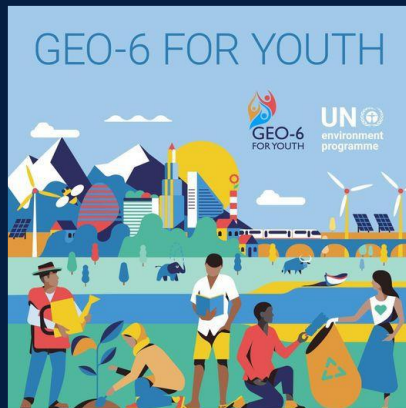


# Towards Transformational Change

## Potential Contributions of ISPRS and the Role of the Youth in Sustainable Development

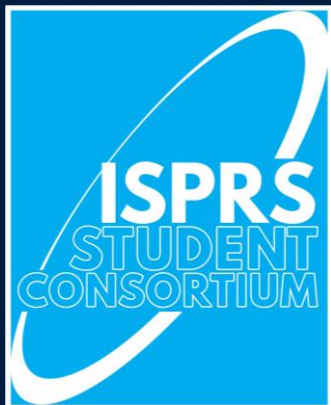


This forum is organized by the ISPRS Student Consortium in partnership with the United Nations Environment Programme (UNEP). The main objectives of this forum are to promote the recently released Global Environment Outlook 6 for Youth report ([#GEO6YouthReport](https://www.unep.org/resources/geo-6-youth), <https://www.unep.org/resources/geo-6-youth>) and to engage the youth and experts in ISPRS in a discussion about the linkages between sustainable development and the fields of remote sensing, photogrammetry and spatial information science.



The Global Environment Outlook 6 for Youth (GEO-6 Youth Report) is the first fully interactive e-publication from the United Nations Environment Programme (UNEP), written by 28 young authors from around the world for youth to inform, engage, educate and lead youth towards environmental action. The report covers the current state of the planet, sustainable development, green jobs and how the youth can bring transformative change for the environment.

The ISPRS Student Consortium is the representation of the youth to ISPRS, which is also the target audience of the GEO6 Youth report. The fields of remote sensing, photogrammetry and spatial information science hold a lot of potential in helping the general public, particularly the youth, in understanding the global challenges that we face today. The youth is the future of ISPRS and by bringing these important issues for discussion and reflection, we can define the possible contributions of our scientific community in addressing the global challenges and help in building a healthier, more sustainable planet for all.



### PRESENTATIONS



Christian Heipke, ISPRS President  
*The Roles of Remote Sensing,  
Photogrammetry and Spatial Information  
Science in Sustainable Development*



Sheryl Rose Reyes and Al Anoud Al-Khatlan,  
GEO-6 Youth Report Authors  
*About the GEO-6 For Youth Report*

### INTERACTIVE PANEL DISCUSSION



Maria Antonia Brovelli  
Politecnico di Milano



Khaled Mashfiq  
UNOSAT



Laura Mugeha  
Sanergy



Pierre Boileau  
UNEP



Thuy Le Toan  
CESBIO

## Introduction to the forum

## About the UNEP GEO-6 for Youth Report

Sheryl Rose Reyes and Alanoud Alkhatlan, GEO-6 for Youth Authors

## Roles of Remote Sensing, Photogrammetry and Spatial Information Science in Sustainable Development

Christian Heipke, ISPRS President

## Introduction of Panelists

## Interactive Panel Discussion

Maria Antonia Brovelli, Politecnico di Milano

Khaled Mashfiq, UNOSAT

Laura Mugeha, Sanergy

Pierre Boileau, UNEP

Thuy Le Toan, CESBIO

## Q&A (Audience Participation)

## Summary of Key Points of Discussion



Christian Heipke,  
ISPRS President

### *The Roles of Remote Sensing, Photogrammetry and Spatial Information Science in Sustainable Development*

Christian Heipke is a professor of photogrammetry and remote sensing at Leibniz Universität Hannover, where he currently leads a group of about 25 researchers. His professional interests comprise all aspects of photogrammetry, remote sensing, image understanding and their connection to computer vision and GIS. He has authored or co-authored more than 300 scientific papers, more than 70 of which appeared in peer-reviewed international journals. He is the recipient of the 1992 Otto von Gruber Award, the 2012 Fred Doyle Award, both from the International Society of Photogrammetry and Remote Sensing (ISPRS), and the 2013 Photogrammetric (Fairchild) Award from ASPRS.

From 2004 to 2009, he served as vice president of EuroSDR (European Spatial Data Research, formerly known as OEEPE). From 2011-2014 he was chair of the German Geodetic Commission (DGK). Currently he serves as the President of ISPRS.



Sheryl Rose Reyes,  
GEO-6 for Youth Report  
Author  
ISPRS SC President

### *About the Global Environment Outlook for Youth 6 (GEO-6 Youth Report)*

Sheryl Rose Reyes received the M.Sc. degree in remote sensing and the B.Sc. degree in geodetic engineering from the University of the Philippines, Diliman in 2013 and 2008, respectively. She is currently pursuing a doctorate degree in sustainability science at the United Nations University – Institute for the Advanced Study of Sustainability in Tokyo, Japan. Her research interests include the demand and supply of ecosystem services, land cover change modelling, GIS and remote sensing. She is also an Assistant Research Scientist at the Geomatics for Environment and Development Laboratory of the Manila Observatory in the Philippines. She was also one of the lead authors for the Global Environment Outlook 6 for Youth Report (GEO-6 for Youth), which was the first fully interactive e-publication of the United Nations Environment Programme (UNEP). In addition to her academic interests, she is also the current President of the International Society for Photogrammetry and Remote Sensing Student Consortium (ISPRS SC), the representation of the youth and students in ISPRS.



Al Anoud Al-Khatlan,  
GEO-6 for Youth Report  
Author

AlAnoud Alkhatlan, is a researcher from Kuwait and worked in the Ministry of Education. She received her PhD in natural resources and environment from the Arabian Gulf University (AGU). She is interested in the marine environment and worked on monitoring and mapping marine pollution. She has published research in mapping marine habitats using remote sensing techniques. In addition, she contributed to several UNEP reports: the Global Environment Outlook 6 (GEO-6) of West Asia (contributing author), the main assessment GEO-6 global report (as a GEO fellow), GEO-6 for Youth report as a coordinating lead author, and as chairperson and author of the GEO-6 for Youth of West Asia.

# PANELISTS AND MODERATORS

## PANELISTS



Maria Antonia Brovelli  
Politecnico di Milano

Professor of GIS and Copernicus Uptake at the Politecnico di Milano (PoliMI), member of the School of Doctoral Studies in Data Science at "Roma La Sapienza" University. She was the Head of the Geomatics Laboratory of PoliMI (1997- 2011) and the Vice-Rector of PoliMI for the Como Campus (2011-2016).

She is the Chair of ISPRS WG IV/4 "Collaborative crowdsourced cloud mapping (C<sup>3</sup>M)"; member of ESA ACEO (Advisory Committee of Earth Observation); co-chair of the United Nations Open GIS Initiative, Chair of the UN-GGIM (Global Geospatial Information Management) Academic Network, mentor of the PoliMI Chapter of YouthMappers (PoliMappers).



Khaled Mashfiq  
UNOSAT

Khaled Mashfiq is a DRR professional with over thirteen years of experience, passionate about applying technology solutions for smarter decision making. He is currently working as the Liaison Officer for UNITAR-UNOSAT Asia Pacific office in Bangkok. He holds a master's degree in earthquake engineering, bachelor's degree in civil engineering and trained on GIS and Remote Sensing. Some of his notable fields of expertise are geographic information system, remote sensing, disaster risk modelling, climate change monitoring, big-data analytics, structural engineering. Currently he is leading decision support activities of UNITAR-UNOSAT's flagship climate resilience building project CommonSensing.



Pierre Boileau  
UNEP

Pierre Boileau is currently the Head of the Global Environment Outlook programme at UN Environment. In this role he has led his team to complete the sixth Global Environment Outlook (published in March, 2019) as well as 6 regional environmental assessments (May, 2016). As part of the sixth Global Environment Outlook, Pierre's team worked closely with more than 160 experts and authors to produce the analysis contained in the publication. The findings in the sixth Global Environment Outlook global assessment are closely linked to pathways for achieving the Sustainable Development Goals as well as a 'Healthy Planet for Healthy People', which is the theme of the report.

Prior to this Pierre was the Head of the International Energy Agency's Non-member country energy statistics section where he led a team of statisticians that produce IEA's global energy data publications as well as various electronic data products.



Laura Mugeha  
Sanergy

Laura is a Geospatial engineer working in the intersection of open technology, open data, and development. She currently works with a social enterprise in Kenya to support teams in using data for good. Additionally, Laura is a YouthMappers regional ambassador, where she supports chapters in East and Central Africa. In her free time, she volunteers with local open data and FOSS communities.



Thuy Le Toan  
CESBIO

Thuy Le Toan obtained a Ph.D degree in Atomic and Nuclear Physics in Toulouse, France. Her research activity has been in the area of radar remote sensing for land applications. Her current interest is on the use of Radar Earth Observation data for agriculture crop and forest land, with a focus on their role in the global carbon budget and climate change.

She is P.I of the ESA Biomass mission and currently Co-chair of the Biomass Mission Advisory Group. She is members of research projects on Earth Observation including the ESA Climate Change Initiative on Above-ground-biomass; the CNES Space Climate observatory projects; and the JAXA Kyoto and Carbon Initiatives. She is Co-lead of the Asia-Rice Initiative, and currently leading the ESA-GEORICE project in South East Asia.

She has been leading a research group at CESBIO, and supervisor of PhD students and post-doc researchers at the University Paul Sabatier, Toulouse, France; and Co-supervisor of PhD students through international collaboration in Europe, US, and Asia. She has been lecturing and conducting training courses on SAR Remote Sensing at Universities and Research organisations, mainly in Europe and Asia.

## MODERATORS



Adele Roccato  
UNEP

Adele Roccato is an Assessment Specialist at the United Nations Environment Programme (UNEP). She coordinates the production of global environmental assessment reports with a particular focus on youth, environmental policy, sustainable food system and climate, including the newly launched [GEO-6 for Youth](#) report and the ['Making Peace with Nature'](#). She first joined UNEP in 2018 after an internship at UNHCR in London. She holds a MSc in Development Studies from SOAS, University of London.

*Adele will be moderating the forum together with Sheryl Rose Reyes.*