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Protection of satellite remote sensing data in the light of open data trend

Catherine Doldirina
International Institute of Space Law, Italy

Statement of the Problem: Satellite remote sensing (RS) data represent a growing and valuable resource for many scientific, research and practical applications carried out by users around the world. Access to RS data for some applications or activities, like climate change research or emergency response activities, becomes indispensable for their success. However, often RS data or products made of them are (or are claimed to be) subject to intellectual property law protection and are licensed under specific conditions regarding access and use. Restrictive conditions on data use can be prohibitive for further work with the data. Taking into account the specificities of RS data the author will highlight complex regulatory environment–various legal norms applicable to RS data that impact the ability to access and use them.

Methodology & Theoretical Orientation: The primary tool of author's research is comparative analysis of regulatory and other sources that determine scope and boundaries of protection applicable to RS data. Primarily relevant norms of international law, as well as European law (both the EU and member states' regulatory sources) and the US law and policies are used. Occasionally recourse to examples from other jurisdictions is made.

Conclusion & Significance: The author seeks to emphasize potential and actual difficulties that arise from the application of various protection regimes to RS data, particularly regarding restrictions on access to and use of RS data by various users in different countries and for diverse purposes.

kdoldyrina@yahoo.com

Studying hydrological processes in dryland landscapes: Can satellites help in data-poor regions?

Ben Jarihani
University of the Sunshine Coast, Australia

Dry lands occupy one third of the earth's surface and are home to around 400 million people, yet the water resources of these regions are often poorly understood because of a lack of fundamental hydrological data. Thus, fundamental questions of (eco) hydrological function of these river systems cannot be understood at a detailed scale. Earth observation satellites have been proved to provide data and information on water cycle in multiple spatio-temporal scales. This research project aims to develop remotely-sensed data approaches in order to improve our understanding of hydrological processes in data-sparse dryland landscapes. Four objectives were investigated: To evaluate the accuracy and effectiveness of satellite derived altimetry data for estimating flood water depths in low-gradient, multi-channel rivers; to detect and map flood extents and optimize the trade-off between image frequency and spatial resolution using Landsat and MODIS satellites imagery; to assess satellite-based Digital Elevation Models (DEMs) accuracy for hydrodynamic modelling; and to use a hydrodynamic model supported by satellite-derived data to investigate flood water transmission loss. This research concluded that it is now possible to realistically constrain water balances in data-sparse dryland rivers using hydrodynamic models in combination with satellite-derived data to address limitations in the availability of conventional hydrological datasets. This research has implications for the opportunities, limitations and future directions of using remotely-sensed data to better understand water balance and hydrodynamics of data-sparse regions. This knowledge is imperative for improved management of the limited water resources in dryland, both in Australia and around the world.

bjarihan@usc.edu.au