CEMP Guideline for the MPA assessment calculation methodology

OSPAR Agreement 2023-03[1]

1   Introduction

It is recognised that there are different approaches that can be used to calculate the extent of an MPA network, these different approaches will result in differences in the final numbers calculated. It was therefore recognised as important to document the approach that OSPAR uses, to ensure the transparency and repeatability of assessment on the area and percent coverage of its Network of MPAs.

This should be seen as a living document that can be updated if there are decisions that result in changes to the current methodology.

## 2   Description of the calculation method

The process, including the input files required and the methodological

2.1 Input files:

| MPA boundaries Shapefile extraction from the MPA database, presenting all MPAs to date. Data are cleaned to remove topology errors.	EEZ boundaries. Shapefile from https://marineregions.org/
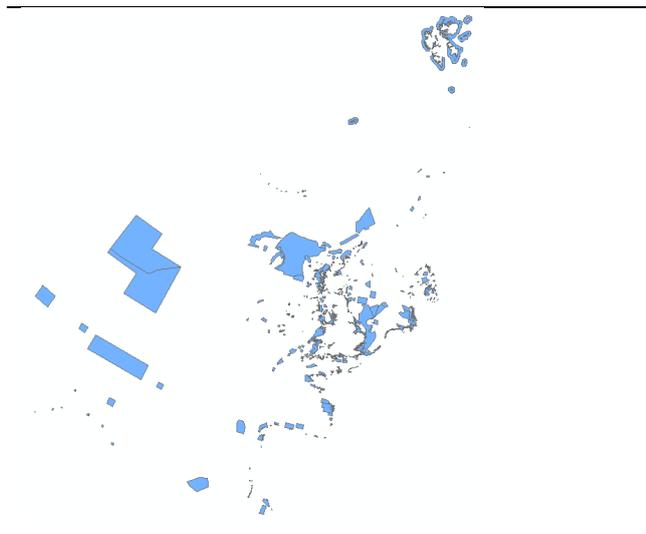
| OSPAR Regions. https://odims.ospar.org/en/submissions/ospar_regions_2017_01/	

2.2   Method
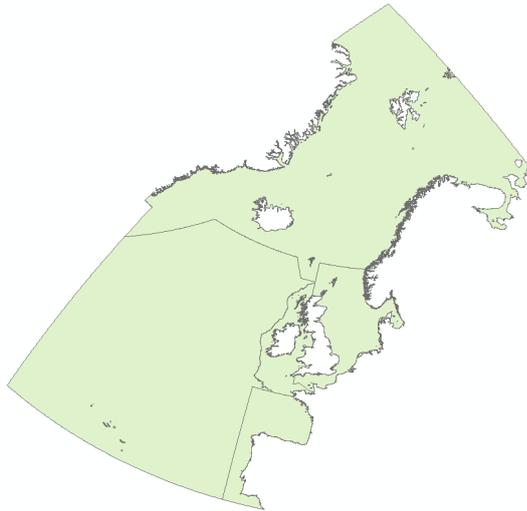
1. Union (https://gisgeography.com/union-tool/): OSPAR Regions > EEZ > MPA boundaries

2. The result is a single polygon file with all attributes from overlapping areas merged.
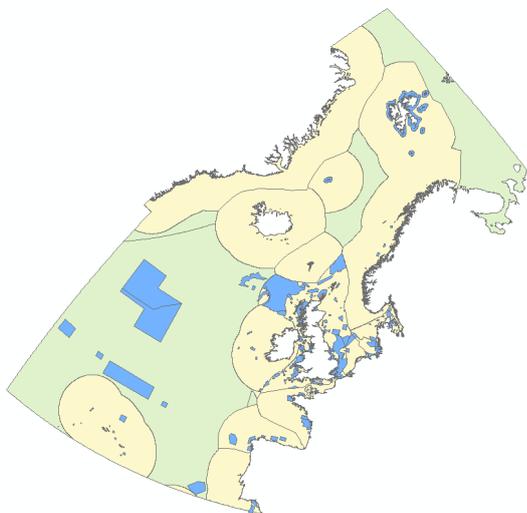
Union
→
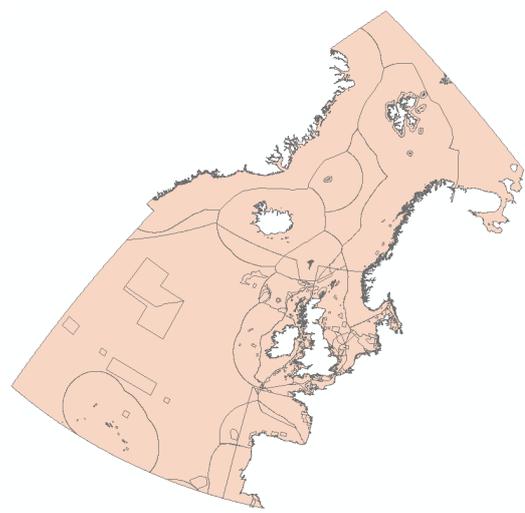
3. This includes a lot of areas that are not MPAs that need to be cleaned. This can be done using the newly unioned attributes, sort wpaid asccending, any polygon with a "0" value is not an MPA. Select and delete:

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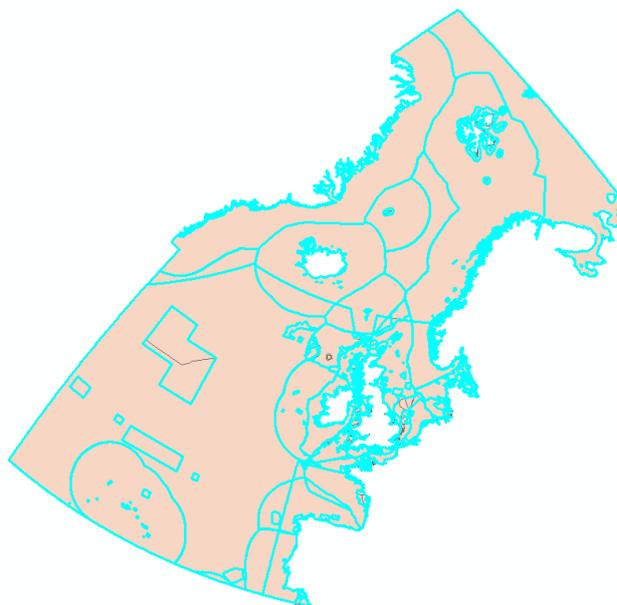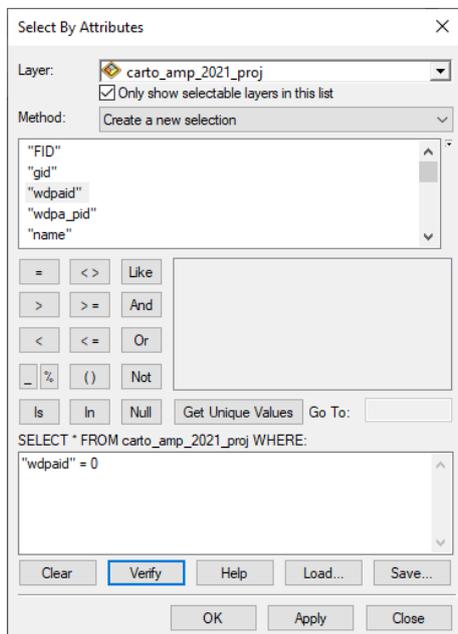
4. Delete the Selected polygons results in this file:
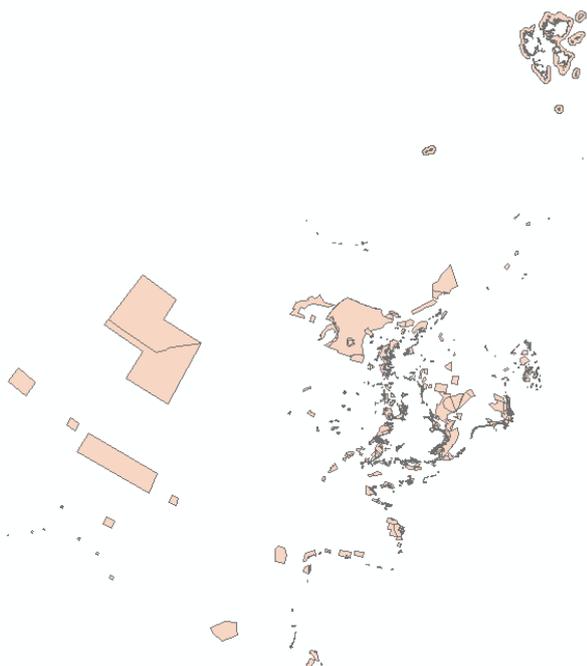
5. This should now be the same as the original input file except the polygon has been split according to the EEZ and OSPAR Regions it has also inherited attributes from EEZ and OSPAR Region files required for calculations.

6. The input MPA file in this example had 551 polygons, the result following union and cleaning has 4165.

7. The area of these polygons can now be recalculated (they will be presenting the information that was correct prior to the union action and are now not correct). Once the areas are recalculated, it is possible to calculate area coverage by OSPAR Region and for each EEZ .

8. The recalculation of the areas shall be carried out in the reference system ETRS89 (European Terrestrial Reference System 1989 [EID 4258]).

3.   Change Management

The development and improvement of the calculation method is an ongoing process and this document may need to be revised. Responsibility for follow up of this works lies with the following groups:

- Germany as the lead for regularly assessing the status of the OSPAR MPA network; with the support of the Secretariat
- ICG-MPA
- BDC