→ MISSION EXPLOITATION PLATFORM PROBA-V

The Mission Exploitation Platform (MEP) PROBA-V, as an ESA pathfinder project, has the ambition to complement the PROBA-V user segment by building an operational Exploitation Platform on these data, correlative data and derived products, addressing the wider vegetation user community with the final aim to ease and foster the use of PROBA-V data.

A rich set of tools will gradually be deployed and users can develop-debug-deploy their own applications on a scalable platform with access to the full data archive from PROBA-V, SPOT-VEGETATION and a growing set of derived products from different users. Also data which will support the users in doing their research (Cal/Val, meteo data, etc.) will be provided.

The platform goes beyond offering standard products by providing in a first place tools to visualise and analyse large time series of data and pre-defined on-demand processing services which deliver user-tailored products.

By next year we will deploy a Virtual Research Environment, being a platform which allows users to develop – debug – test their applications on an infrastructure at VITO with access to the complete data archive, both via a Web browser and remote desktop access on a private cloud. Successful applications from third-parties can then be offered as an operational on-demand processing service to the user community on the same platform.

The MEP PROBA-V will combine scalable processing resources with a large data archive (+PByte) and a rich set of tools. Furthermore users can co-work on the platform, share results and relevant documentation.

proba-v mep

Mission Exploitation Platform PROBA-V

Funding: ESA Earthwatch

Starting Date: 10 Nov 2015

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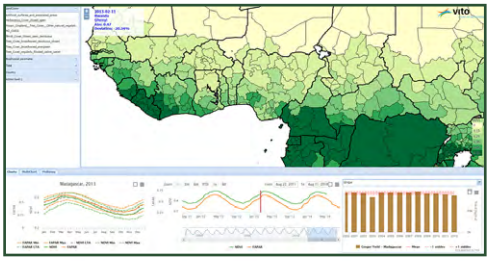
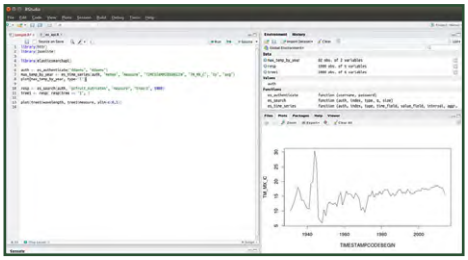
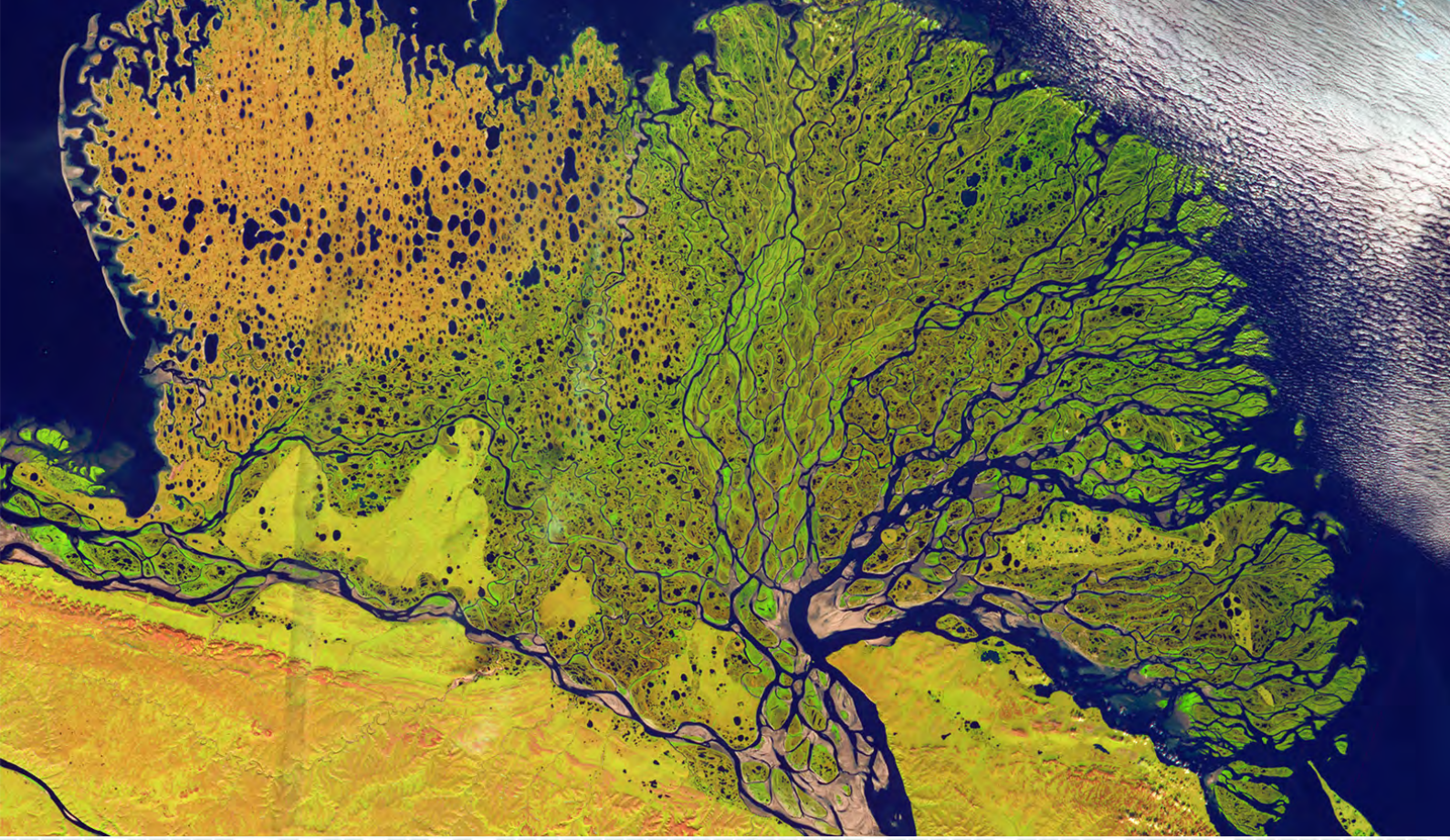
Website: **http://proba-v-mep.esa.int**

Time Series Viewer | Interactive notebooks for scripting | Geo Viewer – full-resolution







A User-oriented Approach

Several third-party service projects will develop and operate applications on the MEP PROBA-V. We will address their user requirements to implement the shift of paradigm from “data to user “ to “user to data”, bridging the gap between the traditional EO ground segment and the scientists or value added industry.

The platform will be progressively developed and deployed, after a first pre-release at 26 January 2016, taking into account the requirements and feedback of users. In a first iteration in autumn 2016, all near realtime data will be accessible in full resolution in the geo viewer, the time series viewer and a first on-demand processing service. Furthermore the infrastructure will be ready then to support external application developers.

In the MEP PROBA-V we are building an end-to-end solution using accepted technical components:

Meet us at the PROBA-V Symposium in Ghent, Belgium on 26-28 Jan 2016:

http://congrexprojects.com/2016-events/16c01

Hadoop, as a software framework for data-intensive distributed workflows, is used to process large amounts of data in small parallel operations. Spark is applied intensively to allow analytics on large time series of data. The Hadoop ecosystem provides furthermore a rich and still growing set of tools, which enable fast access to the data in a format needed by a specific application.

Cloud computing technology enables dynamic resource provisioning in a performing and scalable solution, on which we can offer Virtual Machines tailored to the needs of specific users. Interactive Web-based dashboards show user-tailored information calculated on-the-fly from the EO-data archive. Finally the focus on Web services according standardised or widely-used interfaces allows an easy integration of services into 3rd-party applications.

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