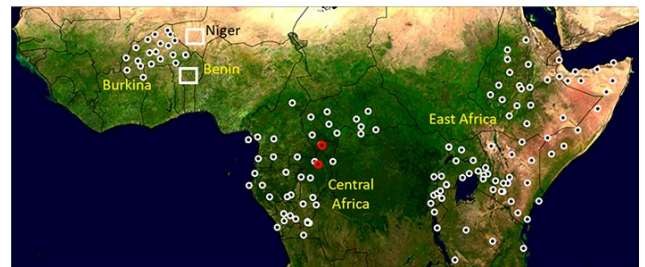


SMOS data improve estimates of rainfall in Africa

3 November 2022

Scientists have used soil moisture data from ESA's SMOS mission to correct high-resolution satellite-based estimates of precipitation in Africa.

The improved product – which is made available in near-real time – has the potential to support numerous applications, including flood forecasting, water resources management and crop yield predictions.



Earth observation missions have been helping to estimate rainfall for decades.

Today scientists use information from microwave and infrared sensors to inform datasets that detail different kinds of precipitation across the globe.

These include a unified satellite precipitation product produced by NASA called IMERG, which was the focus of the project.

[READ MORE](#)

ESA ensures quality of very high resolution data from New Space providers

9 November 2022

ESA is taking steps to verify the accuracy of the growing amounts of very high resolution data delivered by commercial missions, as set out in a workshop held this week in ESRIN.

The forum – called VH-RODA – was attended by experts in the domain of data quality, calibration and validation, to allow dialogue across commercial and public stakeholders.



While ESA strongly supports new space involvement and is expanding its relations with very high resolution (VHR) contributors - new space data can only be used if we can trust their accuracy. Therefore, discussions and presentations at the workshop centred around efforts to put in place best practices for data quality, so that private and public sectors can work in coordination with each other.

[READ MORE](#)



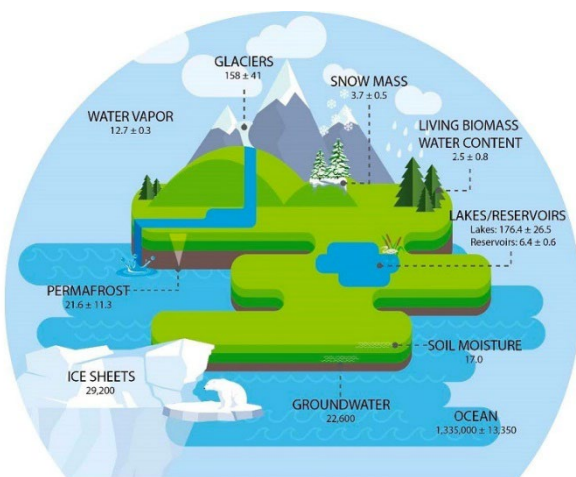
Highlight:

Satellites investigate Earth's Terrestrial Hydrosphere

2 November 2022

ESA's Earth observation satellites are playing a leading role in furthering our understanding of how Earth's water cycle is being influenced by humankind.

Water on Earth takes many forms – liquid, vapour or ice – and exists both underground and as surface water in rivers, lakes and seas.



GLOBAL WATER STORAGES



Altogether, the total amount of water present on Earth's surface and underground is known as the terrestrial hydrosphere.

Human activity directly impacts Earth's water. Anthropogenic global warming influences extreme weather events such as flooding and drought, as well as coastal processes and sea level rise.

Satellites carry different types of instruments, which monitor the water in Earth's hydrosphere. Scatterometers, radiometers, and altimeters measure a range of variables, such as precipitation, snow mass, glacial motion, sea ice extent, sea surface temperature, sea surface height, salinity and soil moisture. Optical sensors can detect changes in lakes, rivers and wetlands.

[READ MORE](#)

UPCOMING EVENTS



14/11/2022

SMOS for Space Weather Workshop

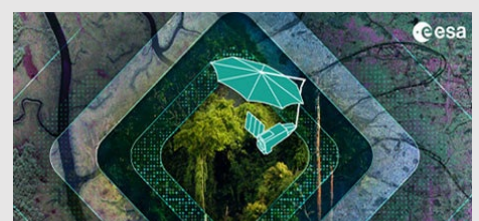
[READ MORE](#)



12/12/2022

AGU Fall meeting

[READ MORE](#)



19/06/2023

11th International Workshop on PolInSAR and Biomass

Abstract submission opens in November

[READ MORE](#)



Focus on: Data Access

How to access GEOSAT data

The GEOSAT series consists of two very-high-resolution satellites, GEOSAT-1 and -2, which are owned and operated by the company GEOSAT.

Launched in 2009 and 2014, respectively, these missions are part of ESA's Third Party Missions programme, in which data from the missions are made available freely for research purposes. Data are accessible following a request or proposal for the scientific use of the products.

GEOSAT-1 data were also used in ESA's TropForest project, which created a database of satellite imagery to support a 2010 global forest assessment. Data from ALOS-1, GEOSAT-1 and KOMPSAT-2 were used to acquire imagery over 1,866 sites. Data from this collection are freely available to anyone with an ESA EO Sign In account.

[Browse the GEOSAT collections](#)



GEOSAT-1 image of Sacramento, USA - Copyright: GEOSAT

In this Issue

SMOS data improve estimates of rainfall in Africa

[READ MORE](#)

ESA ensures quality of very high resolution data from New Space providers

[READ MORE](#)

Satellites investigate Earth's Terrestrial Hydrosphere

[READ MORE](#)

Discover more

Data Access
Missions
News
Events
Tools

