



UPDATES OF ISPRS ACTIVITIES FOR SDGS

UN-GGIM, JOINT SIDE EVENT, NEW YORK, USA, AUGUST 5, 2019

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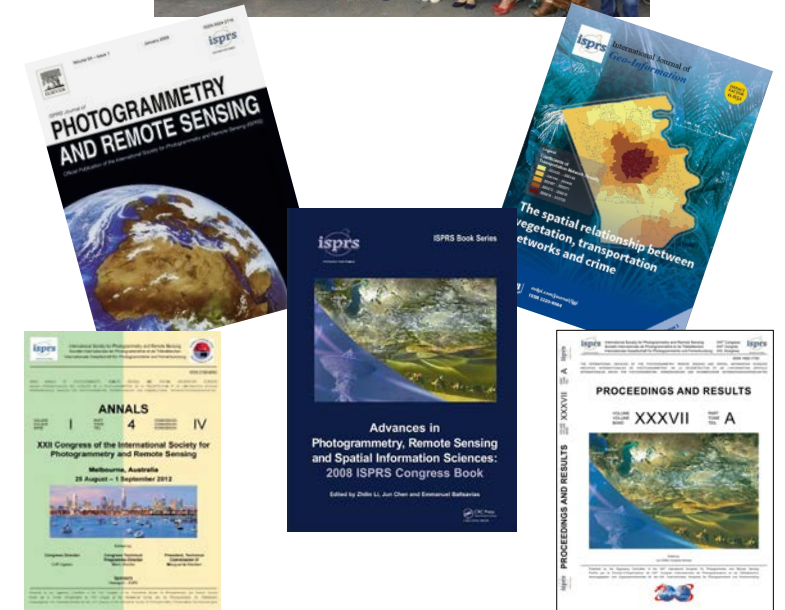


ABOUT ISPRS

- ISPRS is an international NGO with a focus on:
 - **science** and **development**
 - in photogrammetry, remote sensing, spatial information
 - **cooperation** between all relevant stakeholders
 - academia, private industry, government, end users
 - truly global **cooperation**
 - **education**, technology transfer, **capacity building**

- **Scientific Initiatives (SI)**

- **Educational & Capacity Building Initiatives (ECBI)**





ISPRS MISSION: WHY WE EXIST

- *... to advance the photogrammetry, remote sensing and spatial information **sciences** through international cooperation in **research, development** and **education** for the benefit of society and for environmental sustainability.*

(from ISPRS Strategic Plan 2010)



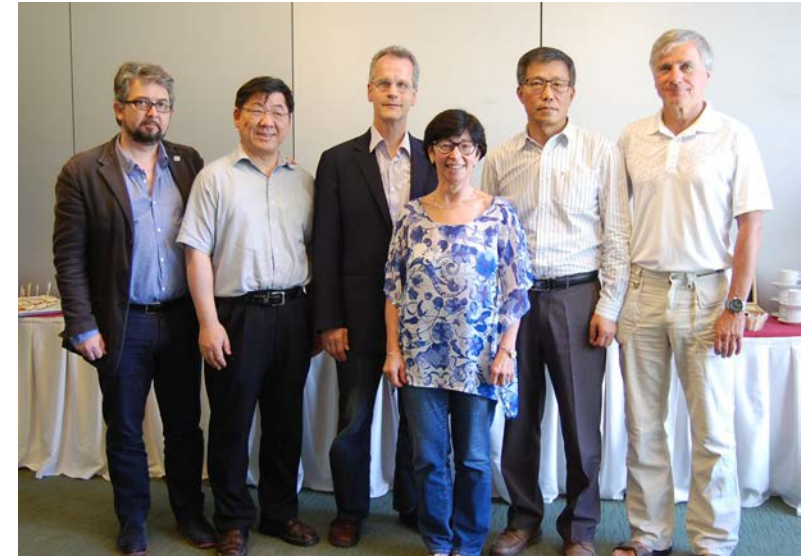
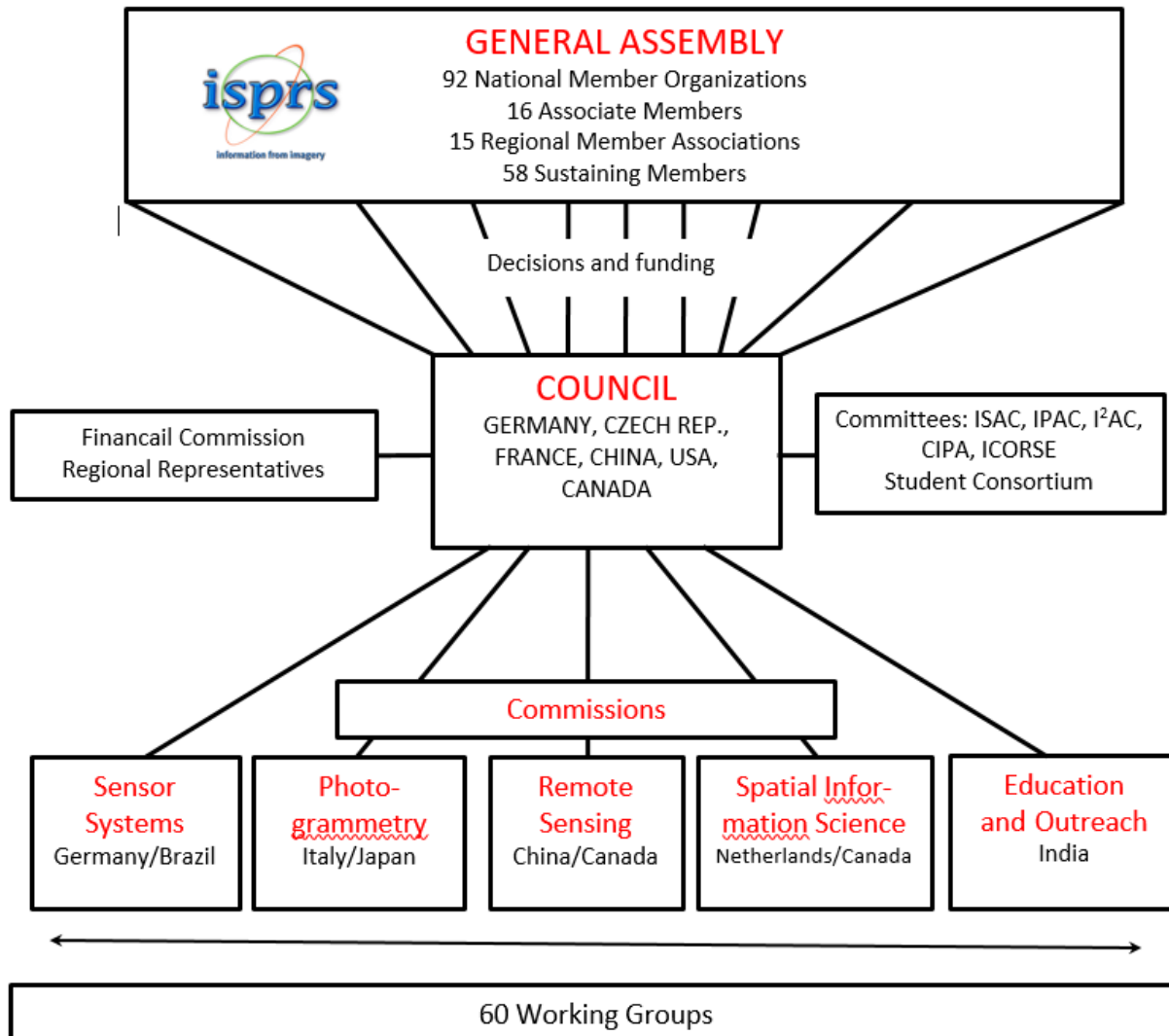
ISPRS VISION: WHERE WE WANT TO GO

- ... to be the foremost scientific society in its field and *for the Society* at large,
- to speak *for all people* working in the field,
- to provide the *necessary resources* to develop the field.

(from ISPRS Strategic Plan 2010)



ISRPS STRUCTURE (2016 – 2020)





ISPRS COMMISSIONS, WGS AND GENERAL MEETING SCHEDULE

- Each Commission is responsible for approx.
 - **10 working groups** (approx. 60 in total)
- WGs cover **dedicated topics**
 - “this is where the actual work is done”, e. g.
 - benchmark tests
 - common theoretical and experimental investigations
 - editing of special journal issues
 - organisation of focussed workshops, tutorials, seminars
- **Inter-commission WGs** ensure collaboration
- **New WG setup** every 4 years
- ISPRS Congress for all in „Summer Olympic years” (2000 – 3000 participants)
- ISPRS Geospatial Week in odd years
 - approx. 500 - 700 participants
- One Symposium per Commission in “**Soccer World Cup Years**” (approx. 300 - 500 participants each)
- **Smaller Workshops, organized by WGs**

2016	2017	2018	2019	2020
Congress Prague	GSW Wuhan	Symposia	GSW Enschede	Congress Nice



ISPRS Congress 2020 Nice, France

Imaging today, foreseeing tomorrow

www.isprs2020-nice.com

June 14 – 20, 2020





PAST ACTIVITIES

- 2017 Scientific Initiatives

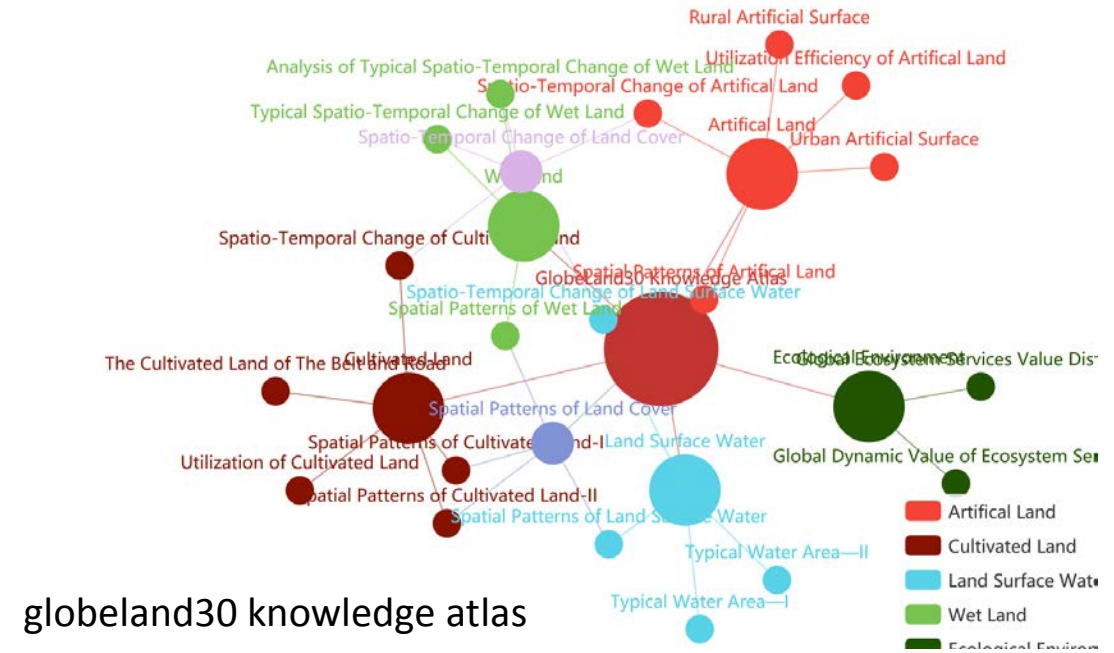
- An ISPRS contribution to Transforming our World: Integration of GlobeLand30 with additional geospatial and socio-economic data for monitoring United Nation Sustainable Development Goals

- 2018 Educational and Capacity Building Initiatives

- Capacity Building for High-Resolution Land Cover Inter-comparison and Validation

- ISPRS encourages community participation on all projects, preferably with the involvement of multi-national investigators.

(Delivered two hands-on workshops)





PAST ACTIVITIES CONT.

- Theme Section on UN Sustainable Development Goals (SDG) in ISPRS Journal for Photogrammetry and Remote Sensing
 - edited by John Trinder, Sisi Zlatanova and Jie Jiang; published in August 2018 (Vol. 142)
- Special Issue on "Measuring and Monitoring Progress towards SDGs by Integrating Geospatial and Statistical Information" in ISPRS International Journal of Geo-Information
 - edited by Jun Chen, Songnian Li, Yifang Ban; ongoing
- ISPRS Workshop on Collaborative and Dynamic Land Cover Information Services Supporting UN Sustainable Development Goals, Jinan, China, 16 September 2017





ISPRS Scientific Program on Monitoring SDGs

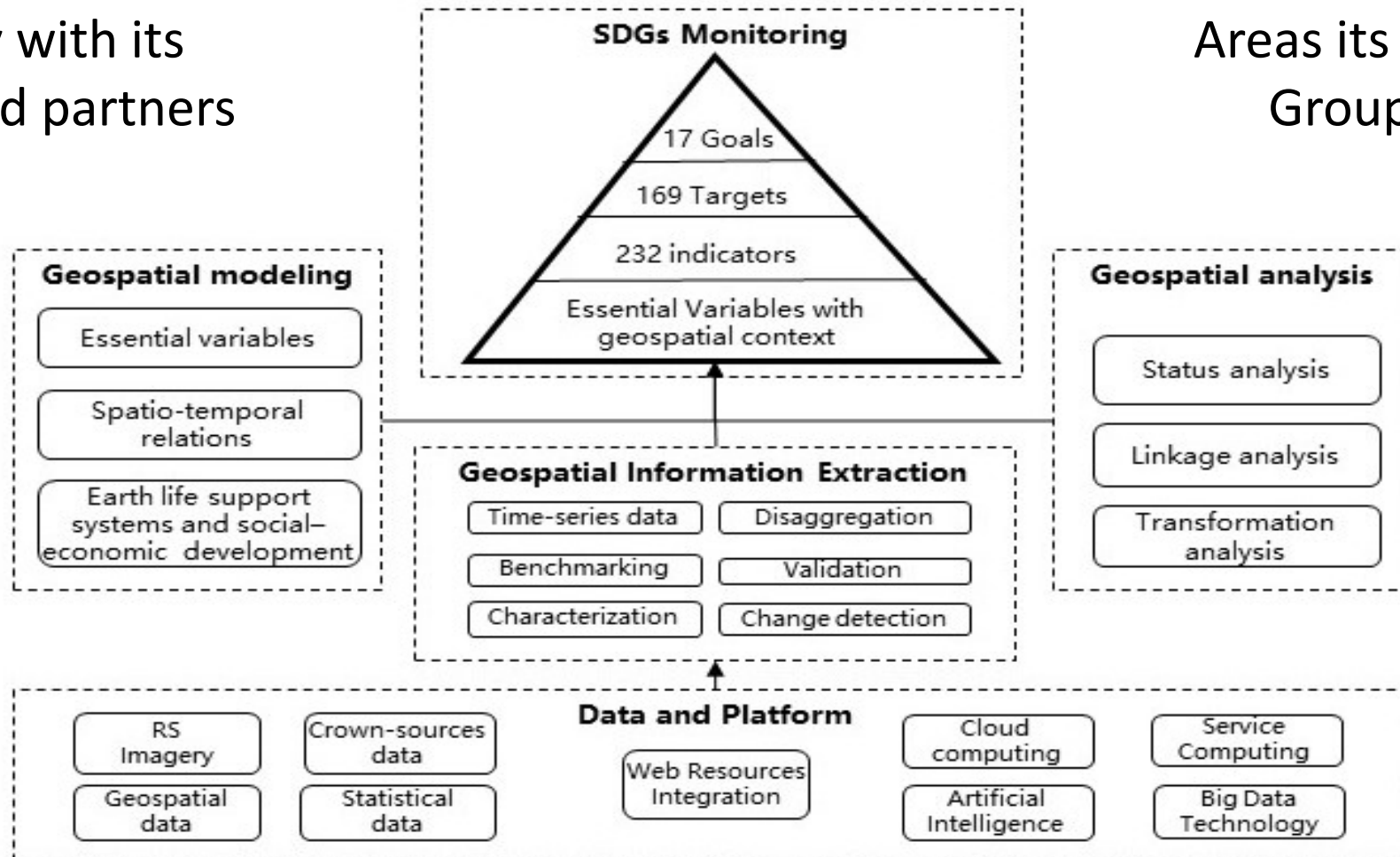
- Goal
 - to advance and achieve geospatial-enabled SDGs monitoring by mobilizing and integrating resources from ISPRS and its members
- Objectives
 - identify key scientific and technological challenges of geospatial information and Earth observations for SDG monitoring
 - showcase the use of geospatial information and Earth observations as well as statistical and other data sources
 - develop novel and innovative methods for deriving essential geospatial variables for SDGs through e.g., machine learning, big data analytics
 - establish geospatial knowledge services and collaboration platforms
 - increase awareness and understanding of the vital and integrative role of geospatial information and Earth observations
 - build capacities in using geospatial information and Earth observations



ISPRS SCIENTIFIC PROGRAM ON MONITORING SDGs CONT.

Work closely with its members and partners

Areas its over 60 Working Groups can contribute





ISPRS SCIENTIFIC PROGRAM ON MONITORING SDGS CONT.

2 ZERO HUNGER



- End hunger, achieve food security and improved nutrition and promote sustainable agriculture, e.g.:
 - ▣ 2.3.1 Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size
 - ▣ 2.4.1 Proportion of agricultural area under productive and sustainable agriculture

ISPRS WG III/10: Agriculture and Natural Ecosystems Modelling and Monitoring

- ❖ Development of new methodologies and algorithms for improving the contribution of remote sensing towards knowledges related to **agriculture and natural ecosystems**
- ❖ Apply remote sensing for supporting **precision agriculture** by spectral signature in **crops** for **smart farm management**
- ❖ Support **climate change** studies through remote sensing applications for **global** and regional scales dynamics monitoring and modelling
- ❖ Collaborate with related academia, researchers, industry and other stakeholders



ISPRS SCIENTIFIC PROGRAM ON MONITORING SDGS CONT.

15 LIFE ON LAND



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss, e.g.:

- ▣ 15.1.1 Forest area as a proportion of total land area
- ▣ 15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
- ▣ 15.3.1 Proportion of land that is degraded over total land area
- ▣ 15.4.2 Mountain Green Cover Index

ISPRS WG III/7 – Land-use and Land-cover Change Detection

- ❖ Develop algorithms and methodologies for land-use and land-cover change detection
- ❖ Suggest advanced solutions for monitoring land –cover changes
- ❖ Study the dynamics of land-use and land-cover change in different regions of the world
- ❖ To further the research and investigations into predicting land-use changes
- ❖ To study urban land-use development cycles and changes in rural land-cover and land-use (e.g., Agriculture, forestry, recreation), based on data and information fusion



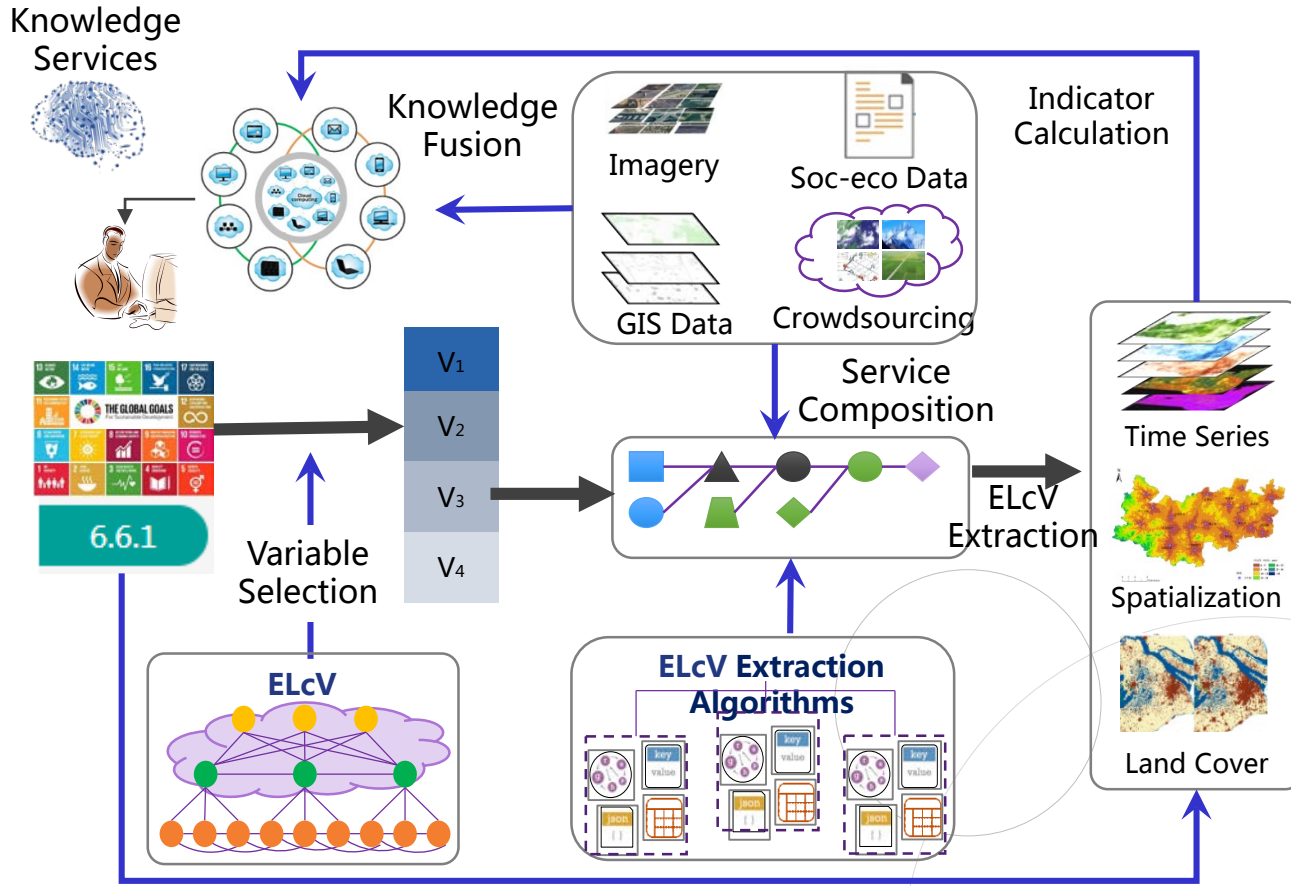
ISPRS SCIENTIFIC PROGRAM ON MONITORING SDGs CONT.

- Opportunities and challenges of GI4SDGs
- SDGs monitoring examples with geospatial perspective
- Definition and modeling of geospatial essential variables for SDGs monitoring
- Innovative approaches for representing spatial information in support to sustainable development
- Algorithms and methods for deriving geospatial essential variables, e.g. machine learning, big data analytics, cloud computing and other technologies
- Global mapping initiatives and progresses at national and international levels
- Integrating crowdsourced data and VGI with geospatial data
- Developments and applications of geospatial knowledge service and collaborative platforms to meet SDGs assessment and monitoring
- Other related topics



(<http://www.geoinfobar.com/gi4sdgs/>)

MODELS/METHODS FOR GEOSPATIAL-ENABLED SDGS MONITORING

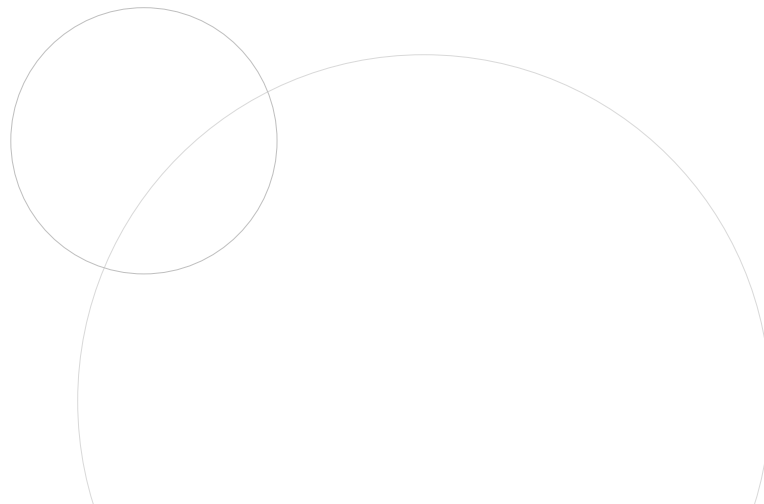


- A key project just approved by the National Nature Science Foundation of China (5 years, 3.3 million Chinese Yuan)
 - Essential Land Cover Variables (ELcV)
 - ELcV screening, extraction and usage
- An example of how ISPRS national members support and work with ISPRS for the Scientific Program on SDGs
- Call for international cooperation



To finish up ...

- A number of the SDGs can benefit from contributions from the photogrammetry, remote sensing and spatial information sciences technologies, which are the focus areas of ISPRS.
- There are challenges but also great opportunities for geospatial communities to work together on developing solid solutions to support the assessment and monitoring of SDGs.





THANK YOU



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<http://www.isprs.org>

