

Preface

Wide range of activities carried on by the International Union of Geodesy and Geophysics (IUGG) and its Associations, in both organizational and research fields, is reported at IUGG General Assemblies regularly organized every 4 years. On the other hand, results of research from individual countries – IUGG members – are traditionally presented either to IUGG or to the Associations for the current IUGG General Assembly.

National Committee for the International Union of Geodesy and Geophysics, affiliated by the presidium of the Polish Academy of Sciences (PAS), is the adhering organization representing Poland to IUGG and its Associations. As such, the National Committee for IUGG coordinates the flow of information in both directions between IUGG and the respective Polish scientific community. For a number of decades the reports on activities on geodesy in Poland in the quadrenium were presented to the International Association of Geodesy (IAG) by the Committee on Geodesy of the Polish Academy of Sciences on the request of the Polish National Committee for IUGG.

In 2003 IAG established the Global Geodetic Observing System (GGOS). The GGOS is the component of IAG dedicated to providing the geodetic infrastructure necessary for monitoring the Earth system and for global change research. Polish research institutions providing geodetic observations in the framework of the IAG services (including GGOS) have signed in 2011 an agreement on the establishment of research network GGOS-PL integrating research activity of seven Polish observatories.

The Committee on Geodesy of PAS appointed three editors of the recent Polish National Report on Geodesy Prof. Jaroslaw Bosy, Prof. Jan Krynski and Prof. Pawel Wielgosz entrusting them simultaneously coordination of works on the report. This report has been prepared for submission to the IAG at its General Assembly in Montreal, Canada, during the 27th IUGG General Assembly, 8–18 July 2019. It consists a summary of research activity in geodesy performed in a period of 2015–2019 in Poland, mostly within the GGOS-PL components.

The Polish National Report on Geodesy 2015-2019 is in the form of the six peer-reviewed review papers (chapters):

1. Reference Frames and Reference Networks (Jan Krynski, Jerzy B. Rogowski and Tomasz Liwosz);
2. Gravity Field Modelling and Gravimetry (Jan Krynski, Przemyslaw Dykowski and Tomasz Olszak);
3. Earth Rotation and Geodynamics (Aleksander Brzezinski, Janusz Bogusz and Jolanta Nastula);
4. Positioning and Applications (Pawel Wielgosz, Tomasz Hadas, Anna Klos and Jacek Paziewski);

5. Global Geodetic Observing Systems (Krzysztof Sosnica and Jaroslaw Bosy);
6. General Theory and Methodology (Andrzej Borkowski, Wieslaw Kosek and Marcin Ligas);

which were developed in cooperation with the researchers from the following universities and research institutes:

- AGH University of Science and Technology in Krakow;
- Gdansk University of Technology;
- Institute of Geodesy and Cartography in Warsaw;
- Military University of Technology in Warsaw;
- Space Research Centre of the Polish Academy of Sciences in Warsaw;
- University of Agriculture in Krakow;
- University of Warmia and Mazury in Olsztyn;
- Warsaw University of Technology;
- Wroclaw University of Environmental and Life Sciences.

The report is published in the *Geodesy and Cartography*, the official journal of the Committee on Geodesy of the Polish Academy of Sciences. The editors thank the authors of all articles (chapters), reviewers and all those who contributed to develop the final form of the report.

Jaroslaw Bosy, Jan Krynski and Pawel Wielgosz
Editors of the Report