

European fisheries and policies: methodological accounting challenges (and possible solutions) to measure the actual and sustainable flow in physical and monetary terms

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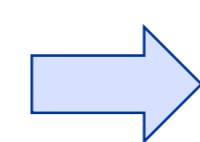
Dataset: STECF - Scientific, Technical and Economic Committee for Fisheries

Resource Rent Approach

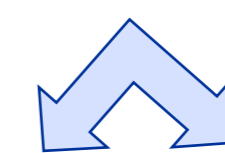
$$Net\ Economic_{fleet} = \sum Revenue - \sum Expenditure$$

Operating subsidies
 Gross value of landings
 Income from leasing out quota
 Other income

Consumption of fixed capital
 Other variable costs
 Other non-variable costs
 Lease/rental payments for quota
 Repair & maintenance costs
 Energy costs
 Personnel costs
 Value of unpaid labor



$$Rent\ value_{species} = \left(\frac{\sum_{Sub_reg}^{Species} Value}{\sum_{Species} Landed} \right)$$



Sub_reg	Species	Landed (kg)	Value (€)
Sub_1	XZ	40	POSITIVE
Sub_2	XS	30	POSITIVE
...
-	-	70	-

Sub_reg	Species	Landed (kg)	Value (€)
Sub_3	ZZ	10	NEGATIVE
Sub_5	XX	20	NEGATIVE
...
-	-	30	-

NOT FOR ACCOUNTING PURPOSE!!

Biophysical assessment

$$Tot.\ catches_{sub\ reg_z} = \sum_{i\ sub\ reg_z}^{2018} catches\ (kg)$$

Monetary assessment I data manipulation

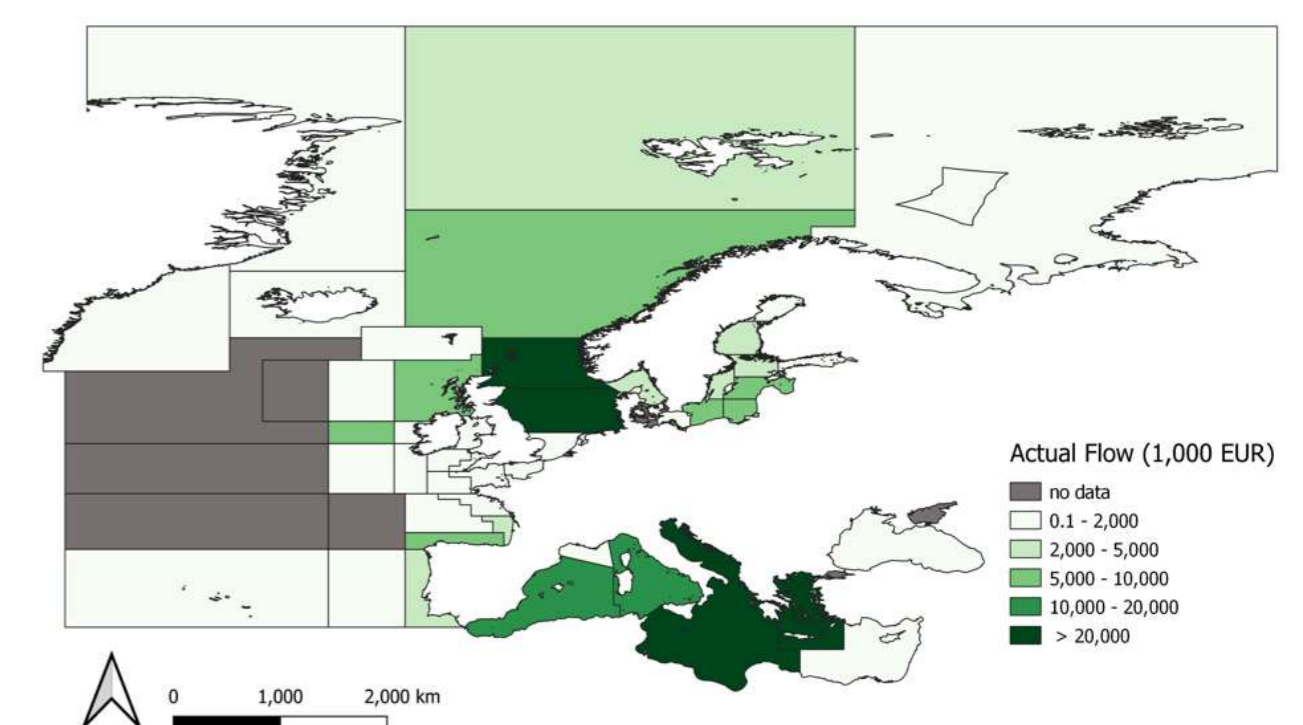
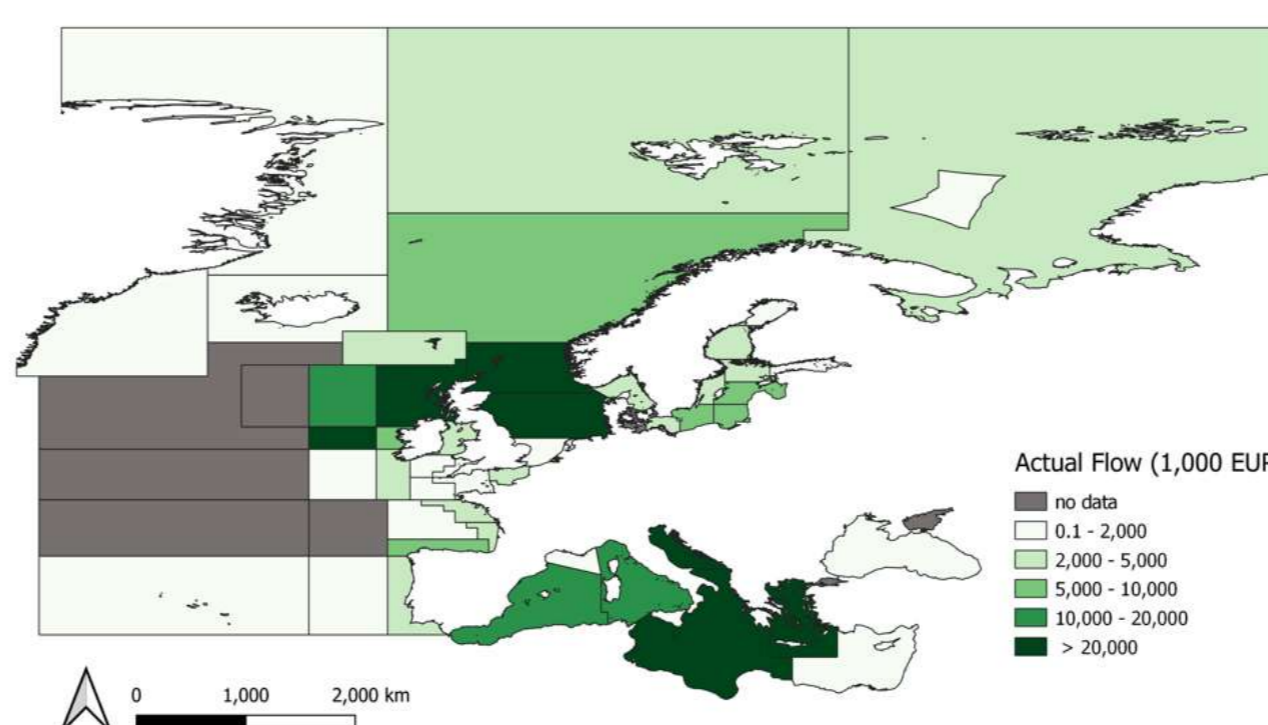
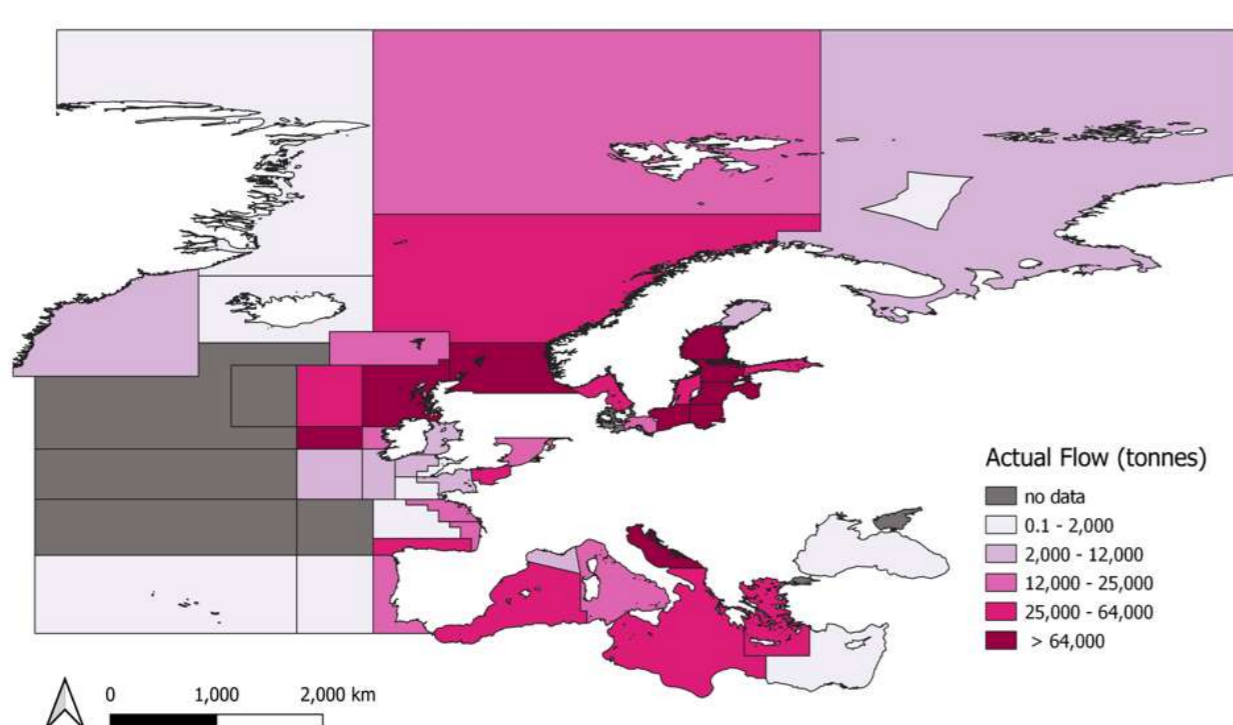
- average value of the species in the country;
- average value of the species in the sub-region;
- average value of the species at European level.

Monetary assessment II multi-regression

$$Y_i = x_{1i} + x_{2i} + x_{3i} + x_{4i} + x_{5i} + x_{6i}$$

- Y : value of species;
- x_1 : fishing tech;
- x_2 : presence in the handbook;
- x_3 : % of species landed from that fleet;
- x_4 : type of fish;
- x_5 : vessel length;
- x_6 : Sea Region (Baltic Sea, Black Sea...);
- i : fish species

Actual Flow



Overuse

