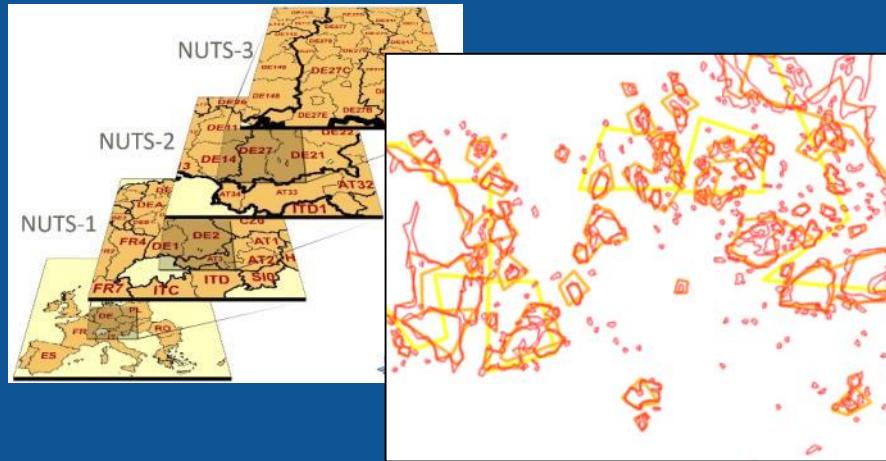




GISCO generalisation tool for tessellation datasets



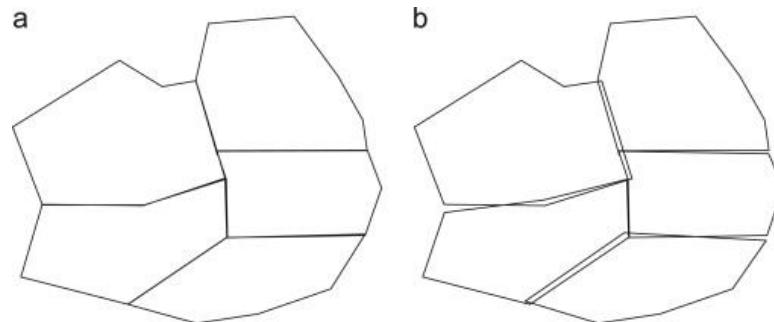
GIS at EC - User and Technical Committee

22/03/2018

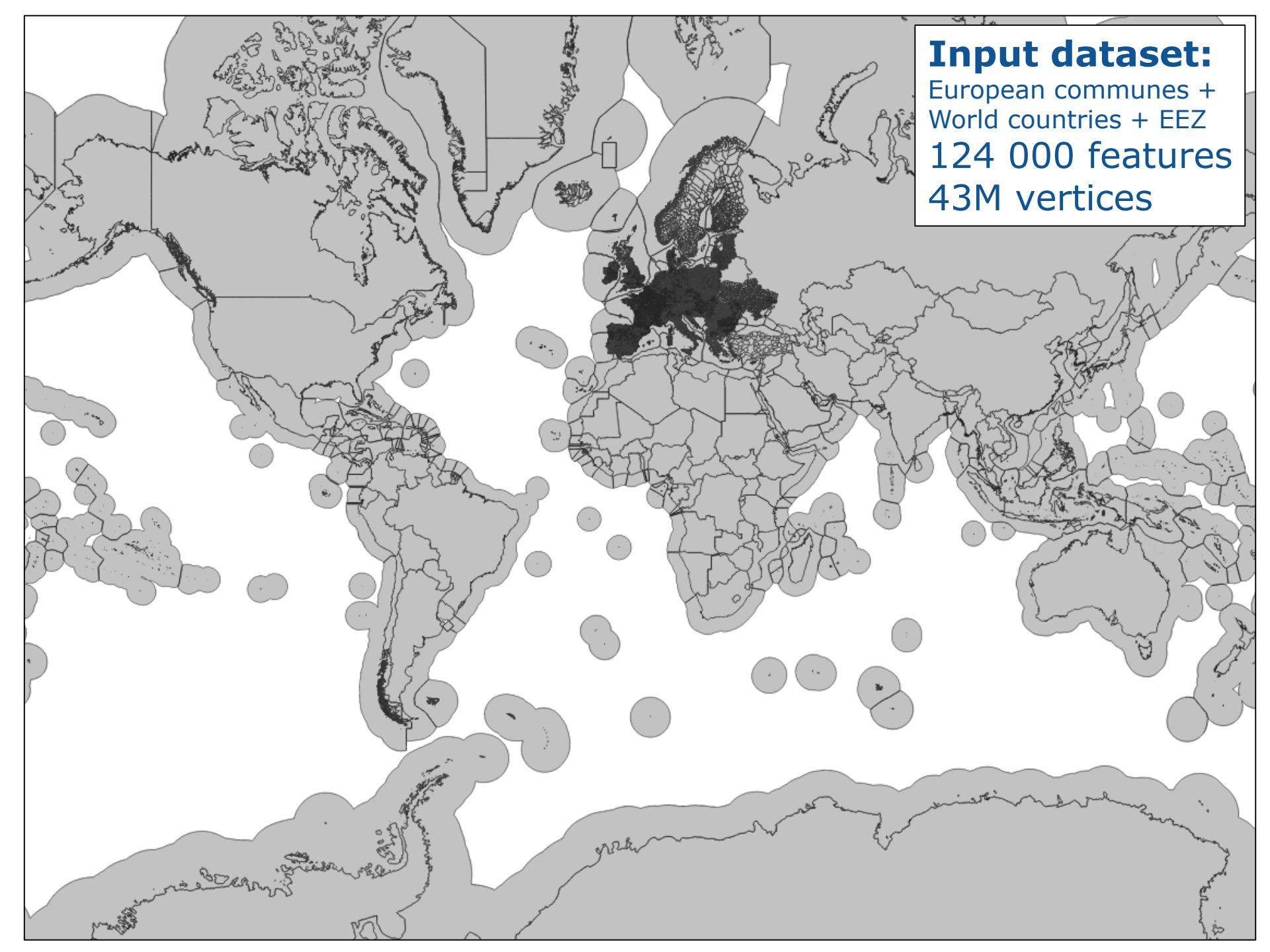
Julien Gaffuri – Eurostat/GISCO

Objective

- *Generalisation for NUTS-COMMUNES-CNTR-EEZ dataset*



"Geographical tessellation"



Input dataset:
European communes +
World countries + EEZ
124 000 features
43M vertices

Automated generalisation for tesselations

- *Many tools to perform "quick and dirty" generalisation of tesselations*
- *How to properly generalise tesselations?*

Some cartographic principles for tesselation generalisation

Generalisieren von Flächenkonturen und Flächen

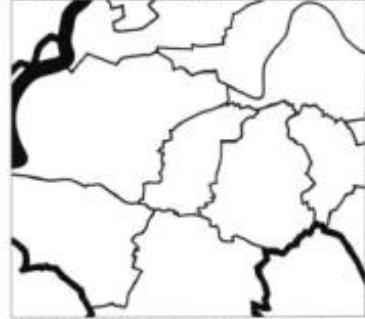


Abb. 18a Detailliertes Gemeindegrenzbild
1 : 100 000

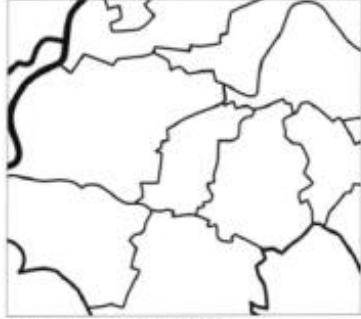


Abb. 18b Grenzbild 1 : 100 000
generalisiert für 1 : 400 000

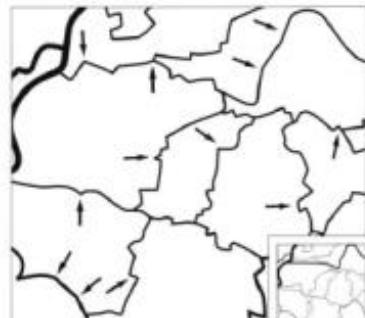


Abb. 18c Wichtige Charakteristiken und
Reduktion auf den
Publikationsmaßstab



Abb. 19a Waldflächen 1 : 50 000



Abb. 19b Waldflächen 1 : 50 000
generalisiert für 1 : 200 000

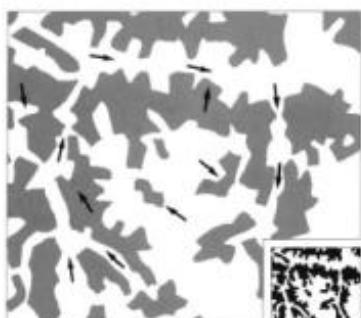


Abb. 19c Hinweise auf wichtige
Generalisierungsmassnahmen und
Reduktion auf den
Publikationsmaßstab

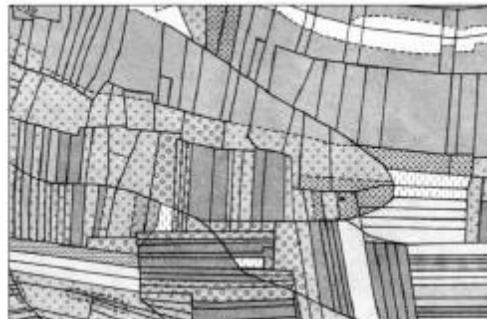


Abb. 14a Landnutzungsmosaik mit insgesamt
47 Kategorien

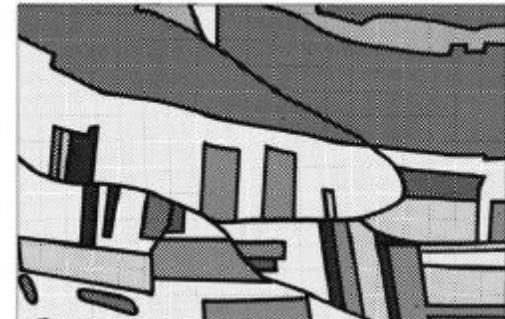


Abb. 14c Fünf Arten von Getreide unter dem
Oberbegriff Getreide zusammengefasst

Getreide / Céréales / Cereali

Weizen
Ble
Fiumento
Gerste, Hater
Drgi, avoine
Ovzo, avena
Roggan
Seglie
Segale
Dinkel
Epeautre
Farro
Mischel von Brotgetreide (Roggan, Weizen)
Méteil de céréales panifiables (segale, blé)
Miscela di cereali di pane (segale, frumento)

Abb. 14b Legende zu den Abbildungen 14

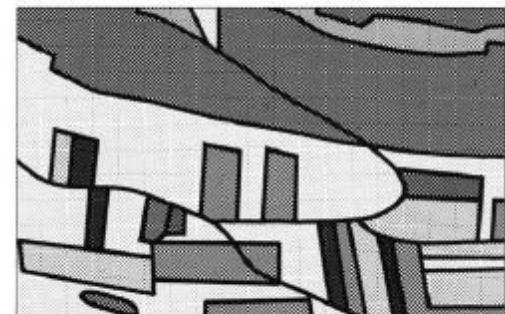


Abb. 14d Zusammengefasstes Getreide
geometrisch generalisiert

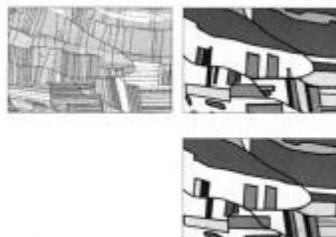


Abb. 15 Reduktion der Abbildungen 14 auf den Publikationsmaßstab

Challenge: Deal with complex situations

Bahamas



Challenge: Deal with complex situations

European
municipalities



European
Commission

Challenge: Deal with complex situations



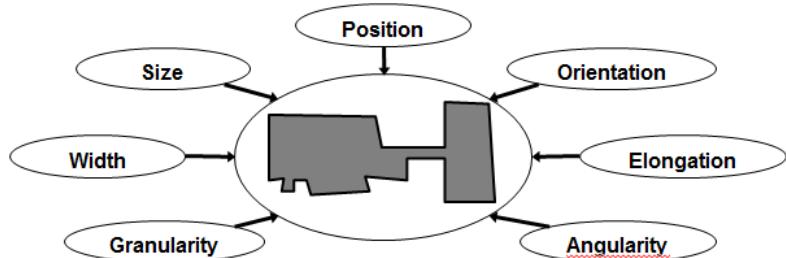
Challenge: Deal with complex situations

Baltic sea
islands

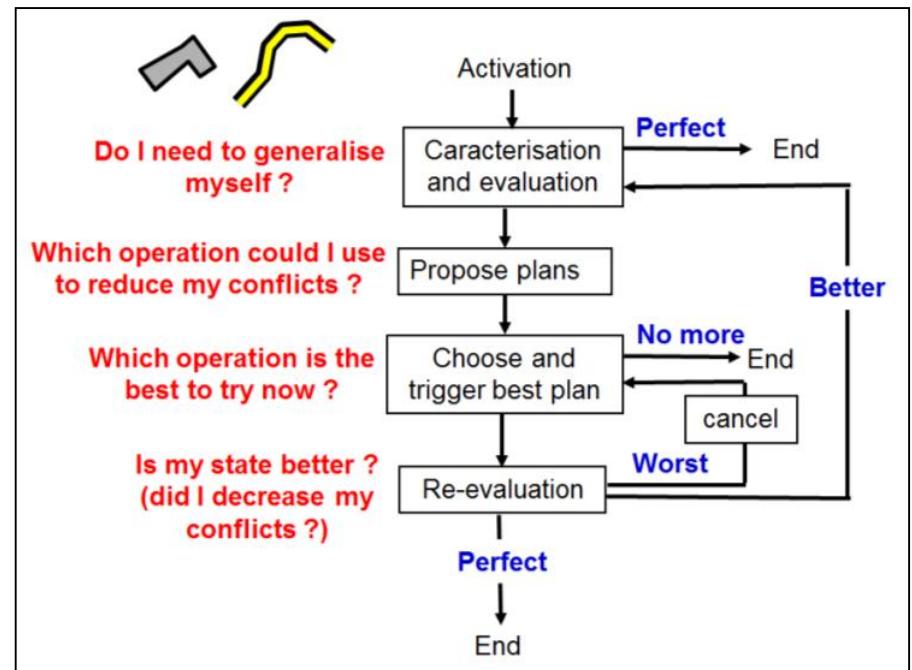


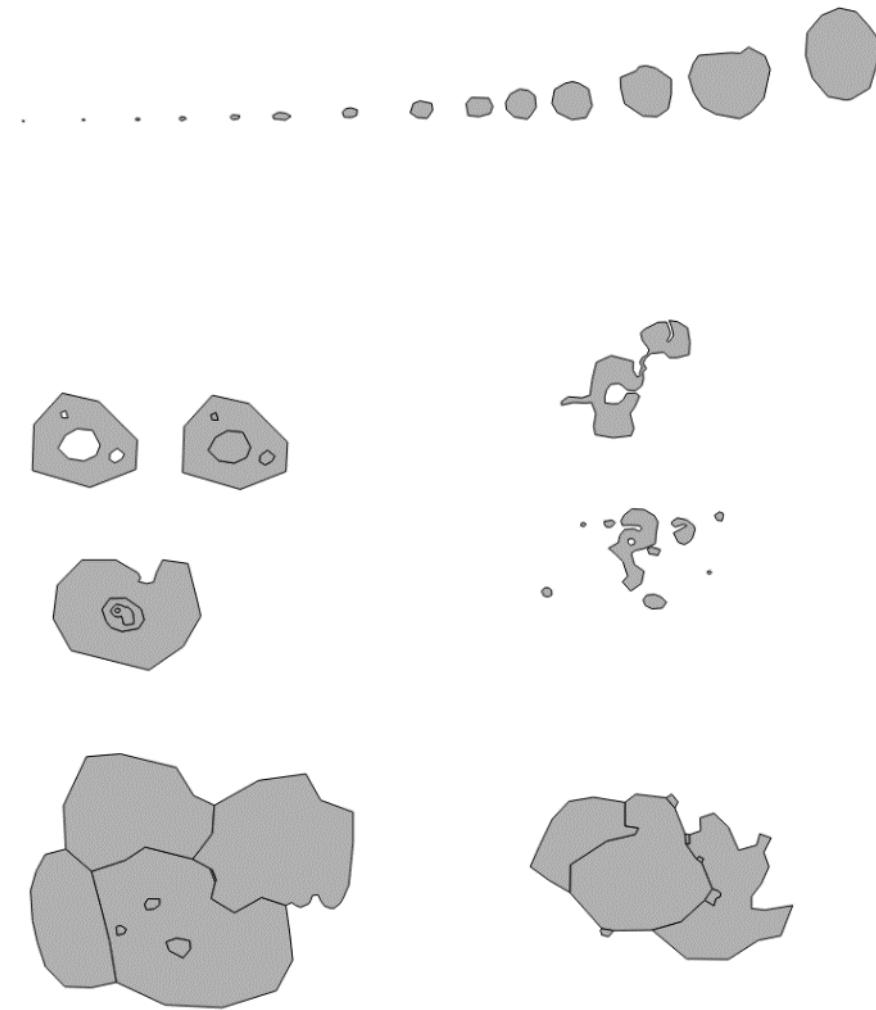
Approach adopted: Agent-based generalisation

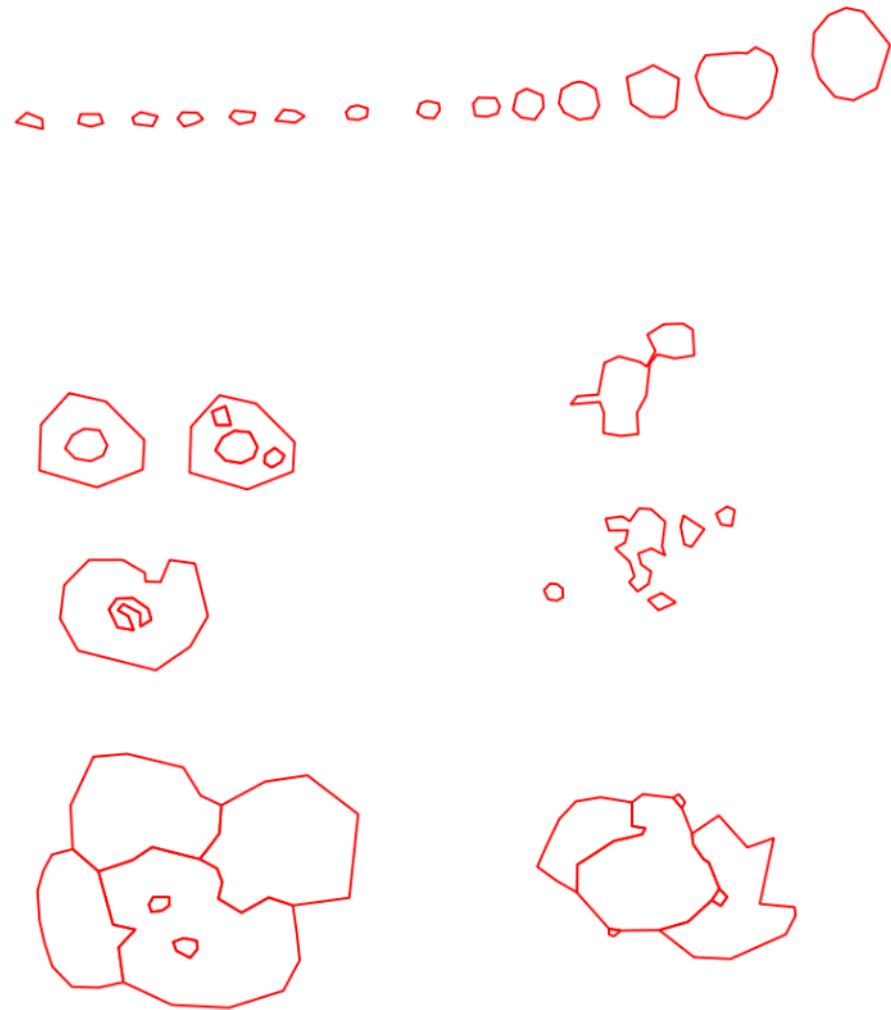
Target state formalised as
constraints at object level...

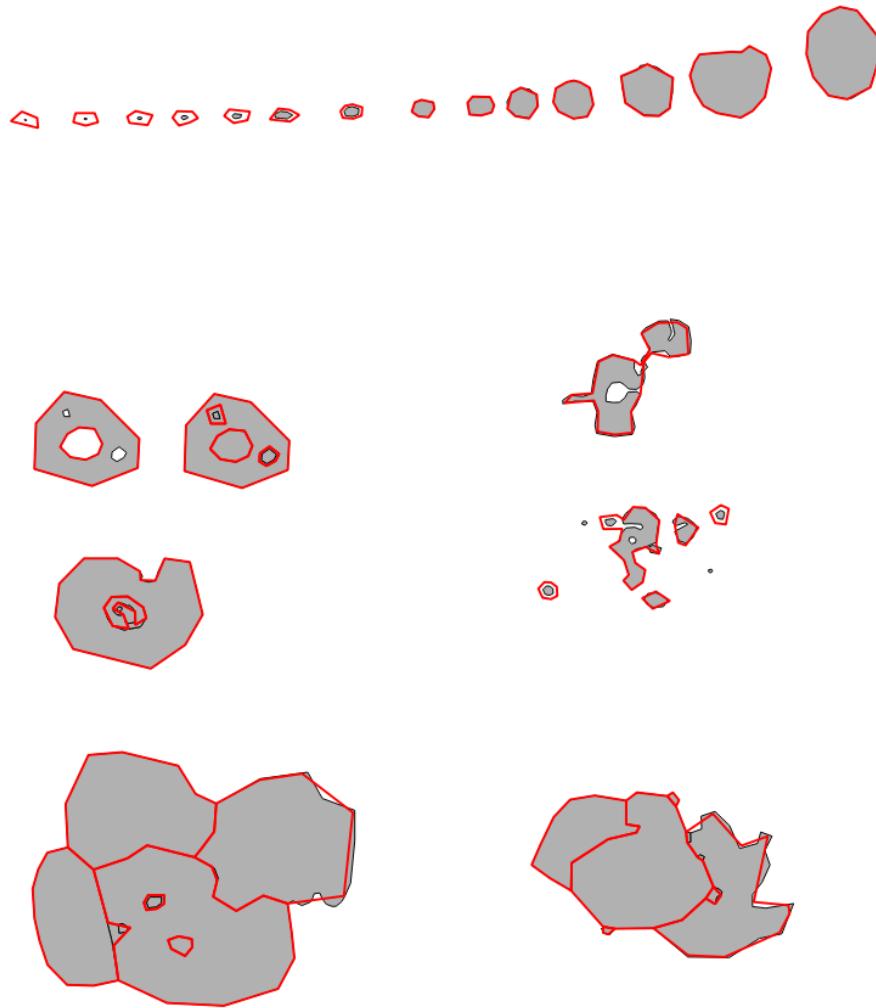


...constraints satisfied
iteratively at object level









Constraints – threshold values

Scale	Resolution in map mm	Resolution in ground meter	Paper format for Europe*
1:1M	0.2mm	200m	
1:3M	0.2mm	600m	
1:10M	0.2mm	2km	A2
1:20M	0.2mm	4km	A4
1:60M	0.2mm	12km	

Results

1:100k

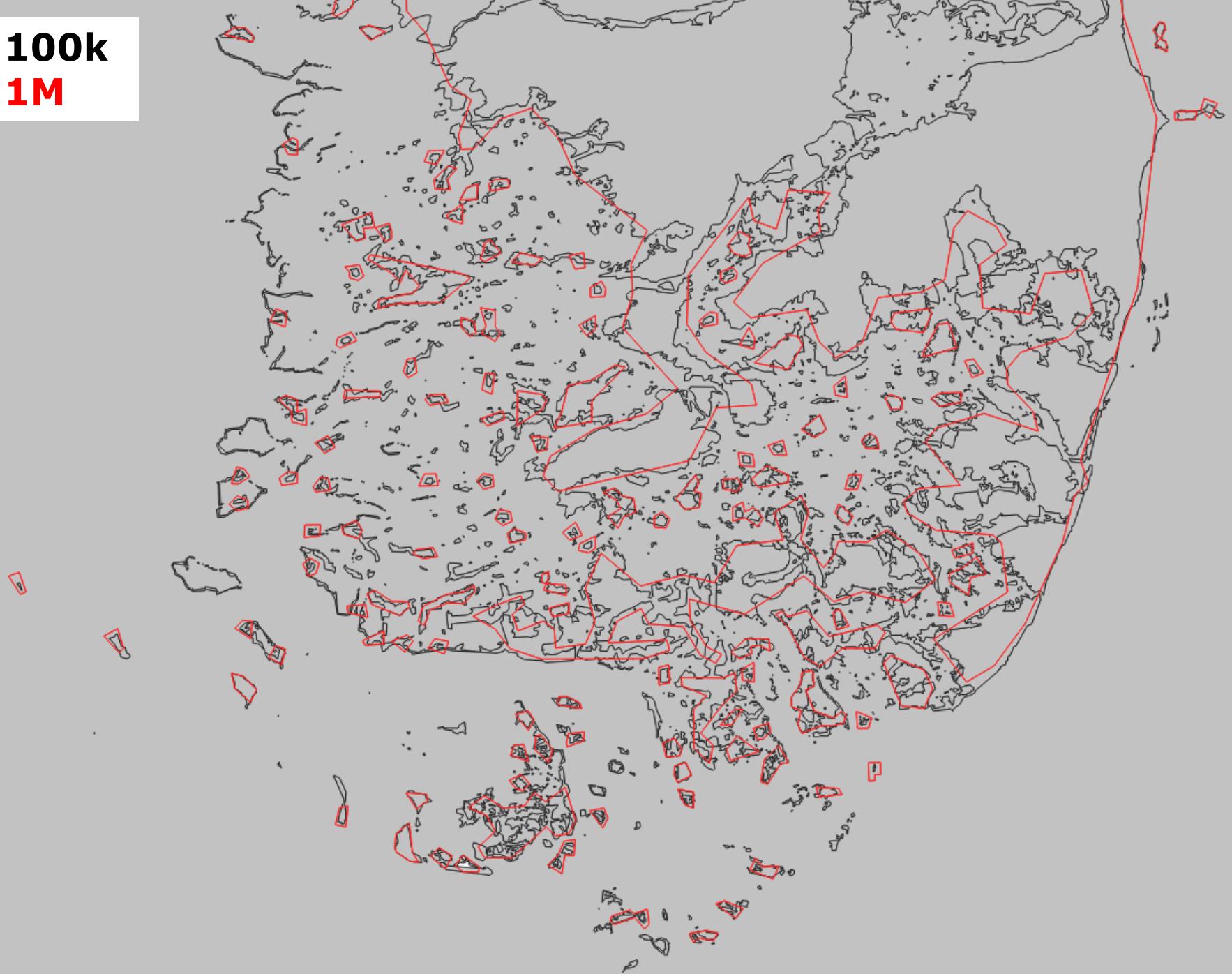


1:1M



1:100k

1:1M



1:100k



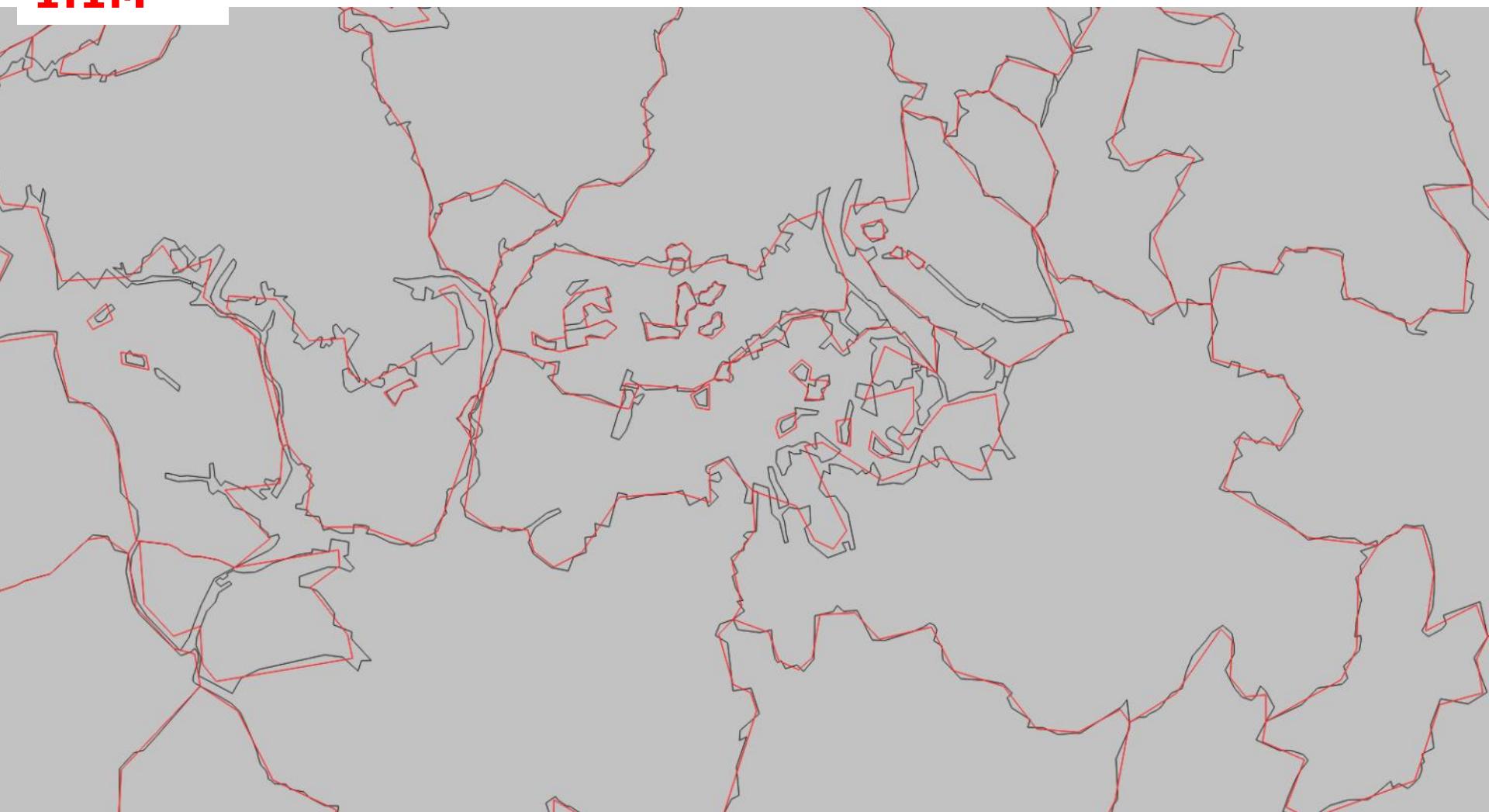
1:1M



European
Commission

1:100k

1:1M



European
Commission

1:100k



1:1M



European
Commission

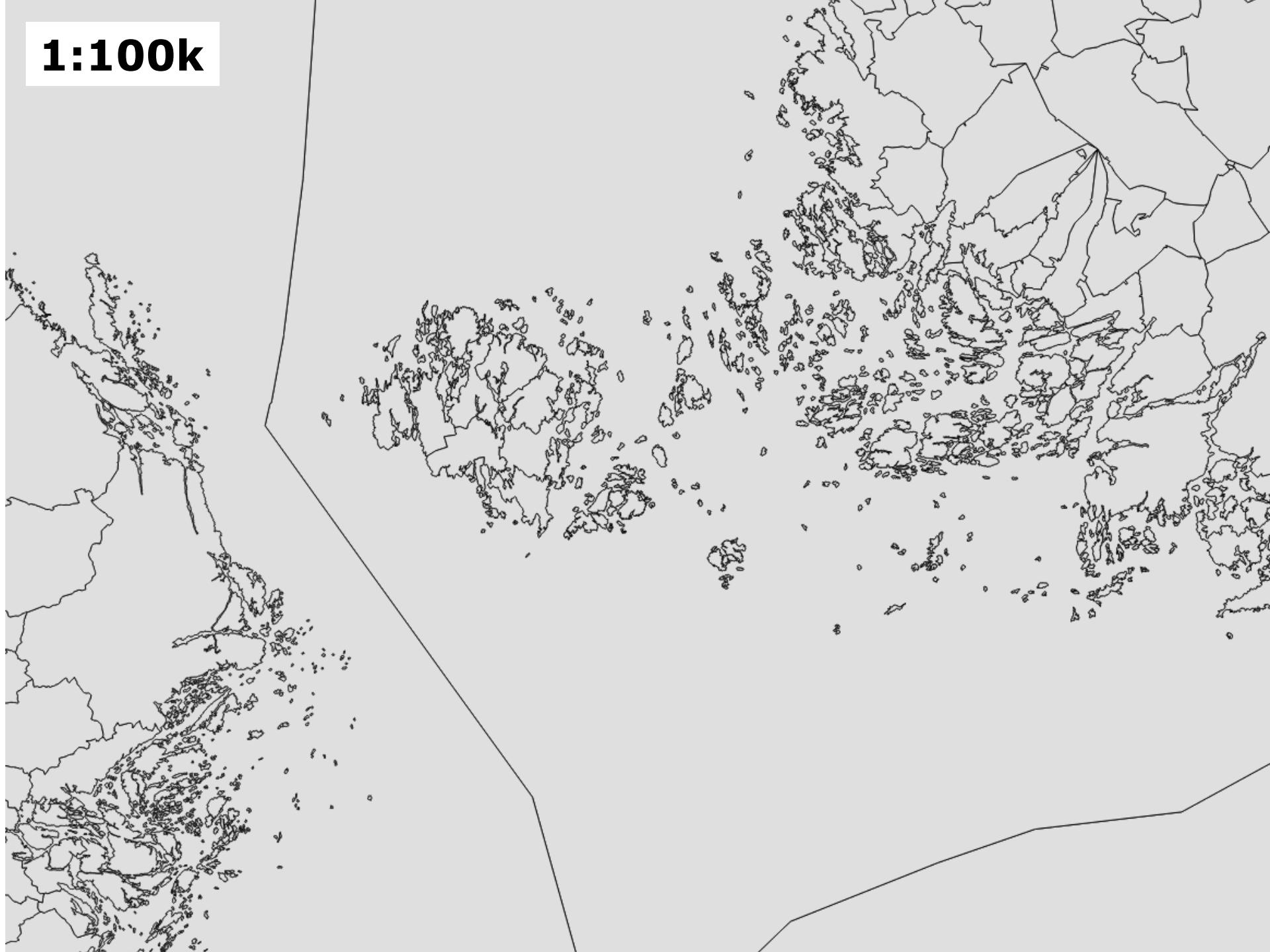
1:1M



1:1M



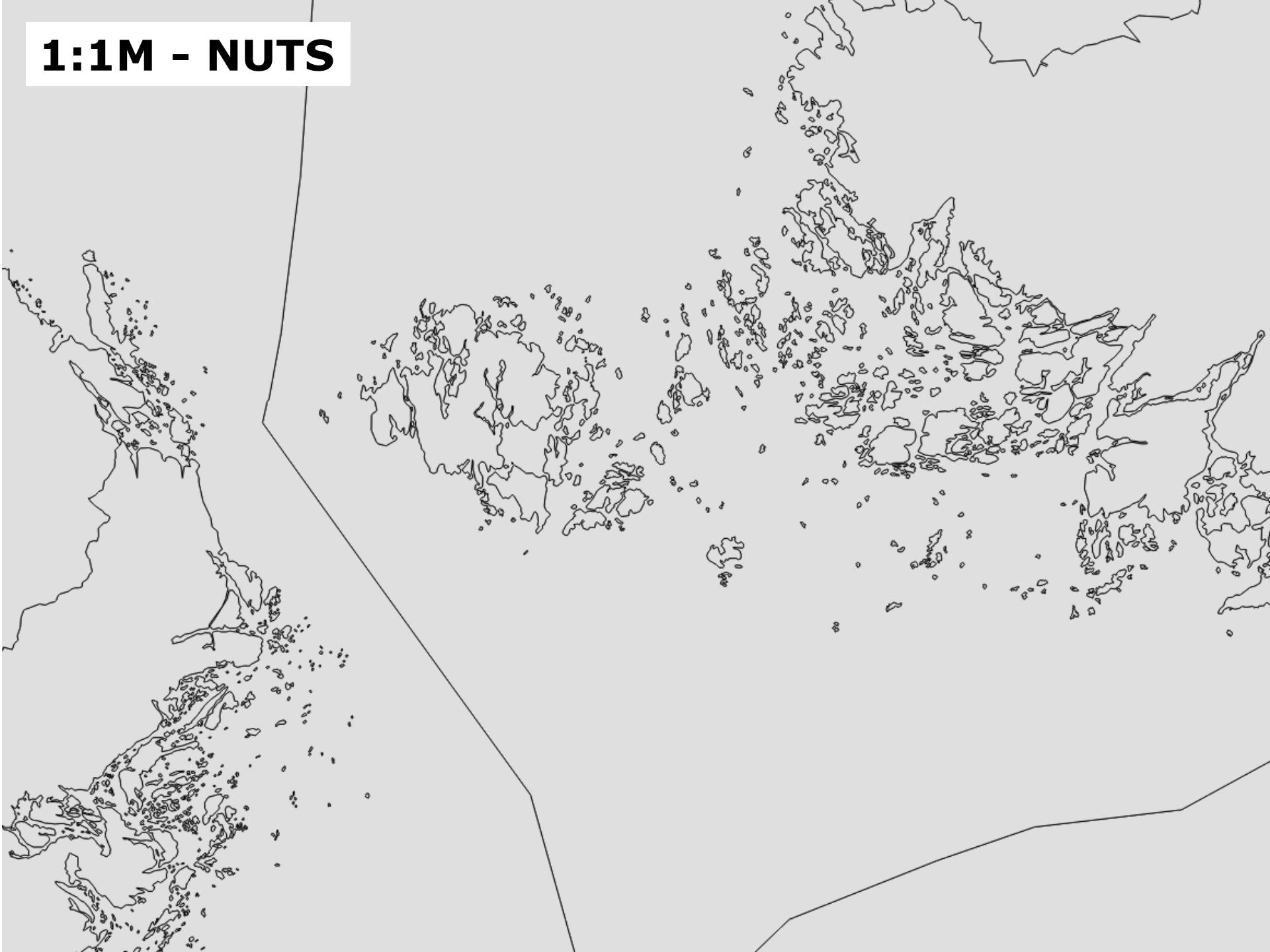
1:100k



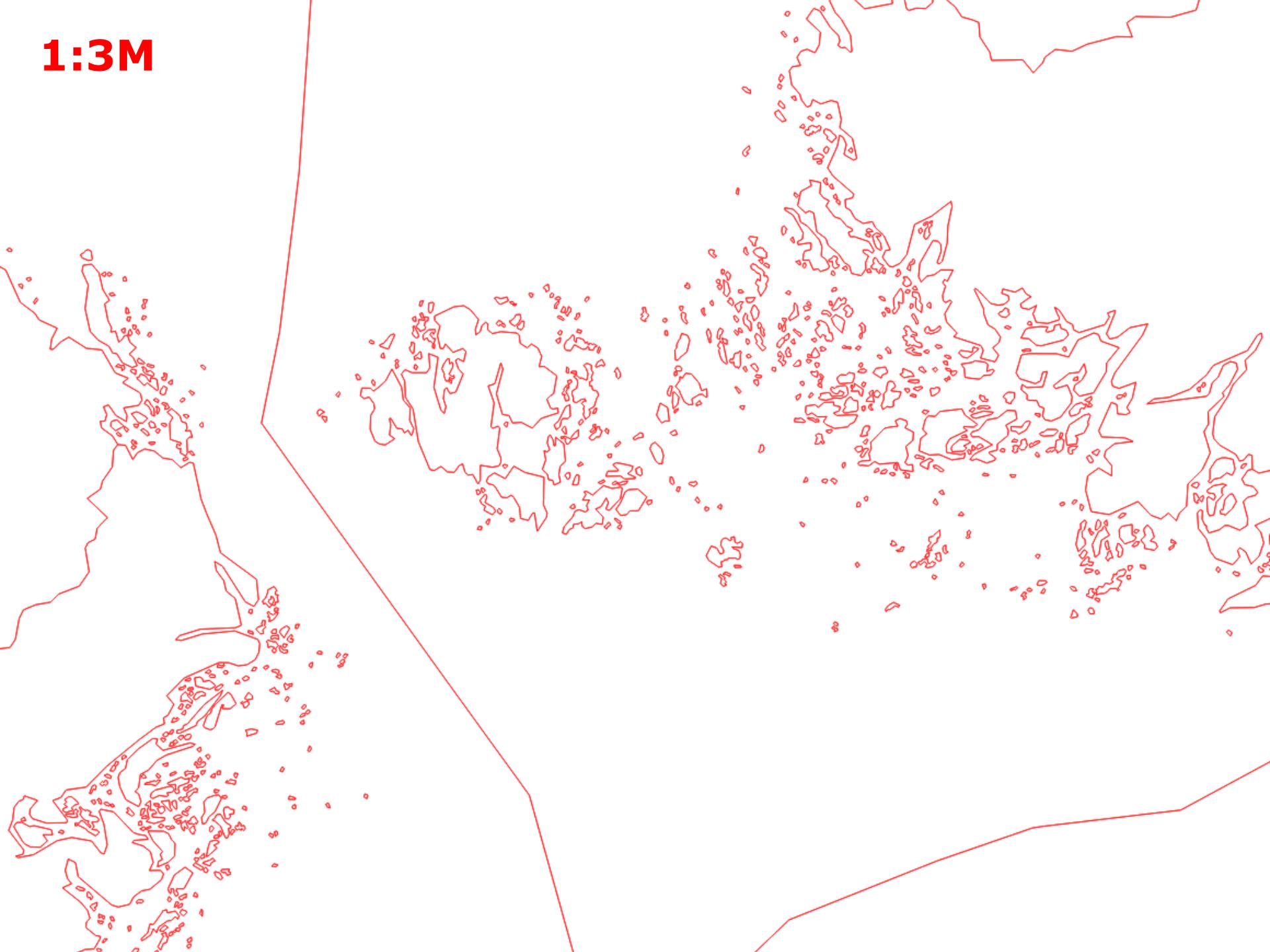
1:1M



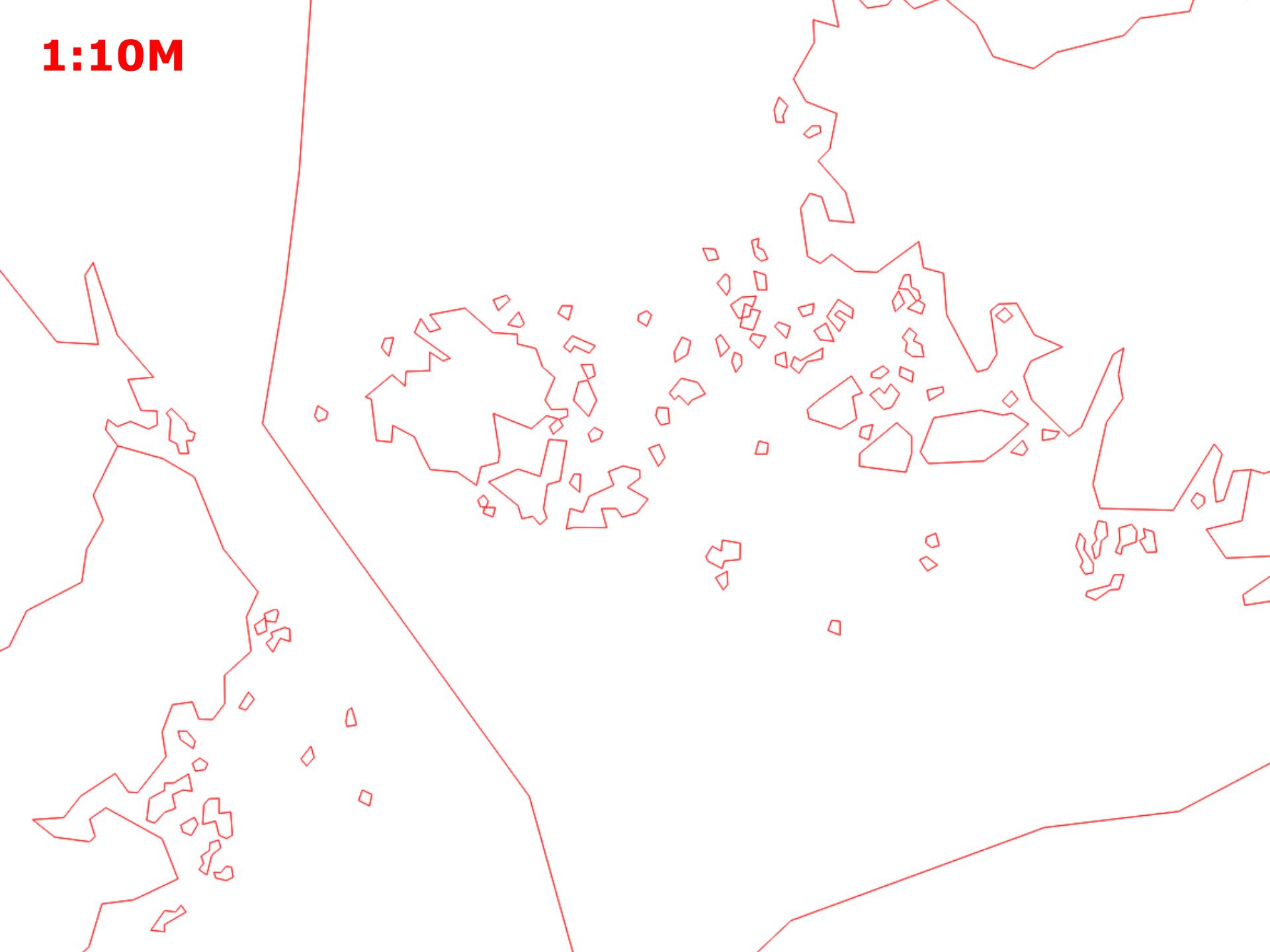
1:1M - NUTS



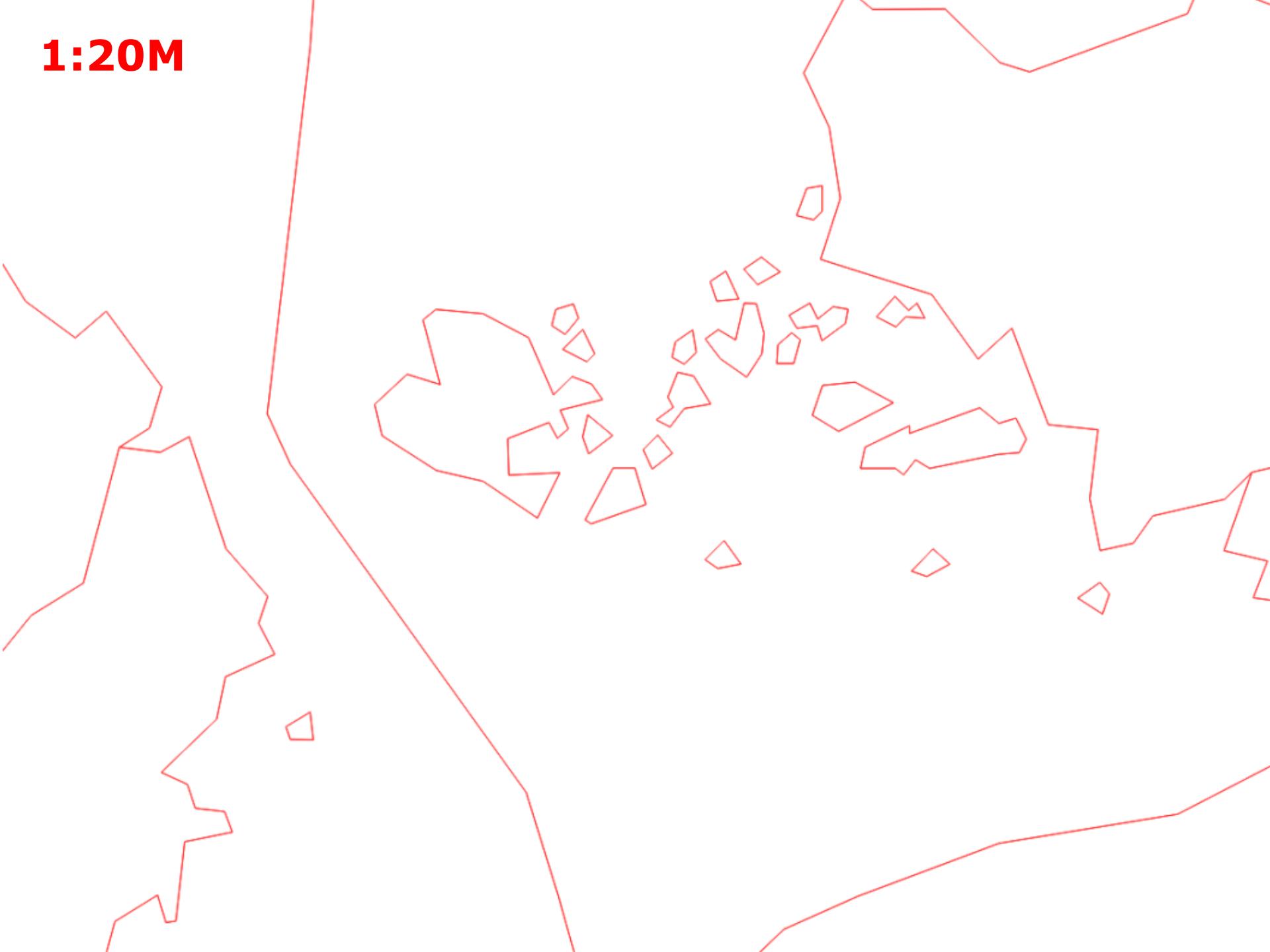
1:3M



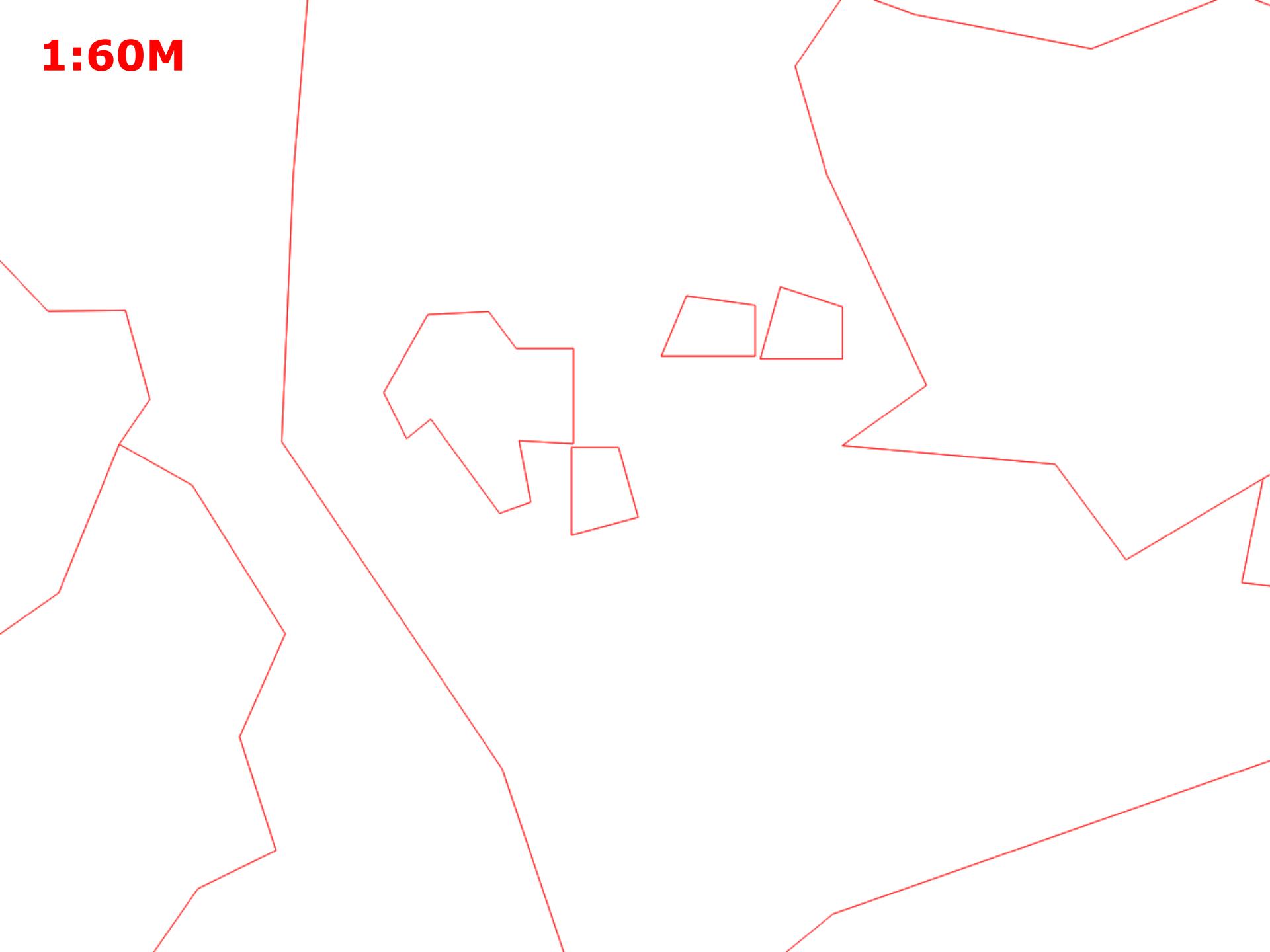
1:10M



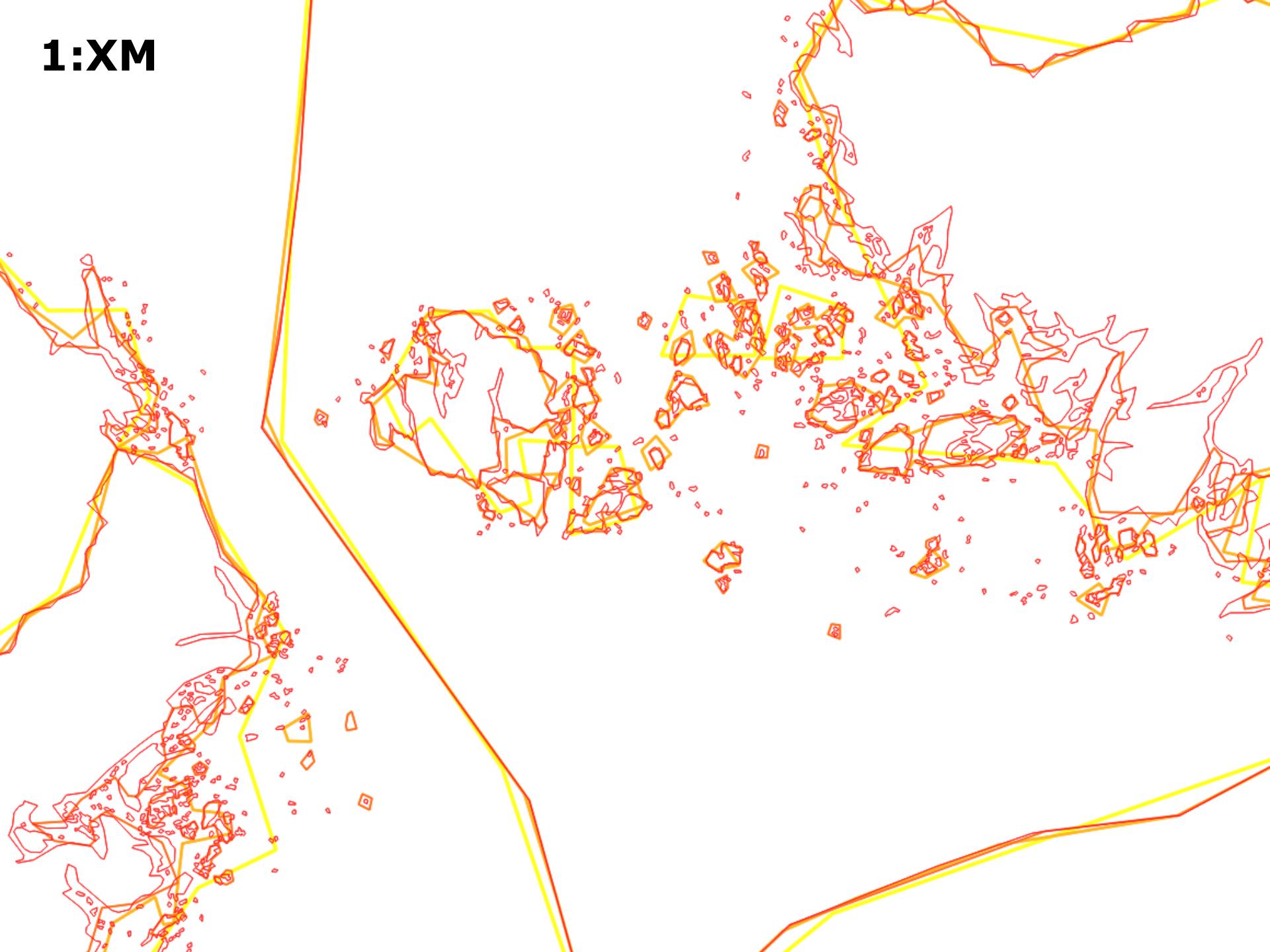
1:20M



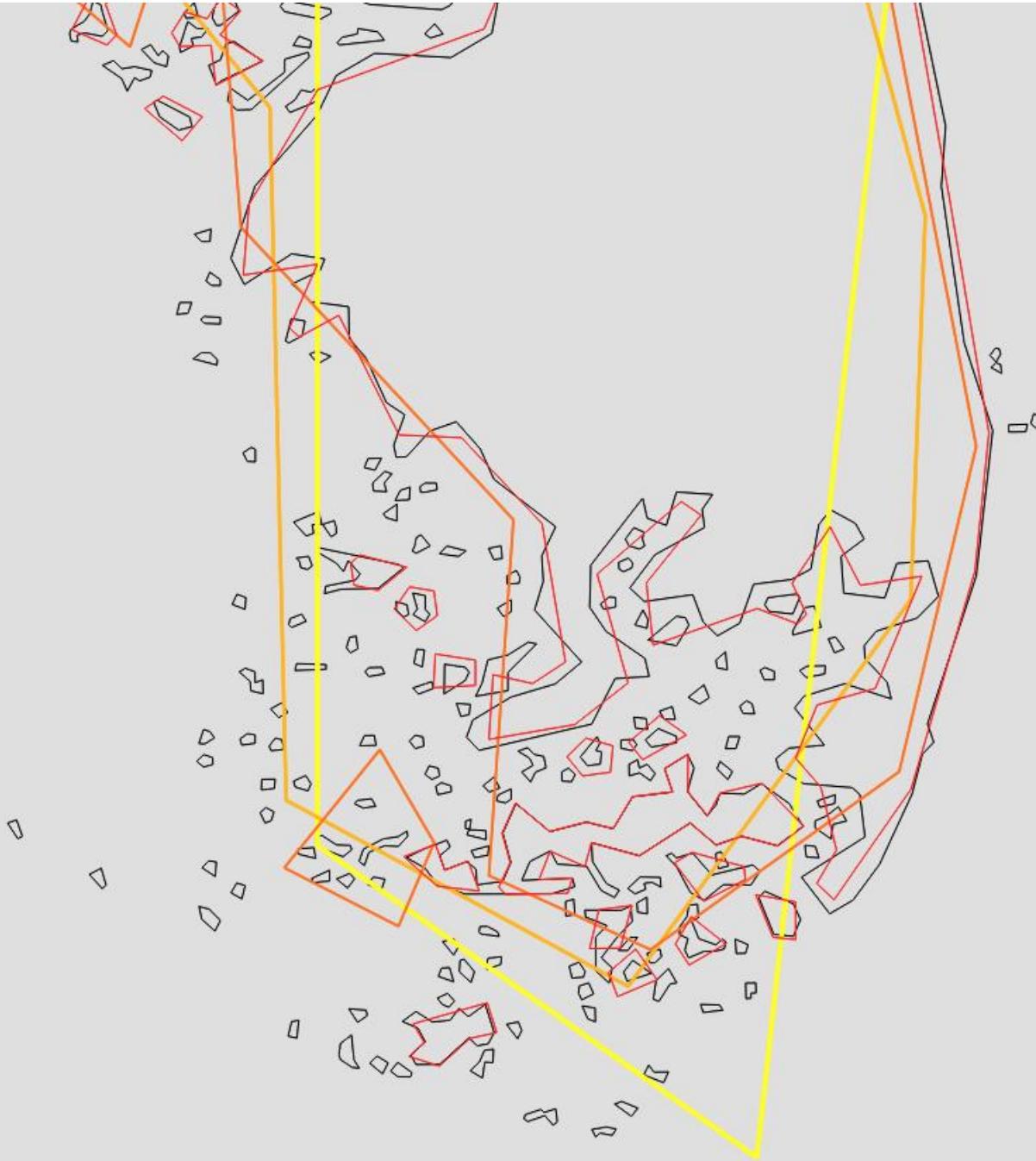
1:60M



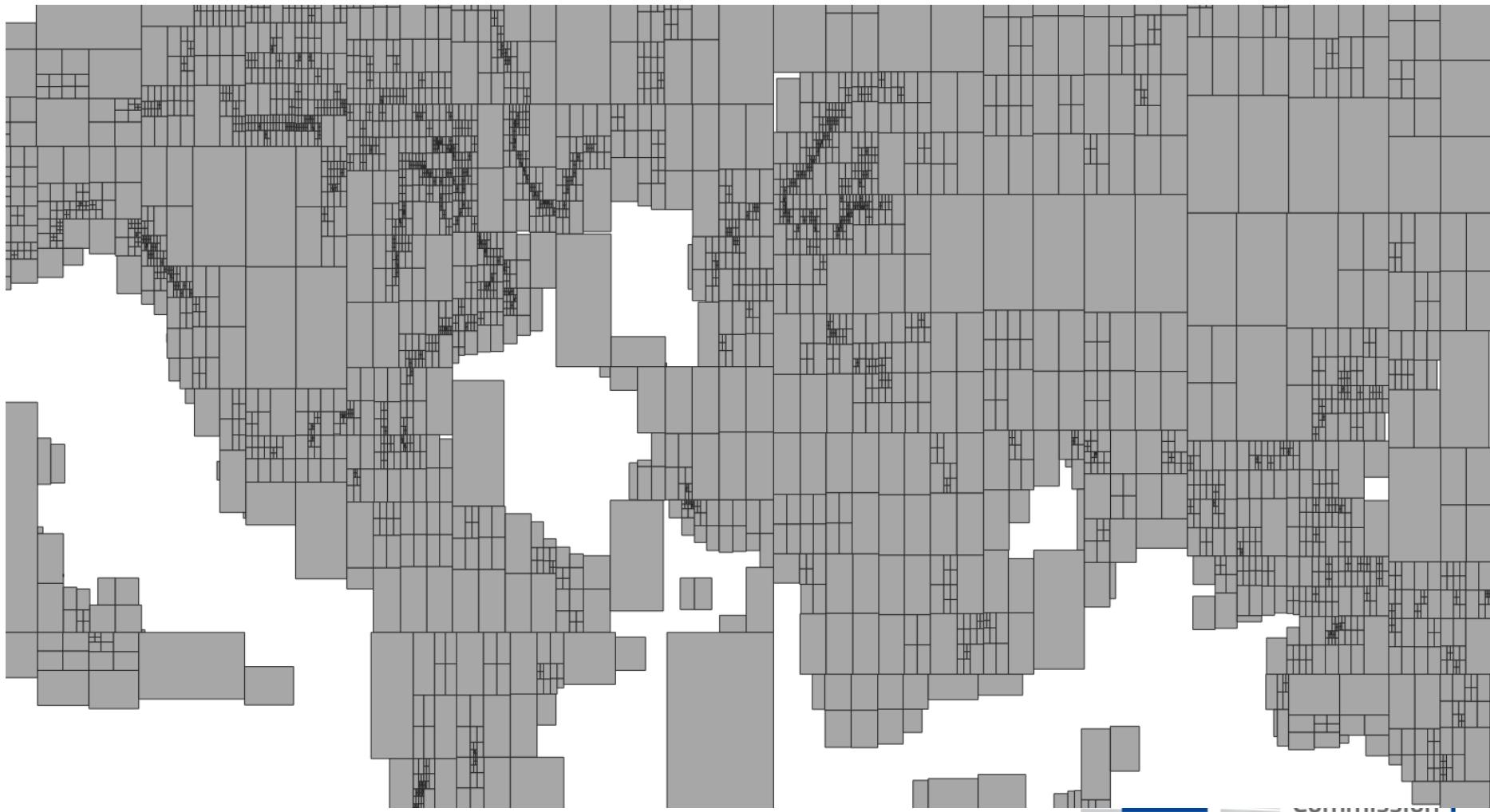
1:XM



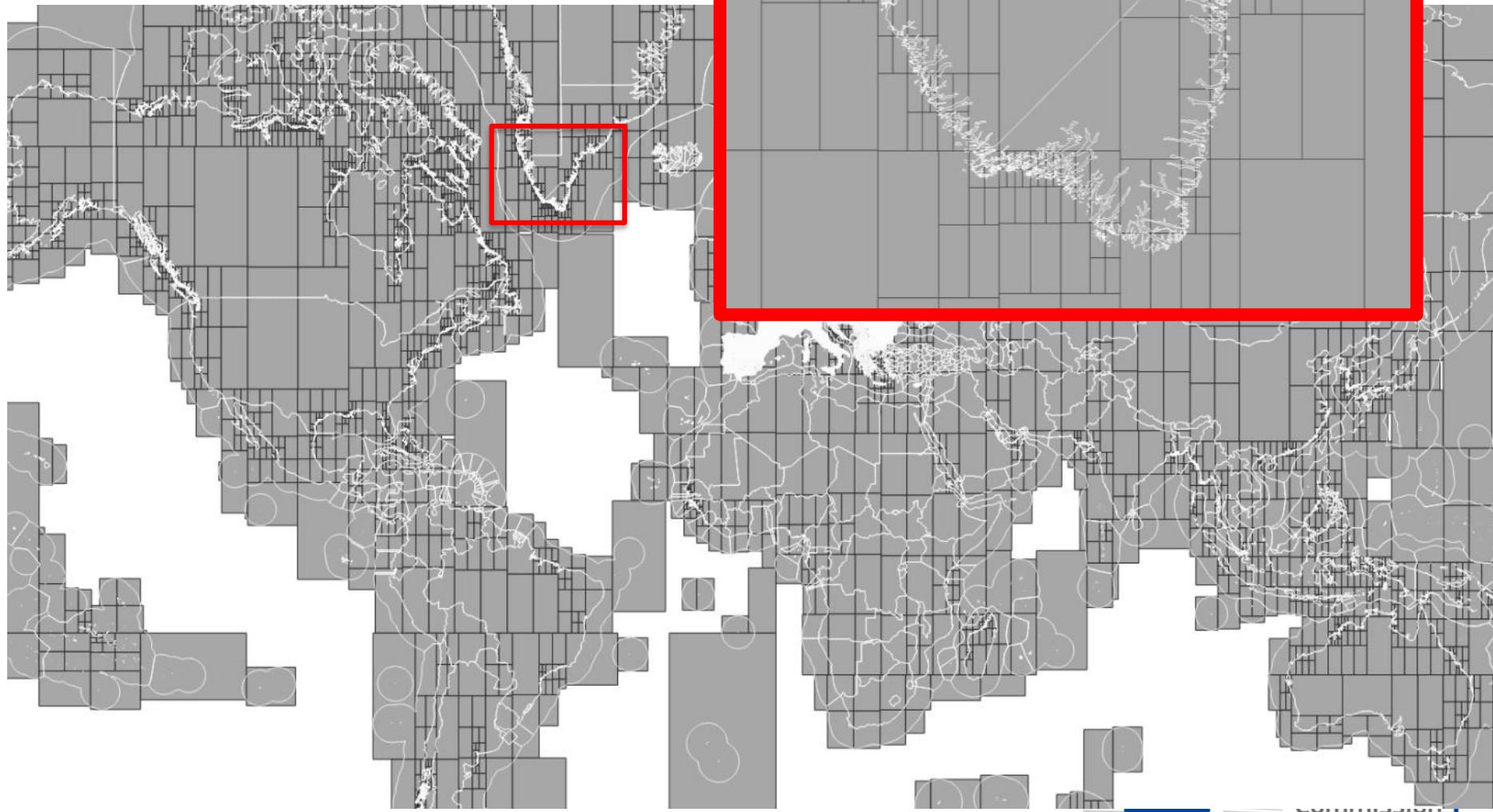
1:XM



Partitionning



Partitionning



Next

- *Share tool as a standalone software:*
 - <https://github.com/eurostat/EuroGen/>
- *Improvements:*
 - **New cartographic constraint to deal with narrow corridors**

