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Dear friends and colleagues!

We are very glad to inform that the IGU Commission on Environment Evolution prolonged its activity for period until 2020 with the renewed Steering Committee. Our Commission will continue to foster interest and support for research of climate changes, landscape evolution and human-environment interaction in the past epochs.

The new issue of the Newsletter of the Commission includes the meeting reports, the invitation to the IGU Thematic Conference in Moscow and IGU Regional conference in Quebec, call for papers and information about forthcoming events.

**The information of the commission's activity and Newsletter is presented on website: <http://eecom.org>**

Elena Novenko

The Chair of the IGU Commission on Environment Evolution

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#### 1. The IGU Commission on Environment Evolution

#### 2. Meeting reports

- The 33rd International Geographical Congress in Beijing
- The Conference "Routes of Evolutionary Geography" in memory of Professor A.A. Velichko
- The International Conference on Evolutionary Geography and Palynology "Actual problems of Palynology"
- Other events

#### 3. Promotion of geographical knowledge

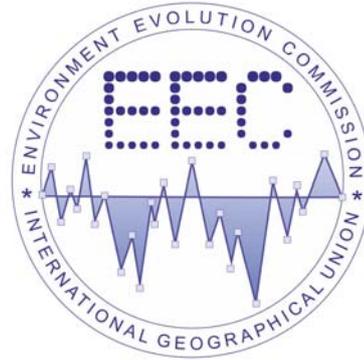
Collaborated activities of the IGU Commission on Environment Evolution with the Stupino Regional Museum

#### 4. Call for papers

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- IGU Thematic Conference dedicated to the centennial of the Institute of Geography of Russian Academy of Sciences
- The 2018 International Geographical Union Regional Conference

## THE IGU COMMISSION ON ENVIRONMENT EVOLUTION



The main goal of the Commission activity is to study human and environmental interaction including climate, landscapes and culture in the Late Quaternary and recent past. The principal lines of research are: **Landscape dynamics, Natural Processes and Human impact**. The main activities of the Environment Evolution Commission for the period up to 2020 will be mainly focused on analysis of culture changes in the different regions during the Late Quaternary, climate and landscapes evolution in past epochs and projection of their changes under different scenarios of environmental changes, estimation of climate and human induced vegetation changes and their influence on local and regional climate, vegetation response to environmental changes in past, present and future.

The basic aims of the Commission on Environment Evolution are:

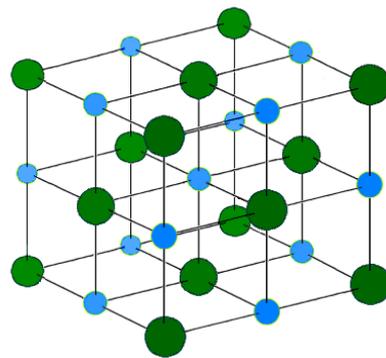
- to create a network of specialists in paleoecology, landscape evolution, climate changes and human-environment interaction;
- to stimulate active cooperation among scientists (exchanging data, common data standards, joint projects);
- to compile and to distribute information on paleoenvironmental research beyond national borders.

To achieve its aims, the Commission on Environment Evolution provides follow media for the exchange of information between specialists

- special session in a frame of the IGU Congresses and Regional Conferences;
- Commission's meetings (Conferences, Workshops and young scientists school dedicated to different problems of environment evolution and paleoecology);
- special issues on environment evolution-related topics in various peer-reviewed journals;
- homepage of the Commission on Environment Evolution (<http://eecom.org>);

The annual newsletter of the Commission

## THE STRUCTURE OF ORGANIZATION



### The steering committee for the period 2016-2020

**The Chair of the Commission:** Elena Novenko (Russia), M.V. Lomonosov Moscow State University, Faculty of Geography, Department of Physical Geography and Landscape Science, 119991, Moscow, GSP-1, 1 Leninskiye Gory, Phone: +7(495) 939-22-54; Fax +7(495) 939-88-36, e-mail: [lenanov@mail.ru](mailto:lenanov@mail.ru)

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**The secretary:** Alexander Olchev (Russia) A.N. Severtsov Institute of Ecology and Evolution of RAS, Leninsky Prospect 33, Moscow, 119071, Russia, E-mail: [aoltche@gmail.com](mailto:aoltche@gmail.com)

### The members of Commission Steering Committee:

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## MEETING REPORT



### The 33rd International Geographical Congress „Shaping Our Harmonious Worlds”, 21-25 August, 2016, Beijing, China

The 33<sup>rd</sup> International Geographical Congress was held in Beijing China, on August 21-- - 25, 2016. The IGC 2016 was organized by the Geographical Society of China and Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences. The Congress in Beijing was a forum for geographers from all over the world and from all geographic specialties. 262 sessions were organized during the congress, consisting of 156 thematic sessions proposed by 41 IGU Commissions, 44 sessions which focused on 5 key topics: “Geographical Sciences and Future Earth”, “Climate Change and Global Understanding”, “Urbanization and Sustainable Development”, “Environment-Health and Social Welfare” and “Geography in Different Cultures”.

- Climate - vegetation interaction under past and future climate conditions (Conveners: Alexander Olchev and Elena Novenko)
- Prehistoric Human Occupation and Environmental Changes on Tibetan Plateau and Surroundings (Conveners: Fahu Chen, David Madsen, Georg Mieke, Dongju Zhang)
- Climate Change and Human-Environment Interaction From Neolithic to Historical Periods (Conveners: Fahu Chen, David Zhang, Guanghui Dong, Peter Turchin, John Dodson)

The program included **60 oral** presentations and **35 posters**. The participants from Russia, China, Germany, USA, United Kingdom, Canada, Greece, Armenia, Iran, Mongolia and India took part in these special sessions.



The IGU Commission on Environment Evolution organizes 4 special sessions in a frame of this Congress:

- Environment Evolution and Human Activity in the late Quaternary (Conveners: Elena Novenko and Alexander Olchev)



The main topics that have been discussed on the special sessions: landscape and climate dynamics in the Pleistocene and the Holocene in different region of the World, initial occupation of the Eurasia by men, men and environment interaction and land use in the Holocene.



The special attention was paid to the problems human occupation of the Tibetan Plateau and environmental changes and climate fluctuations

## 2. The Conference "Routes of Evolutionary Geography" in memory of Professor A.A. Velichko, the first Chair and founder of the IGU Commission on Environment Evolution, November 23-25, 2016, Moscow, Russia

Scientific conference "Routes of Evolutionary Geography" was held by the Institute of Geography RAS on November 23-25, 2016, in memory of Professor Andrei A. Velichko, the first Chair of the IGU Commission on Environment Evolution, an outstanding geographer who made a great contribution into the Quaternary Science in Russia and outlined the new direction in the geographical science – the evolutionary geography. The Conference was a great forum for geographers from evolutionary geography, palaeogeography and geomorphology. The program included **106 oral presentations** and **45 posters**.



*Professor Andrei Velichko, the first Chair and founder of the IGU Commission on Environment Evolution*

during these processes. The aim of the special sessions by the IGU Commission on Environment Evolution was to bring an up-to-date perspective on the environmental and climatic change and its impact on the process of prehistoric human occupation on Eurasia in the late Pleistocene and Holocene. The noticeable interest for the sessions and heated discussions demonstrated a success of this initiative. The another direction of the commission's activity in the Congress was the session dedicated to problems of human-environment relationships in the recent past, modern forest ecosystems and prognosis of their dynamics in future.

The program of the conference was focused on three major issues of evolutionary geography. 1) Problems of the Quaternary palaeogeography. This section includes both general issues of Quaternary Science and current research results from different regions of Northern Eurasia – glaciated and non-glaciated regions of the East European Plain, Western and Eastern Siberia, Russian Far East, European and Siberian Arctic. 2) Multiscale climate and landscape changes: reconstruction and prediction. The section contains contributions on climate, biota, soil cover and landform changes at the time scales since the Early Quaternary to the Holocene. Another topic is long-term climate and landscape forecasting based on palaeodata. 3) Environmental forcing of human society formation and development at the early stages. All included oral and poster presentation were the product of research collaborations of specialists in co-evolution of human societies and natural environment. Results of current studies of archaeological sites in the European part of Russia and Siberia provided comparisons of societal and environmental development since the Early and Middle Paleolithic to the Mesolithic, discussions on mechanisms of human adaptation to environmental changes, archaeological and DNA studies of human migrations.

### 3. The International Conference on Evolutionary Geography and Palynology “Actual problems of Palynology” in memory of V.P. Crichuk, June, 5-8, 2017, Moscow, Russia.

The International Conference on Evolutionary Geography and Palynology “Actual problems of Palynology” dedicated to the 110th anniversary of the famous Russian palynologists Vladimir Crichuk held in Lomonosov Moscow State University Faculty of Geography, June, 5-8, 2017. The Conference was organized by the IGU Commission on Environment Evolution, the Russian Palynological Commission and Lomonosov Moscow State University. Participants from 8 countries (Russia, Germany, Ukraine, Belorussia, Slovakia, Azerbaijan, Kazakhstan and Abkhazia) took part in the conference. The programme included **77 oral** and **31 poster** presentations.



The main topics of the conference were follow:

- Methods of palaeoecology. New laboratory methods, innovation in sample preparations, new approaches in data analysis.
- Pollen biology, morphology and systematics. Palynology in phylogenetic research.
- Algal flora, Diatom analysis and other micro algae for palaeoecology and ecological indication.
- Quaternary: stratigraphy, palaeogeography, sedimentation, evolution of climate and vegetation.
- Mezozoic, Palaeozoic and Pre-Cambrian: stratigraphy, palaeogeography, sedimentation, environment evolution.

Each topic included keynote plenary lectures by experts in the field of paleoecological research and palynology, short talk session and discussions on a range of relevant topics related to environment evolution, providing a lively and comprehensive conference. The special attention in the conference was paid to explore the trajectory of climate change and human-environment interaction in the Holocene, and understand the pattern, mechanisms and evolution of man-environment relationships during this period. Oral and poster presentations were related to reconstructions of landscape dynamics and climate change in various regions in Russia, Belarus, Ukraine, China, Montenegro and Israel on the base of multi-proxy data; history of fossil flora of the different geological epochs. Unique pollen records obtained in Arctic, Russian Far East and Siberia were presented in a number of researches.



One of the most important sessions was aeropalynology and pollen indication of

environment conditions in places of subsurface nuclear explosions.

#### 4. Other events

A series of three one-day workshops “Landscape dynamics and human-environment interactions in the forest zone of the east European plain during the Holocene: landscape dynamics and land use history”. Moscow, November – December, 2017.

The series of three one-day workshops with common topic “Landscape dynamics and human-environment interactions in the forest zone of the east European plain during the Holocene: landscape dynamics and land use history” was organized together with the Commission of Physical Geography of the Russian Geographical Society and held in Lomonosov Moscow State

Book of abstracts (in Russian) is available:

<http://www.geogr.msu.ru/structure/labs/notl/nauch/downloads/index.php>

University, Faculty of Geography, November, 8 and 22 and December, 6. The program of each workshop included 3-4 detail oral presentations followed by numerous questions and heated discussions in working groups and general discussions. The main issues of workshops were reconstructions of vegetation and climate history in several model areas in taiga, broadleaf forests and forest steppe region, reconstructions of land use history of these areas, fire regimes. One of the workshops was dedicated to methods of spatial landscape reconstructions. The mean number of participants was 25-30.

## PROMOTION OF GEOGRAPHICAL KNOWLEDGE



### Collaborated activities of the IGU Commission on Environment Evolution with the Stupino Regional Museum for promotion of geographical knowledge

The IGU Commission on Environment Evolution performed a series of actions in the local Museum in a small town of Stupino (Moscow region) for promotion of geographical knowledge and environmental problems. The main aim of these actions was the contribution of geographical education to global understanding.



*The lecture of Elena Novenko “Peatlands – unique ecosystems and treasurers of ancientry” in Stupino Museum, 12.03.2016*

The first series of these actions was carried out in March and April, 2016 and after a success the performances were repeated in April, 2017. The actions spent a full day in weekend with two week interval. The Museum provided a broad announcement in local mass medium and TV. The main topics of the actions were follow:

- Peatlands – unique ecosystems and treasurers of ancientry
- Ice age – scientific facts and hypotheses
- Men and environment: 30 thousand years long history

Additional topic “Global warming: myths and reality” was added in 2017.

Each action included two lections, one for young children and their parents and the second one for students and high school children, quiz and outdoor activity. The actions about peatlands and Ice Age included master-classes where children learned peat properties, minerals and fossil remains.

## CALL FOR PAPERS



The Environment Evolution Commission organizes a special issue of “**Quaternary International**” dedicated to the topics of Commission’s session in frameworks of The 33rd International Geographical Congress in Beijing

**Title: Climate change and human-environment interaction from Neolithic to historical times**

**Guest-editors:**

**Dr. Elena Novenko,**

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**Dr. Lyudmila Shumilovskikh,** Department of Palynology and Climate Dynamics Albrecht-von-Haller-Institute for Plant Sciences, Georg-August-University Göttingen, [shumilovskikh@gmail.com](mailto:shumilovskikh@gmail.com)

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The special issue “Climate change and human-environment interaction from Neolithic to historical times” organized by the IGU Commission on Environment Evolution in the Journal “Quaternary International” will be focused on the long-term studies of landscapes evolution, climate dynamics and human activity in different geographical regions during the Holocene. The Neolithic revolution in the early Holocene promoted the shift from hunting and gathering to agriculture and pasture economy and greatly changed the relationship between humans and their environments. Started in the Neolithic, a rapid increase of human population led to the rise and fall of ancient civilizations and foundation of modern cultures with continuous human activities affecting their surrounding

environments. Having said that, the Holocene climate fluctuations determined directions of human settlement space and therefore strongly influenced cultural evolution. The period of interest deals with an interaction of climate and humans, who changed the nature of biological systems and earth surface processes, and ultimately became a major driver of changes at regional and global scale.

We invite experts from different scientific areas to introduce new results of the experimental and theoretical studies focused on human-environment interaction from the Neolithic to historical times. The aim of the special issue is to explore the trajectory of climate change and understand the pattern, mechanisms and evolution of man-environment relationships during the Holocene. We welcome presentations concerning these issues from multi-disciplinary perspectives, to promote the advancement of research in the field. The special issue will include, but is not limited to

- 1) Regional and global climatic, landform and environmental changes connected with human impacts;
- 2) Neolithic and historical culture development influenced by environmental and climatic changes;
- 3) Historical documentary sources and their application for climate and land use reconstructions.

**Important dates and deadlines:**

July 1, 2017. Opening paper submissions

February 1, 2018. Deadline for paper submissions

June, 2018. Completion of the review and revision process

If you have any questions about paper preparation and submission, please contact to **Elena Novenko**, [lenenov@mail.ru](mailto:lenenov@mail.ru)

## FORTHCOMING EVENTS



### **IGU Thematic Conference dedicated to the centennial of the Institute of Geography of Russian Academy of Sciences “Practical geography and XXI century challenges”, Moscow, Russia, 4-6 June 2018**

The conference which will be held under the auspices of the International Geographical Union (IGU) is dedicated to the 100th anniversary of the Institute of Geography of the Russian Academy of Sciences (RAS) - the largest world-renowned geographical research organization in Russia. This occasion provides an opportunity to make an overview of the domestic and international trends in geography's development to analyze the growing impact of scientific research internationalization, the aggravation of global problems, changing theoretical paradigms, radical renewal of research methods and predictions' validity, as well as to strengthen the integration between social and environmental branches of geography. The main task of the conference is to consolidate the Russian and international experience in practically oriented studies in the field of social and environmental geography meeting the diverse and critical challenges of the XXI century.

- Social challenges
- Geopolitical challenges
- Technological challenges
- Informational challenges
- Challenges to geographical education

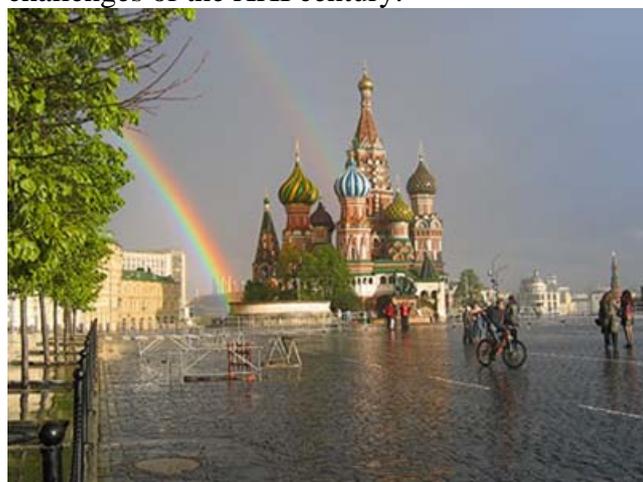


The section of **“Environmental challenges”** includes follow topics:

- Climate change: environmental security, vulnerability and adaptability of territorial systems.
- Water use and the reducing of hazardous hydrological phenomena risks.
- Geochemical processes of natural and anthropogenic substances transfer.
- The geographical basis for the creation of the territorial environmental framework: multi-scale analysis and harmonization.

All information about the Conference is available on the web-site

<http://www.igras.ru/100igras/en/>



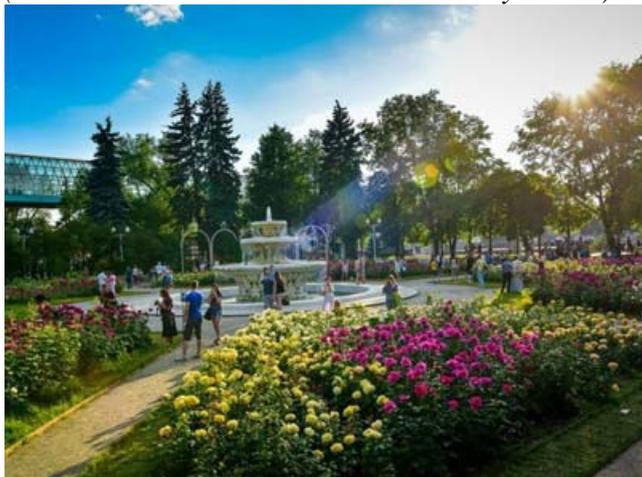
#### **Program of the Conference:**

- 100 years of Russian geography
- Environmental challenges
- Socio-environmental challenges

The IGU Commission on Environment Evolution will organize 2 special sessions in a frame of this Conference

## Session 1. Paleogeography: learning about the past for the future

(conveners: Elena Novenko and Andrey Panin)



Climate change is a major factor strongly influencing all natural, economic and social processes, and varying enormously across space and time. An assessment of ecosystems response to global climatic changes, appearing mainly as temperature growth and changes in precipitation patterns, is a key scientific problem that demands multi-proxy investigations on global, regional and local scales. Expertises in the modern status of landscapes and in projections of future changes are impossible without a good understanding of earlier landscapes, climate dynamics, and ecosystems functioning including their adaptation to environmental changes. Such knowledge would enable us to improve management options in terms of adaptation of ecosystem services to climate change and mitigation of negative impacts. The aim of this session is to bring an up-to-date perspective on environmental and climatic change and its impact on landscape dynamics and traditional land use. We invite experts from such fields as paleogeography, geology, archaeology, ecology and biology to make presentations that convey and exchange academic viewpoints on any aspects of the field. The proposed session will focus on the following resect topics: 1) environmental changes and climate variability during the Pleistocene and Holocene; 2) human impacts on landscapes in different time periods, including historical time 3) use of paleoanalogues to develop prognostic scenarios of geosystem dynamics.

## Session 2. Climate - vegetation interaction under present and future climate change scenarios

Conveners: Alexander Olchev and Alexander Kislov

The session is aimed to bring together the scientists working in the fields of climate, vegetation and land use changes. Modern climate changes have significant impact on growth and functioning of the different plant communities. On the other hand, the climate is very sensitive to land cover and vegetation changes. What are the main mechanisms of climate - atmosphere interactions, how the vegetation and land use changes influence the climate system and what is the response of the different plant communities to climate change are key questions for discussions in the session. We invite to take part in the session the specialists working in the different scientific areas (meteorology, climatology, forest ecology, paleogeography, ecological modeling, etc.)

The main topic of the session:

- 1) Current climate and vegetation changes
- 2) Forest - atmosphere interactions
- 3) Prediction of possible future vegetation and land use changes under different climate change scenarios.



### Important dates

**15 January 2018** — deadline for abstracts submission

**20 February 2018** — decision on paper acceptance; early bird registration opens

**15 April 2018** — preliminary program published

**20 April 2018** — early bird registration closes

**04 June 2018** — conference «Practical geography and XXI century challenges»

### Conference venue

The conference will be held in the main building of the Russian Academy of Sciences in Moscow's historical center near the Moskva-river

## The 2018 International Geographical Union Regional Conference, Quebec City, Canada, 6-10 August, 2018.

The theme of 2018 IGU Regional Conference in Quebec is “**Appreciating Difference**”. The conference encourages reflection and discussion on the diversity of landscapes, peoples, and knowledge that constitute our contemporary world and the challenges engendered by such differences. Difference is not in itself a threat, as environmental dangers, technological risks or climate change can be. Rather, difference may be viewed as a useful resource waiting to reveal its full potential. Among the reflections that could be discussed, let us mention:



- Bridging Nature-Cultural dualisms;
- Social dynamics within multilingual or multicultural political entities;
- Native communities and the legacy of colonialism;
- North-South dialogues in the 21st century;
- Regions and regionalism in the era of globalization;
- Critical geography and multiple ontologies;
- Differing impacts, costs and politics of environmental and climatic change at regional and global scales;
- Borders, Nation States and Postnationalism – reconsidering human migrations at multiple scales of analysis;
- How language structures geography and geographical communication.

All information about the Conference is available on the web-site

<http://igu2018.ulaval.ca/>

The IGU Commission on Environment Evolution will organize 2 special sessions in a frame of this Conference

### **Session 1. Climatic change and human-environment interactions at regional and global scales during the Holocene and recent past**

*Conveners: Alexander Olchev and Elena Novenko*



The session will be focused on a review of available knowledge on the forced and unforced climate variability and dynamics of human-environment interactions during the last 12 thousand years. Fruitful discussion needs presenting and analysis of already existed data sets and results of new observations, data from natural archives, results of modeling experiments, etc.



One of the key scientific questions of the session is to explain how human activities have influenced and changed natural ecosystems at regional and global scales and how differ

consequence of these impacts. For fruitful discussions we invite the specialists in landscape ecology and palaeoecology.

**The main topics of the session are:**

- 1) Local, regional and continental reconstructions of landscape dynamics during the Holocene using multi proxy data collected from lakes sediments, peat bogs, trees, speleothems and other natural archives;
- 2) Differing impacts, costs and politics of environmental and climatic change at regional and global scales;
- 3) Human impacts and land use in the Holocene and in the recent past;
- 4) Historical documentary sources and their application for climate reconstructions over timescales from the medieval period to the 20th century.
- 5) The effect of land use / land cover changes on landscape structure.



## **Session 2. Climate - vegetation interaction under past and future climate conditions**

*Conveners: Alexander Olchev and Elena Novenko*

The session is aimed to bring together the scientists working in the fields of climate - vegetation interaction, climate and land use changes. The climate changes have significant impact on growth and functioning of the different plant communities. On the other hand, the climate is very sensitive to land cover and

vegetation changes. What are the main mechanisms of climate - atmosphere interactions in past and at present, how the vegetation and land use changes influence the climate system and what is the possible response of the different plant communities to climate change in future are key questions for discussions in the session. We invite to take part in the session the specialists working in the different scientific areas (meteorology, climatology, ecology, paleogeography, etc.)

The main topic of the session:

- 1) Climate and vegetation changes in the past epochs;
- 2) Modern climate and vegetation changes and its interaction;
- 3) Projections of possible future vegetation and land use changes under different climate change scenarios.
- 4) Men - climate - vegetation interaction under climate changes.



## **Important Dates**

Call for Papers **October 2017**

Registration - Early Bird **November 2017**

Deadline for abstracts submission **March 2018**

Registration – Regular **March 2018**

Notification of acceptance to authors and mailing of invitation letter **May 2018**

Registration – Late **July 2018**

The Newsletter of the IGU Commission on Environment Evolution is published annually and distributed electronically to the members of the Commission and IGU society. The newsletter is also posted on the website: <http://eecom.org>

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