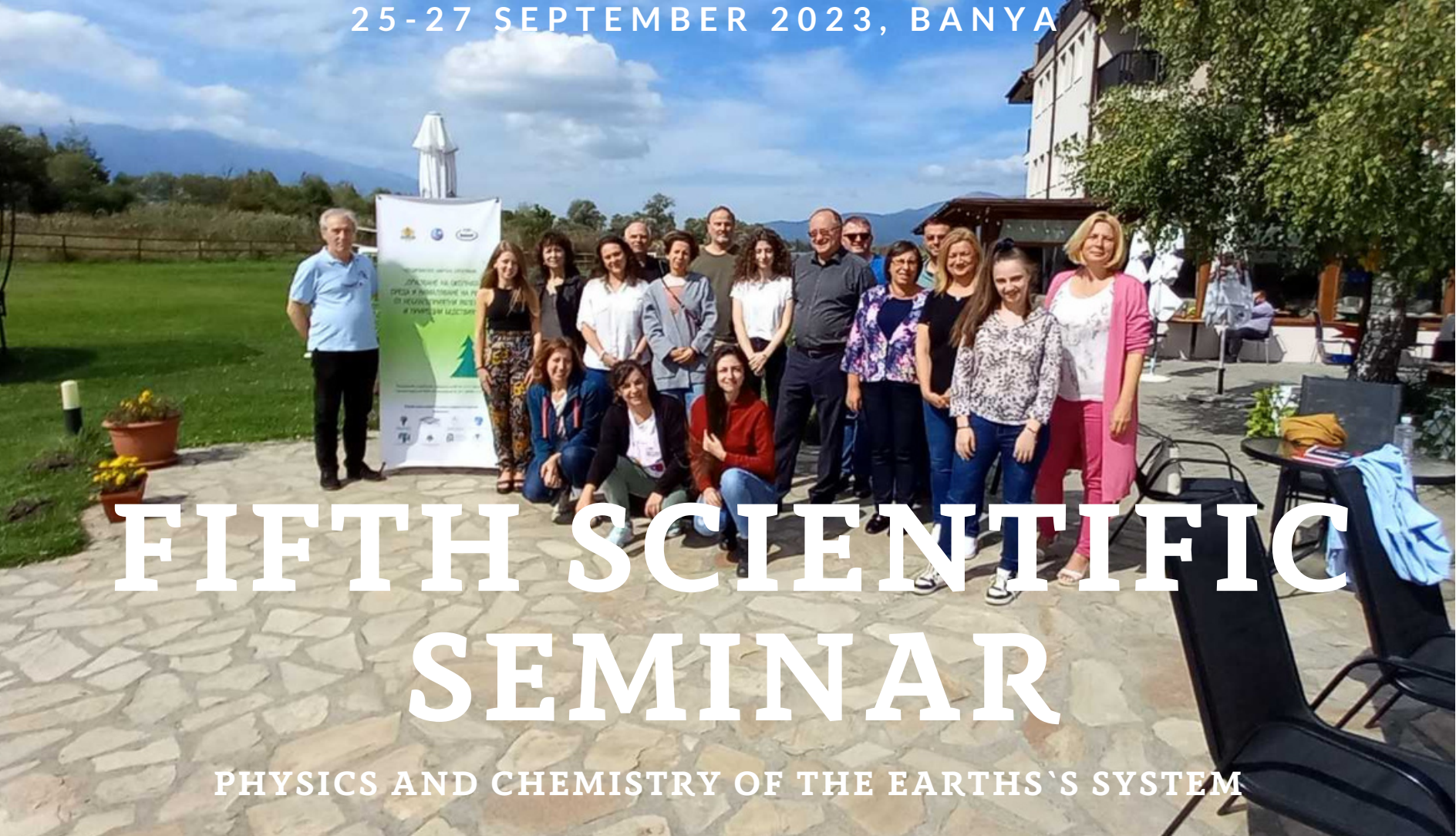
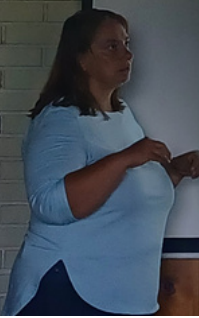
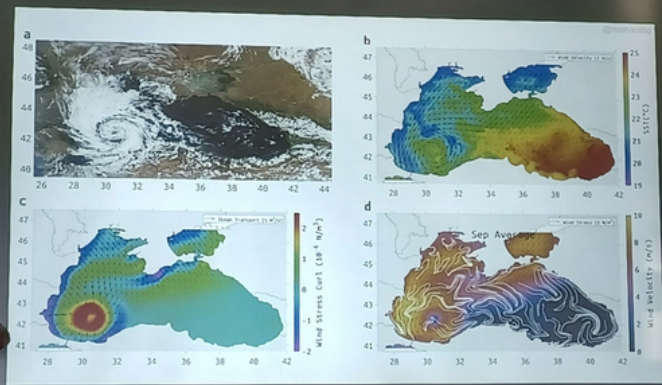


25-27 SEPTEMBER 2023, BANYA



# Environmental problems in Bulgaria



**National Science Program "Environmental Protection and Reduction of Risks of Adverse Events and Natural Disasters"**  
<https://enpp.mpp.gov.bg/>  
9 partners; Goals - generation and transfer of new knowledge about: a) processes and interactions in the atmosphere, hydrosphere, lithosphere and biosphere from local to national scale; b) their impact on quality of life, health risks, and ecosystems condition.

**WPL5 Quality of life in Bulgaria:**  
**What we have learned in the past 5 years?**  
Reneta Dimitrova  
Sofia University "St. Kliment Ohridski"  
Faculty of Physics, Department of Meteorology and Geophysics

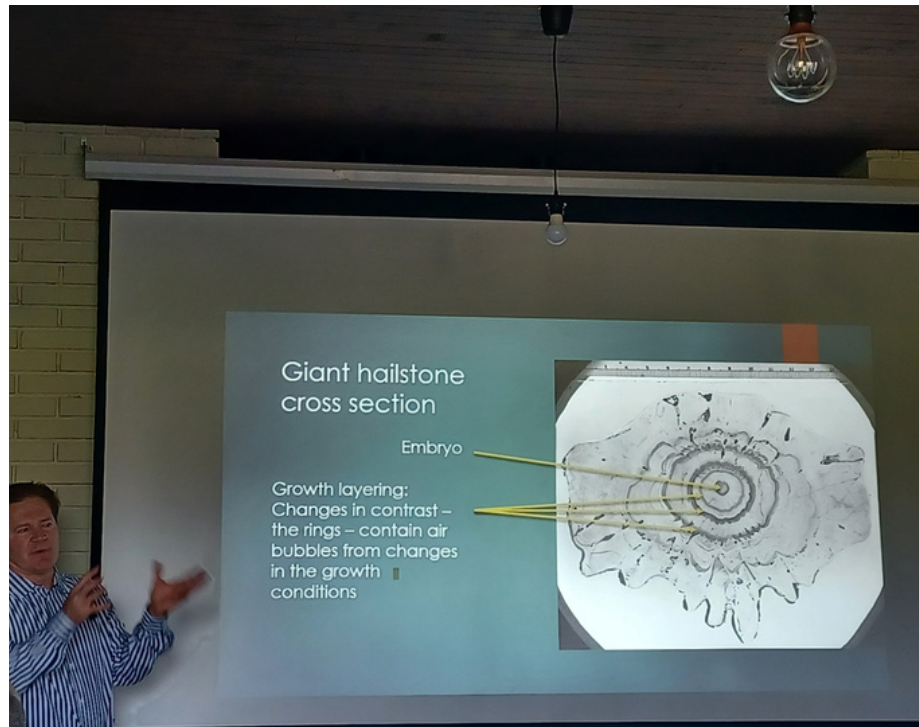
8<sup>th</sup> Scientific seminar "Physics and Chemistry of the Earth System"  
Hemelov House, Sofia, 21-22 September, 2023

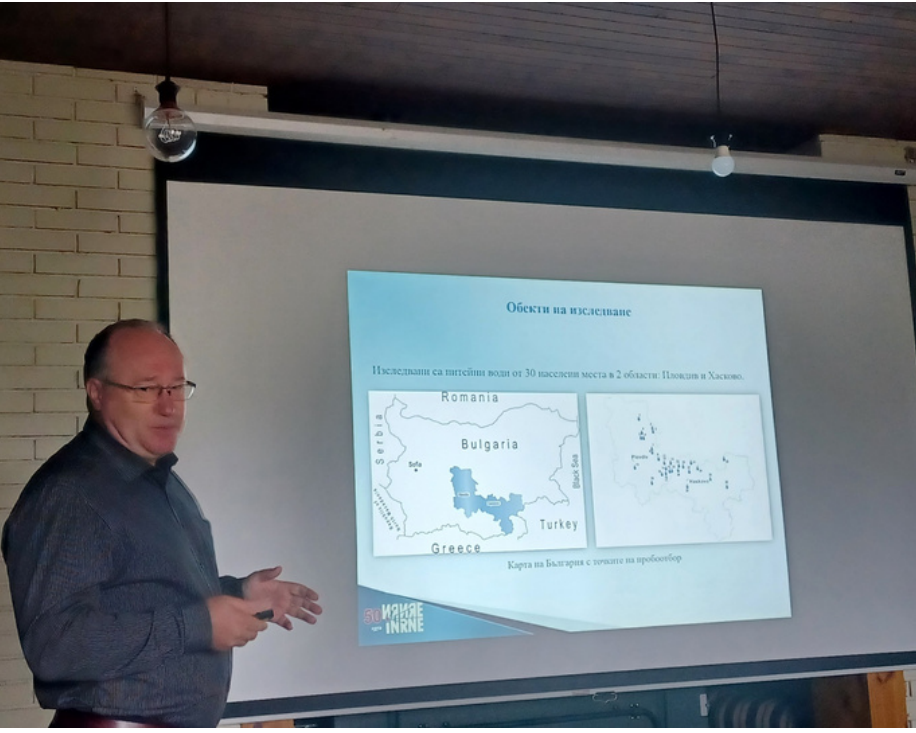
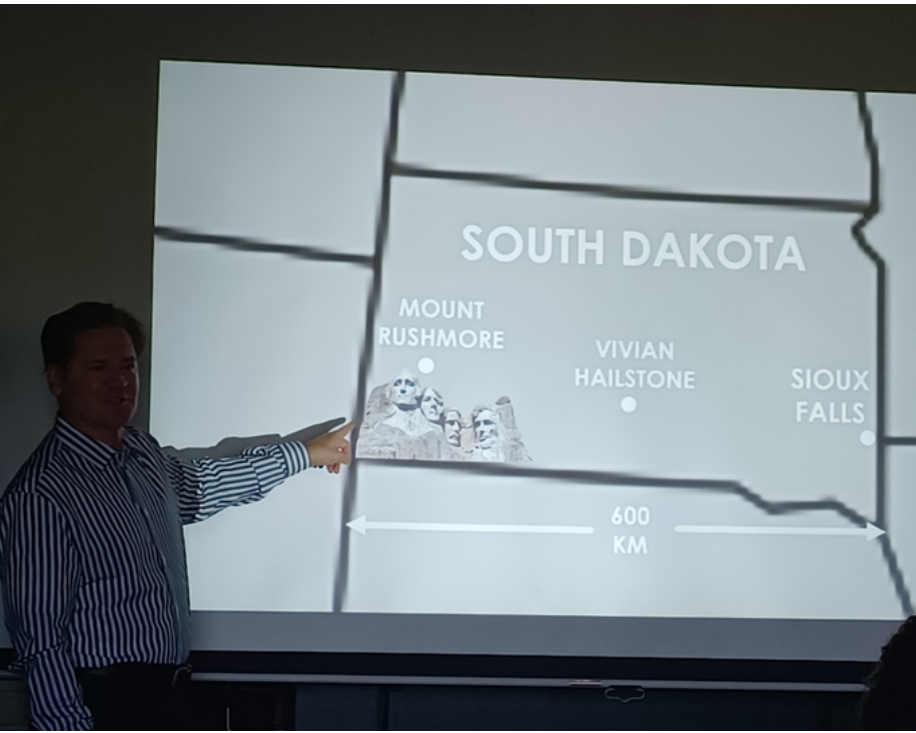
Vertical banner on the right: **НАУЧНО-ИЗСЛЕДОВАТЕЛСКИ ПРОГРАМ ЗА СЪХРАНЕНИЕ НА ОКРУЖАВАЩА СРЕДА И НАМАЛЯВАНЕ НА РИСКА ОТ НЕПОГОДНИТЕ СЪБИТИЯ И ТРИПЛИКАЦИЯ**

The slide displays two bar charts comparing data for '2000-2020' and '2000-2020'. The charts show values for various years from 2000 to 2020. The left chart has a y-axis from 0 to 40, and the right chart has a y-axis from 0 to 100. A table is visible at the bottom of the slide.

Vertical banner on the right: **НАУЧНО-ИЗСЛЕДОВАТЕЛСКИ ПРОГРАМ ЗА СЪХРАНЕНИЕ НА ОКРУЖАВАЩА СРЕДА И НАМАЛЯВАНЕ НА РИСКА ОТ НЕПОГОДНИТЕ СЪБИТИЯ И ТРИПЛИКАЦИЯ**

# Geophysical methods for studying permafrost

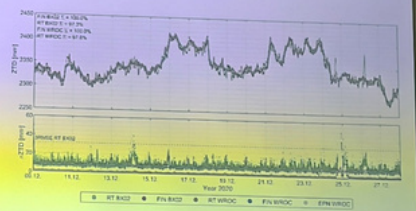




### VALIDATION - ZTD

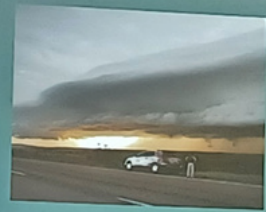
6:12

- ZTD consistent with the reference for WROC and BX02 in both solutions
- ~2.5% of results rejected as outliers for RT WROC and RT BX02
- $\sigma_{RT BX02}$  is 2.5x larger than WROC ( $\sigma_{RT BX02} < 9$  mm).
- $\sigma_{FIN BX02}$  is 4x larger than WROC ( $\sigma_{FIN BX02} < 7$  mm).

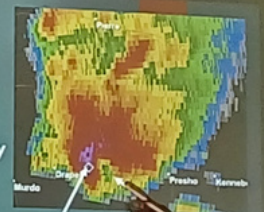


WROCLAW UNIVERSITY OF ENVIRONMENTAL AND LIFE SCIENCES

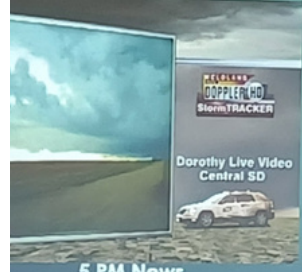
2010  
ed a  
our  
e storm



Doppler  
radar  
reflectivity



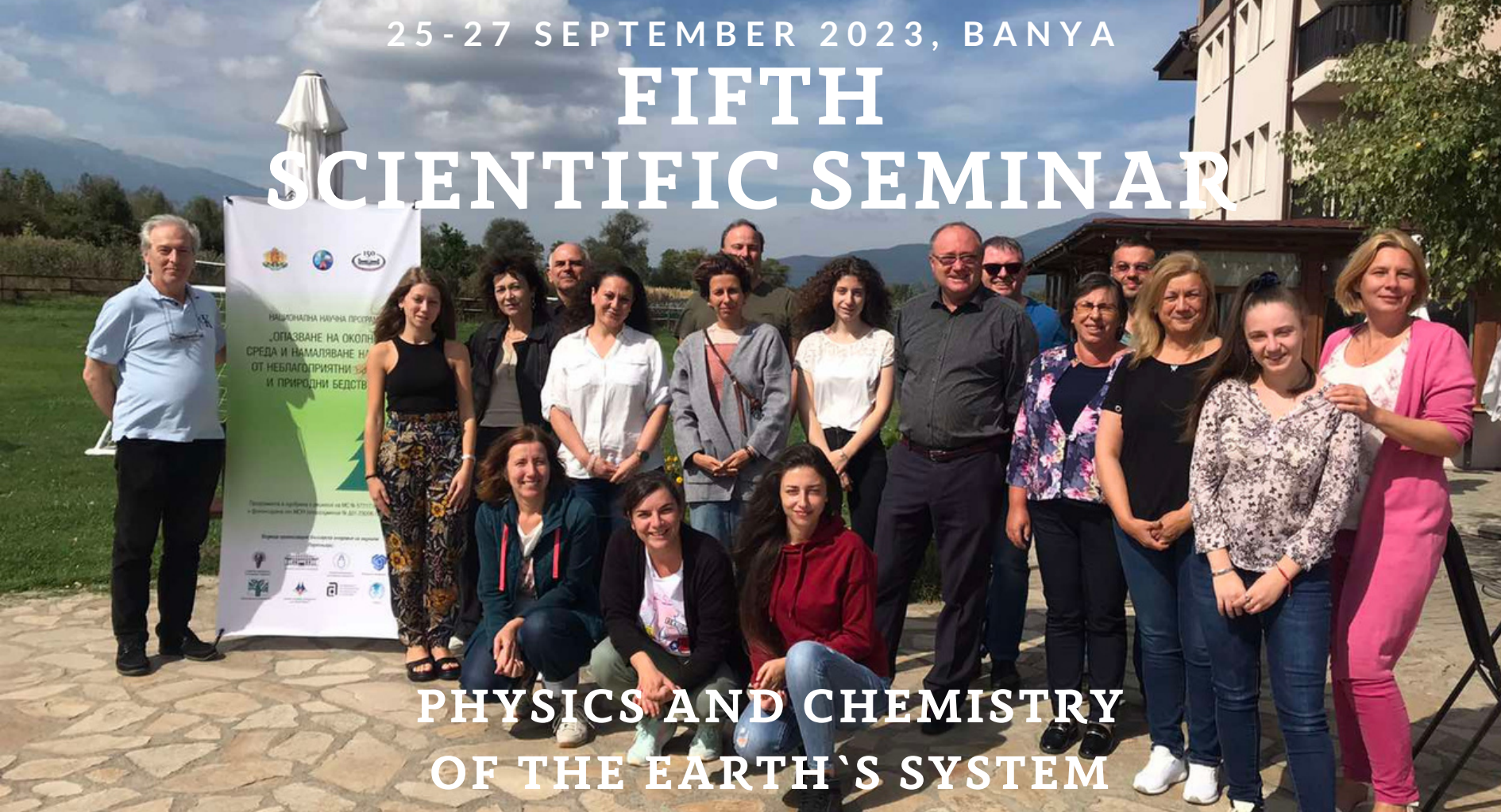
Hail core  
Updraft



Early-warning  
systems

25-27 SEPTEMBER 2023, BANYA

# FIFTH SCIENTIFIC SEMINAR



## PHYSICS AND CHEMISTRY OF THE EARTH'S SYSTEM

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and

National Science Program "Environmental Protection and Reduction of Risks of Adverse Events and Natural Disasters", approved by the Resolution of the Council of Ministers N° 577/17.08.2018 and supported by the Ministry of Education and Science (MES) of Bulgaria (Agreement N° Д01-271/09.12.2022).