JRC Dataset

AIS derived high resolution fishing effort layer for European trawlers of more than 15 meters long 2014-2015

Description:
The high resolution fishing effort layer for European trawlers in the period 2014-2015 was derived from around 150 million AIS positions reports from EU fishing vessels above 15 m of length, operating in FAO areas 27, 34 and 37, in the period between October 2014 and September 2015. Each AIS message provides the position of the vessel, its speed and a timestamp, at intervals of five minutes. These messages were classified as either related to fishing or to steaming through a classification algorithm based on the analysis of individual vessels' speed profiles. This classification approach proved to be sufficiently robust in the case of trawlers, that represent the majority of vessels above 15 m of length. The authors would like to thank MSSIS, courtesy of the Volpe Center of the U.S. Department of Transportation and the U.S. Navy, and MarineTraffic for providing the AIS data used in this study.

Contributors:
- Vespe, Michele michele.vespe@ec.europa.eu
- Osio, Giacomo Chato giacomo-chato.osio@ec.europa.eu
- Mazzarella, Fabio None
- Natale, Fabrizio fabrizio.natale@ec.europa.eu
- Gibin, Maurizio maurizio.gibin@ec.europa.eu
- Paulrud, Anton anton.paulrud@pelagic.se
- Alessandrini, Alfredo alfredo.alessandrini@ec.europa.eu

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Keywords:
AIS, Fishing Effort, MSFD, MSFD D6

Related resources:
Data access
Fishing effort layer - Raster
The fishing intensity raster is available for download.

Publications
Mapping Fishing Effort through AIS Data
DOI:10.1371/journal.pone.0130746

Mapping EU fishing activities using ship tracking data
Vespe M; Gibin M; Alessandrini A; Natale F; Mazzarella F; Osio G. Mapping EU fishing activities using ship tracking data. JOURNAL OF MAPS 12 (S1); 2016. p. 520-525. JRC98151
DOI:10.1080/17445647.2016.1195299

Other resources
Blue Hub WebGIS - Public
The Blue Hub WebGIS for fisheries allows one to explore in great detail the intensity of fishing activity over all EU waters. After selection of a high intensity fishing area the tool shows the fishing coastal communities that relate to that area. Note that for confidentiality reasons, figures of dependency are presented only for ports with more than five vessels in the AIS dataset. In the GIS tool additional information is provided for each port, namely, the total number of vessels registered.
from the fleet register, the estimated employment and Gross Value Added (GVA) and the coverage in terms of the number of fishing vessels for which AIS data was available. A final layer included in the GIS tool presents the level of coverage of the AIS signal in EU waters. The level of coverage was calculated considering the ratio between received and expected tracks of merchant vessels. Contrary to fishing vessels, merchant vessels follow specific routes that can be derived even with incomplete tracks. The coverage map tells where the information is expected to be complete, and therefore where the information is more reliable.

https://bluehub.jrc.ec.europa.eu/mspPublic/

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