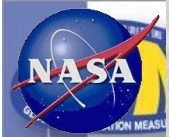




# Freshwater: A Precious Resource



**Developed by the  
Global Precipitation  
Measurement mission  
Education and Public  
Outreach Team**



# Floods submerge 475 Assam villages

## Blue Gold: Have the Next Resource Wars Begun?

## Many states in state of worry over late rains



# Drought situation is serious, says Centre

New Delhi: Rejecting members' demand for full central control over calamity relief, the government on Friday announced in the Lok Sabha it would provide all possible assistance, including postponement of farm loan recovery in 12 drought-affected states, to mitigate the plight of people.

Replying to a two-day debate on drought and floods in various parts of the country, agriculture minister Ajit Singh said the onus of controlling, managing and executing such relief was on states as they alone were in a position to identify the areas worst affected by natural calamities.

Termining the drought situation as "very serious", he said among the badly hit were western Uttar Pradesh, Bundelkhand area, Rajasthan, Haryana and Andhra Pradesh.

He said the Centre had already held a stock-taking meeting with 12 drought-affected states at which it was decided to set up a special committee to study the 'food for work' programme to states facing acute resource crunch. Stating that food output would be adversely affected due to drought conditions caused by poor monsoon, Singh said substantial damage had already been caused to coarse cereals like bajra, oilseeds and pulses. Paddy prospects would also be affected, though it may recover to some extent if rainfall takes place in the next 10 days, he said.

On the criticism that the meteorological department had failed in forecasting monsoons, he said there were so many variables in the weather that it was difficult to predict.

## Trains battles heavy downpour



Trains in the Chador area of the Dehra Dun division were delayed on Friday as heavy rain caused flooding on the tracks. The railway department said that the water level in the area had risen to such an extent that it was difficult to maintain the normal speed of the trains.

The railway department has taken steps to divert the trains to other routes to avoid any further delay. It is also working to clear the tracks as fast as possible to resume normal services.

## Daily Times-News

BLINGTON, N. C. TUESDAY, SEPTEMBER 1, 1983

### Little Rain Seen In Near Future

The state received 0.17 inch of rain on Friday, the lowest amount since the beginning of the monsoon season, according to the state meteorological department. The department said that the weather was generally clear with a few scattered clouds.

The department expects little rain in the near future, which could worsen the drought conditions in several parts of the state. It is urging farmers to take necessary precautions to protect their crops from the dry weather.

### The Daily Times-News

BLINGTON, N. C. THURSDAY, SEPTEMBER 1, 1983

### Pros And Cons Presented On Solving City's Water Problem

A large crowd gathered for a public hearing on Friday to discuss the city's water supply problem. The hearing was held at the city council chamber and was attended by hundreds of residents.

The city council is expected to make a decision on the proposed water supply project in the coming weeks. The project involves the construction of a new water treatment plant and the expansion of the city's water network.

### The Daily Times-News

BLINGTON, N. C. THURSDAY, SEPTEMBER 1, 1983

### Emergency Water Lines Available

The city council has approved a plan to provide emergency water lines to residents in the event of a natural disaster. The plan involves the installation of a network of underground pipes that can be quickly activated in case of an emergency.

The city council also approved a plan to provide civil defense water lines to residents. These lines would be used to provide water to residents in the event of a nuclear attack or other major disaster.

### Waterless Tuesday Project Is Planned

The city council has approved a plan to launch a 'Waterless Tuesday' project. The project aims to reduce water consumption in the city by encouraging residents to conserve water on Tuesdays.

The city council also approved a plan to launch a 'Waterless Wednesday' project. This project aims to reduce water consumption in the city by encouraging residents to conserve water on Wednesdays.

## Relief pledge to farmers

Emergency services flooded with calls for help as heavy rain hit the region. The government has pledged to provide relief to farmers affected by the floods.

The government has announced a package of measures to help farmers, including the provision of loans and subsidies. It has also announced that it will provide technical assistance to farmers to help them recover from the damage caused by the floods.

## Rain rewrites record books

The heavy rain has broken several records, including the highest rainfall in a 24-hour period. The weather department has issued a warning of further heavy rain in the coming days.

The heavy rain has caused significant damage to crops and infrastructure. The government has announced that it will provide relief to farmers affected by the floods.

## THE BIG WET

Film fans hit by elements as heavy rain disrupted the screening of a new movie. The movie was shown at a cinema in the city and was well-received by the audience.

The heavy rain has caused significant damage to the cinema and the surrounding area. The cinema has announced that it will provide relief to the staff affected by the floods.

## Wow! What a washout

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## Grim task for farmers after big downpour

Farmers are facing a grim task as they try to salvage their crops after a heavy downpour. The heavy rain has caused significant damage to the crops and the soil.

The farmers are working hard to clear the water from their fields and to replant the crops. They are also working to repair the damage to their infrastructure.

## Film fans hit by elements

Film fans were hit by heavy rain during the screening of a new movie. The movie was shown at a cinema in the city and was well-received by the audience.

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## EPIC SURGE

High water overtakes downtown Cedar Rapids, thousands evacuated in unprecedented flood. Power loss widespread; water in short supply.

The flood has caused significant damage to the city and the surrounding area. The government has announced that it will provide relief to the residents affected by the floods.



Damage bill mounts as rain goes on. The heavy rain has caused significant damage to crops and infrastructure. The government has announced that it will provide relief to farmers affected by the floods.

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**SOLID**



**LIQUID**

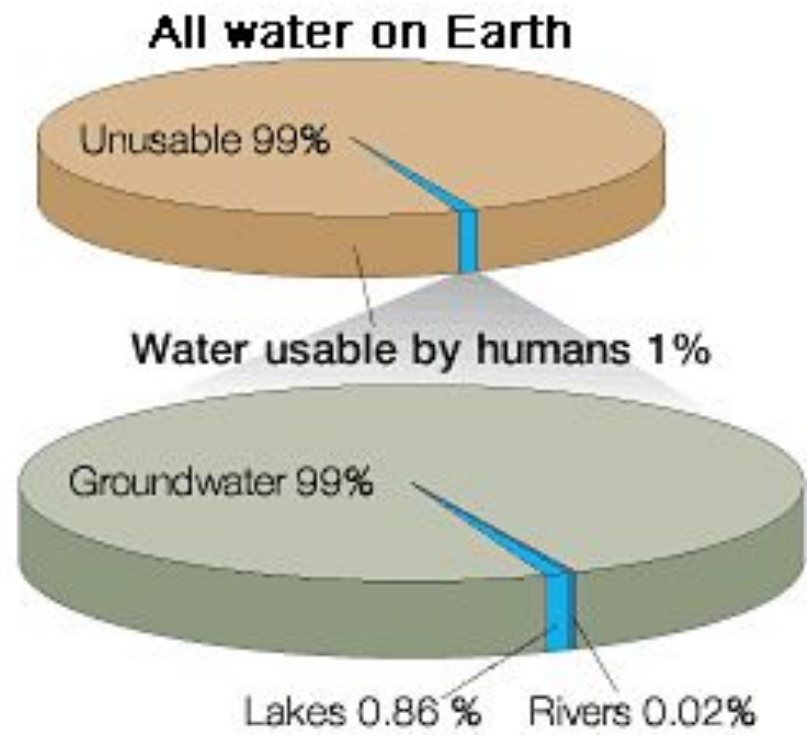


**GAS**

## How much of Earth's water is freshwater?

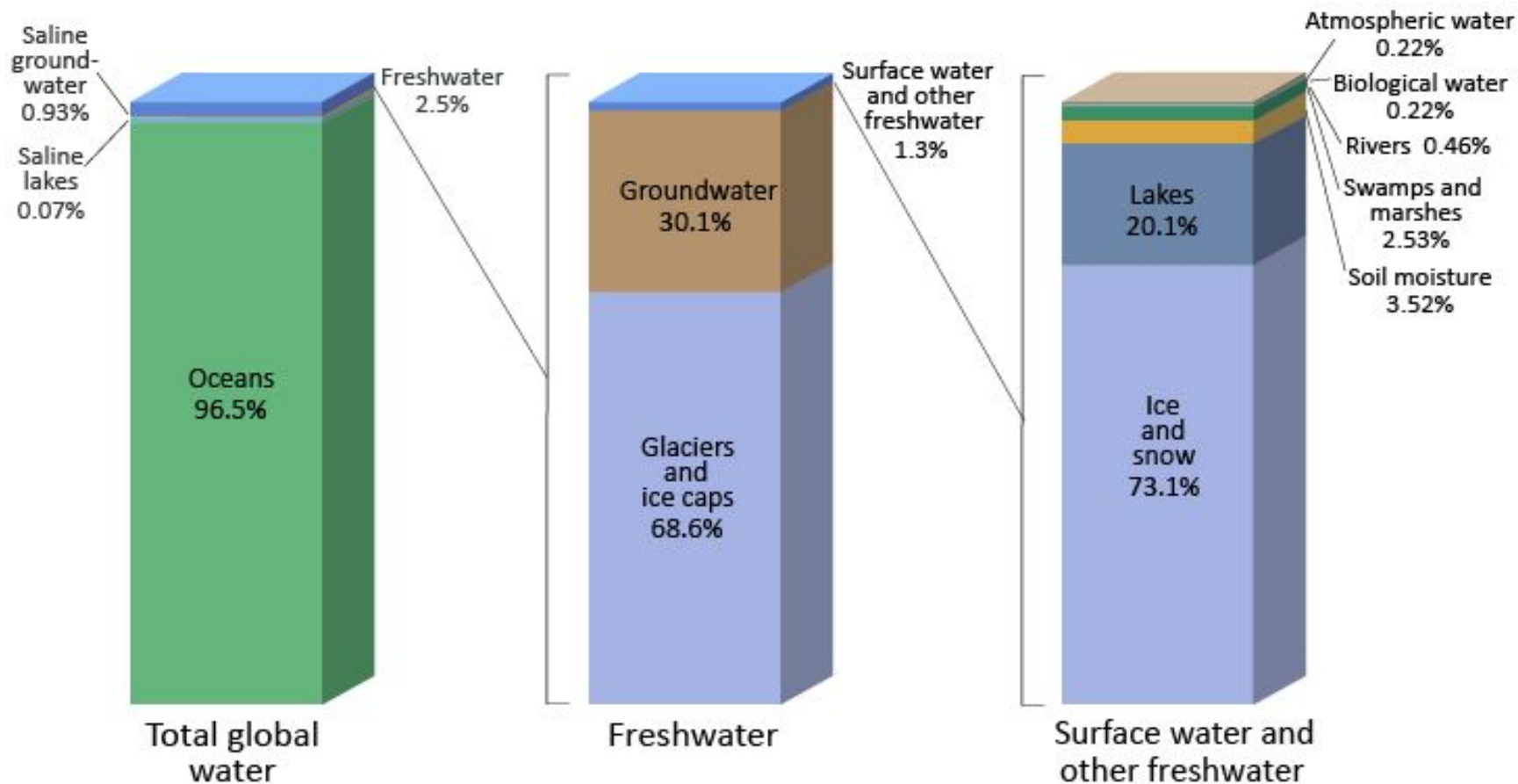
*We will make a model of Earth's freshwater.*

1. Take the plastic cup, and imagine that the cup is a model of Earth's surface.
2. Fill up ~ 75% with water. This represents how much of Earth's surface is covered with water.
3. Take out one eye-dropper of water, and place it in the small medicine cup. This represents how much of Earth's water is freshwater- ~ 2.5%
4. Take one drop of this water- this represents how much freshwater is easily accessible to us!



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## Distribution of Earth's Water



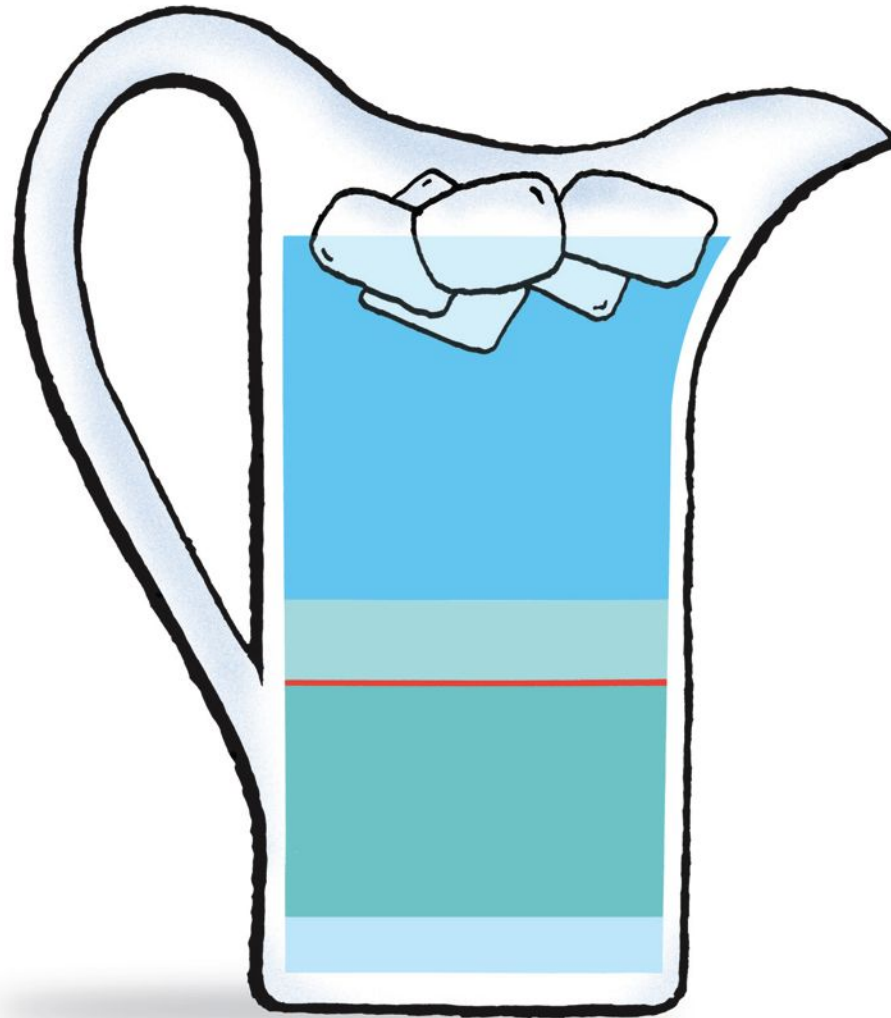
Source: Igor Shiklomanov's chapter "World fresh water resources" in Peter H. Gleick (editor), 1993, *Water in Crisis: A Guide to the World's Fresh Water Resources*.



In addition to home use, freshwater is used for transportation, agriculture, heating and cooling, industry, livestock, and many other purposes. That one percent of water is primarily used in eight different ways, or categories:

- *Domestic*. Residential home indoor and outdoor use, such as drinking, cleaning, and watering lawns
- *Public supply*. Public and commercial buildings, such as schools and restaurants
- *Irrigation*. Watering systems for farms that grow food





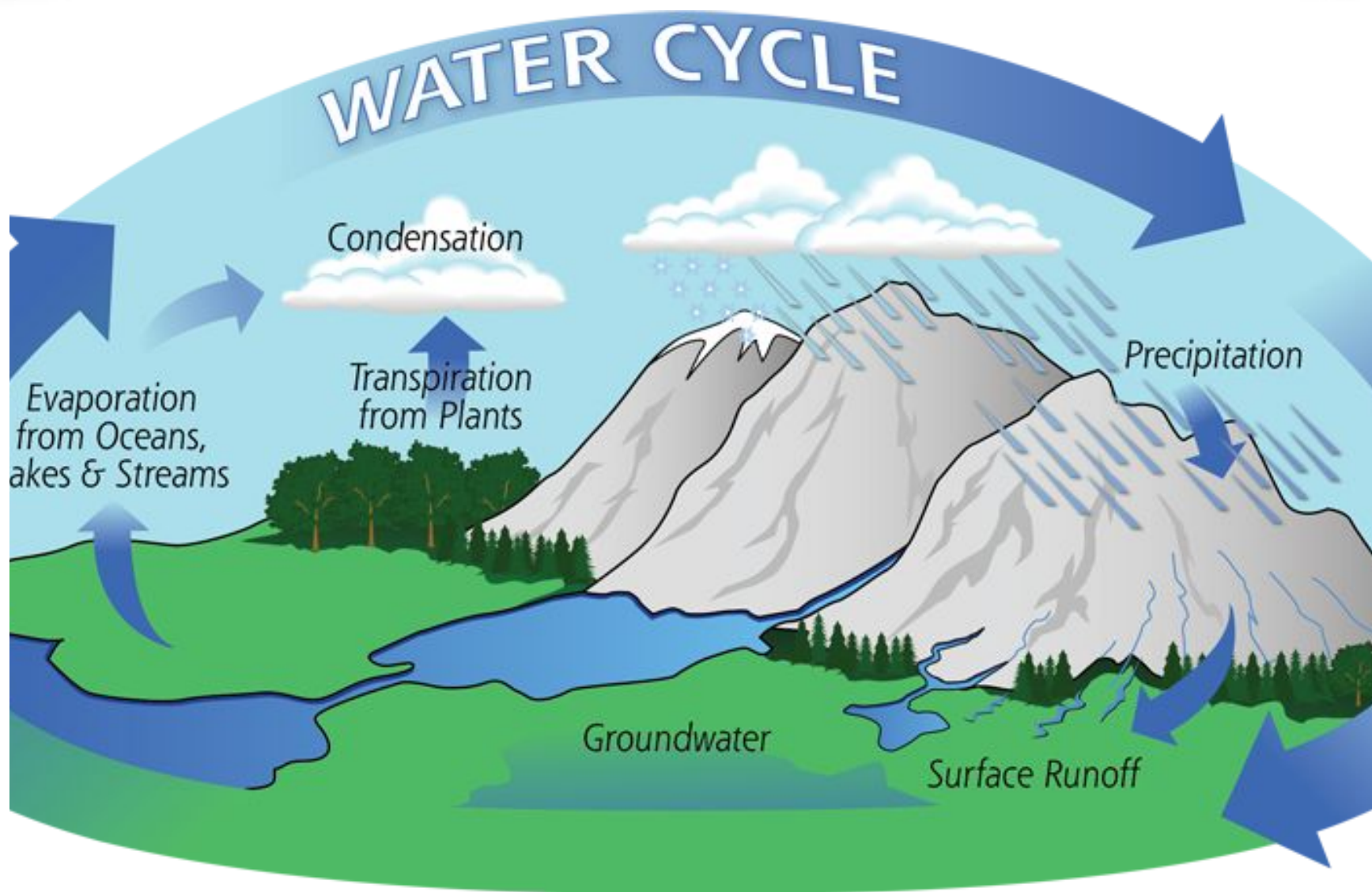
Thermoelectric 49%

Public Supply 11%

Domestic 1%

Irrigation 31%

Other- 8%: Mining 1%, Industrial 4%, Aquaculture 2%, Livestock 1%



- Rain gauges- not evenly distributed, none over oceans, measures at local level which varies widely
- Weather radar- ground-based, not evenly distributed, not over oceans, measures at local level
- Satellites: operational and research, global level  
NOAA, NWS- operational: predicting, forecasting  
NASA- research:
  - Impact of climate change on freshwater availability
  - Impact of global rainfall on natural disasters: drought, tropical cyclones, landslides, etc...
  - World health concerns: water-borne disease, water availability, etc...