

Water Budget Equation

$$\Delta S (m^3) = (\text{Precipitation } (m^3) - E.T (m^3) - \text{Surface Water Runoff } (m^3))$$

$$E.T \text{ \& S.W. Runoff in } \left(\frac{kg}{m^2} \right) \frac{1}{s}$$

$$1 \left(\frac{kg}{m^2} \right) \frac{1}{s}$$

$$= 86.4 \times 37.29 \times 10^6 \frac{m^3}{d}$$

$$= 3321.86 \times 10^6 \frac{m^3}{d}$$

change in ^{water} storage example calculation:-

→ Say on 21st June 2023 :- $ET = 2.9 \times 10^{-5}$

$$S.W. \text{ Runoff} = 2.08 \times 10^{-8}$$

↳ converting ET & S.W. Runoff into m^3/d

$$\Rightarrow ET = 93,433.8 m^3/d \text{ \& S.W. Runoff} = 67.0 m^3/d$$

↳ Say precipitation on the same day = 5mm/d

~~precipitation~~

↳ converting precipitation into m^3/d

$$= 5 \times 10^{-3} \times 37.29 \times 10^6 = 186450 m^3/d$$

$$\Delta S = 186450 - 93433.8 - 67 = 93949.1 m^3$$