



**Institute of Geophysics
Polish Academy of Sciences**

BULLETIN 7/2020, MARCH 2020

Latest events

SWOT results and actions

At the end of last year, the SWOT analysis results were summarized at a meeting of the Board of Directors. What are the strengths and weaknesses of the Institute, what threats can arise, and what opportunities and what actions have already been taken?

Among the strengths were:

- leaders with high international recognition
- world-class research infrastructure
- the results of long series of measurements - high quality data
- well-defined, clear research direction in several groups
- very well organized work in several small groups

The weaknesses identified primarily include:

- no significant research problems, especially those exceeding the interests of one department \, and thus thematic fragmentation and limited cooperation
- visible generation gap, translating into an insufficient number of leaders
- insufficient technical support for researchers, administrative support for foreigners and communication
- low activity in external expert panels

Threats include:

- excessive administrative, bureaucratic and tender procedures
- low wages for young scientists
- high and labor intensity and cost of monitoring -
- reduction of financing (subsidies, etc.)

As opportunities, however, were indicated:

- high social significance and media potential of geophysical subjects
- commercialization potential of the Institute of Geophysics, PAS
- monopoly in the area of geophysical monitoring
- participation in consortia and foreign organizations

Many corrective actions have already been implemented or are being currently undertaken: e.g. implementation of improving employees' qualifications in the level of communication in English. A Communication Strategy has been developed and a mode of monitoring the use of research equipment has been developed, works are ongoing on consolidating research topics to stimulate cooperation between plants.

An eventful beginning of the year for European Plate Observation System

At the beginning of the year, on January 1, 2020, a new EPOS project – European Plate Observation System (EPOS-PL +) POIR.04.02.00-00-C005 / 19 began. Its funding of 37.9 million PLN is intended to increase functionalities of the Research Infrastructure EPOS-PL.

The project is another initiative under the umbrella of the long-term EPOS program integrating and open access to distributed research infrastructures in the field of Earth sciences, such as: networks and measuring devices, computing centers, online services, documentation, specialized software and other materials. This program currently covers 25 European countries.

On October 30, 2018, the European Commission formally established the EPOS-ERIC Consortium (European Research Infrastructure Consortium), granting EPOS RI the appropriate legal status. This initiative is also inscribed on the Polish Roadmap of Research Infrastructures.

Thanks to the EPOS-PL + RI project, EPOS-PL will be enriched by a new Research Infrastructure Center (Center for Satellite Data Research Infrastructure – CIBDS), a new measuring polygon (Geophysical Safety System for Mining Protective Pillars), the creation of an IT Platform for Artificial Intelligence Research (IS-EPOS- AI), the potential of the Research Infrastructure Center of Analytical Laboratories will be significantly increased through the participation of the Institute of Geological Sciences, Polish Academy of Sciences and additionally other Research Infrastructure Centers will be supported. As part of this project, the IG PAS will be equipped with new equipment for the Research Center for Induced Seismicity Research Infrastructure, Geomagnetic and Magnetotelluric Observation, and Analytical Laboratories. For this purpose, we received funding of 1 million PLN.

The EPOS project – European Plate Observation System (EPOS-PL +) is co-financed by the European Union from the European Regional Development Fund. The Central Mining Institute is responsible for the coordination of the EPOS-PL + project.

A month later, on February 1, the next phase of the European Plate Observing System – EPOS Sustainability Phase – began. This three-year project that involves twenty-four beneficiaries from seventeen European countries, is funded by the EU's H2020 program, INFRADEV 3, under grant agreement 871121. Its coordinator is EPOS-ERIC, and the Institute of Geophysics will lead a Work Package dedicated to strengthening cooperation with the private sector. The EPOS SP is an important element of the EPOS strategic plan for 2020-2022.

The overall objective of the project is to perform activities aimed at ensuring the long-term sustainability of the EPOS Research Infrastructure as the Europe's key Research Infrastructures for the Solid Earth Science.

The EPOS SP project will support the EPOS Delivery Framework to:

- secure governance and financial sustainability through the entire research infrastructure lifecycle: main focus will be given to engage new countries to join EPOS ERIC and to harmonize national funding;
- secure technical sustainability and develop innovation to fully exploit data and service provision: this will be achieved by ensuring the delivery of robust services in an environment suitable for increasing end-user trust and encouraging new communities to join EPOS as both data providers and data users;
- establish and maintain excellence by preserving and reinforcing the trust and awareness of users: this will be achieved by opening scientific data, products, and facilities to as wide as possible reservoir of scientists and other stakeholders. It will be strategic as more and more skilled users will use the data to tackle the most challenging and significant scientific and societal issues related to Earth Science;
- exploit economic and societal benefits to keep stakeholders engaged: main focus will be on EPOS needs to sharpen its capacity in translating the various services of a research infrastructure into valuable applications for society and industry.

Calls for proposal

Until April 15, applications are being submitted to the National Agency for Academic Exchange under the within the Stanisław Ulam Programme. This is an opportunity for, among others, scientific institutes to invite specialists from priority fields to Poland, who will significantly develop the scientific research conducted by the institution, strengthen teaching, or support the institution in preparing applications for prestigious grants.

We encourage you to familiarize yourself with the other competitions from the latest EURAXESS offer. Please contact the Project Management Department regarding planned projects and financing opportunities.

Invitations

NAWA PROM internal call

In March, the third internal call is planned under the NAWA PROM program "International scholarship exchange of doctoral students and academic staff". Scholarships covering travel and subsistence costs as well as other expenses will be awarded for short forms of education lasting between 5 and 30 days. We invite you to submit applications, especially PhD students. Detailed information will be sent to you by e-mail.

NAWA "INTERNATIONAL PROMOTION" internal call

We would like to kindly remind you of the ongoing competition under the NAWA FOREIGN PROMOTION project "International publications as an opportunity to strengthen the position of IG PAS internationally". The aim of the project is to finance free access to the most valuable publications from the scientific point of view of the employees of the Institute of Geophysics of the Polish Academy of Sciences for every potential reader in the world. As part of the call, the costs of publication and the costs of open access to publications in prestigious scientific journals placed in the Scopus and Web of Science databases are financed.

We encourage you to apply by submitting the required documents to the email address: Promocjazagraniczna@igf.edu.pl

Please contact Project Management Department for detailed information.

Polar events: open lecture

We invite you to the next open lecture part of the POLAR UNIVERSITY of the EDU-ARCTIC.PL project. On March 24 at 17:00 in room 213, prof. dr hab. Piotr Głowacki will talk about the mysterious interiors of glaciers.

On the occasion of Women's Day - not only for women - we invite you to the unique webinar – FEMALE POLAR RESEARCHERS - women's work in the Arctic regions - March 8 at 17:00 and March 9 at 09:00 -> registration at edu-arctic.pl (the webinar, as well as open lectures are conducted in Polish, so it may also be a perfect opportunity to practice it a little bit ☺)

Management's view

This year's summary of statutory subjects, which will take place on **April 6-7 at Staszic Palace in Warsaw**, will have a new form.

The presentations will be grouped based on the research directions around which the work is focused. It is planned to present research results in four thematic areas:

- Antropogenic and natural geohazards & environmental antropopresion
- Geosystem processes
- Earth structure & georesources
- Climate change & polar regions

In addition, presentations will take a different form. Each of the blocks will start with a panel discussion on social challenges related to these areas. Next, the most important results and scientific achievements as well as research plans for the future will be presented and summarized. As an ending and summary of the block, the statement of International Advisory Team of IGF PAN is planned.

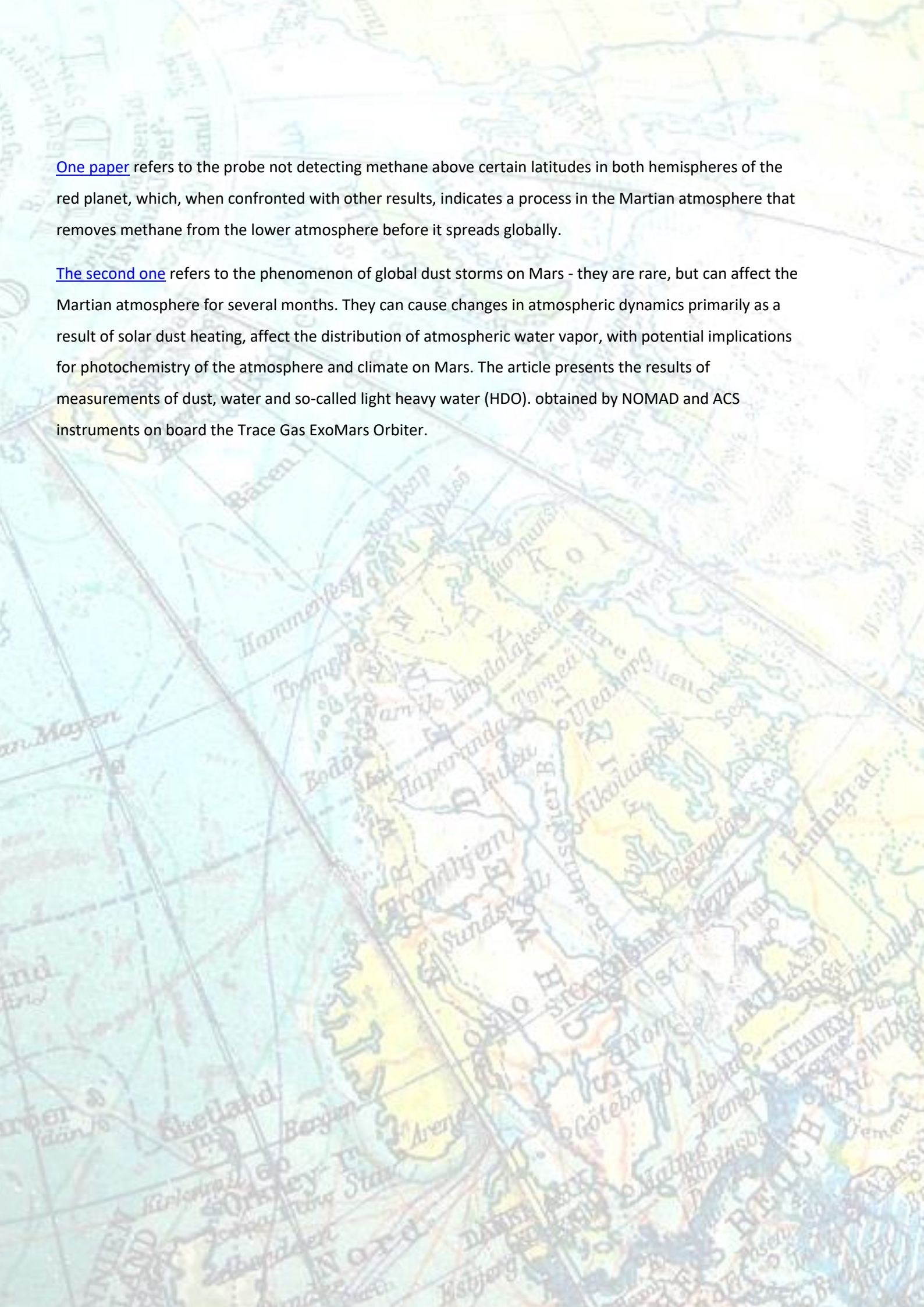
We hope that this changed formula will help us better understand how our research matches global challenges and in which direction we should go in order to best respond to social needs related to Earth sciences.

Publications

The recognition of our journal Acta Geophysica is growing - in 2019 as many as 650 articles were submitted for it: IMPACT FACTOR for the past year has increased and reached 0.917. We are slowly building our influence and reputation - we encourage you to publish and cite.

In 2019, there were publications in prestigious journals: scientists from the Institute were the authors/co-authors of 43 high-scoring publications (min. 100 points). Our authors had 4 publications in NATURE. In previous issues of the Bulletin, we presented the publications of Assoc. Prof. Marzena Osuch and Assoc. Prof. Monika Kusiak. Last year, two articles in Nature were published by Prof. Jacek Kamiński - both concerned the atmospheric research on ... Mars!

Both articles by Prof. Jacek Kamiński published in NATURE in 2019 were associated with ExoMars - a joint research mission of the European Space Agency and the Russian Space Agency. ExoMars has been looking for traces of biological and geological processes on Mars since 2016. The mission allows the measurement of gases present in trace amounts in the planet's atmosphere (less than 1%) such as methane.



[One paper](#) refers to the probe not detecting methane above certain latitudes in both hemispheres of the red planet, which, when confronted with other results, indicates a process in the Martian atmosphere that removes methane from the lower atmosphere before it spreads globally.

[The second one](#) refers to the phenomenon of global dust storms on Mars - they are rare, but can affect the Martian atmosphere for several months. They can cause changes in atmospheric dynamics primarily as a result of solar dust heating, affect the distribution of atmospheric water vapor, with potential implications for photochemistry of the atmosphere and climate on Mars. The article presents the results of measurements of dust, water and so-called light heavy water (HDO). obtained by NOMAD and ACS instruments on board the Trace Gas ExoMars Orbiter.