Water storage field analysis report

Can ground measurement datasets be used to estimate terrestrial water storage variation?
The hydrological process and water resource management have been important topics of concern. Ground measurement datasets derived from hydrologic stations could be used to estimate terrestrial water storage (TWS) variation with hydrological models.

How do we estimate global surface water storage changes (V)?
Our general strategy is to estimate global surface water storage changes (?V) in large lakes and reservoirs using a combination of paired water surface elevation (WSE) and water surface area (WSA) extent products.

Can satellite-based terrestrial water storage datasets be used in interdisciplinary contexts?
This review is written with the intention of supporting future research and facilitating the use of satellite-based terrestrial water storage datasets in interdisciplinary contexts. Terrestrial water storage (TWS) is defined as the total amount of water stored on land.

Can a high-quality monthly monitoring of inundated areas and water storage change?
Given the strengths and limitations inherent in existing methodologies (limited temporal frequency, spatial coverage, or data quality), this study aims to achieve high-quality monthly monitoring of inundated areas and water storage changes for almost all large reservoirs with total storage exceeding 0.1 km 3 across China.

Does water storage increase or decrease in shallower reservoirs?
The increase in water storage of deeper reservoirs exceeded the water storage declinein shallower reservoirs,while the inundated area gains of deeper reservoirs were unable to offset the area shrinkage of shallower reservoirs.

How are global water storage change estimates based on satellite remote sensing observations?
We generated global water storage change (?V) estimates based exclusively on satellite remote sensing observations through the creation of elevation-associated (i.e., G-REALM) and surface-area-associated (i.e., GOLA) products for 347 selected large water bodies, primarily based on the availability of water elevation products.

Using NASA"s ICESat-2 satellite and a one-dimensional model (assuming a constant lake area), a recent study mapped water levels and storages in 227,386 global water bodies over 2018-2020 and found that ...

Employing the equation above, we measured soil water content at a potential of - 20 bar for the wilting point, - 0.3 bar for the field capacity, and - 10 bar for the critical point of ...

below the surface of the water. o Samples from the production tube wells will be collected after running the

well for about 5 minutes. o Non-production piezometers should be purged using a ...

Validation against in-situ measurements at 80 reservoirs reveals improved monthly inundated area monitoring compared to existing data sets. Additionally, our reservoir water storage change estimates exhibit an average ...

A continental-scale land surface-hydrologic model is developed for China by fully coupling 3,547 reservoirs and relevant water management. A calibration-free reservoir operation scheme is developed for simulations of ...

Terrestrial water storage (TWS) is defined as the total amount of water stored on land. This includes any type of natural or artificial water reservoir, such as ground water, soil moisture, ...

Since March 2002, the Gravity Recovery and Climate Experiment (GRACE) has provided first estimates of land water storage variations by monitoring the time-variable component of ...

Soil water flow at the field scale is a dynamic process, with alternate sequences of wetting and drying. All of these phenomena evolve over time and exhibit different and varying rates, allowing ...