



Contribution ID: 119

Type: Talk

Sustainable management of remotely sensed Earth Observation Data: A case for High Performing Computing and Big Data platform development in Kenya

Tuesday, 1 December 2020 15:45 (30 minutes)

Author/Presenter: Boniface Akuku, Director, Information and Communication Technology at the Kenya Agricultural Research and Livestock Organization(KALRO)

The pressure to manage and utilize available data to improve agricultural productivity continues to increase, yet several challenges exist. The fast-growing population exacerbates the problem in a period of environmental variability. While remotely sensed Earth Observations (EO) data could resolve these environmental issues, the availability of High-Performance Computing (HPC) to take advantage of freely and openly accessible repositories remains a challenge to organizations. As a result, many organizations have not realized the full potential of EO data. Besides, the freely and openly available EO data remains underutilized, mainly because of their complexity, increasing volume, and the lack of efficient processing capabilities. Data Cubes (DC) technology is a new paradigm aiming to realize EO data's full potential by lowering the barriers caused by these Big Data challenges and providing access to extensive Spatio-temporal data in an analysis-ready form. Using the Kenya Data Cube platform as a case study, this paper presents HPC and Big Data integration as an approach to enabling rapid access and processing of EO data. This approach has shown that generating Analysis-Ready Data (ARD) for developing countries can address agricultural productivity needs, but decision-makers must invest in HPC and related technologies as a priority area. Therefore, researchers and universities can use and explore the data cubes produced to advance new methods and algorithms to extract different information to address the host challenges facing agricultural productivity in developing countries.

They still remain underutilized, mainly because of their complexity, increasing volume, and the lack of efficient processing capabilities.

Student?

No

Supervisor name

Supervisor email

Primary author: AKUKU, Boniface (Kenya Agricultural and Livestock Research Organization)

Presenter: AKUKU, Boniface (Kenya Agricultural and Livestock Research Organization)

Session Classification: DIRISA

Track Classification: DIRISA