



CROP-SOIL WATER BALANCE

Concepts and applications

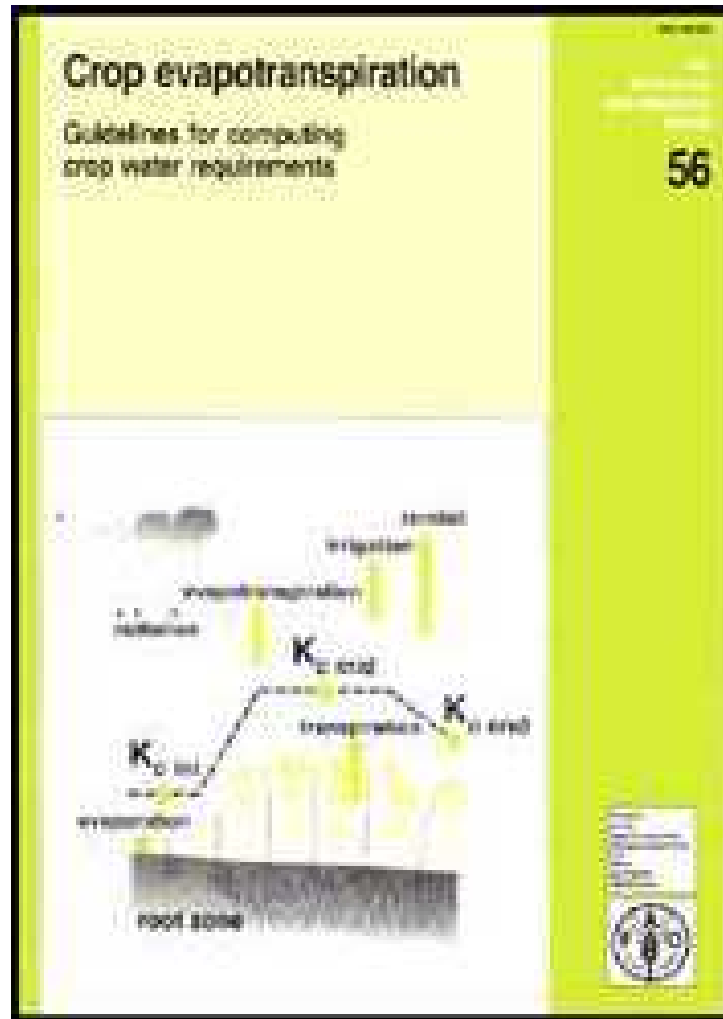
(FAO 56 model)

Hammamet 24-27 Novembre 2014



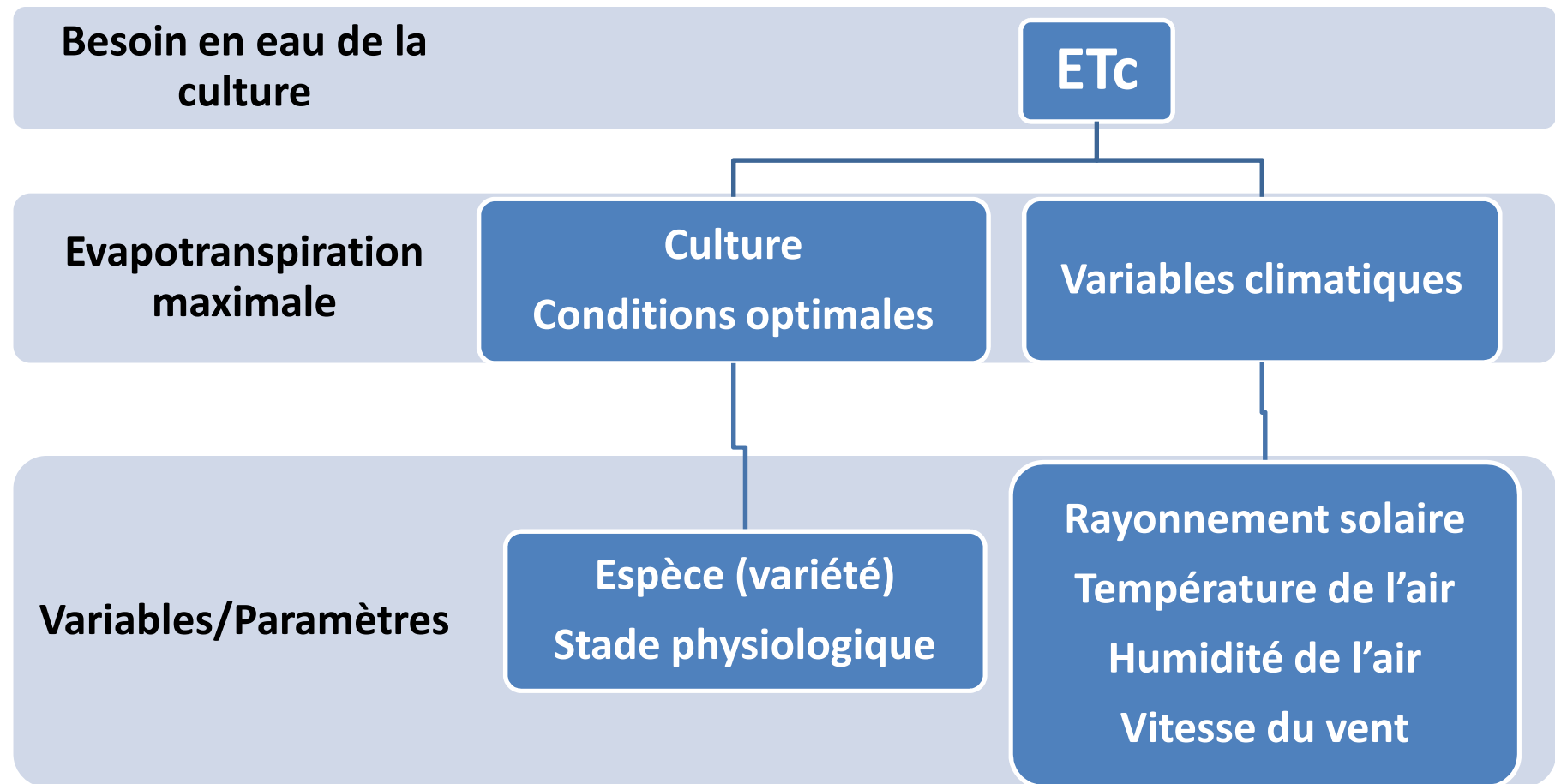
Crop evapotranspiration -Guidelines for computing crop water requirements

FAO Irrigation and drainage paper 56

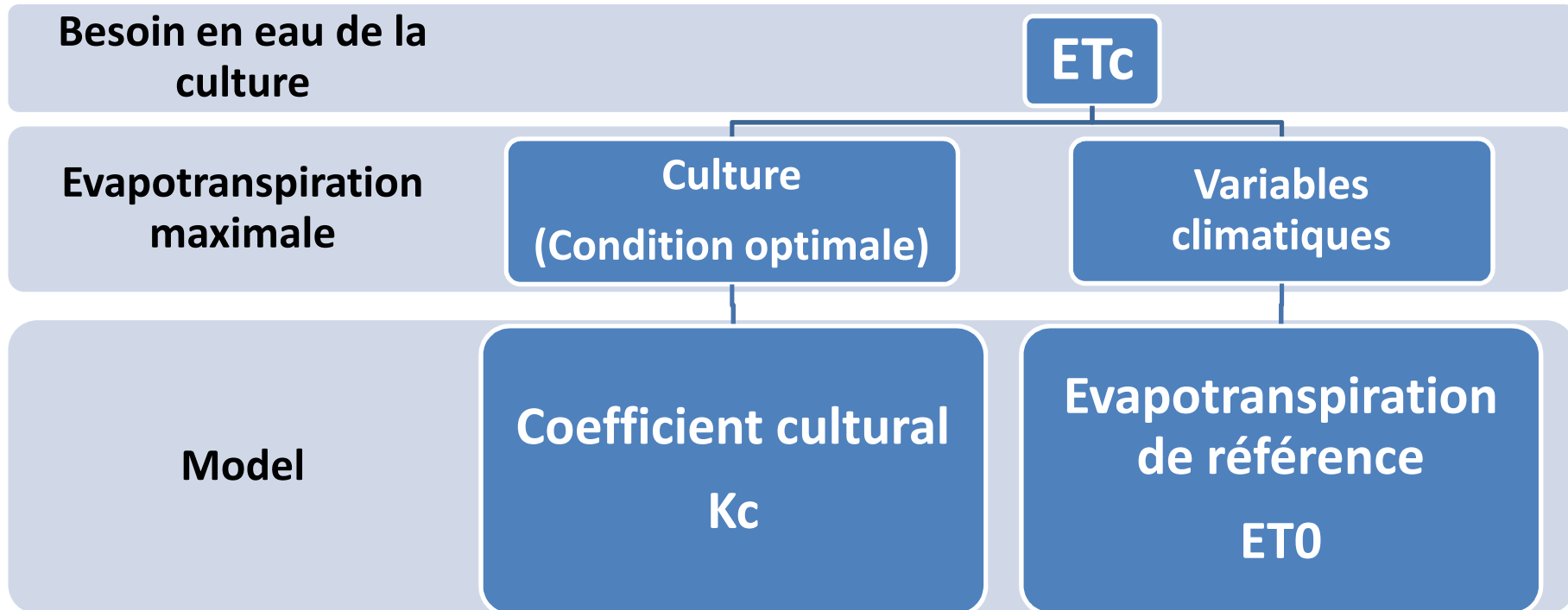


<http://www.fao.org/docrep/X0490E/x0490e.jpg>

Besoin en eau de la culture



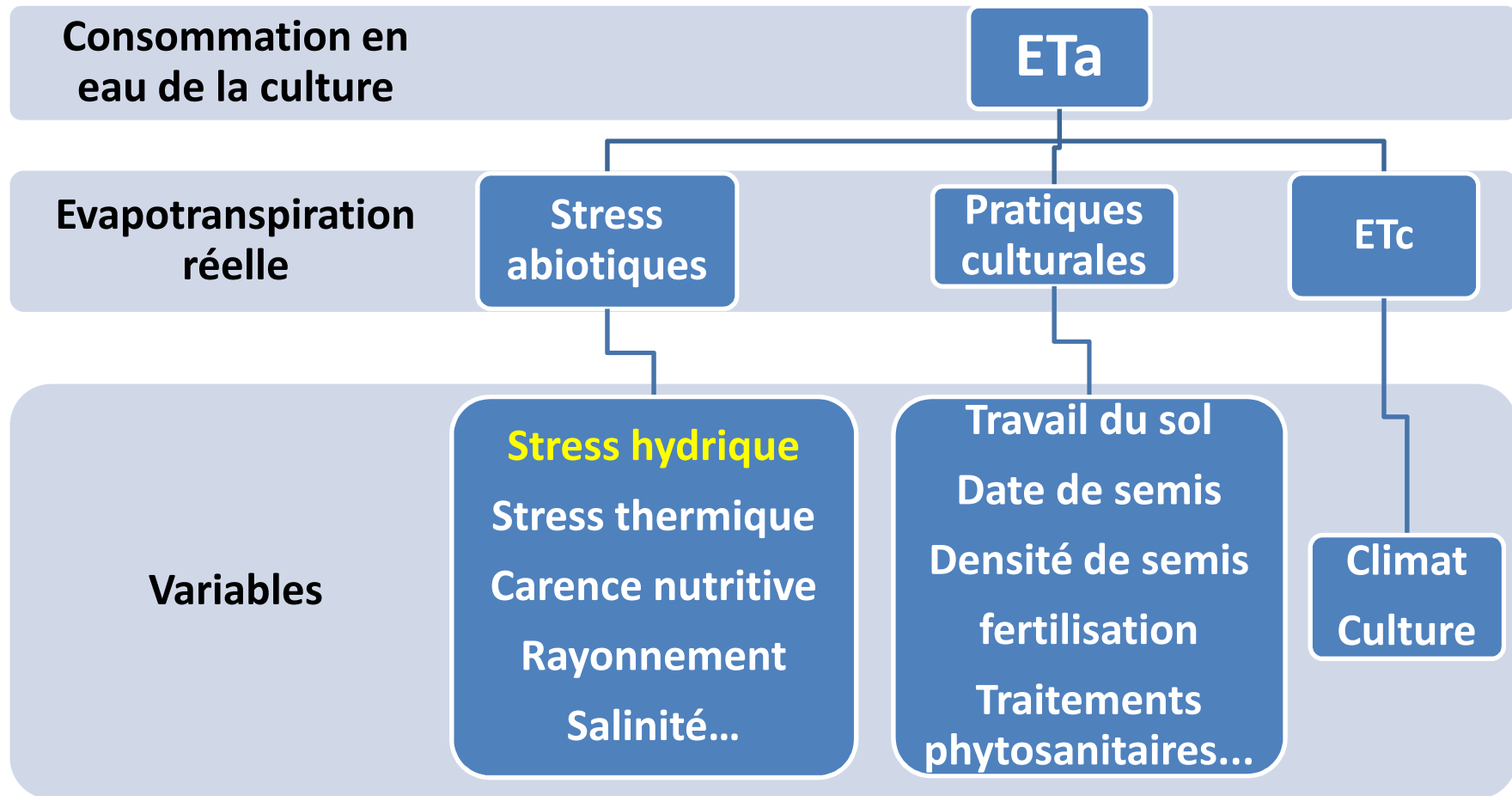
Besoin en eau de la culture



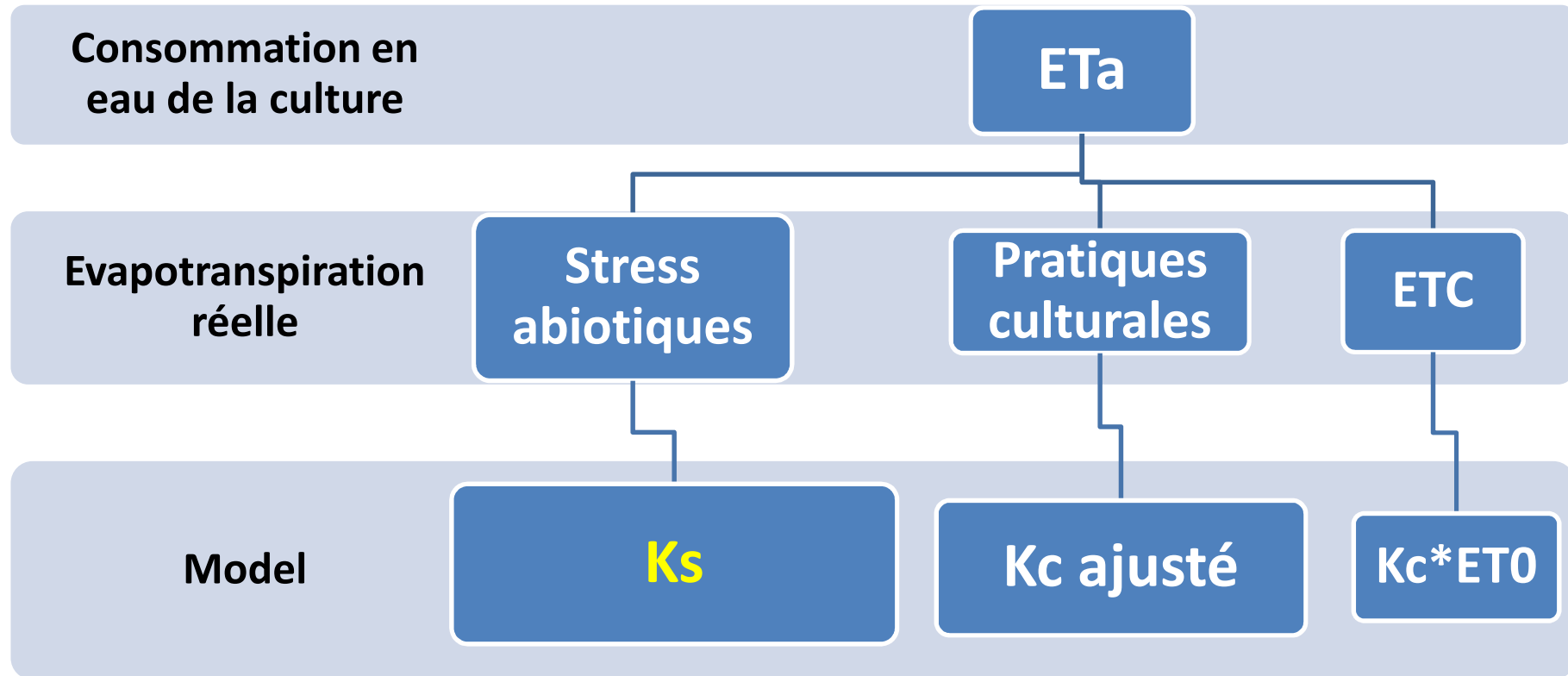
$$ET_0 \times K_c \text{ factor} = ET_c$$

The diagram shows a well-watered crop under optimal agronomic conditions. The crop is represented by a cluster of plants. An upward arrow points from the ground surface to the crop, labeled **ET_c**. Below the crop, the text reads "well watered crop" and "optimal agronomic conditions".

Consommation en eau de la culture



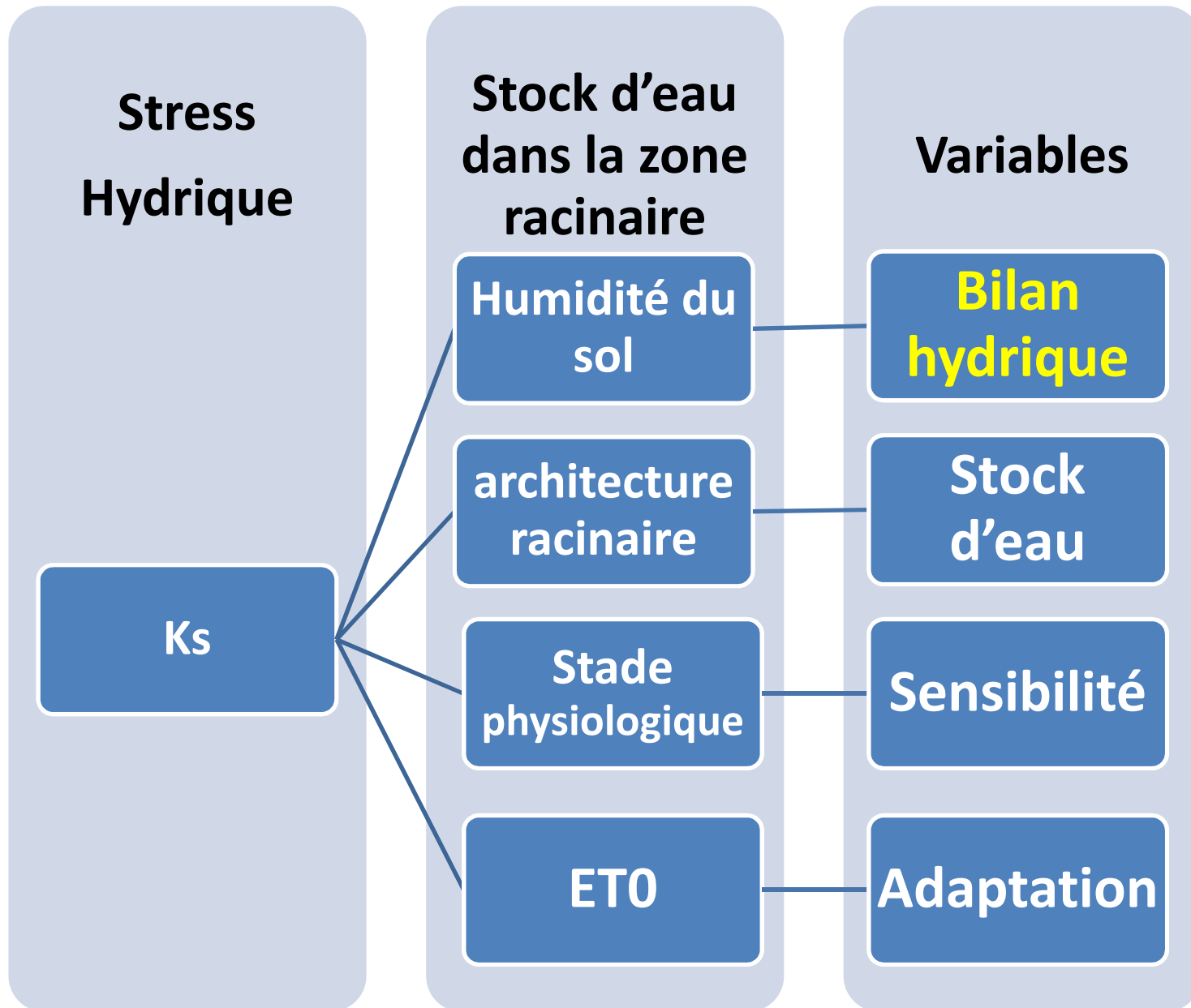
Consommation en eau de la culture



$$ET_0 \times K_s \times K_c \text{ adjusted} = ETa$$

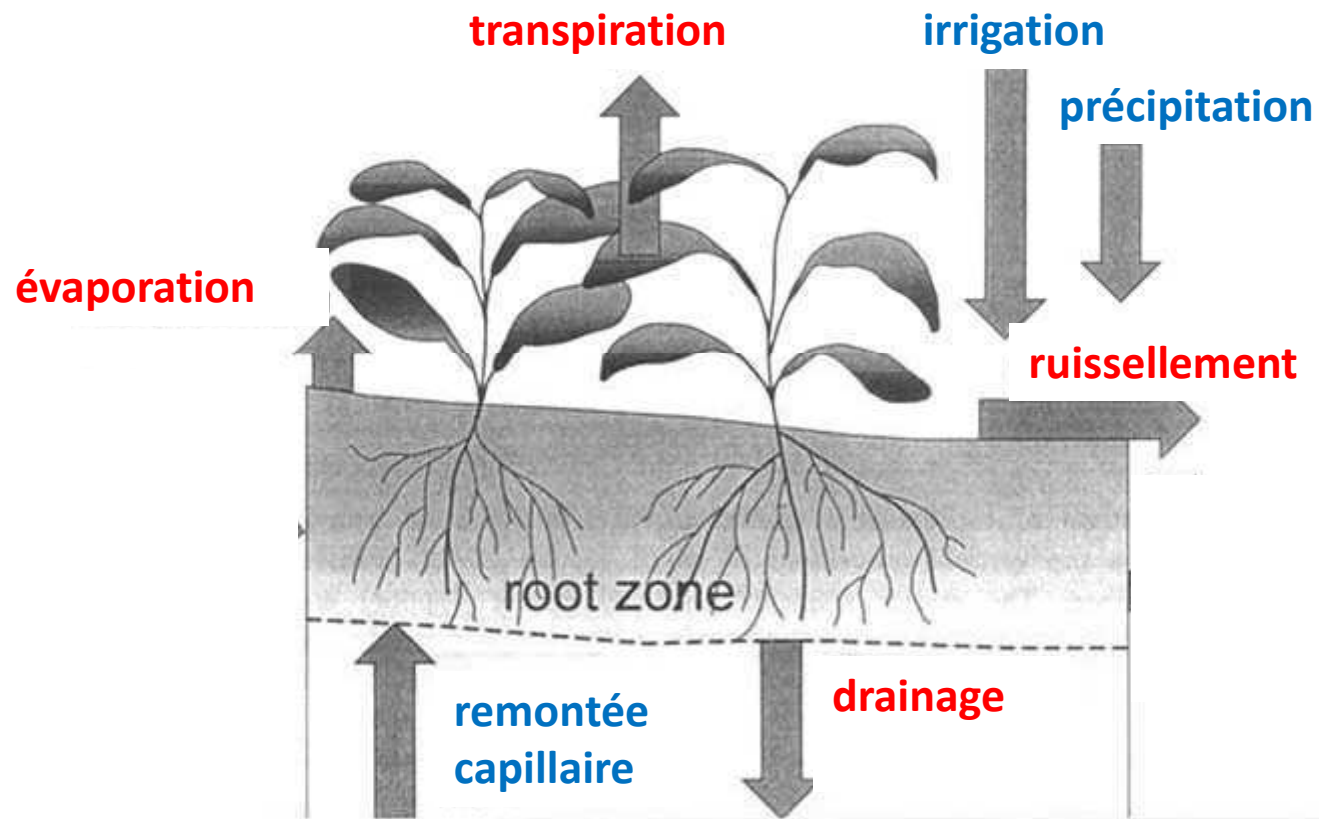
The diagram illustrates the equation $ET_0 \times K_s \times K_c \text{ adjusted} = ETa$. On the left, ET_0 is multiplied by a trapezoidal area containing a plant and labeled "water & environmental stress". An equals sign follows, leading to a trapezoidal area with an upward arrow labeled "ETa".

Consommation en eau de la culture



Bilan hydrique

Le bilan hydrique est défini en fonction du pas de temps et d'espace



$$(P+I+Rc)-(ETa+R+D)=\text{Stock}_{\text{final}}-\text{Stock}_{\text{initial}}= S$$

