

## Coastal Protection

The amount of protection provided by marine and coastal habitats serving as natural buffers against incoming waves.

$x_{cp}$  is the status of the coastal protection goal

$$x_{cp} = \left( \sum_{k=1}^N (h_k \times w_k \times A_k) \right) \left( \sum_{k=w}^N (w_k \times A_k) \right)^{-1}$$

$$h = \frac{C_c}{C_r}$$

$h$  is a measure of the habitat's condition with respect to its reference condition

$C_c$  is the current health of shoreline-protecting habitat  $k$  in a region (mangrove, saltmarsh, coastal sea ice, coral reefs, seagrass)

$C_r$  is the reference condition of habitat  $k$

$w$  is the rank weight of the habitat's protective ability

$A$  is the area within a region for each  $k$  habitat type