

A hand holding a pipette over a globe of Earth in space. The hand is on the right, holding a pipette that is dripping a small amount of liquid onto the globe. The globe is on the left, showing green landmasses and blue oceans. The background is a dark blue space with many small white stars.

# Remote Sensing of Water Resources

National Disaster Management Institute

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# INDEX



**Climate Change**



**Hydrologic Cycle**

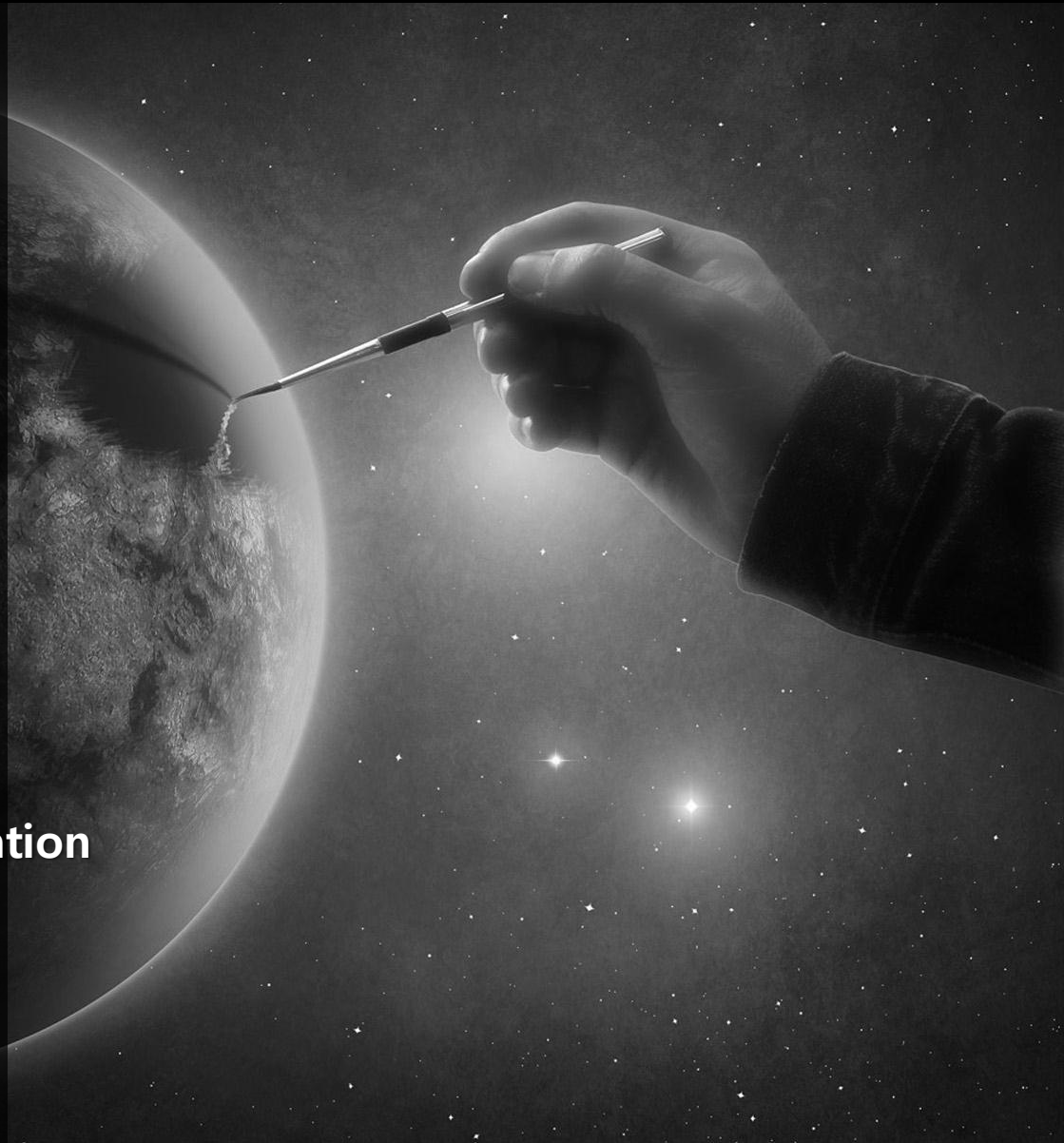


**Hydrologic Indices**

- **Soil Moisture**
- **Evapotranspiration**
- **Drought**



**Conclusions**

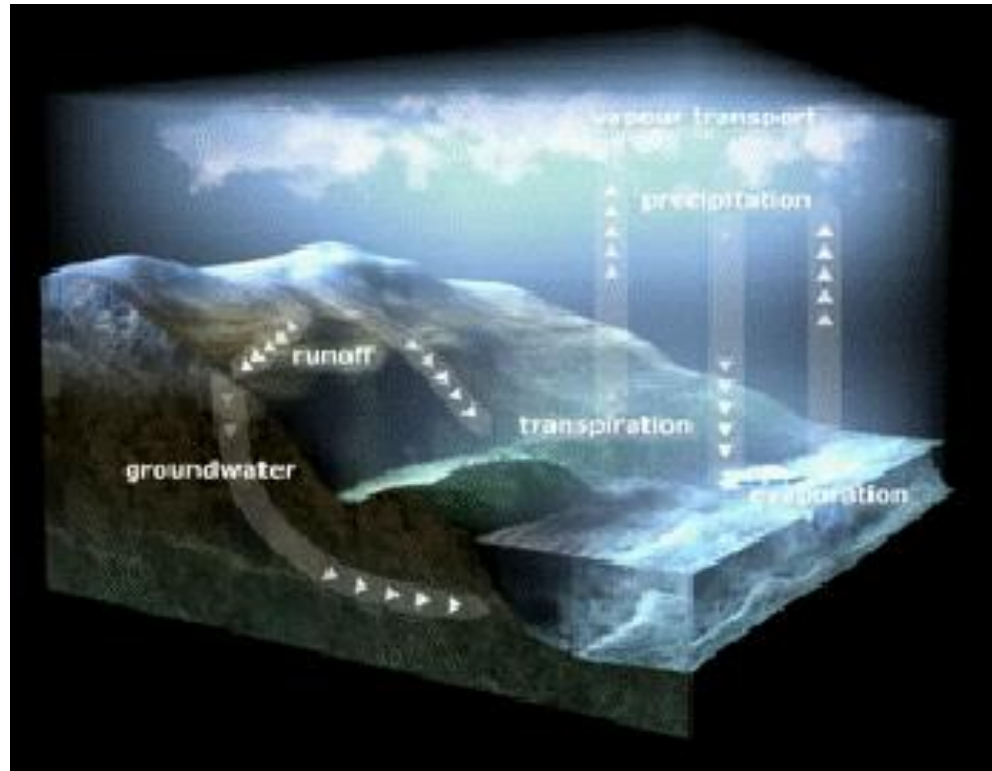


# Climate Change



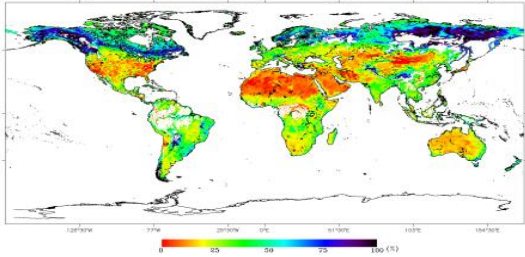


## Hydrologic Cycle

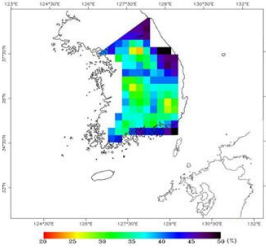


- The water cycle is the only way that Earth can be continually supplied with fresh water. The heat from the sun is the most important part of renewing our water supply.

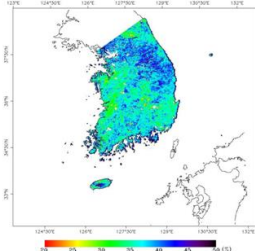
# Soil Moisture



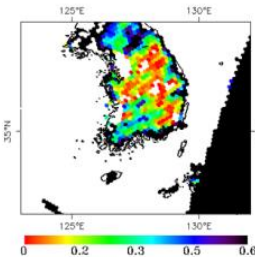
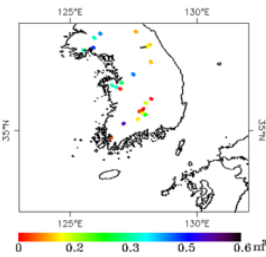
AMSR-E Soil Moisture / August, 2007



a) 25 km Soil Moisture Map on August 2007

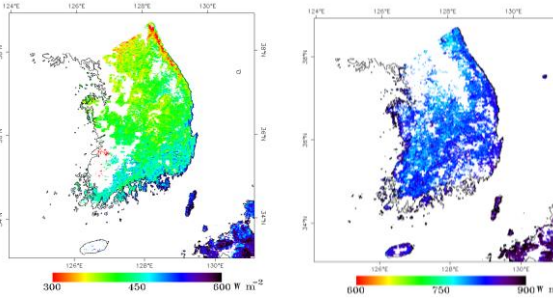


b) 1 km Soil Moisture Map on August 2007



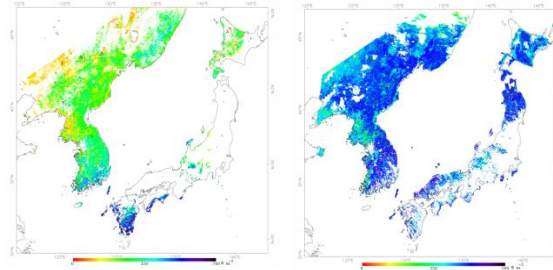
# SMOS Retrieval Algorithm

# Evapotranspiration



2008. 01. 14. 11:55    2008. 08. 23. 11:25

# Instantaneous Radiation

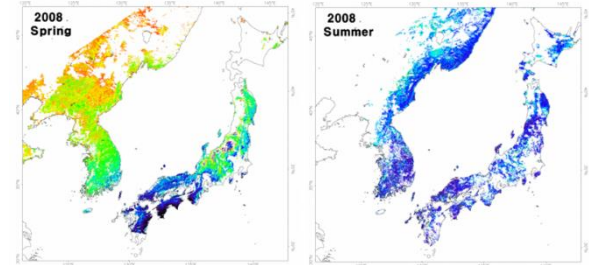


2008. 04. 20 11:25    2008. 08. 08 10:55

# Instantaneous Evapotranspiration (ET)

# Drought

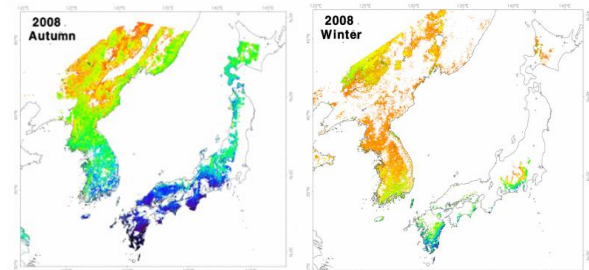
## MODIS-Based ESI Estimation



Dry 0 50 100 % Wet

ESI / Spring. 2008

ESI / Summer. 2008



Dry 0 50 100 % Wet

ESI / Autumn. 2008

ESI / Winter. 2008

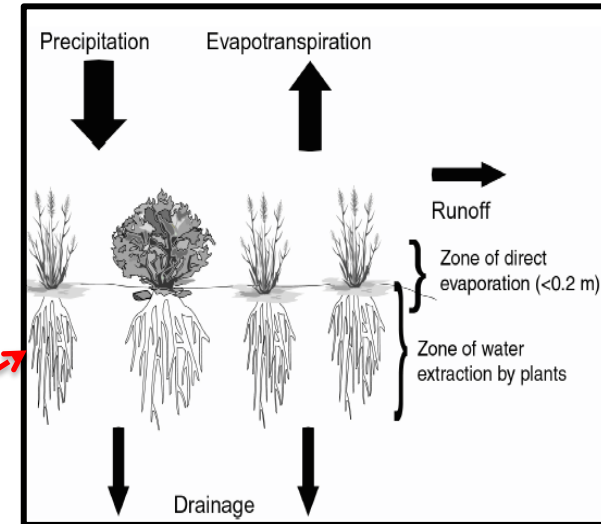
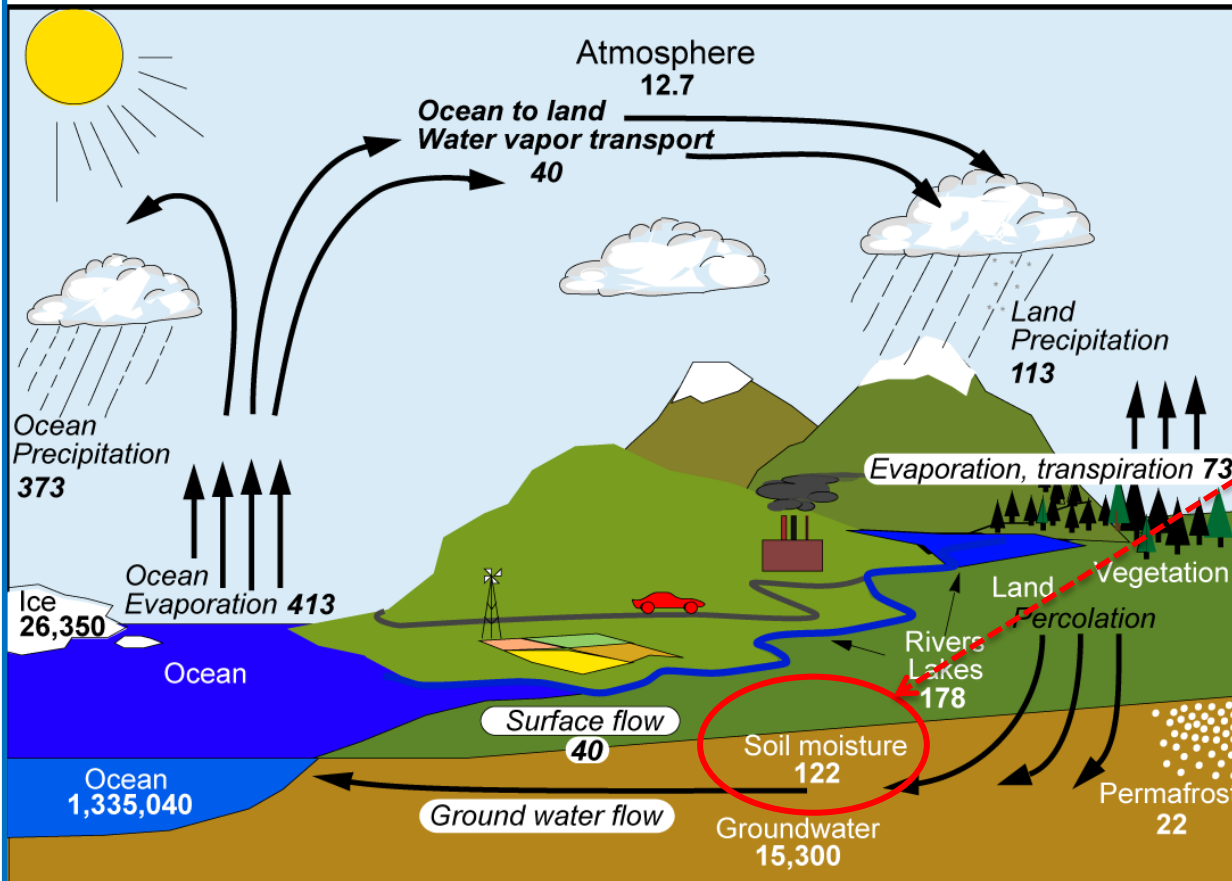


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## Soil Moisture

# Soil Moisture

## Hydrologic Cycle



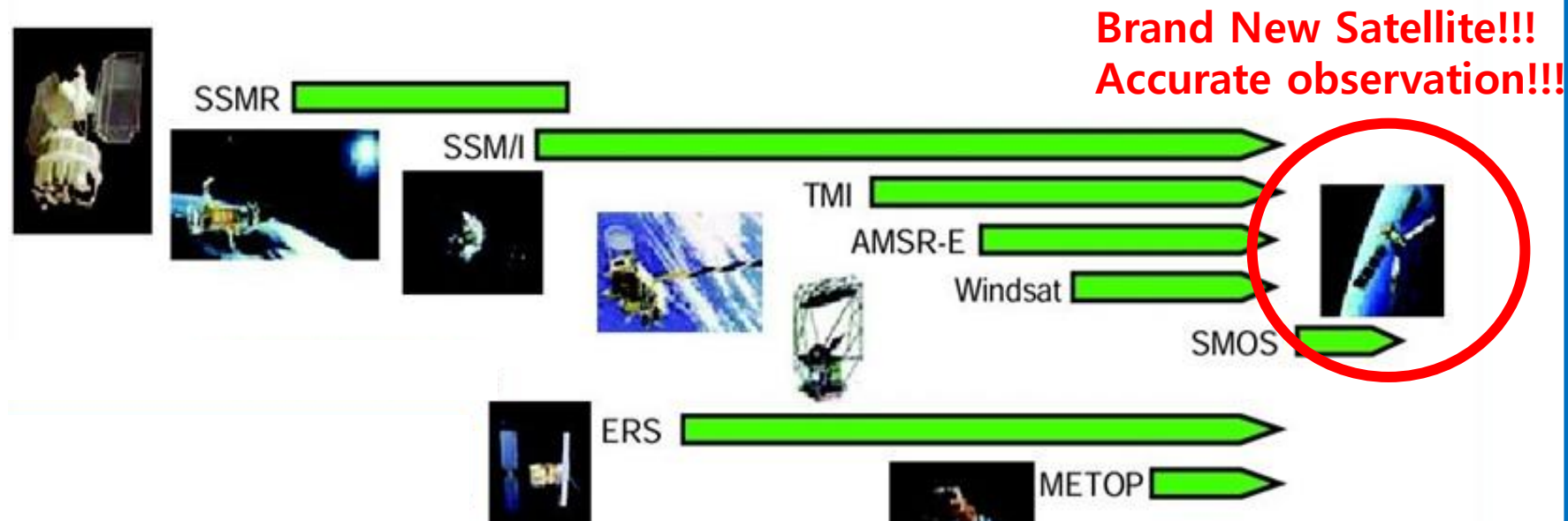
## Soil Moisture

Units: Thousand cubic km for storage, and *thousand cubic km/yr* for exchanges

Source : <http://www.cgd.ucar.edu/>

# Soil Moisture

## Satellite based measurements of soil moisture



预览已结束，完整报告链接和二维码如下：

[https://www.yunbaogao.cn/report/index/report?reportId=5\\_5605](https://www.yunbaogao.cn/report/index/report?reportId=5_5605)

