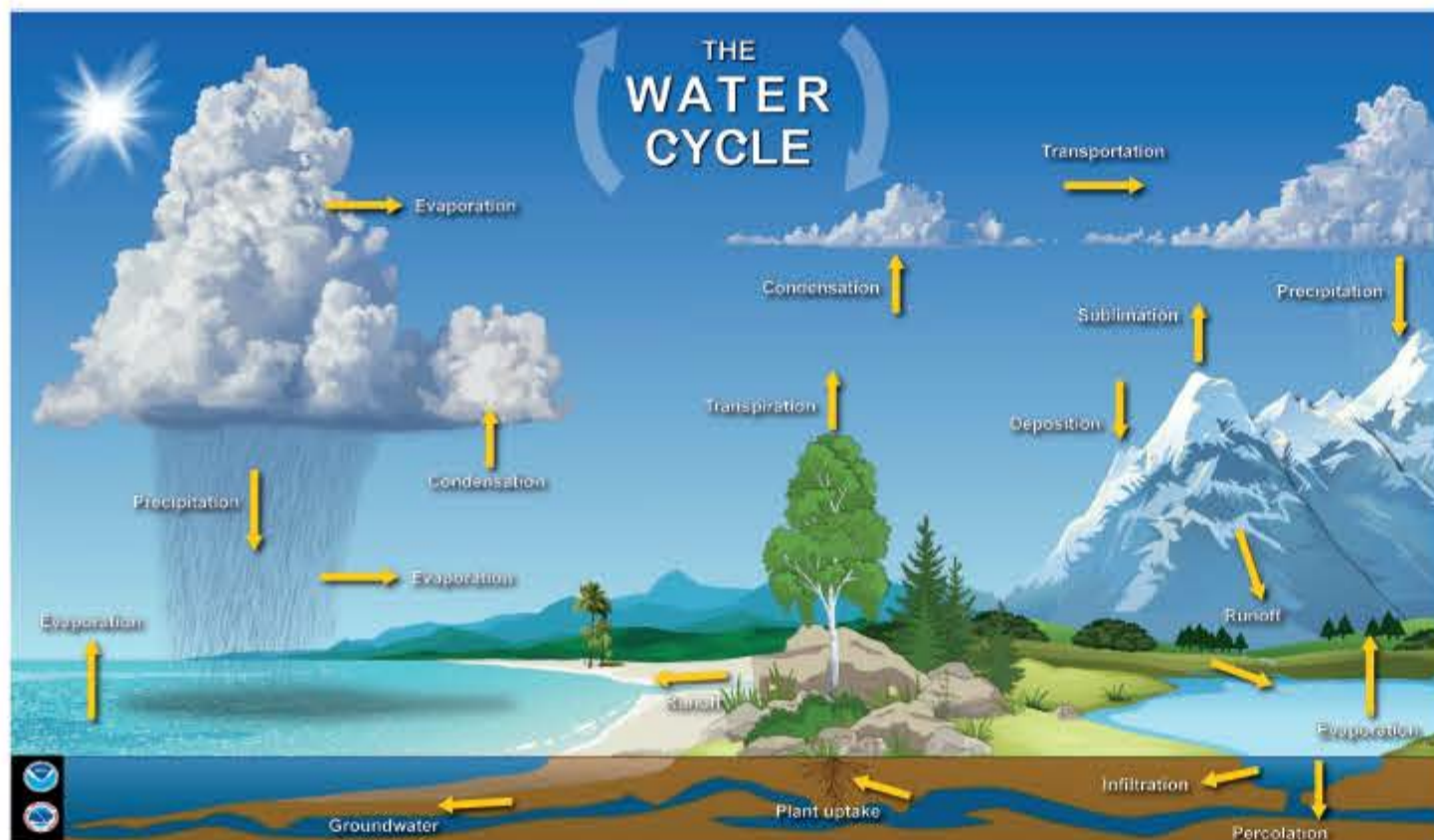


# Soils Sustain the Water Cycle

Life in our planet is not possible without water. Our freshwater water supplies support agricultural, industrial, and domestic activities that we all depend on. **Soils** play a major role in the **Water Cycle** because they store and filter water, thus providing many ecosystem services.

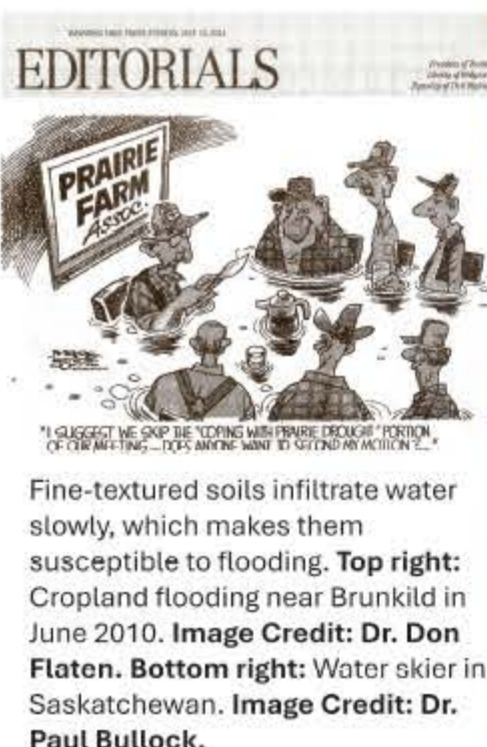


## Components of the Water Cycle

- PRECIPITATION:** Water that falls to the earth (rain, snow, sleet, drizzle, and hail).
- INFILTRATION:** Movement of liquid water into the soil.
- PERCOLATION:** Movement of liquid water through the soil deep into the groundwater.
- RUNOFF:** Transport of liquid water from soil.
- GROUNDWATER:** Underground water (aquifers).
- EVAPORATION:** The process where liquid water changes into water vapor.
- PLANT UPTAKE:** Liquid water taken from the soil by roots.
- TRANSPIRATION:** Evaporation of liquid water from crops and trees into the atmosphere.

## How Can We Manage Soils to Improve Water Storage and Quality?

Historically (1966-2017), excess water (39%) and drought (32%) represent most of the crop insurance claims in Manitoba. Management strategies for excess water and drought are heavily dependent on soil type, climate conditions, and cropping system. Practices that work well in one location may represent a poor management choice in another.



Typical Management Practices	
Soils Prone to Flooding	Soils Prone to Drought
Drainage	Residue Retention
Tillage (avoiding compaction)	Reduced Tillage
Increase soil organic matter for improved infiltration	Increase soil organic matter for water retention
	Irrigation



Soil water deficits impose limitations to crop growth and development, specially for coarse-textured soils that retain less water. **Left:** Clay soil shrinks as it dries, which can lead to the formation of cracks during periods of intense drought. **Right:** Crop with poor stand and stunted growth due to water deficits. **Image Credit:** Lionel Kaskiw (Manitoba Agriculture).

# 2025



JANUARY							FEBRUARY							MARCH							APRIL								
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S		
			1	2	3	4						1							1			1	2	3	4	5			
5	6	7	8	9	10	11	2	3	4	5	6	7	8	2	3	4	5	6	7	8	6	7	8	9	10	11	12		
12	13	14	15	16	17	18	9	10	11	12	13	14	15	9	10	11	12	13	14	15	13	14	15	16	17	18	19		
19	20	21	22	23	24	25	16	17	18	19	20	21	22	16	17	18	19	20	21	22	20	21	22	23	24	25	26		
26	27	28	29	30	31		23	24	25	26	27	28	23/30	24/31	25	26	27	28	29	27	28	29	30						
MAY							JUNE							JULY							AUGUST								
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SEPTEMBER							OCTOBER							NOVEMBER							DECEMBER								
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Manitoba Soil Science Society [www.mbsoils.ca](http://www.mbsoils.ca)

