

file generated as described in Nature2012 ReadMe - but using OHI2013 reporting regions:

Source:

file "Kris_CatchSumEEZGear.csv" has catch data by saup ID up to 2006 by gear - generated for Nature2012, path:

/var/data/ohi/model/GL-NCEAS-Pressures_SoftBottom/manual_output/Kris_CatchSumEEZGear.csv

file "rgn_soft_bottom_extent.csv" has total area of subtidal soft-bottom (0-60m) habitat and soft-bottom shelf (60m-200m) habitat in an OHI region - generated by BB using the OHI2013a reporting regions, path:

/var/data/ohi/model/GL-NCEAS-Habitats_v2013a/data/rgn_soft_bottom_extent.csv

To prepare the gear data, extracted 1950-2006 catch data from "Kris_CatchSumEEZGear.csv" for gear codes:

- 830 dredges
 - 831 hand dredges
 - 840 bottom trawls
 - 860 shrimp trawl
- [Note that we exclude mid-water trawls (850)]

Then aggregated by sum from the SAUP EEZs into OHI reporting regions for 2013

For each region r and for each year t in 1950-2006 actuals:

$$Density_t = Catch_t / Area$$

where the Area metric is the total amount of soft-bottom habitat in an OHI region.

To score the density we log-rescale to the maximum density as the reference point:

$$DensityRescaled_t = \frac{\log(Density_t+1)}{\log(MAX(\{\forall_t\forall_r|Density_t\})+1)}$$

then

$$x_t = 1 - DensityRescaled_t$$

then rescale a second time (in order to further reduce the skewness), using the median value as reference point:

$$x_t = x_t / MEDIAN(\{\forall_t\forall_r|x_t\})$$

then cap the values to 1:

$$x_t = MIN(1, x_t)$$

then prepare two data layers, first the Health condition for soft-bottom to be used in the HAB sub-goal:

$$x_{hd:subtidal:sb} = x_{t=2006}$$

and the second is the subtidal soft bottom pressure layer:

$$p_{hd:subtidal:sb} = 1 - x_{t=2006}$$

Note that if a region has no trawl area habitat (Area = NoData), then their status $x_{t=2006} = NoData$ BUT their pressures $p = 0$.

[NOTE: no soft bottom in:

- Ile Tromelin
- Crozet Islands
- Benin

American Samoa
Samoa
Monaco
Jordan]