

# LESO **LUNCHTIME\*** LECTURES

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## Swiss Data Cube: Big EO Data for Sustainable Development

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**Introduction by Dr Roberto Castello – Followed by open discussion**

### Summary

Pressures on natural resources are increasing and a number of challenges need to be overcome to meet the needs of a growing population in a period of environmental variability. The key to sustainable development is achieving a balance between the exploitation of natural resources for socioeconomic development, and maintaining ecosystem services that are critical to human's wellbeing and livelihoods. Some of these environmental issues can be monitored using remotely-sensed Earth Observations (EO) data that are increasingly available from freely and openly accessible repositories. However, the full information potential of EO data has not been yet realized. They remain still underutilized mainly because of their complexity, increasing volume, and the lack of efficient processing capabilities. The Swiss Data Cube (SDC) is a new paradigm revolutionizing the way users can interact with EO data. It lowers the barrier caused by Big Data challenges (e.g., Volume, Velocity, Variety) and provides access to large spatiotemporal data in an analysis ready format. It significantly reduces the time and scientific knowledge required to access and prepare EO data having consistent and spatially aligned calibrated surface reflectance observations. The SDC is aiming at delivering a unique capability to track environmental changes in unprecedented detail using EO data, enabling more effective responses to problems of national significance.

### About the speaker

Lecturer in Earth Observation at the Institute for Environmental Sciences (University of Geneva) Head of the Digital Earth Unit at UN Environment/GRID-Geneva. My research focuses on how Earth Observations can be used to monitor and assess environmental changes and support sustainable development. Interdisciplinary is a key element for generating new ideas and innovations in my research.

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