International Geographical Union - Union Géographique Internationale
Commission on Biogeography and Biodiversity C04.03

REPORT OF COMMISSION ACTIVITIES 2012-16

Submitted to the Secretary-General and Treasurer
International Geographical Union (IGU)
Prof. Dr. Michael E. Meadows

by

Prof. Dr. Udo Schickhoff
Chair, Commission on Biogeography and Biodiversity

Supported by the steering committee of the
IGU Commission on Biogeography and Biodiversity

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Vice-Chair: Prof. Dr. K. Mizuno, Kyoto University, Japan, mizuno@jambo.africa.kyoto-u.ac.jp

Outline

This report consists of six sections:

1. Membership
2. Meetings
3. Networking
4. Publications
5. Archival contributions
6. Continuation

1. Membership

1.1 Steering committee

The Commission's current steering committee members include the following colleagues:

Prof. Dr. Udo Schickhoff (Chair), Department of Geography, University of Hamburg, Bundesstr. 55, 20146 Hamburg, Germany, Ph.: +49 428384911, Email: schickhoff@geowiss.uni-hamburg.de

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Prof. Dr. David Taylor, Department of Geography, Museum Building, Trinity College Dublin, University of Dublin, Ireland, Ph.: +353-(0)1 896 1581, Email: taylord@tcd.ie

Dr. Alexander Wearing, Department of Geography, University of Otago, PO Box 56, Dunedin, New Zealand, Ph.: +64 3 479 8774, Email: aew@geography.otago.ac.nz

Dr. José Alejandro Velázquez, Department of Geography, UNAM, Mexico, Ph.: + (55) 56232842, Email: alexmontes2000@yahoo.com

1.2 Commission members

Current corresponding members of the Commission on Biogeography and Biodiversity are listed below, arranged by countries.
This membership list has currently 236 members, but does not include numerous delegates from respective host countries attending the annual meetings.

Argentina

Alessandro, M.B., Mendoza

Australia

Bekle, H., Perth; Kull, C.A., Clayton; Millington, A., Adelaide

Austria

Geitner, C., Innsbruck; Grabherr, G., Wien; Samimi, C., Wien

Brazil

Melo e Souza, R., Aracaju; Rezende da Silva, S., Sao Paulo; Tavares Rocha, Y., Sao Paulo

Canada

Sinclair, J., Winnipeg; Tews, J., Ottawa

Chile

Cabalar Fuentes, M., Santiago; Quintanilla, V., Santiago; Rojas, C., Concepcion

China

Ming, J., Zhangye; Ren, Z., Beijing; Zhang, X., Beijing

Ethiopia

Bekele, T., Shashemene; Desta, H., Addis Ababa; Woldu, Z., Addis Ababa

Finland

Hietala, R., Turku

Georgia

Gegechkori, A., Tbilisi

Germany

Albrecht, C., Giessen; Anhuf, D., Passau; Audorff, V., Bayreuth; Baranova, A., Hamburg; Becht, M., Eichstätt; Beierkuhnlein, C.; Bayreuth; Bittner, T., Bayreuth; Block, J., Erlangen; Block, M., Erlangen; Bobrowski, M., Hamburg; Böhling, N., Kirchheim u. Teck; Böhmer, H.J., Bonn; Borchardt, P., Hamburg; Bräuning, A., Erlangen; Bürzle, B., Hamburg; Chmielewski, F.M., Berlin; Cikovac, P., Köln; Deil, U., Freiburg; Dlugosz, A., Trier; Dotter, D., Regensburg; Dulamsuren, C., Göttingen; Ehlkes, L., Hamburg; Engwald, S., Frankfurt a.M.; Fartmann, T., Münster; Faude, U., Bonn; Feilhauer, H., Erlangen; Filz, K., Trier; Finch, O.D., Oldenburg; Fränzle, O., Kiel; Friedmann, A., Augsburg; Gawlik, J., Erlangen; Gebel, M., Dresden; Gebhardt, H., Karlsruhe; Glawion, R., Freiburg i.Br.; Gleich, A., Erlangen; Griessinger, J., Erlangen; Hahn, I., Münster; Harter, D., Bayreuth; Hochhut, E.S., Mainz; Hohnwald, S., Göttingen; Holler, S., Hamburg; Hölzel, N., Münster; Jaeschke, A., Bayreuth; Jedicke, E., Karlsruhe; Jentsch, A., Bayreuth; Jungkunst, H., Göttingen; Jurasinski, G., Rostock; Kappas, M., Göttingen; Karl, H.V., Göttingen; Kiehl, K., Freising; Kreft, H., Göttingen; Kreyling, J., Bayreuth; Krummel, T., Göttingen; Kuhlmann, M., Münster; Kuhn, E., Gackenbach; Küster, H., Hannover; Lange, J., Hamburg; Lembeck, R., Hamburg; le Mellec, A., Göttingen; Lingenhöhl, D., Erlangen; Link, M., Gießen; Löffler, J., Bonn; Loos, G.H., Oberhausen; Lötters, S., Trier; Löw, A., Hamburg; Mahecha, M., Jena; Menz, G., Bonn; Metzing, D., Oldenburg; Meyn, A., Potsdam; Miehe, G., Marburg; Mühlner, S., Leipzig; Müller-Hohenstein, K., Bayreuth; Nagy, L., Bayreuth; Najmi, U., Greifswald; Neff, C., Karlsruhe; Nezadal, W., Erlangen; Nüsser, M., Heidelberg; Nutz, L., Karlsruhe; Pape, R., Bonn; Peters, M., München; Peters, T., Erlangen; Platten, H., Koblenz; Poschwitz, H., Frankfurt a.M.; Pott, R., Hannover; Reimer, F., Bonn; Reiss, M., Marburg; Reu, B., Leipzig; Richter, M., Erlangen; Rödder, D., Bonn; Rollenbeck, R., Mannheim; Runkel, U., Trier; Russow, F., Bensheim; Sattler, D., Leipzig; Scheid, A., Karlsruhe; Schickhoff, U., Hamburg; Schiller, H., Eitorf; Schlütz, F., Göttingen; Schmidtlein, S., Karlsruhe; Schmitt, T., Bochum; Schmitt, E., Giessen; Schröder, H., Erlangen; Schröder, B., Mannheim; Schröder, B., Rostock; Schulz, E., Würzburg; Schulz, N., Erlangen; Schwab, N., Hamburg; Schwabe, B., Erlangen; Siewert, A., Hamburg; Steinbauer, M., Bayreuth; Steinecke, K., Bremen; Stenzel, S., Bonn; Strewe, R., Bad Zwischenahn; Sturm, H.J., Frankfurt a.M.; Szarzynski, J., Mannheim; Thannheiser, D., Hamburg; Treter, U., Erlangen; Vanselow, K.A., Erlangen; Vater, G., Berlin; Venzke, J.F., Bremen; Veste, M., Hamburg; Völkel, J., Regensburg; von Wehrden, H., Halle/Saale; Wagner, F., Bremen; Wallossek, C., Köln; Wehberg, J., Hamburg; Weiß, W., Erlangen; Weis, M., Freiburg; Wellstein, C., Bayreuth; Werner, W., Heidelberg; Werner, M., Mainz; Wesenberg, J., Leipzig; Wilmking, M., Greifswald; Wollesen, D., Bochum; Zemmrich, A., Greifswald

Great Britain

Hill, J., Bristol; Jones, B., Oxford; Syfert, M., Cambridge

India

Bhat, M.S., Srinagar; Chauhan, D., Jaipur; Chauhan, G.S., Bhopal; Das, S.A., Mysore; Eswarappa, B., Bangalore; Jayakumar, K.V., Kozhikode; Jeet, I., Jammu; Kala, C.P., Kosi-Katarmal; Kanth, T.A., Srinagar; Kumar, A., Delhi; Kumria, P., Delhi; Maithani, D.D., Srinagar (Garhwal); Mal, S., Delhi; Nagabhushanam, N., Tirupati; Nandeshwar, M.D., Kozhikode; Negi, V.S., Delhi; Pandey, U.N., Bilaspur; Panwar, M.S., Srinagar (Garhwal); Pathak, M., Bhurkura; Prasad, R., Jaipur; Rahman, M.; Gauhati; Sharma, P., Gauhati; Sharma, V.R., Delhi; Singh, M., Rohtak; Singh, P.K., Lucknow; Singh, R.B., Delhi; Tiwari, V.K., Bilaspur; Wodeyar, A.K.,

Bangalore

Ireland

Taylor, D., Dublin

Japan

Fujita, T., Kyoto; Kimoto, K., Hiroshima; Koarai, M., Tsukuba; Mizuno, K., Kyoto; Teshirogi, K., Tokyo

Kyrgyzstan

Kulikov, M., Bishkek; Laskov, G., Bishkek

Mexico

Patricia, P., Guadalajara; Velázquez, J.A., Mexico City

Mongolia

Damdinsuren, O., Khovd

Namibia

Bethune, S., Windhoek; Curtis, B., Windhoek; Joubert, D.F., Windhoek

New Zealand

Wearing, A., Dunedin

Nigeria

Aweto, A., Ibadan

Norway

Lundberg, A., Bergen, Vetaas, O., Bergen

Poland

Bokwa, A., Krakow; Dudek, A., Warsaw

Romania

Baltescu-Socol, O., Bucarest; Grigorescu, I., Bucarest; Romanescu, G., Iasi

Russia

Belonovskaya, E., Moscow; Dikareva, T.V., Moscow; Makhinov, A.N., Khabarovsk; Tishkov, A.A., Moscow

Spain

Infante Fabres, N.O., Barcelona; Lozano Valencia, P.J., San Sebastian

Switzerland

Beck, J., Basel; Brügger, R., Bern; Jeanneret, F., Bern; Nagel, P., Basel; von Fumetti, S., Basel; Vonlanthen, C., Bern; Wolf, S., Zürich

Thailand

Schmidt-Vogt, D., Bangkok

Tunisia

Ayache, F., Sousse; Mondher, C., Manouba

Ukraine

Gerasimenko, N., Kiev

Uruguay

Gonzalez-Gervasio, A., Montevideo

USA

Blumler, M., Binghamton; Hessing-Lewis, M., Corvallis

1.3 Commission website

The Commission website is located on the homepages of the chairman:
Prof. Dr. Udo Schickhoff, CEN Center for Earth System Research and Sustainability, Institute of Geography, University of Hamburg, Bundesstr. 55, D-20146 Hamburg, Germany, ph.: +49 40 42838 4911, Fax: +49 40 42838 4981, E-mail: schickhoff@geowiss.uni-hamburg.de, Internet: http://www.geo.uni-hamburg.de/i-geogr/biogeographie/igu/index.html

2. Meetings

2.1 Meetings 2012

IGU 32nd INTERNATIONAL GEOGRAPHY CONGRESS COLOGNE, GERMANY, 26th-30th August, 2012

The IGC Cologne, Germany, 26-30 August, was the major event in 2012 for the worldwide community of geographers as well as for the Biogeography and Biodiversity Commission. At the IGC, the Commission conducted a business meeting

and two paper sessions. This IGC is considered an unprecedented success for the IGU. The numbers of delegates surpassed all expectations, as more than 2800 Geographers from more than 80 countries across the globe participated in this Congress at the University of Cologne in order to share their research ideas and network with each other. Especially encouraging for the IGU was the large number of younger registrants who had been attracted by the new approach of the organizing committee. The Congress stressed the importance of Geography as a discipline that uniquely straddles the social and natural sciences. The failure (until recently) of science to understand the fundamentally integrated nature of earth systems at a range of spatial scales – something that Geographers recognised long ago – has led us to the brink of a global environmental crisis. This is a chance to use our talents – through research and teaching – and especially through the invigoration that our younger practitioners offer – to lead the way. The Congress proved it can be done. Congratulations to the organisers and good luck to the Chinese delegation who formally invited the delegates to the next one, to take place in Beijing in 2016. In the meantime, you can catch highlights of the magnificent opening ceremony and the wonderful keynotes by following the link to: http://livestream.igc2012.org/

Business meeting of the Biogeography and Biodiversity Commission at the 32nd International Geographical Congress (IGC) Cologne 2012, August 26-30

During the business meeting the Commissions' past and future activities were discussed, other topics included steering committee membership, networking, publications, and the newsletter. The meeting started with a review of the Commissions' meetings 2008-2012, major outcomes of these meetings were highlighted. Regarding the continuation of the Commissions' work, the following objectives have been defined for the period 2012-2016:

- To continue to explore and exploit the diversity of biogeography as a discipline within Geography, Biology and allied disciplines, thereby promoting biogeography teaching, research and scholarship
- To organise fora for presentation and discussion (i) within the IGU structures (IGU Regional Conference Kyoto 2013, etc.), (ii) by group meetings with national geographical bodies, and (iii) to promote biogeographical research and scholarship by geographers within other international organisations such as the International Biogeography Society (IBS), the International Association for Vegetation Science (IAVS), and other ICSU/IUBS organisations
- Using our full members we will organise joint meetings with the biogeography groups in India, Poland, Japan, and Germany in the next four years
- Using our experiences of biogeography in developing countries, we will continue to hold joint meetings in those countries to further promote biogeography as an important discipline
- We will continue to publish proceedings of our meetings wherever possible

We continue to develop our newsletter as the main source of information, to be located on the Commission's new website containing information on its structure and activities, as well as on new publications and other relevant news in our field. In terms of networking, we also continue cooperation with other IGU Commissions as well as other international groups and scientific bodies.

During the business meeting a new Steering Committee, consisting of a Chair and a Vice-Chair as well as nine additional Steering Committee members had been elected providing for the management of the Commission.

Sessions of the Biogeography and Biodiversity Commission at the 32nd International Geographical Congress (IGC) Cologne 2012, August 26-30

The local organizing committee kindly allocated two time slots for paper sessions to the Commission on Biogeography and Biodiversity. A total of 7 papers could be accommodated in these technical sessions, spanning a wide variety of topics:

C08.03-01 Climate Change and Land Use Effects on Species, Communities and Ecosystems: Indian Subcontinent and the Himalayas
Chair: Udo Schickhoff, R.B. Singh

R.B. Singh (University of Delhi):
Anthropogenic Biomes: Regional Response to Global Climate Change Modeling
Th. Scholten (University of Tübingen), D. Wagner (Alfred Wegener Institute), M. Schloter (Helmholtz Zentrum München), P. Kühn, C. Dörfer (both: University of Tübingen), J. Ollivier (Helmholtz Zentrum München), S. Yang (Alfred Wegener Institute):
The Permafrost Transect - Effects of Climate Change and Land Use on Permafrost and Carbon Dynamics in Soils along a Climate Gradient across the Tibetan Plateau
Rama Prasad (University of Rajasthan):
Land Degradation and Changing Ecosystem in Central Aravalli Hilly Range: A Case Study of Tonk District, Rajasthan, India
Udo Schickhoff (University of Hamburg):
Himalayan forest-cover changes over the past two centuries: A review of spatial and temporal aspects

C08.03-02 Climate Change and Land Use Effects on Species, Communities and Ecosystems
Chair: R.B. Singh, Udo Schickhoff

Tishkov Arkady, Elena Belonovskaya (both: Russian Academy of Sciences):
The priority for the European mountain biodiversity conservation in Russia
Inder Jeet (University of Jammu):
Spatial-Temporal Variability of Apple Orchards in Response to Environmental Change in Himachal Pradesh (India)
Dharmender Chauhan (University of Rajasthan):
Distribution of aloe vera in semi-arid region (Khetri), Rajasthan

The above paper sessions attracted much interest among the attendees of IGC 2012 and yielded productive discussions, contributing to an overall stimulating and rewarding conference. The sessions of our Commission had been integrated into a remarkable program of plenary sessions, technical sessions, poster sessions, meetings and seminars, exhibitions, and field trips. Framing the scientific program by colourful inaugural and closing ceremonies, shows, and social events the local organizing committee did a great job in making IGC 2012 a successful, memorable and rewarding event.

2.2 Meetings 2013

IGU CONFERENCE ON GEOINFORMATICS FOR BIODIVERSITY AND CLIMATE CHANGE, ROHTAK, HARYANA, INDIA, 14th-16th March, 2013

The IGU Conference on Geoinformatics for Biodiversity and Climate Change in Rohtak, Haryana, India, was jointly organized by the Department of Geography, Maharshi Dayanand University, Rohtak, Haryana, the IGU Commission on Biogeography and Biodiversity, and the IGU Commission on Land Use and Land Cover Change. This Conference highlighted various environmental problems associated with development under climate change.
The Commission is very grateful to Dr. R.B. Singh, Secretary General of the National Association of Geographers, India, and Vice-President of the IGU for the tasks he undertook co-organizing and advising this conference. The Commission also expresses sincere thanks to the local organizing committee including the Patron Prof. R.P. Hooda, Vice-Chancellor of Maharshi Dayanand University, the Convener Prof. M.I. Hassan, Head of Department of Geography, and the Organizing Secretary Dr. Mehtab Singh, Department of Geography.

Focal theme of the conference

This International Conference aimed to highlight the various environmental problems associated with development and changing climatic scenarios. The problem of climate change and ensuing transformations that are to manifest in various sectors of human life on the earth is an important area where the geoinformatics can play a vital role. Environmental perspectives and the scientific approaches including modern technologies are bringing spatial solutions to environmental and societal problems. Geoinformatics along with its accessories like Remote Sensing and GIS helps in assessing the results of various environmental problems both physical and social. This conference welcomed all geographers, scientists, hydrologists, academicians, researchers, technologicians, environmentalists, engineers, planners, policy makers, social workers, research students and other interested professionals from geography and its allied fields to share their research experiences.

Focal theme

GEOINFORMATICS FOR BIODIVERSITY AND CLIMATE CHANGE
Special session on

- Disaster Risk Reduction

Subthemes

- Biogeography and Land Information System
- Land Use Land Cover Change and Biodiversity
- Climate Change and Extremes
- Natural Resource Management
- Urban Health and Well-being
- Coastal Zone Management
- ‘Population-Development-Environment’ Interface

- Integration of Remote Sensing, GIS and GPS for Geospatial Applications

The academic sessions consisted of invited/plenary talks and contributed paper presentations.

The above paper sessions attracted much interest among the attendees of the Rohtak Conference and yielded productive discussions, contributing to an overall stimulating and rewarding symposium. Around 500 delegates from India and abroad, including the USA, Russia, Japan, Australia, Iran and Ethiopia, had been taking part in the event.

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IGU REGIONAL CONFERENCE KYOTO, JAPAN, 4th-9th August, 2013

The IGU Kyoto Regional Conference 2013 was hosted by the Japan National Committee for IGU on behalf of the entire geographic community in Japan and in cooperation with Japan Organization of Geographical Societies (JOGS) and IGU. The following invitation has been circulated:

The main theme of the conference was “Traditional Wisdom and Modern Knowledge for the Earth's Future”. The ancient capital of Japan, Kyoto is globally recognized in association with the Kyoto Protocol, which was concluded in December 1997 at the Kyoto International Conference Center, where the Conference was held. The Conference added a new page in the history of this memorable venue and succeeded in enhancing global understanding, especially in the light of the global environmental challenges the world now faces.

The Great East Japan Earthquake/Tsunami on March 11, 2011 and the unprecedented disaster that followed, including the nuclear disaster at Fukushima, have shaken not only Japan, but also the rest of the global community. The events have led an increasing number of people to reconsider their values, priorities, and ways of living. The Conference offered ample opportunities to learn, think, and exchange information and ideas on these crucial issues. It also provided an opportunity for networking.

The participants of the Conference also enjoyed visiting other parts of Japan and its vicinity by joining pre- or post-congress excursions. These were arranged by the Organizing Committee or IGU Commissions, with the support of a number of national/regional geographical societies.

Activities of the Biogeography and Biodiversity Commission at the Kyoto Regional Conference

At the Kyoto Regional Conference, the Commission conducted a business meeting as well as the following sessions within the technical session series:

CS03-1 Scientific mapping of climate change, water, forests and biodiversity
Chair(s): Udo Schickhoff (Univ. of Hamburg), Kazuharu Mizuno (Kyoto Univ.)

Kazuharu Mizuno,Tomohiro Fujita (Kyoto University)

Vegetation succession on Mt. Kenya in relation to glacial fluctuation and global warming
Virender Singh Negi (Shaheed Bhagat Singh (E) College, University of Delhi)
Impact of Climate Change on Livelihood in the Western Himalayas
Pawan Kumar Singh (National PG College, Lucknow University, Lucknow)
Distributional Patterns of Biographical Regions in Indian Subcontinent: A Spatial Analysis
Mohan Pathak (S.M.R.D.P.G. COLLEGE, BHURKURA, GHAZIPUR, U.P.)
Biodiversity of the Ganga River Flood Plains (India); An Ecological Perspectives

CS03-2 Biodiversity and forest conservation: policy implications and local knowledge system
Chair(s): Koichi Kimoto (Hiroshima Jogakuin Univ.), R. B. Singh (Delhi Univ.)

Poonam Kumria, R.B. Singh, Koichi Kimoto (University of Delhi)
Exclusion or Empowerment: Participatory Deliberations on Forest Commons in Dehradun Valley, India
Mahfuza Rahman, Jayasree Borah, Pradip Sharma (Cotton College)
Forest Cover, Policies and Governance in Assam India
Ines Grigorescu, Monica Dumitrascu, Gheorghe Kucsicsa, Mihaela Nastase (Institute of Geography, Romanian Academy)
Assessing Invasive Terrestrial Plant Species in the Romanian protected areas.
Pradip Sharma, Mahfuza Rahman, Dhanjit Deka, Rubul Hazarika (Cotton College)
Livelihood Challenges of Fringe Communities of Dabaka and Jamuna-Maudanga Reserved Forests, Assam, India

CS03-3 Biodiversity conservation and livelihood security
Chair(s): Koichi Kimoto (Hiroshima Jogakuin Univ.), R. B. Singh (Delhi Univ.)

Kirill Ju. Bazarov (Pacific Institute of Geography FEB RAS)
Automatically interpretation of satellite Images which were made in different times (by example of transboundary territories).
Vishwa Raj Sharma (University of Delhi)
Land Use, Forests and Environmental Pollution in Agra Metropolitan City
Ajay Kumar, R.B. Singh, Koichi Kimoto (University of Delhi)
Local Knowledge and Forest Management in Changing Environment of Rajasthan Drylands in India: A Case of Sariska National Park
Koichi Kimoto, Das S Arun (Hiroshima Jogakuin University)
Process of Desertification a Challenging Resilience: Forest Management as Regional Governance in Southern India

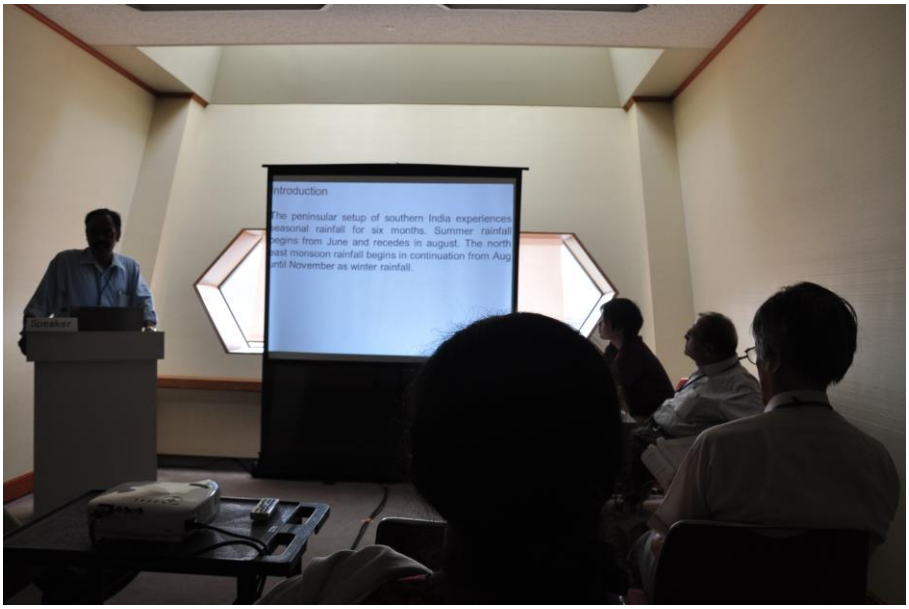

Fig. 1: Session CS03-3 Biodiversity conservation and livelihood security, paper by S. Arun Das.

2.3 Meetings 2014

IGU Conference on Geohazards, Resource Sustainability and Mountain Response to Global Change, Srinagar (Jammu and Kashmir), India, 4th-5th June, 2014

The IGU Conference on Geohazards, Resource Sustainability and Mountain Response to Global Change in Srinagar, jointly organized by the Department of Geography and Regional Development, University of Kashmir, the IGU Commission on Mountain Response to Global Change, and the IGU Biogeography and Biodiversity Commission, highlighted various issues and problems associated with over-exploitation of natural resources and climate change in mountain environments. The Commission is very grateful to Dr. R.B. Singh, Secretary General of the National Association of Geographers, India, and Vice-President of the IGU for the tasks he undertook co-organizing and advising this conference. The Commission also expresses sincere thanks to the local organizing committee including the Patron Prof. Talat Ahmad, Vice-Chancellor, University of Kashmir, the Convener Prof. Tasawoor A. Kanth, UGC-SAP Coordinator, Department of Geography and Regional Development University of Kashmir, and the Organizing Secretary Prof. M. Sultan Bhat, Head of the Department of Geography and Regional Development, University of Kashmir.

Thrust Areas of the Conference

The over-exploitation of some of the important earth resources like land and water has led to a number of environment related problems world over. At the same time, the natural and anthropogenic activities have led to increase of geohazards around the globe, with the result that the sustainability of different earth resources is threatened. In this context, the relevance of geohazards and sustainability of earth resources for human survival has become a major international issue as scientific evidence builds on the global health implications of resource loss. This issue is closely linked with the issue of climate change and risks due to climate change are

associated with fast degradation of mountain environment which are the main source of different resources like glaciers, water, forests, soil, medicinal plants, etc. Holistic natural resource based spatio-temporal planning, development and management is essential to save the degraded ecosystem for sustainable resource management. The conference aimed to highlight the various environmental problems associated with development and changing climatic scenarios. The problem of climate change and ensuing transformations that are to manifest in various sectors of human life on the earth is an important area where the geo-spatial tools can play a vital role. Environmental perspectives and the scientific approaches including modern technologies are bringing spatial solutions to environmental and societal problems. Different geo-spatial tools like Remote Sensing, GIS and GPS help in assessing the results of various environmental problems both physical and social. This conference welcomed all geographers, scientists, hydrologists, academicians, researchers, technologists, environmentalists, engineers, planners, policy makers, social workers, research students and other interested professionals from geography and its allied fields to share their research experiences.

Focal Theme
Geohazards, Resource Sustainability and Mountain Response to Global Change

Special Session on
Geohazards & Disaster Risk Reduction

Sub Themes

- Sustainable Natural Resource Management
- Biogeography and Land Information System
- Land Use and Land Cover Change
- Global Climate Change and Extremes
- Disaster Management and Planning
- Environment and Health
- Sustainable Tourism Development
- ‘Population-Development-Environment’ Interface
- Integration of Remote Sensing, GIS and GPS for Geospatial Applications

Fig. 1: Paper session at the IGU Conference on Geohazards, Resource Sustainability and Mountain Response to Global Change, Srinagar 2014 (Photo: U. Schickhoff)

The academic sessions consisted of invited/plenary talks and contributed paper presentations. The above paper sessions attracted much interest among the attendees of the Srinagar Conference and yielded productive discussions, contributing to an overall stimulating and rewarding symposium. National and international scholars and local/national students took advantage of the presence of over 250 experts from diverse disciplines belonging to various reputed institutions representing Poland, Hungary, Germany, Japan, Tajikistan, Romania and Cameroon and different parts of India.

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IGU REGIONAL CONFERENCE Krakow, Poland, August 18-22, 2014

The IGU Krakow Regional Conference 2014, organized under the honorary patronage of the President of the Republic of Poland, Bronisław Komorowski, had been prepared by the consortium of eight Polish geographical institutions, coordinated by the Polish Geographical Society. The local organizing committee had been constituted by the Institute of Geography and Spatial Management, Jagiellonian University Krakow, together with the Jagiellonian University Department of Communications and Marketing - Conferences.

Fig. 2: Main venue of the IGU Krakow Regional Conference 2014 (Photo: U. Schickhoff)

The main theme of the conference was Changes, Challenges, Responsibility. Modern geography faces significant challenges focusing on the recognition of and response to contemporary changes in the environment, society and economy. All this calls for our responsibility. The conference aimed to create a forum at which these issues can be addressed. It was open to all geographers across the spectrum who specialize in all fields of the discipline. The conference was intended to be an event contributing to efforts undertaken, for example, by ICSU/ISSC Future Earth, and aimed at defining pathways towards sustainability and responding effectively to the risks and opportunities of global environmental change.

The participants of the Conference also enjoyed visiting other parts of Poland and its vicinity by joining pre- or post-congress excursions. These were arranged by the Local Organizing Committee and several universities and other scientific institutions in Poland, including the Polish Academy of Sciences.

Activities of the Biogeography and Biodiversity Commission at the Krakow Regional Conference

At the Krakow Regional Conference, the Commission conducted a business meeting as well as the following sessions within the technical session series:

C12.03 Climate Change and Dynamics of Mountain Ecosystems 1
Chair(s): Udo Schickhoff (Hamburg Univ.), Suraj Mal (Delhi Univ.)

N. Schwab, U. Schickhoff, J. Böhner, T. Scholten, R.P. Chaudhary, B. Bürzle, L. Gerlitz, M. Müller, E. Schenk
TREELINE: Detecting the response of a Himalayan near-natural treeline ecotone to climate change
M. Müller, S. Drollinger, T. Scholten
Soil properties and nutrient cycling in the alpine treeline ecotone of Rolwaling Himal, Nepal
S. Mal, R.B. Singh, U. Schickhoff
Climate change impacts on glaciers and glacial lakes in the Nanda Devi Biosphere Reserve, Indian Himalaya
D. Ganiushkin, K. Chistyakov
Climatic cyclicity and dynamics of the glacio-nival systems of central part of Altay-Sayan mountain system

C12.03 Climate Change and Dynamics of Mountain Ecosystems 2
Chair(s): K. Mizuno (Kyoto Univ.), T. Fujita (Kyoto Univ.)

K. Mizuno, T. Fujita
Duration from glacial disappearance, altitude, and land surface sediments in relation to vegetation distribution in the Bolivia Andes
T. Johansson
Effects of global change on integrated pest management in East African Mountains
M. Drielsma, G. Manion, K. Williams, J. Love, S. Taylor
Modelling climate-induced emergent patterns of biodiversity at biogeographic scales to inform conservation in south-eastern Australia

C12.03 Biogeographical Distributions, Gradients, Disturbances: The Indian Subcontinent in Focus
Chair(s): R.B. Singh (Delhi Univ.), U. Schickhoff (Hamburg Univ.)

M. Pathak
Agrobiodiversity in floodplain farming: Some consideration with a part of the Ganga River floodplain
R. Mukherjee
The changing pattern of aridity and its implication on the spatio-temporal variability of vegetation vigor: A case study in Rajasthan
D.S. Chauhan
Geo-environmental study of the natural vegetation in Rajasthan: A special reference of Shekawati Region, Rajasthan, India

C12.03 Linking Biogeography and Society 1
Chair(s): K. Mizuno (Kyoto Univ.), U. Schickhoff (Hamburg Univ.)

K. Teshirogi
Distributions of woody plants and its relation to the day-trip herding of goats in north-western Namibia
C. Egbinola, A. Amanambu
Impact of charcoal production on tree species diversity in Ibarapa East local government, Oyo State, Nigeria
V.P. Meena
Biodiversity conservation in Indira Gandhi Canal Project Area, Thar Desert, India

A.Tishkov, E. Belonovskaya
The actual biogeography of the European Russia as a result of the climatic impact's and landuse's synergy

C12.03 Linking Biogeography and Society 2
Chair(s): K. Mizuno (Kyoto Univ.), U. Schickhoff (Hamburg Univ.)

M. Ziulkiewicz, J. Zelazna-Wieczorek
Geographic conditions of the trophic status of springs at a small spatial scale based on the quantitative analysis of diatom communities
D. Czamanski, M. Toger
The evolution of the open space network in Haifa
M. Rechcinski, A. Pietrzyk-Kaszynska, W. Krol, M. Grodzinska-Jurczak, J. Cent, A. Olszanka, B. Peek, P. Matczak, K. Maczka
Identifying Natura 2000 sites with diverse ecosystem services and social conditions: How to link socio-economic and ecological data of different spatial scope?

Fig. 3: Paper session of the Biogeography and Biodiversity Commission, IGU Regional Conference Krakow 2014 (Photo: U. Schickhoff)

The above paper sessions attracted much interest among the attendees of the Krakow Regional Conference and yielded productive discussions, contributing to an overall stimulating and rewarding meeting. The sessions of our Commission had been integrated into a remarkable program of plenary sessions, technical sessions, poster sessions, meetings and seminars, exhibitions, and field trips. Framing the scientific program by colourful inaugural and closing ceremonies, shows, and social events, the local organizing committee did a great job in making the Krakow Conference a successful, memorable and rewarding event.

The above paper sessions attracted much interest among the attendees of the Kyoto Regional Conference and yielded productive discussions, contributing to an overall stimulating and rewarding meeting. The sessions of our Commission had been integrated into a remarkable program of plenary sessions, technical sessions, poster sessions, meetings and seminars, exhibitions, and field trips. Framing the scientific program by colourful inaugural and closing ceremonies, shows, and social events the local organizing committee did a great job in making the Kyoto Conference a successful, memorable and rewarding event.

2.4 Meetings 2015

IGU Regional Conference Moscow, Russia, August 17-21, 2015

The International Geographical Union (IGU) had a conference in Moscow last summer for the third time since the International Geographical Congress of 1976, when over 2,000 participants from around the world gathered in the Soviet capital for lectures, discussions, workshops and excursions. The pace of global change has since accelerated in directions that once seemed unimaginable. At the 2015 IGU Regional Conference, participants had ample opportunity to discuss these changes in light of current political-environmental challenges. The conference theme was “Geography, Culture and Society for Our Future Earth.” It took place at Lomonosov Moscow State University (LMSU) from 17-21 August, 2015.

IGU Moscow 2015 focused on five main themes: urban environment, polar studies, climate change, global conflicts, and regional sustainability. The programme was rooted in principals of diversity and interdisciplinary exchange. It featured a variety of meetings, including plenary sessions, lectures, panel discussions, workshops and other events. There were also opportunities to share ideas on IGU projects and the role of geographers in international initiatives such as Future Earth. Geographical education and integration of young scholars was central to each of the conference themes. The programme featured a day for young scholars as well as sessions on “Academic Geography for Secondary Schools” and “Teaching Geography in the University.” IGU Moscow also included the 2015 International Geographical Olympiad.

Conference proceedings took place at the LMSU main campus, a distinctive work of Socialist Realist architecture that rises 236 meters above a park along the Moscow River. Views of the city from the Faculty of Geography and museums on the building’s upper floors are among the most breathtaking of many in Russia’s capital. At the core of a territory that spans nine time zones, Moscow’s fabric embodies fascinating historical transformations and continuities. Participants were encouraged to join a host of excursions in and around the city. After the conference there were trips to other parts of Russia, including St. Petersburg, the Golden Ring, the Upper Volga, Sochi, Kazan, Novgorod the Great and Valday National Park. Excursions provided many different options for informal conversation based on shared geographical, cultural and historical interests.

Fig. 1: Main venue of the IGU Moscow Regional Conference 2015 (Photo: U. Schickhoff)

Activities of the Biogeography and Biodiversity Commission at the Moscow Regional Conference

At the Moscow Regional Conference, the Commission conducted a business meeting as well as the following sessions within the technical session series:

C12.03 Biogeography and Conservation of Biodiversity 1
Chair(s): U. Schickhoff (Hamburg Univ.), RB Singh (Delhi Univ.)

A.Tishkov
Actual biogeography of Russia: key changes, status and trends of biodiversity
K. Mizuno
Vegetation change after 30 years and damage by deer grazing in alpine meadow of the southern Japan Alps
M. Dumitrascu, I. Grigorescu, G. Kucsicsa, M. Doroftei
Invasive terrestrial plant species in Romanian protected areas: key environmental features and spreading pathways
B.V.R. Singh, A. Sen
Spatio-temporal and comparative analysis of tiger landscape complex in India (2006-2014)
I.N. Vladimirov
The ecological potential of Baikalian Siberia's geosystems

C12.03 Biogeography and Conservation of Biodiversity 2
Chair(s): U. Schickhoff (Hamburg Univ.), RB Singh (Delhi Univ.)

E. Belonovskaya, A. Krenke, A. Tishkov, N.G. Tsarevskaya, J.M. Matuszkiewicz, A. Kowalska
Conservation of the old agrarian landscapes for the high biodiversity sustention
D. Zolotov, D. Chernykh

Landscape and floristic diversity of heterogeneous catchments of steppe and forest-steppe zones
T. Dikareva, V. Rumiantsev
Distribution of allergenic plants in Russia
C. Salunkhe, S. Raskar
Mapping of sacred groves from Konkan region of Maharashtra State, India: the repositories of bioresources, culture and religion

C12.03 Biogeography and Conservation of Biodiversity 3

Chair(s): U. Schickhoff (Hamburg Univ.), RB Singh (Delhi Univ.)

T. Dikareva, E. Koroleva, V. Neronov, A. Romanov, E. Suslova, M. Volchenkova, E. Melikhova
Conservation biogeography in the Moscow University: analyses of biodiversity distribution and selecting priority areas for protection in Palearctic
L. Emelyanova, N. Leonova, K. Gongalsky, L. Levik, A. Repina, M. Dychkin, E. Vachshchenkova, D. Kuznetzova, P. Kuznechenko
Researching geography of the northern Eurasia biotic diversity by using criteria of species activity and abundance
M. Zimin, E. Golubeva, W. Rees, O. Tutubalina
Spectral properties of subarctic plants
D. Grudinin, S. Levykin, V. Chibilyova, I. Yakovlev
The conservation of landscape and biological diversity of steppe ecosystems within the Orenburg-West Kazakhstan transboundary region

C12.03 Biogeography and Conservation of Biodiversity 4
Chair(s): U. Schickhoff (Hamburg Univ.), K. Mizuno (Kyoto Univ.)

P. Glazov, A. Tishkov, G. Tertitski, A. Medvedev, M. Gunko, N. Tsarevskaya, E. Belonovskaya
Spatial restructuring of biodiversity in long time ago assimilated regions of European Russia under the impact of the fast socio-economic changes of the last decades
D. Deka, P. Sharma
Deforestation and its impact on environment in Umtrew River Basin, North East India
P. Sharma, M. Rahman, K. Kimoto
Changes in livelihood of a shifted forest village: a case study on Satargaon of Rani-Garbhanga RF, Assam, India
S. Sengupta, A. Sen
Re-inventing a traditional green product in the contemporary globalized world: social marketing of traditional perfume 'attar'
N.C. Magagula, S. Malindzisa, M.C. Pires, D. Philile B., S.A. Malaza
Potential of mountain areas for biodiversity conservation in Swaziland

C12.03 Biogeography and Conservation of Biodiversity 5
Chair(s): U. Schickhoff (Hamburg Univ.), K. Mizuno (Kyoto Univ.)

T. Kotova, G.N. Ogureeva, M.V. Bocharnikov, I.M. Miklyaeva, S.V. Dudov
Biomes of Russia: the experience of review bioecological mapping
O. Leontyeva, D.M. Glazov, P.M. Glazov, L.A. Khlyap, A.A. Medvedev, V.I. Nikolaeva, A. Tishkov
Modern trends of vertebrate fauna changes in the zonal ecotone of the southern taiga and mixed coniferous-broadleaved forests at the Valdai Hills
M. Sergeev
Entomogeography: past, present, future

B. Solovyev, I. Onufrenya, D. Glazov, A. Saveliev, V. Spiridonov, D. Dobrynin, A. Pantyulin, E. Chuprina, N. Platonov
Development of representative network of marine protected areas in the Russian Arctic
H.K. Ayuba
Climate change impacts on ecosystem and biodiversity in Nigeria

C12.03 Response of Mountain Ecosystems to Climate Change
Chair(s): U. Schickhoff (Hamburg Univ.), S. Mal (Delhi Univ.)

R. Zomer, J. Xu, M. Wang
Projected climate change impact on bioclimatic zones, terrestrial ecosystems and biodiversity in the Asian Highlands
S. Mal, RB Singh, U. Schickhoff
Estimating recent glacier changes in Nanda Devi Region, Central Himalaya, India, using remote sensing data
T. Ser-Od, A. Chantuu, B.E. Tsedev, A. Avkhinsukh, E. Purevsuren, G. Uranchimeg
Ecosystem change of the Mongol Altai mountain range
M. Petrushina, E. Suslova
Dynamics of mountain landscapes of the northern Caucasus as response to current climatic changes

Fig. 2: Paper session of the Biogeography and Biodiversity Commission, IGU Regional Conference Moscow 2015 (Photo: U. Schickhoff)

The above paper sessions attracted much interest among the attendees of the Moscow Regional Conference and yielded productive discussions, contributing to an overall stimulating and rewarding meeting. The sessions of our Commission had been integrated into a remarkable program of plenary sessions, technical sessions, poster sessions, meetings and seminars, exhibitions, and field trips. Framing the scientific program by colourful inaugural and closing ceremonies, shows, and social events, the local organizing committee did a great job in making the Moscow Conference a successful, memorable and rewarding event.

2.5 Outlook: Meetings 2016

9th IGU Conference on Land Use Change, Climate Extremes and Disaster Risk Reduction, Delhi, India, March 18-20, 2016

The Biogeography and Biodiversity Commission will co-organize the International Conference on Land Use Change, Climate Extremes and Disaster Risk Reduction being organized by Department of Geography, Shaheed Bhagat Singh College, University of Delhi, on March 18-20, 2016.

Thrust areas of the conference

The global temperature has risen rapidly over the last century. There is strong evidence of increase in average global mean maximum and minimum air and oceanic temperature, which is leading to widespread melting of glaciers, and rising sea levels. The increasing frequency and magnitude of disasters in general and climate change induced disasters in particular are posing threat to lives and livelihood at both global and local level. The poor people residing in developing countries are the most vulnerable to such impending changes. In the recent past, the Indian sub-continent has experienced several disaster events viz. Tsunami and Earthquakes in Indian Ocean (2004), Bhuj Earthquake (2001), Leh Flood (2010), Kedanath Floods (2013), Srinagar Flash Flood (2014), Nepal Earthquake (2015), etc. These disasters have far reaching impacts on agriculture, water resources, urban areas, forest biodiversity and ecosystem changes. The flora and fauna have also been severely impacted due to changing climate and recurring disasters. The Himalayan mega geo-bio diversity ecosystems will be one of the most vulnerable areas of the world. In present scenario, the land use and land cover changes are the major contributor to the increasing concentration of GHGs through decreasing carbon sink, deforestation, increasing carbon release from extensive tillage, increased methane emission from expanding paddy fields and haphazard urbanization.

The conference will highlight the vulnerability of fragile ecosystems like the Himalaya, Western Ghats, and Ganges-Brahmaputra River System and will provide unitary platform to academicians, scientific community and policy makers from various backgrounds and disciplines to interact on these critical issues faced by the global society. The focus will be on the use of traditional knowledge, new innovation and education to build a culture of safety and resilience at all levels. It is also very important to reduce the underlying risk factors and strengthen the pre-existing methodologies used in disaster preparedness for effective response at each stratum. In this context the conference aims to discuss the causes, impacts and mitigation strategy to reduce the losses caused by the changes in land use/ land cover, climate and disasters.

For further information see the website http://www.igusbsc2016.org/

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The 33rd International Geography Congress 'Shaping Our Harmonious Worlds', Beijing, China, August 21-25, 2016

On behalf of the Geographical Society of China and the Local Organizing Committee, geographers around the world are most cordially invited to participate in the 33rd International Geographical Congress, to be held in Beijing, P. R. China on August 21-25, 2016.

The theme of the 2016 Congress is Shaping Our Harmonious Worlds, which highlights today's common pursuit for harmony between humankind and nature, between environment

and society, and for harmonious approaches to the world's hazards and conflicts. Under this theme, five Congress key topics will be focused, parallel to the quadrennial meeting of the IGU commissions and task forces. In addition, a rich variety of field excursions will be organized so as to provide participants a chance to appreciate some of the unique natural features and cultural traditions of this ancient and modern country.

The Geographical Society of China and the Local Organizing Committee will make every effort to offer an attractive environment for communication and networking among geographers all over the world. We hope you will join the 33rd International Geographical Congress and look forward to welcoming you in Beijing in 2016.

For further information see the website http://www.igc2016.org/

IGU Biogeography and Biodiversity Commission participation:

The Biogeography and Biodiversity Commission is actively planning the following sessions:

1) Response of Mountain Ecosystems to Climate Change

Mountain ecosystems are exceptionally fragile and susceptible to climate and land use change, and mountain regions worldwide provide increasing evidence of ongoing impacts of climate change on physical and biological systems. Respective modifications of mountain ecosystems constitute a significant threat to the wide range of ecosystem services mountains provide to human communities in highlands and in distant lowland regions. The session focuses on climate-driven changes in the cryosphere, hydrosphere, pedosphere, and biosphere and will discuss new research results and its implications for ecosystem services and socioeconomic systems. Presentations are welcome that focus on new research findings from diverse mountain regions of the world.

2) Conservation of Biodiversity

One of the sub-branches of biogeography experiencing rapid growth in recent years is conservation biogeography which involves the application of biogeographic principles, theories and analyses regarding biodiversity conservation. It is beyond dispute that biogeographic science, deeply rooted in the geographic, ecological and evolutionary context of nature, is in a position to make significant contributions to the conservation of biodiversity. Biogeography was central to early theory formation within conservation biology, which became established as an applied research discipline in parallel with the expansion of nature conservation movement during the 1970s and 1980s. Recognizing the need to counteract complex real-world problems with integrative, interdisciplinary approaches, the scope of conservation biology expanded to incorporate a broader range of disciplines including biogeography and the social sciences. Conservation biogeography has emerged as a distinctive and thriving sub-field of conservation biology and of biogeography focusing on pattern and process at coarser scales of analysis (landscape, regional, global) and contributing scientific guidance for conservation planning and effective biodiversity management. Presentations are welcome which focus on biogeography of degradation (land-use transformation, habitat fragmentation, homogenization and other human-induced impacts), climate change impacts, species distribution modeling, processes (colonization, dispersal, invasion, disturbance, extinction, range expansion, resilience, speciation), inventory, mapping and data issues, characterizing biotas (conservation status, diversity indices and patterns, rarity, endemism, range size), conservation planning, and methodological issues.

3) Recent Developments and Expansions in Biogeography

Biogeography has a long and distinguished history, but only emerged as a recognized, rigorous and seminal science in the second half of the twentieth century. This session

highlights contemporary trends and expansions, and previews future prospects without neglecting the historical development of biogeography from ancient times to the twenty-first century. Fostered by the acceptance of plate tectonics, the equilibrium theory of island biogeography, the rapid advancement of new perspectives and methods in historical biogeography, and revolutionary advances in compiling, visualizing, and analyzing spatially explicit information, biogeography evolved into a rigorous science during the second half of the twentieth century. Currently, major active sub-fields are phylogeography, macroecology, and conservation biogeography. Biogeography is on the way to becoming a 'big science', entering an era of increasingly integrative and multi-faceted approaches, increasingly accessible and available data, tools, and techniques, and interdisciplinary collaboration. Given unprecedented human impacts and the dramatic transformation of the Earth system, biogeography matters more than ever; both in the discovery and in the conservation of biodiversity. Presentations are welcome which exemplify recent developments and expansions of biogeographic science.

3. Networking

In the 2012-2016 period, the Commission on Biogeography and Biodiversity continued to cooperate with other IGU Commissions as well as with other international groups and scientific bodies. For instance, the Commission's annual meeting 2013 in Rohtak, Haryana, India (International Conference on Land Use Change, Biodiversity and Sustainable Resource Management), was jointly organized by the Department of Geography, Maharshi Dayanand University, Rohtak, the IGU Commission on Biogeography and Biodiversity, and the IGU Commission on Land Use and Land Cover Change. The Commission's annual meeting 2014 in Srinagar, Jammu & Kashmir, India, June 4-5, was jointly organized by the Department of Geography and Regional Development, University of Kashmir, the IGU Commission on Mountain Response to Global Change, and the IGU Biogeography and Biodiversity Commission. In 2016, the Biogeography and Biodiversity Commission will jointly organize the International Conference on Land Use Change, Climate Extremes and Disaster Risk Reduction being organized by Department of Geography, Shaheed Bhagat Singh College, University of Delhi, on March 18-20, 2016, in collaboration with the IGU Commission on Land Use and Land Cover Change, the IGU Commission on Hazards and Risk, and the IGU Commission on Geoparks.

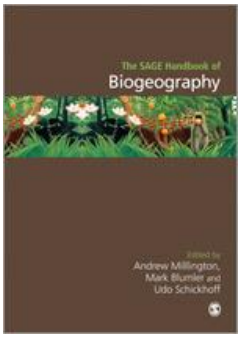
Moreover, the organisation of these conferences and other previous meetings is facilitated by close institutional ties to other scientific bodies such as the IBS (International Biogeography Society), the IAVS (International Association for Vegetation Science), and the Working Group Biogeography (AK Biogeographie) of the National Association of Geographers in Germany (VGDH).

4. Publications

In the report period 2012-2016 the Commission on Biogeography and Biodiversity produced comprehensive newsletters each year (about 40 pp. each) which have been distributed to the IGU community through the respective channels (each newsletter had been sent to the Secretary General).

The long awaited 'The SAGE Handbook of Biogeography', edited by the former Chairman of our Commission, Prof. Andrew C. Millington (Adelaide), Steering

Committee Member Prof. Mark A. Blumler (New York), and the current Chairman, Prof. Udo Schickhoff (Hamburg) was published in late 2011. This retrospective and prospective overview of the discipline of Biogeography is the final result of long-term Commission activities that can be traced back to Commission meetings in Armenia (2000) and New York City (2001) where the idea of this handbook was generated. The editors expect that it will be considered an important contribution to the field of Biogeography.



Millington, A.C., Blumler, M.A., Schickhoff, U. (eds.)(2011): The SAGE Handbook of Biogeography. SAGE Publ. Ltd, London. 624 pp.

The SAGE Handbook of Biogeography is a manual for scoping the past, present and future of biogeography that enable readers to consider, where relevant, how similar biogeographical issues are tackled by researchers in different 'schools'. In line with the concept of all SAGE Handbooks, this is a retrospective and prospective overview of biogeography that will:

• consider the main areas of biogeography researched by geographers
• detail a global perspective by incorporating the work of different schools of biogeographers
• explore the divergent evolution of biogeography as a discipline and consider how this diversity can be harnessed
• examine the interdisciplinary debates that biogeographers are, and are not, contributing to within geography and within the biological sciences.

Aimed at an international audience of research students, academics, researchers and practitioners in biogeography, the text will attract interest from environmental scientists, ecologists and biologists and geographers alike.

Other publications:

Papers presented during Commissions 2011 annual meeting, the 3rd International Geography Congress in Kozhikode, Kerala, India, 06-08 May 2011, had been classified thematically into various sections and published in 2013 in a comprehensive proceedings volume. The volume contains numerous papers grouped into the following sections:

- Natural hazards/disasters and environmental challenges
- Impact of deforestation on hydrological processes
- Impact of anthropogenic activities and climatic changes on biodiversity
- Geomorphology and natural resource management
- Geoinformatics: technology - society interface
- Impact of population explosion and urbanisation on land use and cover change
- Environmental pollution and quality of life (water, land, air)
- Geopolitical economy of development and globalisation
- Tourism-impacts, implications and alternatives

- Recent challenges for ethnic communities, refugees and war victims
- Spatial infrastructure, alternative planning and management perspectives

The bibliographic reference is as follows:

NANDESHWAR, M.D., JAYAKUMAR, K.V., GOPINATH, G. & AMBILI, G.K. (eds.)(2013): Sustainable Natural Resources Management Under Changing Climatic Scenarios. Proceedings of the Third International Geography Congress. Allied Publ., Delhi.

Papers presented during the IGU Rohtak Conference were published in two proceedings volumes in 2014. The book chapters have the following focus: The over-exploitation of important earth resources such as land and water has led to a number of environment-related problems the world over. At the same time, land-use change caused by various human activities has led to extinction of many plant and animal habitats and species. In this context, the relevance of biodiversity for human survival is becoming a major international political issue as scientific evidence builds on the global health implications of biodiversity loss. These issues are closely linked with the issue of climate change, as many of the health risks due to climate change are associated with rapid degradation of biodiversity. This present work focuses on holistic natural resource-based spatio-temporal planning, development, and management and considers them as essential to save the degraded ecosystem for sustainable resource management. Contributions are compiled in two volumes: 1. Climate Change and Biodiversity, and 2. Landscape Ecology and Water Management. Geoinformatics along with its tools such as remote sensing and geographical information systems (GIS) have been used in assessing the results of various environmental problems both physical and social. The volume will be useful for geographers, geoscientists, hydrologists, landscape ecologists, environmentalists, engineers, planners, and policy makers.

The bibliographic references are as follows:

SINGH, M., SINGH, R.B., HASSAN, M.I. (eds.)(2014): Climate Change and Biodiversity. Proceedings of IGU Rohtak Conference, Vol. 1. Springer, Tokyo.

SINGH, M., SINGH, R.B., HASSAN, M.I. (eds.)(2014): Landscape Ecology and Water Management. Proceedings of IGU Rohtak Conference, Vol. 2. Springer, Tokyo.

The Commission on Biogeography and Biodiversity contributed to a special issue of ‘Geographia Polonica’ which was prepared to coincide with Krakow’s hosting of the 2014 IGU Regional Conference. The vision of the editor was for the IGU Commission Chairs to each prepare and publish an article - theoretical or empirical, or even an assay, concerning the stage that has currently been reached by his/her field of interest (Commission subject/sub-discipline), some of the new trends therein, and future directions of research. The editor’s request resulted in the following publication of our Commission:

Schickhoff, U., Blumler, M.A. & Millington, A.C. (2014): Biogeography in the early twenty-first century: A science with increasing significance to Earth’s changes and challenges. Geographia Polonica 87: 221-240.

5. Archival contributions

All newsletters and relevant materials of the Commission on Biogeography and Biodiversity had been sent upon release to the IGU Secretary General and Treasurer, Prof. Mike Meadows, during the report period 2012-2016.

6. Continuation

The IGU Commission on Biogeography and Biodiversity does want to continue its successful work in the period 2016-2020. The Commission does not feel the need to change its name since the current name is short, most appropriate, and of pronounced recognition value.

One of the prime objectives of the Commission's work is to promote biogeographical teaching, research and scholarship and to contribute to the development of biogeography as an important discipline. The Commission meetings address various aspects of spatial, ecological and historical biogeography, and emphasize the societal relevance of biogeography. The themes of Commission meetings are rather integrative themes, encompassing nature and culture, encompassing both ecological and socio-economic aspects of biogeography, indicating a distinct enthusiasm for interdisciplinary topics such as land use and land cover change, people, resources and sustainable development, political ecology or livelihood enhancement of local people. The Commission is an active advocate of the unity of geography, and fully endorses efforts into a holistic view of emerging research problems - at the same time a distinguishing mark of research programmes that are currently conducted by leading Commission members.

A special focus of the Commission's work is promoting Biogeography in developing countries where it often is a thriving discipline. Recently, numerous studies on patterns of biodiversity, implications of global climate change, remote sensing of ecosystem properties, conservation biogeography, and other biogeographical aspects have been published by scientists from developing countries. The Commission seeks to support this development by conducting annual meetings preferably in developing countries and, in general, by contributing to establish modern Biogeography in various parts of the globe as a discipline with important applications to critical problems of global change.

The new **Commission's steering committee** will consist of the following members:

Chairman (new):
Prof. Dr. Kazuharu Mizuno, Graduate School of Asian and African Area Studies, Kyoto University, Japan, Ph.: +81-75-753-9191, Email: mizuno@jambo.africa.kyoto-u.ac.jp

Vice-Chairman (new):
Dr. Suraj Mal, Shaheed Bhagat Singh College, University of Delhi, India, Ph.: 011-29250306, Email: suraj.mal@sbs.du.ac.in

The following colleagues will be invited to join the Steering Committee:

Prof. Dr. Hongyan Liu, College of Urban and Environmental Sciences, Department of Ecology, Peking University, Ph.: 86-10-62759319, Email: lhy@urban.pku.edu.cn
Prof. Dr. Haruna Kuje Ayuba, Department of Geography, University of Maiduguri, Nigeria, Email: info@unimaid.edu.ng
Prof. Dr. Mark Blumler, Biological Sciences Department, SUNY Binghamton, Vestal Parkway East, PO Box 6000, Binghamton, NY 13902, USA, Ph.: (607)-777-6732, Email: mablum@binghamton.edu
Dr. Reija Hietala, Department of Geography and Geology, University of Turku, FI-20014 Turku, Finland, Ph.: +358 2 333 5584, Email: reija.hietala@utu.fi
Prof. Dr. Arkady Tishkov, Russian Academy of Sciences, Institute of Geography, Russia, Ph.: +7 495 959 00 40, Email: tishkov@biodat.ru
Dr. Monica Dumitrascu, National Research and Development Institute for Soil Science, Agro-Chemistry and Environment-ICPA, Blv. Mărăşti 6, 011464, Bucharest, Romania, Ph.: 0213135990, Email: stefania_dumitrascu@yahoo.com
Prof. Dr. Carl Beierkuhnlein, University of Bayreuth, Chair of Biogeography, Universitätsstraße 30, 95447 Bayreuth, Ph.: 0921-552270, Email: carl.beierkuhnlein(at)uni-bayreuth.de
Prof. Dr. Georg Grabherr, Division of Conservation Biology, Vegetation Ecology and Landscape Ecology, University of Vienna, Austria, Ph.: +43-1-4277-54-371, Email: georg.grabherr@univie.ac.at
Prof. Dr. Andrew Millington, Faculty of Science and Engineering, Earth Sciences, Flinders University, GPO Box 2100, Adelaide 5001, South Australia, Ph.: +61 8 82012269, Adelaide, Australia, andrew.millington@flinders.edu.au
Prof. Dr. Ole Vetaas, Department of Geography, University of Bergen, Norway, Ph.: +47 55 58 93 24, Email: Ole.Vetaas@uib.no

Objectives for 2012-2016

1. To continue to explore and exploit the diversity of biogeography as a discipline within Geography, Biology and allied disciplines, thereby promoting biogeographical teaching, research and scholarship
2. To organise fora for presentation and discussion (i) within the IGU structures (IGC Beijing 2016, Regional Conference Quebec 2018, etc.), (ii) by group meetings with national geographical bodies, and (iii) to promote biogeographical research and scholarship by geographers within other international organisations such as the International Biogeography Society (IBS), the International Association for Vegetation Science (IAVS), and other ICSU/IUBS organisations
3. Using our full members we will organise joint meetings with the biogeography groups in Japan, India, Nigeria, Romania, and Germany in the next four years
4. Using our experiences of biogeography in developing countries, we will continue to hold joint meetings in those countries to further promote biogeography as an important discipline
5. We will continue to publish proceedings of our meetings wherever possible
6. We continue to develop our newsletter as the main source of information, to be located on the Commission's website containing information on its structure

and activities, as well as on new publications and other relevant news in our field.