



Report from the Task Team on Satellite Imagery, Remote Sensing and Geospatial Data

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Utilising satellite imagery and geo-spatial data for official statistics and indicators for post-2015 SDGs

- Identify the most reliable and accurate statistical methods for estimating quantities of interest.
- Suggest approaches for collecting representative training data of sufficient quality.
- Research, develop and implement assessment methods for predictive models including measures of accuracy and goodness of fit.
- Establish strategies to reuse and adapt algorithms across topics and to build implementations for large volumes of data.



Build methods to address challenges via pilot studies



Task Team Members

- Chaired by the Australian Bureau of Statistics
- 7 national statistical agencies
 - Australia, China, Colombia, Morocco, Pakistan, Mexico, Oman
- 7 international agencies, universities and companies
 - ITU, UNSD, Queensland University of Technology, University of Queensland, FAO, Google, IBM
- UN Committee of Experts on Global Geospatial Information Management



NATIONAL CENTRE FOR STATISTICS & INFORMATION
ENHANCING KNOWLEDGE



Queensland University of Technology
Brisbane Australia





Sources

ITU: Identify the satellite sensing datasets useful for official statistics

Methodology

Australia: Crop type and yield prediction using satellite imagery

FAO: Ground truthing/measurement

QUT: Methodological analysis for agriculture

Applications

Colombia: land urbanisation (Sandra Rodriguez)

Google: crude oil consumption (Patrick Dunagan)

Mexico: Climate patterns + Identifying rural-urban systems (Juan Munoz)



Challenges

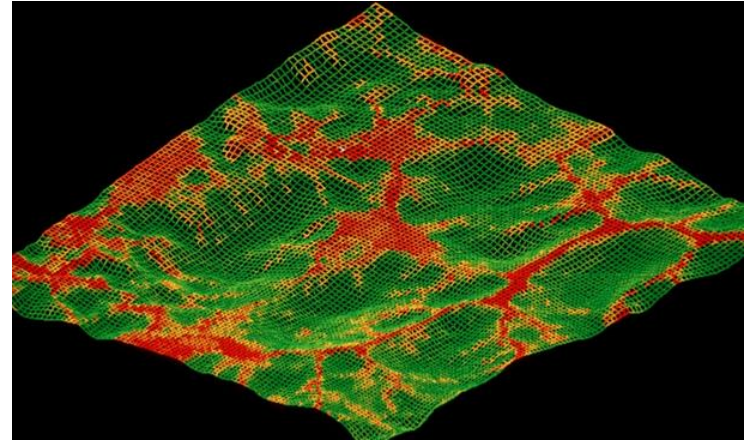


- Pre-processing of the satellite imagery data
 - Ensure reliability and comparability across sources and over time
 - Align data to statistical boundaries
- Gathering ground truth data
 - At the right level of granularity
- Image processing
 - Develop/learn algorithm
- Priority and resourcing





- 2015 - Complete and document pilot projects covering:
 - Activities, sources used, processing methods, results, institutional issues, vision and recommendations for official statistics production
- 2016 - Report of the Task Team to UNSC
 - Sources
 - Methods
 - Pilot studies and learning



Aspirational Goal – A “turn key” statistical system for predicting crop classification and crop yields





5 Presentations

Sources

CSIRO: Remote sensing data sources outlook (Arnold Dekker)

Methodology

UQ: Beyond crop production estimates; integrated climate, biophysical and remote sensing approaches (Andries Potgieter)

Applications

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