International Association of Geodesy Symposia

Fernando Sansò, Series Editor

Springer-Verlag Berlin Heidelberg GmbH
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PREFACE

The IAG International Symposium on Gravity, Geoid and Geodynamics 2000 (GGG2000) took place in Banff, Alberta, Canada, from July 31 to August 4, 2000. This symposium continued the tradition of mid-term meetings ("GraGeoMar96: Gravity, Geoid and Marine Geodesy", Tokyo, Japan, Sept. 30 - Oct. 5, 1996) held between the joint symposia of the International Geoid and Gravity Commissions ("1st Joint Meeting of the International Gravity Commission and the International Geoid Commission", Graz, Austria, Sept. 11-17, 1994 and "2nd Joint Meeting of the International Gravity Commission and the International Geoid Commission", Trieste, Italy, Sept. 7-12, 1998). This time, geodynamics was chosen as the third topic to accompany the traditional topics of gravity and geoid. The symposium thus aimed and succeeded at bringing together geodesists and geophysicists working in the general areas of gravity, geoid and geodynamics.

Besides covering the traditional research areas, special attention was paid to the use of geodetic methods for geodynamics studies, dedicated satellite missions, airborne surveys, arctic regions geodesy and geodynamics, new mathematical methods and the integration of geodetic and geophysical information. The Scientific Committee members (Jean Dickey, Martine Feissel, Rene Forsberg, Petr Holota, Inginio Marson, Masao Nakada, Richard W. Peltier, Reiner Rummel, Burkhard Schaffrin, Klaus Peter Schwarz, Michael G. Sideris, Detlef Wolf and Patrick Wu) are sincerely thanked for selecting the session topics, which resulted in such an exciting scientific event.

More specifically, the following ten sessions were organized:

1. Reference Frames and the Datum Problem
   C. Boucher, Institut Géographique National, France
   E. Graafarend, University of Stuttgart, Germany

2. New Mathematical Methods and Integrated Data Processing
   B. Schaffrin, Ohio State University, USA
   R. Klees, Delft University of Technology, The Netherlands

3. Geodynamic Applications of GPS
   J. Freymueller, University of Alaska, USA
   F. Webb, Jet Propulsion Laboratory, USA

4. Gravity from Dedicated Satellite Experiments
   R. Rummel, Technical University of Munich, Germany
   B. Tapley, University of Texas, USA

5. Oceanography from Gravity and Altimetry
   R. Coleman, University of Tasmania, Australia
   C.K. Shum, Ohio State University, USA
   V. Zlotnicki, Jet Propulsion Laboratory, USA

6. Postglacial Rebound from Geodetic Missions
   J.X. Mitrovica, University of Toronto, Canada
   B. Vermeersen, Delft University of Technology, The Netherlands

7. Dynamics of Gravity and Deformation Fields
The conveners are listed under the session names and are responsible for the high number and high quality of the papers presented at the symposium. In fact, there were approximately 250 oral and poster presentations, from 200 participants from 32 countries around the world. This volume contains a representative sample of 65 reviewed papers from all sessions, except session 6 which was designed from the start as a session without written papers. Very special thanks are due to all conveners for organizing their sessions and for overlooking the review process for the manuscripts submitted for the proceedings.

Certainly the symposium could not have been organized and completed without the dedication of the personnel of the University of Calgary Conferences and Special Event Services, the Banff Centre for Conferences, and the members of the Local Organizing Committee (Klaus Peter Schwarz, Michael G. Sideris, Patrick Wu, Susan Austen and Michelle Richards). Michelle Richards, in particular, had the lion’s share in the organization of the conference and solved any problems which arose before, during and after the conference with efficiency and professionalism. Sincere thanks and appreciation is expressed to all these people.

Sponsors played also a major role in the success of GGG2000 by promoting the symposium and supporting social events as well as students and colleagues from developing countries. Special thanks are thus due to the International Association of Geodesy (IAG), the European Geophysical Society (EGS), the Canadian Geophysical Union (CGU), Natural Resources Canada, Geodetic Survey Division (GSD), the US National Geodetic Survey (NGS), the US National Imagery and Mapping Agency (NIMA), and the US National Aeronautics and Space Administration (NASA). In particular IAG, NASA and GSD are thanked for their generous financial contributions.

Finally, a sincere thank you is due to my graduate student, Georgios S. Vergos, for the endless hours he put in collecting and organizing the revised manuscripts and preparing the camera-ready copy of these proceedings.

Michael G. Sideris

Calgary, June 20, 2001
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