Hydrological Cycle - an overview

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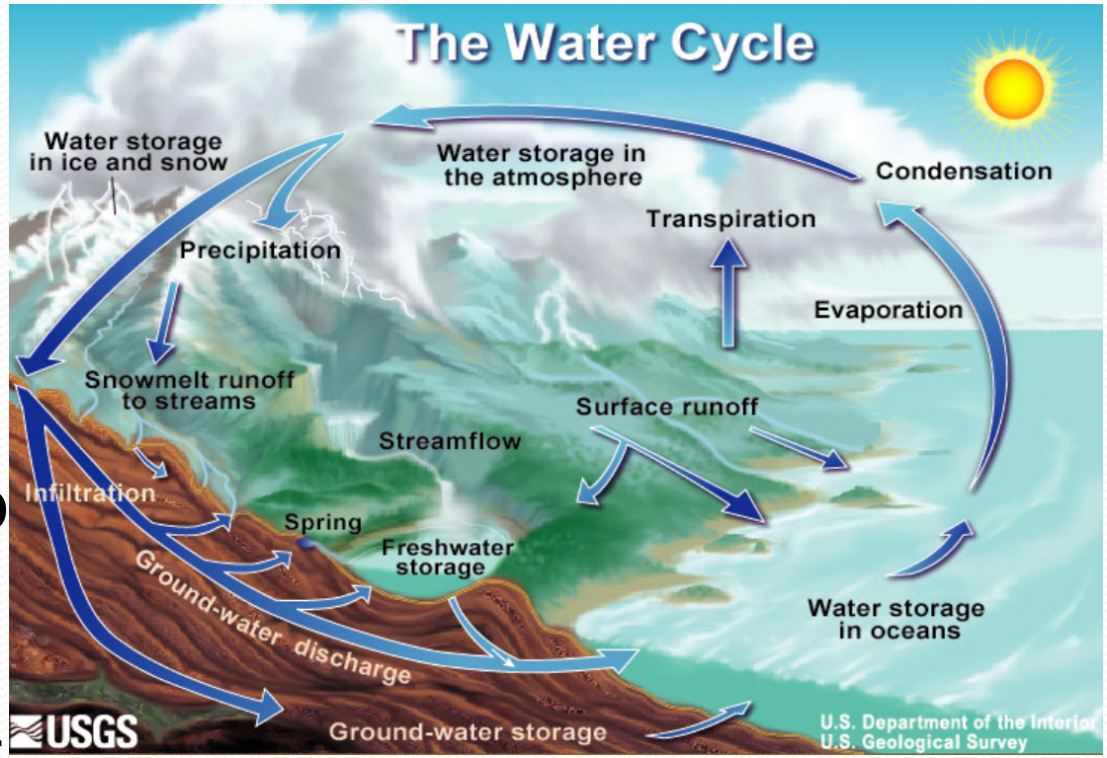
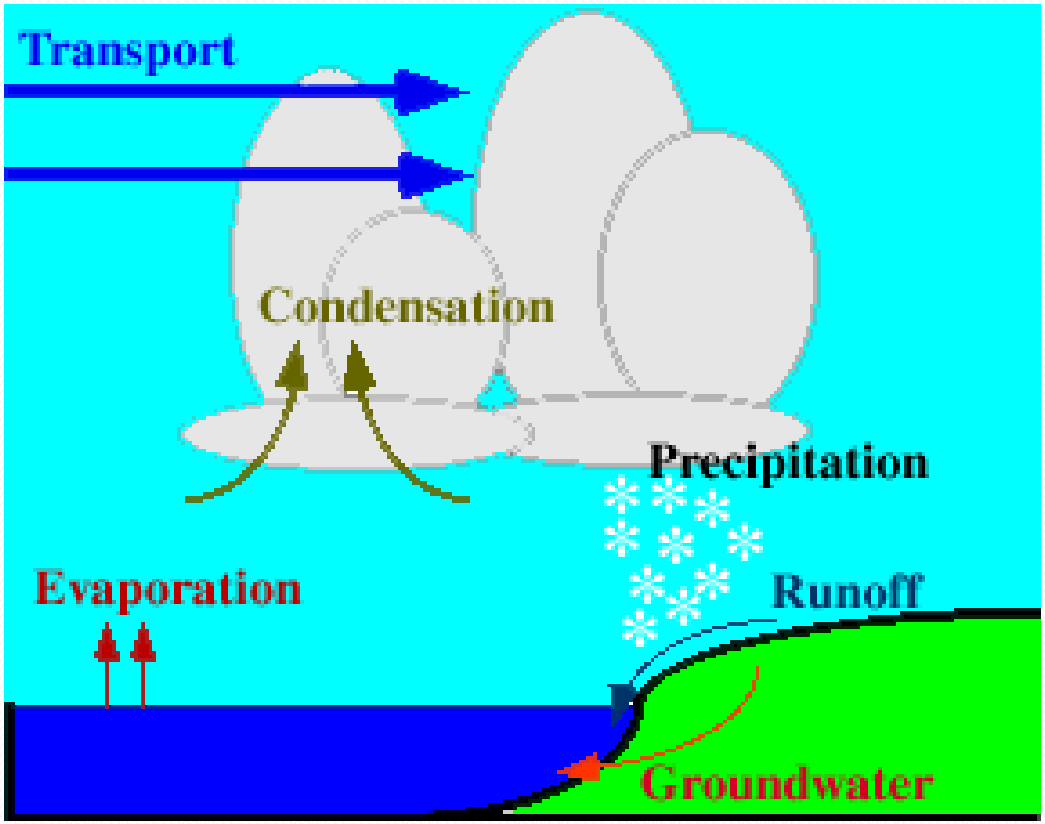
Hydrological cycle

- A **closed system**
- water is continuously moving from the world's oceans, through the atmosphere, falls to earth as rain, then travels back to the ocean in an endless loop



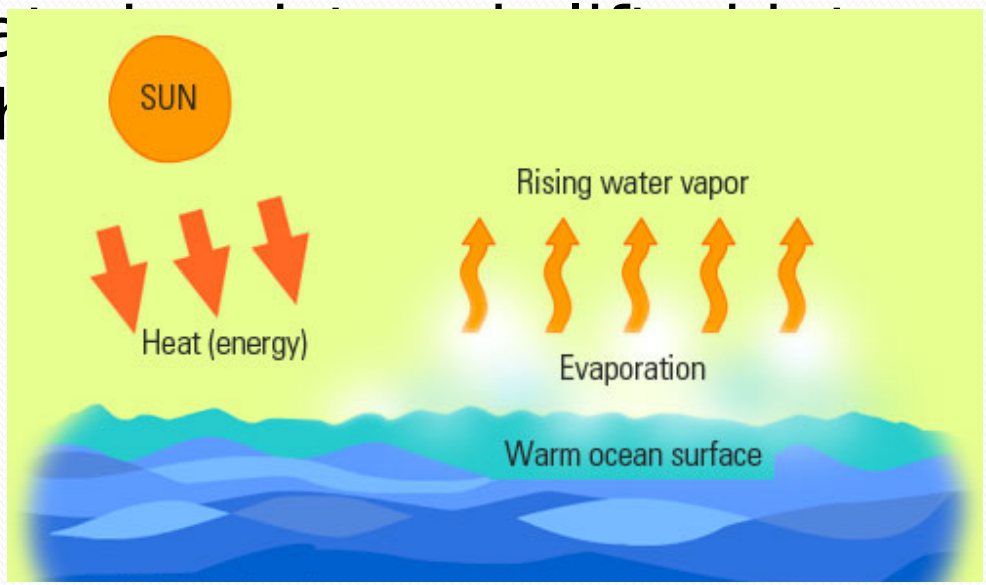
Hydorlogical Process

- evaporation
- condensation
- precipitation
- interception
- infiltration
- percolation
- transportation
- runoff
- storage



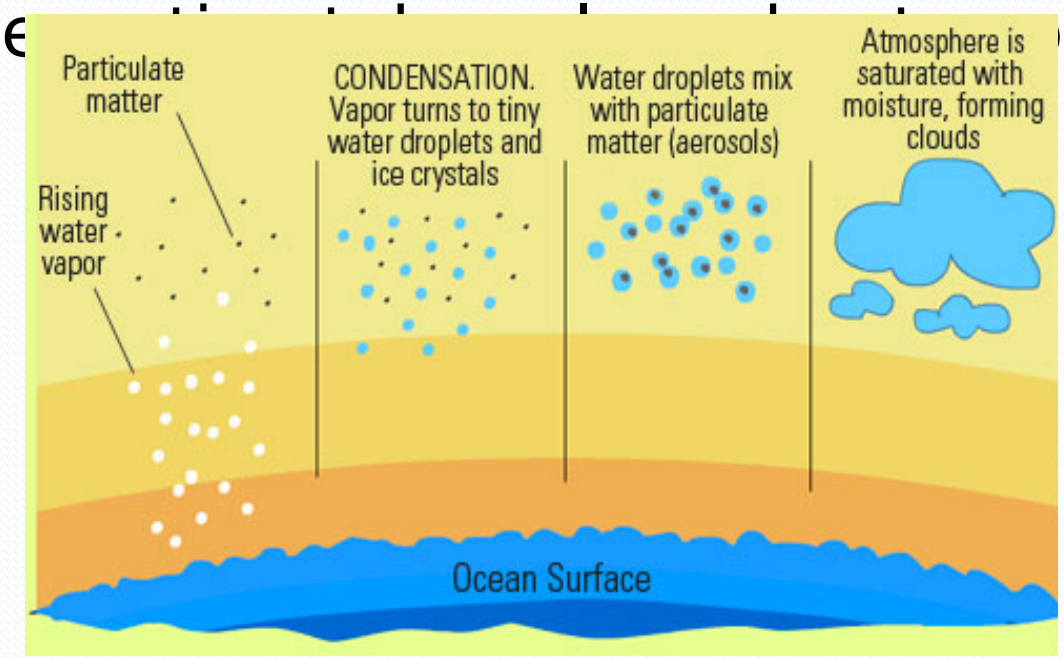
Evaporation

- water changes from liquid state to gaseous state.
- Evaporation occurs on water surfaces like lakes, seas etc.
- Evapora
atmosph



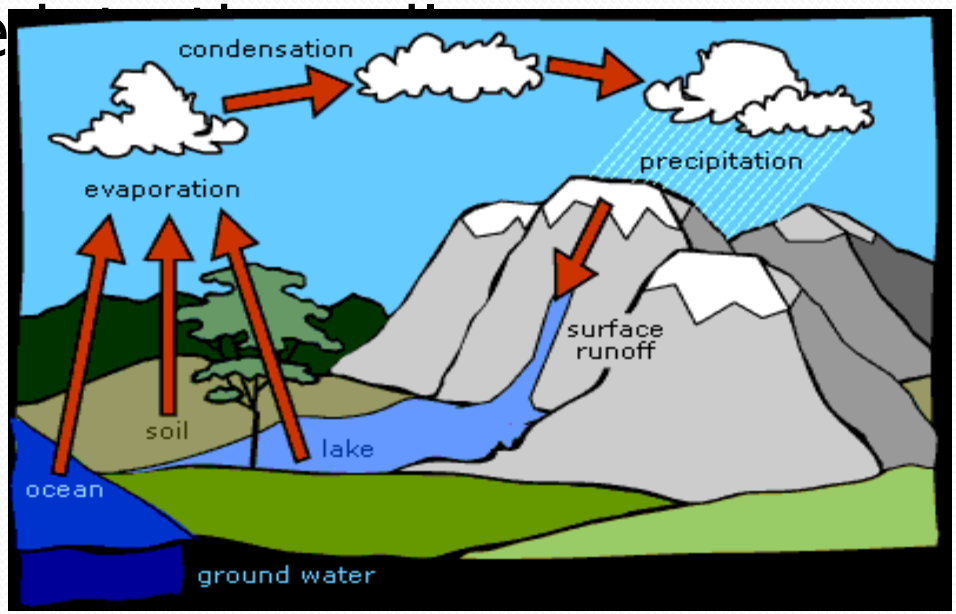
Condensation

- water vapor changes into water.
- Water vapor condenses to form dew, fog or clouds.
- Conde oling of air.



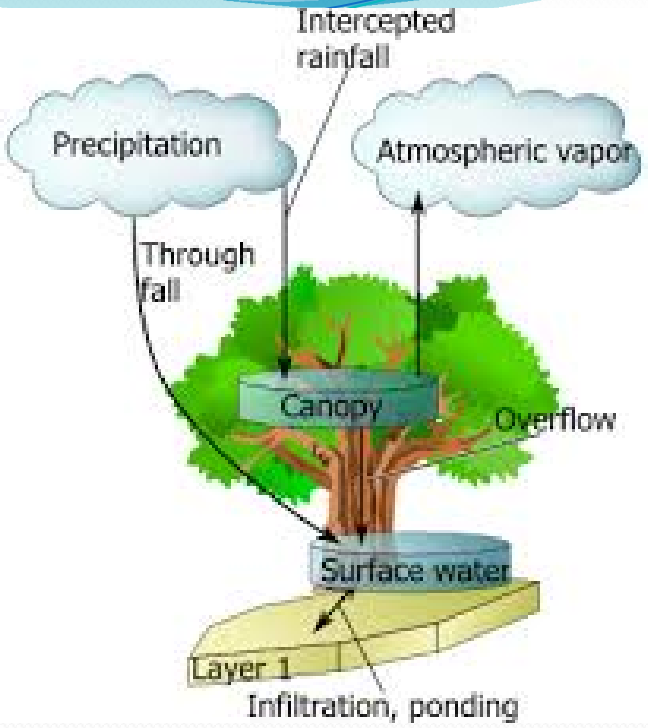
Precipitation

- water particles fall from the atmosphere and reach the ground.
- Precipitated water may fall into water bodies or on land. It can then go to streams or penetrate



Interception

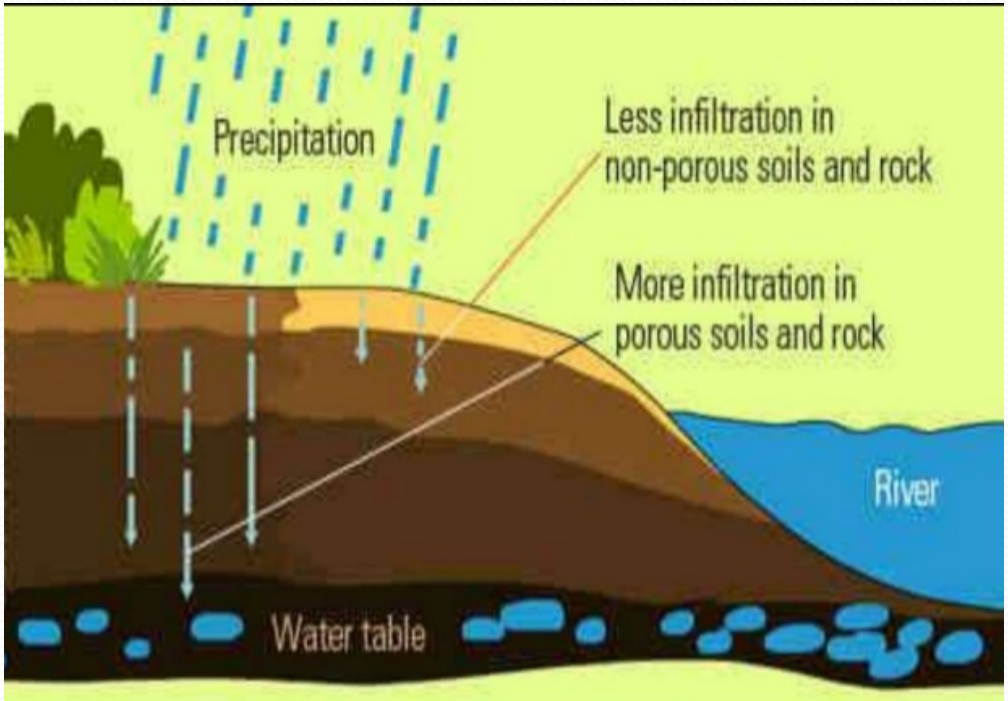
- Process of interrupting the movement of water in the chain of transportation events leading to streams.
- When rain first begins, water striking the leaves and other materials spreads over the surface or collects at points of edges.



Interception Storage

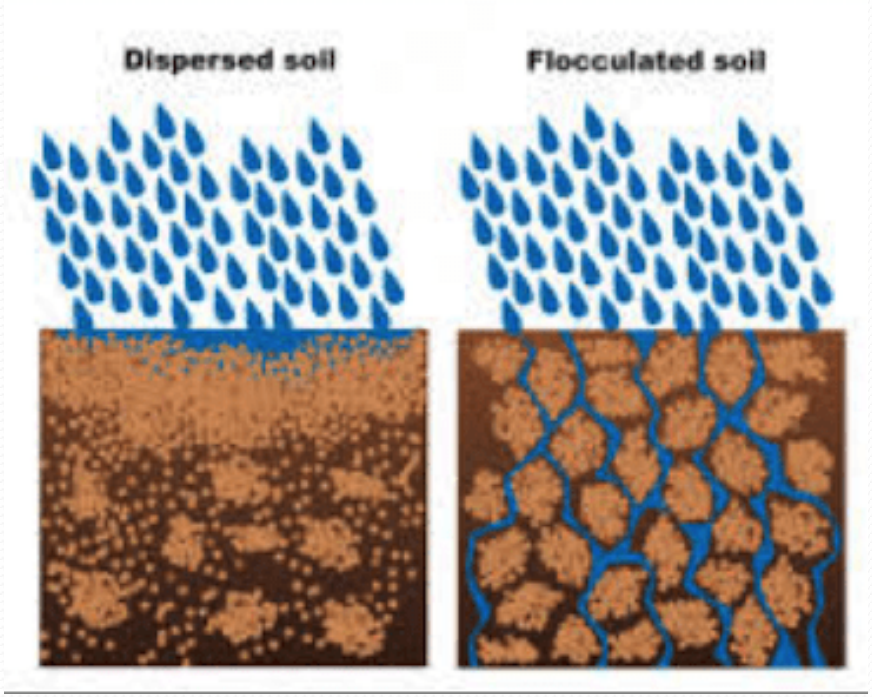
Infiltration

- Physical process involving movement of water through the boundary area where atmosphere interfaces with the soil.
- Infiltrated water and water stored in the soil, can become subsurface runoff.



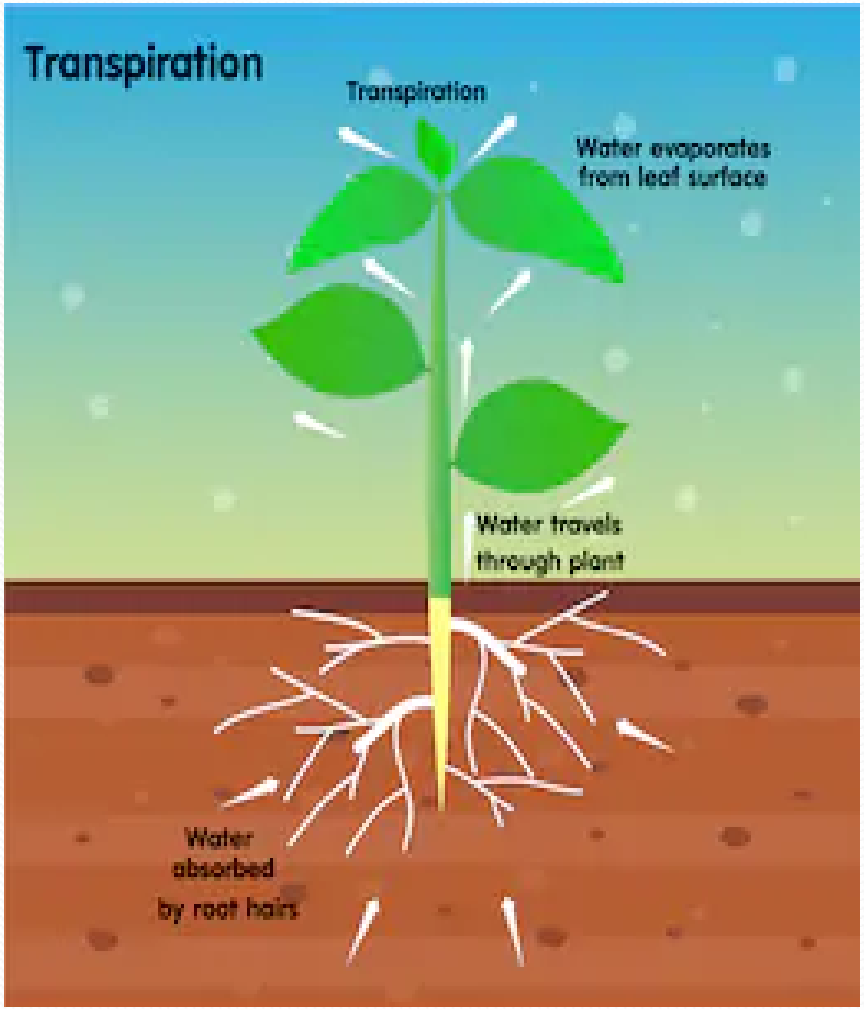
Percolation

- is the movement of water through the soil, due to Gravity and by capillary forces.
- All ground water originates as subsurface water.



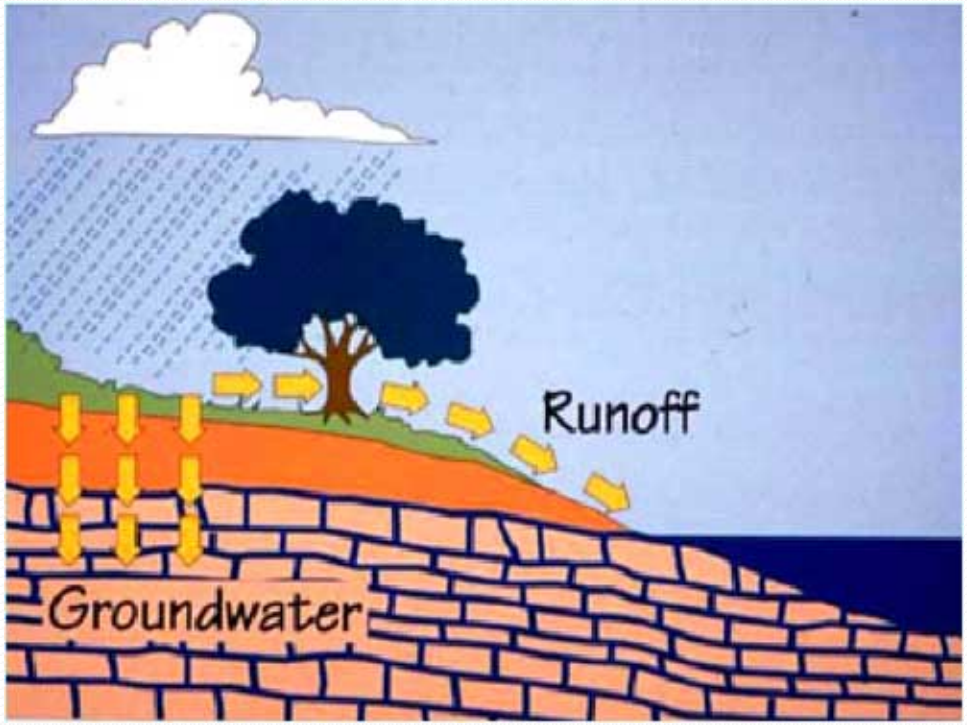
Transpiration

- Biological process that occurs mostly in the day.
- Water inside plants is transferred to the atmosphere as water vapor.
- A small portion of water is retained by the plants.



Runoff

- Runoff is a flow from a drainage basin in surface streams.
- It generally consists of the flow that is unaffected by artificial diversions or storages.



Storage

- There are three basic water storage places: in atmosphere, on earth's surface, and in the ground.
- Surface storage places are: ocean, lake, reservoirs, glaciers.
- Underground storage occurs in soil, in the crac

Reservoir	Percentage by Volume
Oceans	97.200
Freshwater:	
Glacier ice	2.150
Subsurface water	0.625
Surface water	0.017
Atmosphere	0.001
Subtotal (fresh water)	2.793
Total	~100.00

ESTIMATED GLOBAL WATER CYCLE

TYPE OF WATER	LOCATION	VOLUME millions of cu. miles	VOLUME millions of cu kilometer		PERCENT OF TOTAL VOLUME
SALT WATER					97.00
	oceans	314.2	1308.0	(96.4%)	
	saline bodies	2.1	8.7	(0.6%)	
FRESH WATER					2.90
	ice & snow	6.9	28.7	(2.1%)	
	lakes	0.5	2.1	(0.15%)	
	rivers	0.01	0.04	(0.003%)	
	accessible groundwater	1.0	4.2	(0.31%)	
ATMOSPHERIC					0.10
	sea evaporation	0.1	0.42	(0.03%)	
	land evaporation	0.05	0.21	(0.015%)	
	precipitation over sea	0.09	0.37	(0.03%)	
	precipitation over land	0.03	0.12	(0.01%)	
	water vapor	0.005	0.02	(0.002%)	
ROUNDED TOTAL		326.00	1357.00		100.0

THANK YOU