

The **Shannon index H** (or Shannon-Weiner index) is widely used index of diversity that considers species richness and evenness:

$$H = -\sum(p_i)(\ln p_i)$$

p_i = proportion of the total individuals in the community represented by species i
 minimum value = 0 (one species present)
 maximum value = $\ln S$ (S is the total number of species, i.e. **species richness**)

An index of species **evenness** can be calculated using H :

$$E_H = H / H_{\max}$$

