. Kakhishvili talked about development of National Disaster Risk Management System in Georgia.

A total of 61 oral and poster presentations were considered at the conference. The proceedings of this conference as a whole [1], as well as its individual works [2-62], are published and posted on the portal of the Institute of Geophysics, which are included in the international electronic library data base *DSpace*, indexed in *Google Scholar* and *Publish or Perish*.

At the end of the conference, a decision was made in which the achievements and shortcomings of the work in the field of natural disaster research in Georgia were examined. In particular, it was decided to constantly hold such a conference once every two years.

In December 14, 2020 acquaintance with the work of the Center of Active Impact on Natural Phenomena (LEPL State Military Scientific Technical Center "DELTA") was carried out.



Photos from Conference



AAS

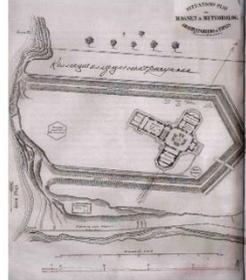


International Scientific Conference „Natural Disasters in Georgia: Monitoring, Prevention, Mitigation“, Tbilisi, Georgia, December 12-14, 2019

175 YEAR OF THE ORGANIZATION OF REGULAR MAGNETO-METEOROLOGICAL OBSERVATIONS IN GEORGIA



Tbilisi Magneto-Meteorological Observatory



Plan of the Tbilisi Observatory (1866)



Dusheti Geomagnetic Observatory



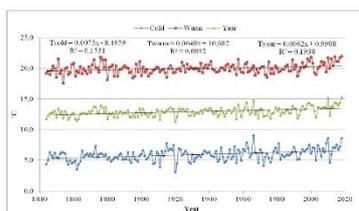
Directors of the Tbilisi Observatory



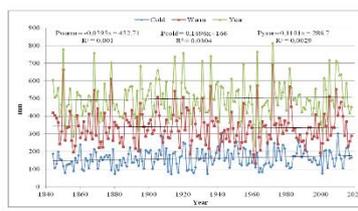
Some Instruments of the Observatory



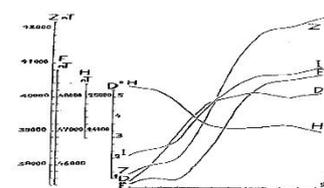
A Brief History of Meteorological and Magnetic Observations.



Trend of Air Temperature in Tbilisi in Three Period of Year in 1844-2018



Trend of Atmospheric Precipitation in Tbilisi in Three Period of Year in 1844-2018



Variations of F, Z, H, D, I Components of the Geomagnetic Field in 1880-2003

Poster about 175 year anniversary of the organization in Georgia of regular magneto-meteorological observations.

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**საერთაშორისო სამეცნიერო კონფერენცია
„ბუნებრივი კატასტროფები საქართველოში: მონიტორინგი,
პრევენცია, შედეგების შერბილება“**

ნ. ლლონტი, თ. ცინცაძე, თ. ხახუტაშვილი

რეზიუმე

წარმოდგენილია ინფორმაცია საერთაშორისო სამეცნიერო კონფერენციაზე „ბუნებრივი კატასტროფები საქართველოში: მონიტორინგი, პრევენცია, შედეგების შერბილება“, რომელიც ჩატარდა ივანე ჯავახიშვილის სახელობის თბილისის სახელმწიფო უნივერსიტეტში 2019 წ. 12–14 დეკემბერს.

კონფერენციზ მიემდგვნა საქართველოში რეგულარული მაგნიტურ-მეტეოროლოგიური და სეისმური დაკვირვებების ორგანიზების 175 და 120 წლისთავს.

**Международная научная конференция
“Природные катастрофы в Грузии: мониторинг, превенция,
смягчение последствий”**

Н.Я. Глонти, Т. Н. Цинцадзе, Т.В. Хакуташвили

Резюме

Представлена информация о международной научной конференции “Природные катастрофы в Грузии: мониторинг, превенция, смягчение последствий”, которая прошла 12-14 декабря 2019 года в Тбилиском государственном университете имени Иванэ Джавахишвили.

Конференция была посвящена 175 и 120-летию организации в Грузии регулярных магнито-метеорологических и сейсмических наблюдений.