



International Geographical Union COMMISSION ON LAND USE AND LAND COVER CHANGE



January
2022

COMMISSION REPORT 2021

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A. MEMBERSHIP

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Members

There are 185 members in the IGU Commission on Land Use and Land Cover Change. We can find out the country origin for 76% of them.

Country	Number of members	Country	Number of members
Japan	20	Afghanistan	1
Czech Republic	18	Australia	1
Italy	9	Bulgaria	1
Romania	9	Brazil	1
Slovakia	8	Canada	1
Austria	7	Ecuador	1
China	7	Finland	1
Germany	6	France	1

South Africa	5	Greece	1
Poland	3	Iran	1
Portugal	3	Israel	1
Slovenia	3	Jamaica	1
Taiwan	3	Mexico	1
Turkey	3	New Zealand	1
India	4	Spain	1
Indonesia	2	Sri Lanka	1
Ireland	2	Switzerland	1
Nigeria	2	Thailand	1
Russia	2	United Kingdom	1
The Netherlands	2	Zambia	1

B. MEETINGS

Last meetings

PRE-IGU CONGRESS SEMINAR (August 12 – 14, 2021, Varna, Bulgaria),

<https://nnpos.wordpress.com/pre-congress-seminar/>

The PRE-IGU CONGRESS SEMINAR was held between 12 – 14 August 2021 in Varna (Bulgaria). The conference was organized by the Commissions for Local and Regional Development and Land Use and Land Cover Change at the International Geographical Union (IGU), and the Bulgarian “Environmental Protection and Reduction of Risks of Adverse Events and Natural Disasters” National Science Program.

As a result of this cooperation between the IGU Commissions and the Bulgarian National Science Program, the conference topics were the following: Local and Regional Vulnerabilities to Natural Hazards – Resilient Cities and Communities; Challenges of Urban and Rural Areas – Impacts on Local and Regional Development; Socio-economic Disparities and Local and Regional Development; Land Use and Land Cover Change and Land Degradation; Causes and Consequences of Land Use/Cover Changes; Ecosystem Services; Biodiversity; Natural Hazards and Risks; Geographic Information Science.

The conference was organized in the classic, face-to-face format and more than 40 people took part, mostly from Central and Eastern Europe.

The following LUCC Steering Committee Members have taken part in the Pre-Congress Seminar: Monica Dumitraşcu (Chair), Matej Gabrovec (past-chair), Bernd Cyffka (Committee Member).

TURKEY, Istanbul, August 2021

The LUCC commission organized 4 sections part of the IGU’s 34th Geographical Congress which was held on Istanbul between the 16th and the 20th of August 2021. Further information is available at <https://www.igc2020.org/en/default.asp> and <https://www.igc2020.org/en/LAND-USE-AND-LAND-COVER-CHANGE.html>

The sections are titled as follows:

1. Change in Land Systems and Its Implications for the Ecosystem and Environment of Upper Asia;
2. Driving Forces of Land-use Changes;
3. Land cover/land use and its change data-valuable source of information about landscape dynamics
4. Long-term Land-use and Land-cover Changes

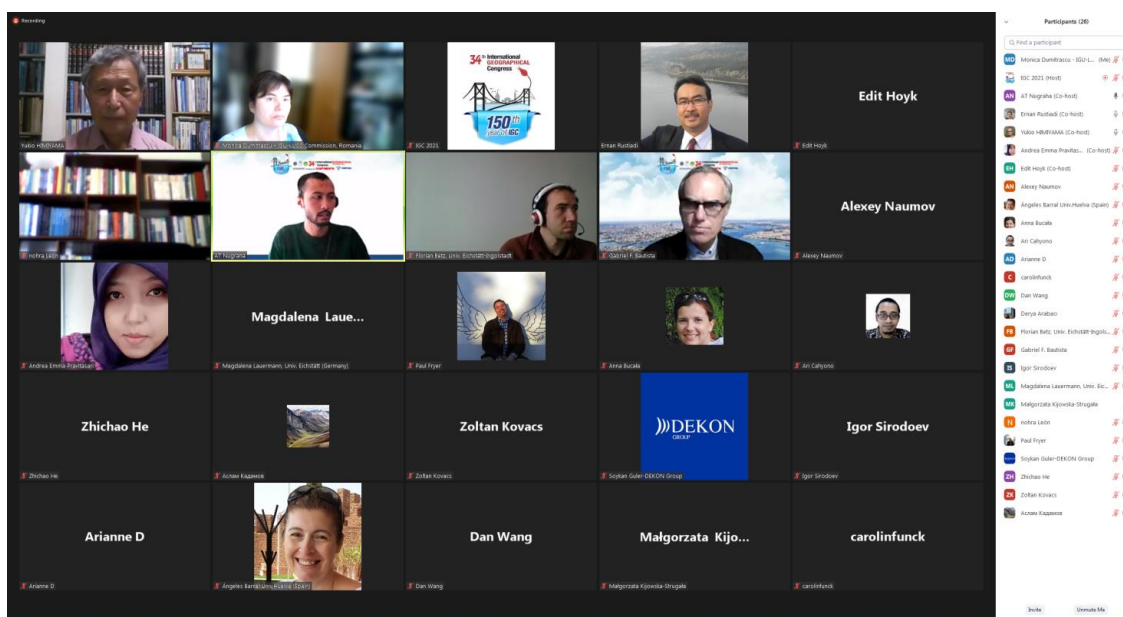


The IGU LUCC Commission was involved in the 34th IGU Congress through 25 scientific papers grouped into 7 slots on the 16th and 20th of August, 2021. The topics of the presented works were in line with the general theme proposed by the LUCC Commission for the 34th IGU Congress, that is, Long-term Land-Use and Land-Cover Changes, Driving forces of Land-Use Changes, Land Cover/Land Use and its Change Data – Valuable Source of Information About Landscape Dynamics, Change in Land System and its Implications for the Ecosystem and Environment of Upper Asia. In addition, one session was organised in collaboration with the Biogeography and Biodiversity IGU Commission on the topic of Land Use/Cover Change Impacts on Mountain Landscapes.

Of the 25 papers submitted, 23 were presented, since two of the authors were not present.

The issues discussed during the sessions focused on the assessment of various theoretical, methodological and practical aspects of land use/land cover change in countries with diversified economic, social and political systems such as: Great Britain, Poland, Czech Republic, Slovenia, Hungary, Romania, Russia, Japan, China, India, Mongolia, Pakistan, Kyrgyzstan, Indonesia, Thailand and Ethiopia. The main topics of discussion focused on: land cover and landscape change using historical maps; the impact of socio-economic and political changes on land use/land cover change, urban expansion; the impact of extreme events on land use/land cover change, the driving forces of land-use changes. The wide spatial coverage of the discussed topics and the participation of outstanding scholars from prestigious universities and research institutions have revealed various ideas, experiences and models related to land use/land cover changes.

Each slot was attended by an average of 15 to 30 participants, which was conducive to active discussions on the topics presented, as well as discussions on the future activities of the LUCC Commission and the possibilities of expanding it.



The following LUCC Steering Committee Members took part in the 34th IGC: Monica Dumitrașcu (Chair), Yukio Himiyama (Honorary Member) and Bernd Cyffka (Committee Member).

International Workshop on Geography and Sustainability (GeoSUS) 2021 (November 23-24, 2021), Beijing, China, on-line; <https://geosus2021.scievent.com/>

The International Workshop on Geography and Sustainability was held online via Zoom between the 23rd and 24th of November, 2021. The workshop's theme was "The Geography of the Anthropocene: Transforming our World for Sustainable Development". It was organized to identify critical research areas in the field of geography and sustainability, and to present geographical case studies on sustainable development. The workshop was hosted by the International Geographical Union (IGU) (nine commissions were involved), co-organized by Beijing Normal University and the Geographical Society of China, and supported by the Geography and Sustainability Journal. The workshop focused on land degradation, disaster risk, water resources, agricultural geography, geographical modelling, urban land use, heritage park, geographical education.

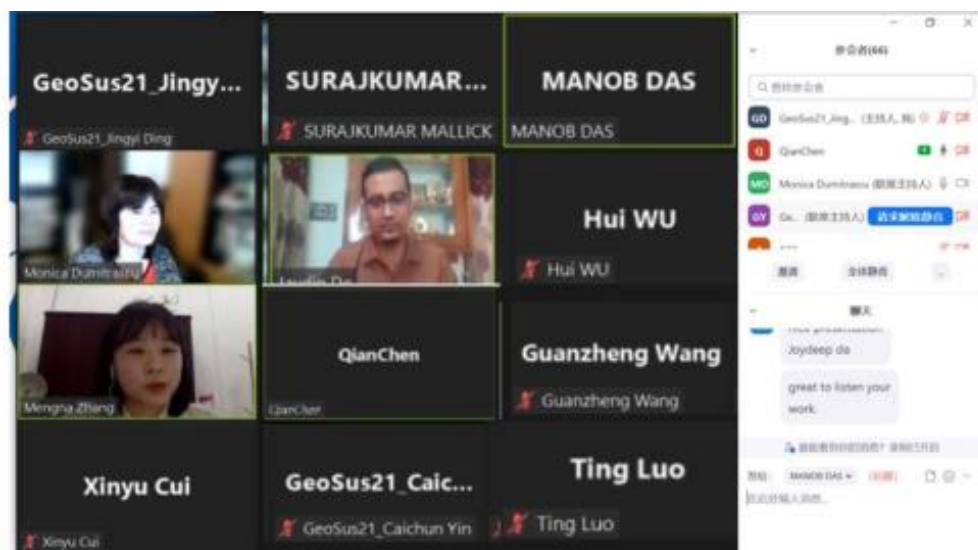
The IGU Commissions involved were: the IGU Commission on Agricultural Geography and Land Engineering; the IGU Commission on Geography for Future Earth: Coupled Human-Earth Systems for Sustainability; the IGU Commission on Geoheritage; the IGU Commission on Hazard and Risk; the IGU Commission on Land Degradation and Desertification; the IGU Commission on Land Use and Land Cover Change; the IGU Commission on Water Sustainability; the IGU Commission on Modelling Geographical Systems, the IGU Commission for Young and Early Career Geographers Task Force.

During this Workshop, two LUCC sessions were organized where 20 papers were presented.

Panel Session I: Land use change and sustainable development, organised by the IGU Commission on Land Use and Land Cover Change. There were 11 presentations on the topic of land use change and sustainability. There were speakers from all over the world, but mainly from China, Japan, India, Albania and Nigeria. The presentations covered a wide range of topics on land use change, including ecosystem service trade-offs, land use changes in big cities, rubber plantation changes, forest degradation, the impact of a water diversion project on ecosystem service values, the ecological effects of impervious surface expansion, spatial-temporal changes in vegetation, carbon emission efficiency, the spatial distribution of soil nutrients and changes in urban green spaces. The studies covered a wide range of systems, ranging from big cities (e.g., Wuhan) to large river basins (e.g., the Yangtze), from agriculture systems (rubber plantation) to forests, from riparian systems to urban green spaces at the country scale.



Panel Session C: *Urban and sustainable development* organized by the IGU Commission on Land Use and Land Cover Change. This session included 9 presentations on the topic of urbanization, land use cover changes in urban areas, and sustainability. The speakers were mainly from Asia (China and India). This session drew in 65 attendees. The presentations covered interesting topics, ranging from land use changes in classic regions across decades to urban expansion in big cities, from ecosystem services valuation to the supply-demand balance of ecosystem services, from the impact of the pandemic lockdown to carbon neutralization. The systems discussed ranged from coastal delta to large river basins, from big regional cities to country scale environments.



Forthcoming meetings

Paris, France, IGU Centenary Congress, July 18-22, 2022



The LUCC Commission has proposed 4 sessions, all of which are to take place in person:

1. Land Use/Land Cover Change Driving Forces and Impacts;
2. Long-Term Land Use/Land Cover Changes Evaluation: Towards the Definition of General Concepts in Land Use/Land Cover Science;
3. Land Use/Land Cover Change Mapping: Data and Methodology,
4. Land Use/Land Cover Changes and Land Degradation in the Anthropocene;

C. NETWORKING

The LUCC commission collaborated with the commissions on Local and Regional Development, Biogeography and Biodiversity, as well as Land Degradation and Desertification. Also LUCC commission collaborated with Commission on Geography for Future Earth: Coupled Human-Earth Systems for Sustainability and Commission on Health and Environment.

Collaboration with IGU Commissions:

- Commission on Local and Regional Development
- Commission on Biogeography and Biodiversity
- Commission on Geography for Future Earth: Coupled Human-Earth Systems for Sustainability;
- Commission on Mediterranean Basin
- Commission on Land Degradation and Desertification
- Commission on Health and Environment

Other institutions:

- Institute of Geography, Romanian Academy
- *Anton Melik* Geographical Institute, Slovenia
- Charles University, Prague, Czechia
- Institute of Geography, Slovak Academy of Sciences
- Hokkaido University of Education
- National Institute for Geophysics, Geodesy, and Geography, Bulgarian Academy of Sciences
- Journal - *Open Geoscience*
- Journal - *Romanian Journal of Geography*
- India Geographical Society
- China Geographical Society
- Beijing Normal University
- Journal - *Geography and Sustainability*
- Journal - *Land (MDPI)*

The commission's website: <http://lucc.zrc-sazu.si/> updating and addition of new material.

D. PUBLICATIONS

The majority of LUCC Atlases have been published on-line. They are available on the LUCC Commission website (<http://lucc.zrc-sazu.si/>)

- In 2021 the IGU LUCC - Volume XV was published
<http://lucc.zrc-sazu.si/Publications/Atlases/VolumeXV>

Editors: Yukio Himiyama Hokkaido University of Education, Japan
Lucie Kupkova Charles University, Czechia

Contents: Ancient Landscapes of Moravia: Inventory of the sites that have avoided land use changes over the long-term in the Czech Republic (Jaromír Kolečka)

In 2021 a special issue was proposed in the LAND (MDPI) Journal on the topic "*Urban Landscape Dynamics: Recent Trends and Future Challenges*", guest editors: Monika Kopecká, PhD., Monica Dumitraşcu, PhD., Lucie Kupková, PhD. More details are to be found at the following address:

https://www.mdpi.com/journal/land/special_issues/urban_landscape_dynamics