	Definition	Values and Units
R_n	Net radiation	J m-^{2}s^{-1} or W m^{-2}
α	Reflectivity of a surface (albedo)	
I_s	Intercepted incident Shortwave radiation	
ε_L	Emissivity compared to a perfect black body	0.9 to 0.98 for soils/veg
σ	Stefan-Boltzmann constant	5.67x10^{8} W m^{-1}K^{-4}
T	Temperature in Kelvin	K
H	Sensible heat flux (heating the air)	W m^{-2}
λE	Latent heat flux (evaporation)	W m^{-2}
λ	Heat of vaporization of water	2454 kJ kg^{-1} at 20°C
E	Evaporation rate	kg m-^{2}s^{-1}
G	Storage of heat by soil and stems (trunks)	
β	Bowen Ratio, ratio of sensible to latent heat losses or H/ λE	
D	Water pressure deficit	
e_w	Saturated vapor pressure of water at the surface temp	
e_a	Vapor pressure of the air	
f(u)	Function of air circulation associated with wind speed	
E_{eq}	Evaporation rate in equilibrium with specific surface	m s^{-1}
ε	Change of latent heat relative to change of sensible heat	$=0.7185e^{0.0544T}$
D(Pa)	Air saturation deficit	
ρ	Density of Air	kg m^{-3}
g_b	boundary layer conductance for water vapor	m s^{-1}
ζ	$= \rho\ (\varepsilon +1)\ G_v\ T_k$ (This is a combination term)	
G_v	Gas constant for water vapor	0.462 m^{3} kPa kg^{-1} K^{-1}
T_k	Air temperature in Kelvin	
J	Joules	m^{-2}kgs^{-2}
W	Watts	m^{-2}kgs^{-3}

Equations

R_n=(1- α) I_s + ε_L σ T^4 (surface) - σ T^4 (sky) 2.1
Net Radiation = short wave radiation + long wave radiation

R_n - G = H + λE 2.2
Net Radiation – Heat Storage = Sensible Heat Flux + Latent Heat Flux
Net Radiation – heat storage = Heating of the ATM without evaporation and the evaporation of water

λE = R_n /(1 + β) 2.3
Prediction for latent heat loss (assuming heat storage is minimal)

E = (e_w – e_a) f(u) 2.4
Evaporation rate = evaporation close to surface * air circulation

$e_w > e_a$	Water evaporates from the surface into the air
$e_w = e_a$	Local equilibrium so no evaporation net change in water
$e_w < e_a$	Water condenses from the air to the surface

E = E_{eq} + D g_b / ζ 2.5
Calculating evaporation without knowing surface temperature

E_{eq} = (ε / ρ λ (ε + 1) R_n 2.6

ζ= ρ (ε +1) G_v T_k

So:

E = (ε / ρ λ (ε + 1) R_n) + D g_b /(ρ (ε +1) G_v T_k)