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Mapping and Conservation of Cold-Water Corals in the Lacaze-Duthiers Canyon for Transboundary Management

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Contribution to the Special Issue: Marine Animal Forest of the World (MAF WORLD)

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Table S1. Summary of ROV dives used to extract coral observation points.

Cruise	ROV	Dive	Latitude (WGS84)	Longitude (WGS84)	Mean Depth	Date	Reference in the litterature
MEDSEACAN	Achille	P2	42.5544°N	3.4025°E	248	06/11/2008	Fabri *et al*., 2014
		P3	42.5831°N	3.4026°E	255	07/11/2008	Fabri *et al*., 2014
		P6	42.5441°N	3.4196°E	371	09/06/2009	Fabri *et al*., 2014
		P7	42.5495°N	3.4397°E	367	09/06/2009	Fabri *et al*., 2014
		P11	42.5853°N	3.3876°E	232	10/06/2009	Fabri *et al*., 2014
		P13	42.5192°N	3.4297°E	433	11/06/2009	Fabri *et al*., 2014
		P14	42.5801°N	3.4055°E	282	11/06/2009	Fabri *et al*., 2014
		P15	42.5632°N	3.3980°E	226	12/06/2009	Fabri *et al*., 2014
CALADU-2019	Ariane	PL 142-04	42.5878°N	3.3929°E	260	04/10/2019	Fabri *et al.*, 2022
		PL 143-05	42.5612°N	3.3993°E	348	08/10/2019	Fabri *et al.*, 2022
		PL 144-06	42.5871°N	3.4023°E	260	09/10/2019	Fabri *et al.*, 2022
		PL 145-07	42.5695°N	3.3951°E	300	11/10/2019	Fabri *et al.*, 2022
CALADU-2021	Ariane	PL 186-01	42.5657°N	3.3973°E	349	09/07/2021	This study
		PL 187-02	42.5449°N	3.4231°E	560	10/07/2021	This study
		PL 189-04	42.5735°N	3.4074°E	325	12/07/2021	This study
		PL 190-05	42.5443°N	3.4150°E	514	15/07/2021	This study
		PL 191-06	42.5399°N	3.4506°E	430	16/07/2021	This study
		PL 192-07	42.5272°N	3.4508°E	430	17/07/2021	This study
		PL 193-08	42.5499°N	3.4090°E	380	18/07/2021	This study
		PL 194-09	42.5887°N	3.3978°E	340	19/07/2021	This study

Continued

Tbale S1 continued

Cruise	ROV	Dive	Latitude (WGS84)	Longitude (WGS84)	Mean Depth	Date	Reference in the litterature
ECALION-2023	Achille	LD_P1	42.5949°N	3.3940°E	280	23/05/2023	This study
		LD_P2	42.5876°N	3.3932°E	310	23/05/2023	This study
		LD_P4	42.5857°N	3.4022°E	306	23/05/2023	This study
		LD_P5	42.5768°N	3.3928°E	310	23/05/2023	This study
		LD_P6	42.5693°N	3.3950°E	263	23/05/2023	This study
		LD_P7	42.5671°N	3.3968°E	285	23/05/2023	This study
		LD_P8	42.5612°N	3.3991°E	329	23/05/2023	This study
		LD_P9	42.5721°N	3.4086°E	303	23/05/2023	This study
		LD_P10	42.5479°N	3.4096°E	350	23/05/2023	This study
		LD_P11	42.5254°N	3.4511°E	468	22/05/2023	This study
		LD_P12	42.4967°N	3.4786°E	355	25/05/2023	This study
		LD_P13	42.4715°N	3.4481°E	410	26/05/2023	This study
	Achille / Apache	LD_P14	42.5948°N	3.3852°E	234	26/05/2023	This study
	Apache	LD_P15	42.5777°N	3.4066°E	366	26/05/2023	This study
PLAS-SCORE-2023	Ariane	PL 254-01	42.5458°N	3.4206°E	530	21/10/2023	This study
		PL 255-02	42.5455°N	3.4223°E	550	22/10/2023	This study
		PL 256-03	42.5890°N	3.3977°E	350	24/10/2023	This study
		PL 257-04	42.5632°N	3.4070°E	500	25/10/2023	This study
		PL 258-05	42.5451°N	3.4216°E	560	26/10/2023	This study
		Pl 259-06	42.5455°N	3.4214°E	540	27/10/2023	This study
		Pl 260-07	42.5454°N	3.4211°E	540	28/10/2023	This study

Appendix A - Selection of uncorrelated variables
A0: Initial set of candidate predictor variables

Seafloor variables

Seafloor indices were derived from DTMs using the Benthic Terrain Modeler extension in ArcMap 10.7 (ESRI).

	CWC 10m	***D. pertusum* 5-m**	***M. oculata* 5-m**
Slope	*Slope*	*Slope*	*Slope*
Bathy = Depth	*Bathy*	*Bathy*	*Bathy*
Aspect:, which reflects the slope orientation	*Aspect*	*Aspect*	*Aspect*
Curvature, which reflects water flow patterns along slopes	*Curv*	*Curvature*	*Curvature*
Surface to Planar area, which is a rugosity index	*Surf_2_Plan*	*S_to_P*	*S_to_P*
Vector Ruggedness Measure (*VRM)*, measuring the dispersion of orthogonal vectors relative to the surface (computed using small resolution windows of 9, 25, and 49 pixels to minimize excessive smoothing);	*VRM 9* *VRM 25*	*VRM 9* *VRM 25* *VRM 49*	*VRM 9* *VRM 25* *VRM 49*
Bathymetric Position Index (*BPI*), which captures terrain variations even at high resolutions (calculated using windows of 3, 9, 11, 25, 49, 81, and 13-123 or 25-250 pixels).	*BPI03* *BPI09* *BPI25* *BPI49* *BPI 13-123*	*BPI03* *BPI09* *BPI11* *BPI25* *BPI49* *BPI81* *BPI 25-250*	*BPI03* *BPI09* *BPI11* *BPI25* *BPI49* *BPI81* *BPI25-250*

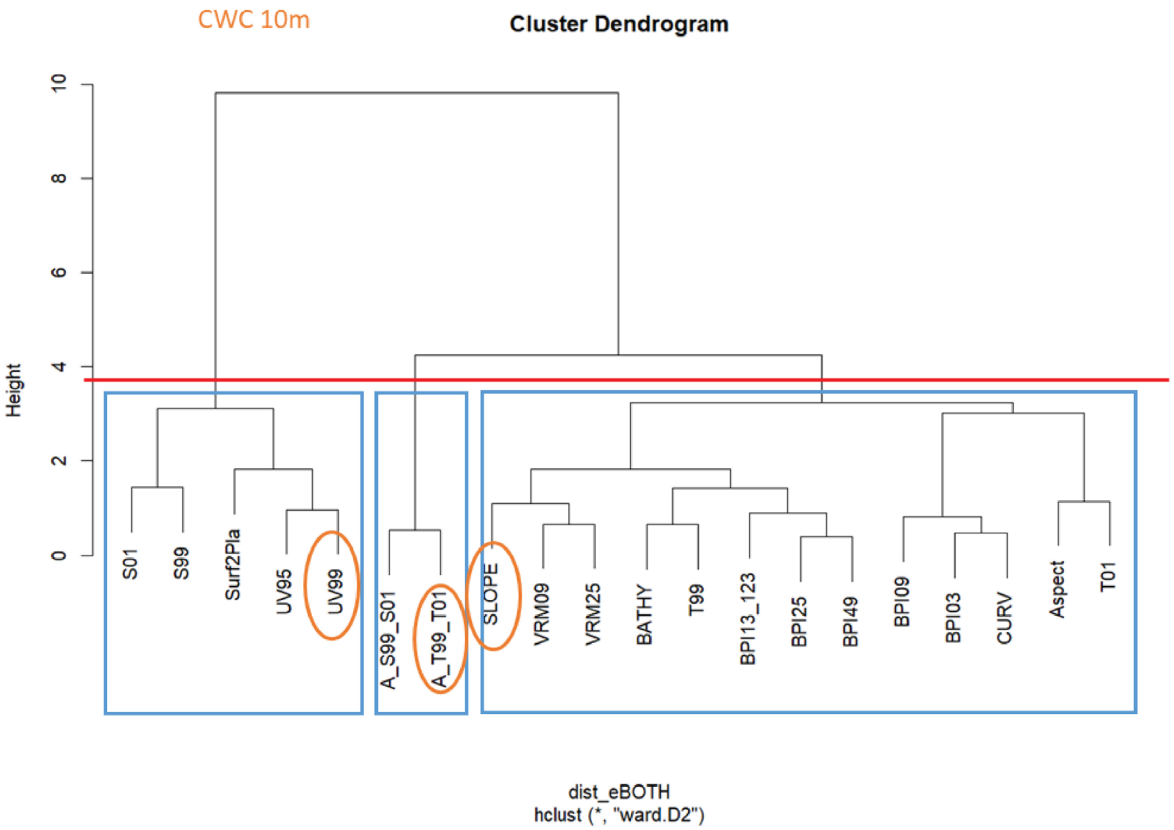
Hydrodynamic data

Hydrodynamic data were modeled using SYMPHONIE (Marsaleix *et al.*, 2006; Marsaleix *et al.*, 2009) over a domain of 65 × 60 km with a 80-m horizontal resolution. In addition, rasters of salinity and temperature amplitude were calculated.

	CWC 10m	***D. pertusum* 5-m**	***M. oculata* 5-m**
Bottom Salinities low and high bottom salinities, 1st and 99th percentiles	*S01* *S99*	*S01* *S99*	*S01* *S99*
Bottom Temperatures low and high bottom temperatures, 1st and 99th percentiles	*T01* *T99*	*T01* *T99*	*T01* *T99*
Bottom current velocities medium and high bottom current velocities, 95th and 99th percentiles, calculated from the first two levels above the bottom (7.5 m and 12 m) to ensure flow continuity (Estournel *et al.*, 2021)	*UV95* *UV99*	*UV95* *UV99*	*UV95* *UV99*
Bottom Salinity Amplitudes Calculated by substracting S01 to S99 rasters	*Ampli-S*	*Ampli-S*	*Ampli-S*
Bottom Temperature Amplitudes Calculated by substracting S01 to S99 rasters	*Ampli-T*	*Ampli-T*	*Ampli-T*

A1: Selection of uncorrelated variables for CWC models at 10-m resolution

The selection process is carried out in two steps:
Calculation of Spearman correlation coefficients between all variables (terrain and water column variables derived from the hydrodynamic model) at the presence points of both species combined.
Grouping of these variables based on their Spearman correlation coefficients (using Hierarchical Ascendant Classification with Ward's distance).

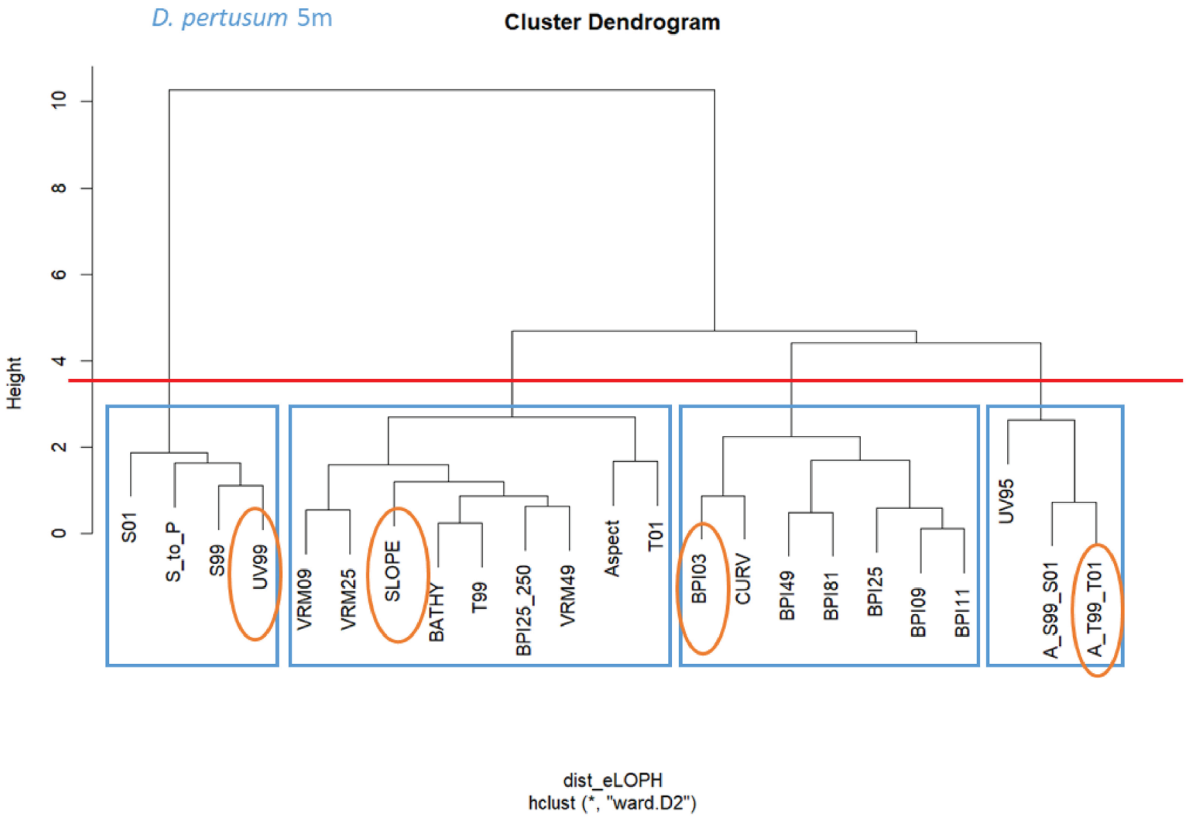


We considered three groups and selected one variable to represent each group in our models:

- UV99
- Temperature amplitude (99-01)
- Slope

A2: Selection of uncorrelated variables for D. pertusum models at a 5-m resolution

The selection process is carried out in two steps:
Calculation of Spearman correlation coefficients between all variables (terrain and water column variables derived from the hydrodynamic model) at the presence points of both species combined.
Grouping of these variables based on their Spearman correlation coefficients (using Hierarchical Ascendant Classification with Ward's distance).

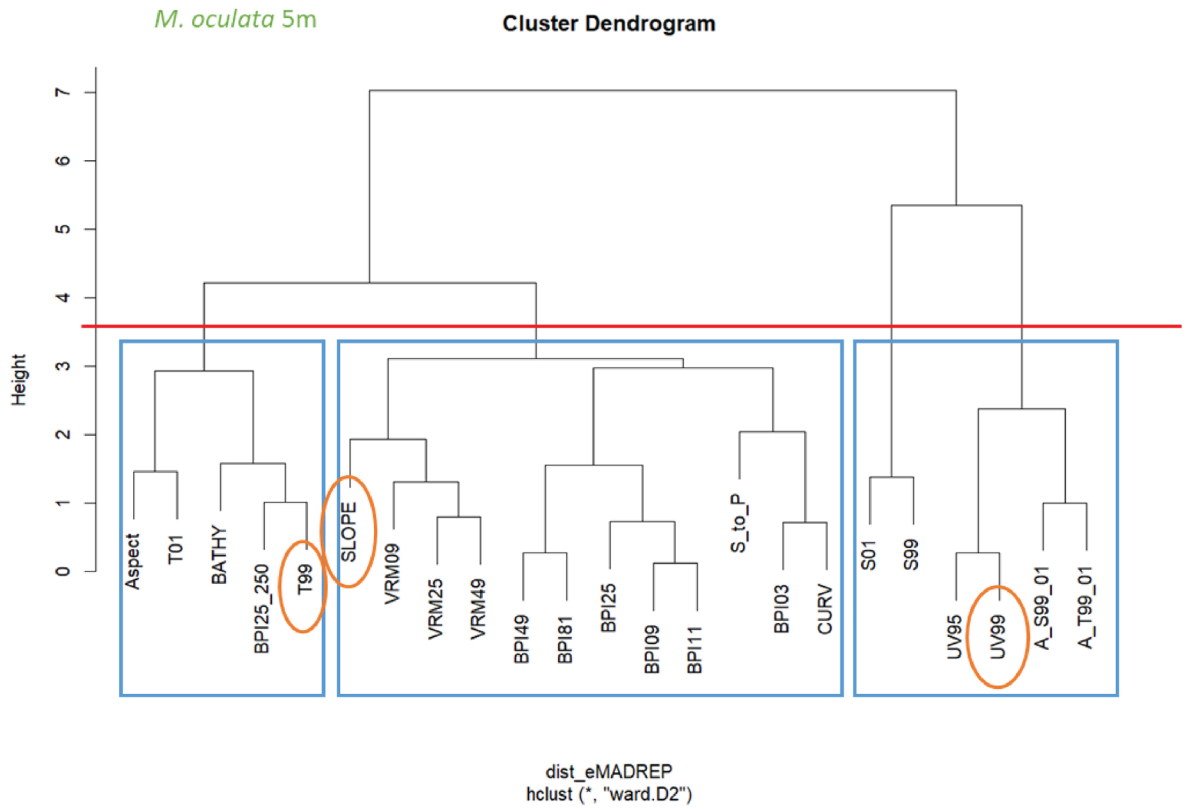


We considered four groups and selected one variable to represent each group in our models:

- UV99
- Slope
- BPI03
- Temperature amplitude (99-01)

A3: Selection of uncorrelated variables for *M. oculata* models at 5-m resolution

The selection process is carried out in two steps:
Calculation of Spearman correlation coefficients between all the variables (terrain and water column variables derived from the hydrodynamic model) at the presence points of both species combined.
Grouping of these variables based on their Spearman correlation coefficients (using Hierarchical Ascendant Classification with Ward's distance).



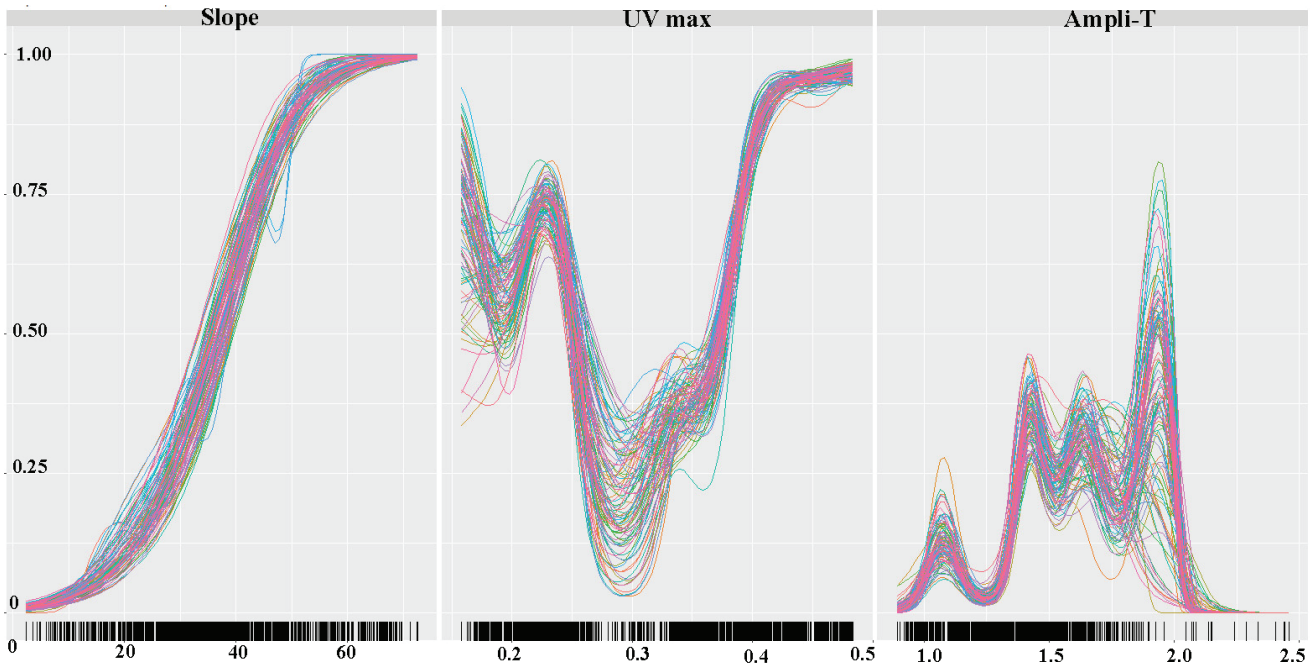
We considered three groups and selected one variable to represent each group in our models:

- T99
- Slope
- UV99

Appendix B – Response curves and validations obtained with GAM

The response curves illustrate how the predicted probability of presence varies in relation to each environmental variable, while holding all the other variables constant at their mean sample values. These curves provide insight into the individual influence of each variable on the species' habitat suitability.

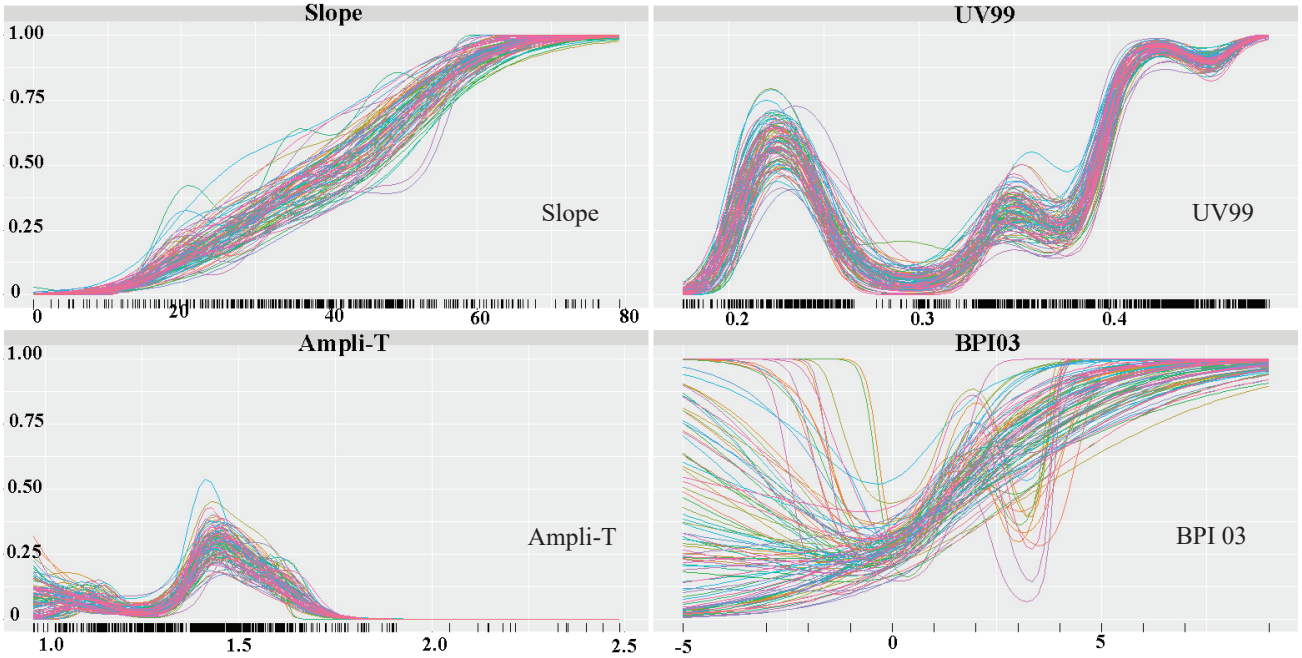
B1 - Response curve variables for CWC models at 10-m resolution, and Validation



Validation

To evaluate model performance, we used threshold-dependent metrics including sensitivity, specificity, and calibration and validation scores. The cutoff values, which define the decision threshold for converting predicted probabilities into binary outcomes (presence/absence), were selected to optimize either the TSS or the ROC metric depending on the evaluation setting. Across all models, cutoff values ranged from 343 to 589, with a median of 414. The models showed generally high performance, with mean sensitivity and specificity values of 89.4% and 84.4%, respectively. Calibration and validation scores also remained high, with median values of 0.844 and 0.847, respectively, indicating robust predictive power on both training and test datasets.

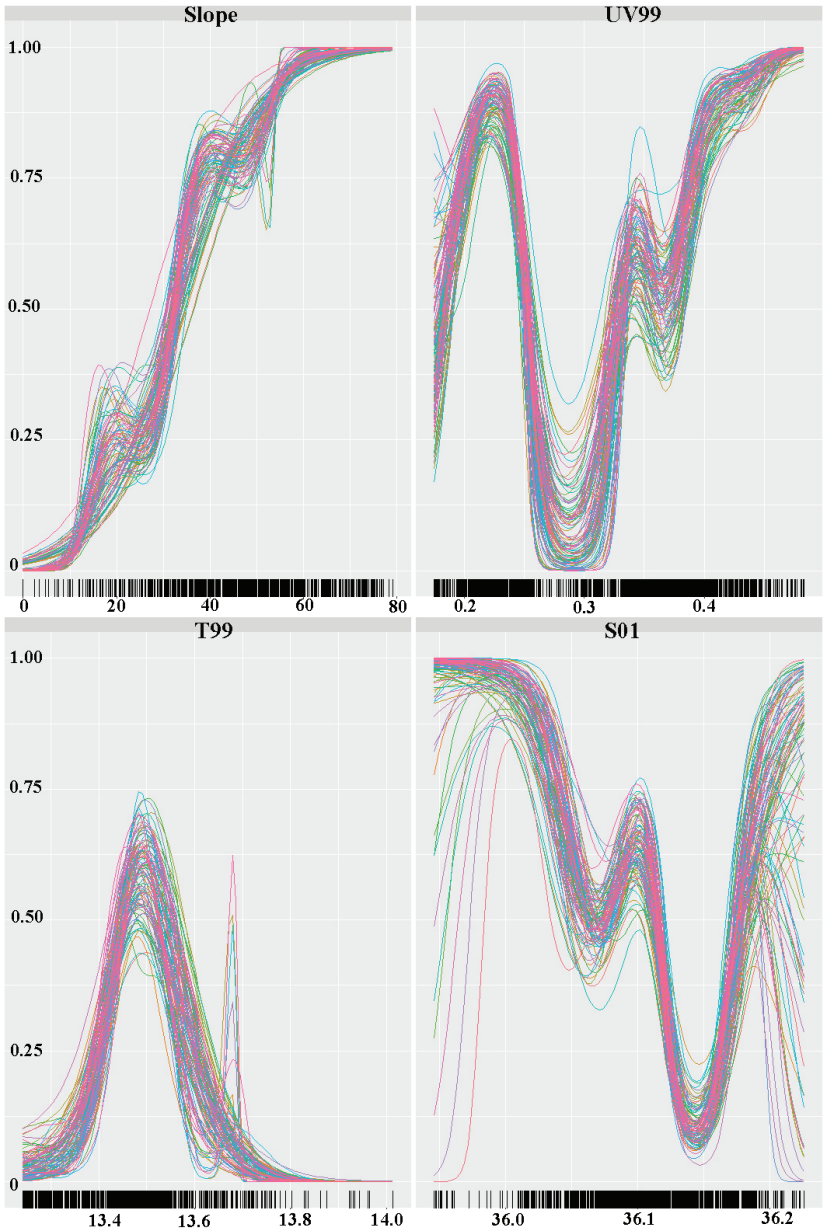
B2 - Response curve variables for D. pertusum models at 5-m resolution, and Validation



Validation

Generalized Additive Models (GAMs) showed strong predictive performance across the evaluation runs. The distribution of cutoff values used to convert predicted probabilities into binary outcomes ranged from 333 to 687, with a median near 537. Corresponding sensitivity and specificity values were consistently high, with means around 89.4% and 90.0%, respectively, indicating good discriminative ability of the models. Calibration scores, reflecting the agreement between predicted and observed outcomes, showed strong performance with a median of 0.89. Validation scores were similarly high, with a median value of 0.87, suggesting that the models generalize well to unseen data. Overall, these statistics demonstrate robust and reliable model performance across different threshold settings.

B3 - Response curve variables for M. oculata models at 5-m resolution, and Validation



Validation

Generalized Additive Models (GAMs) showed strong predictive performance across the evaluation runs. The cutoff values, used to convert continuous predictions into binary outcomes, ranged from 302 to 678, with a median of 465. Sensitivity and specificity were high overall, with mean values of 89.8% and 83.8%, respectively, reflecting a good balance between true positive and true negative predictions. Calibration scores, which assess the agreement between predicted probabilities and observed occurrences, had a median of 0.85, while validation scores reached a median of 0.85 as well, indicating good generalization capacity. These results confirm that GAMs provide robust and reliable predictions in this context.

Appendix C – Model validation with Maxent

Model validation was assessed using the Area Under the Curve (AUC).

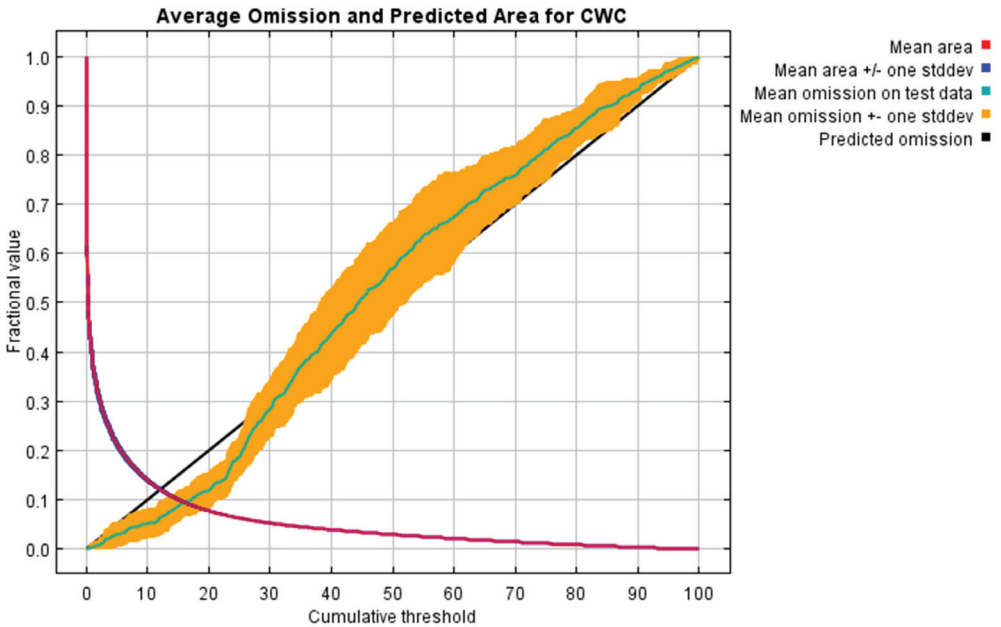
We assessed the performance and robustness using multiple validation methods. Low omission rates indicate few missed presences. Calibration curves show good agreement between predicted probabilities and observed data, confirming reliable estimates. K-fold cross-validation demonstrated stable performance across data subsets. Sensitivity-specificity tests revealed a balanced compromise between true positive and true negative rates, supporting accurate classification. Jackknife tests highlighted key predictors and confirmed model robustness. Overall, these results indicate all models perform well and provide reliable predictions.

C1 – Maxent validation for CWC models at 10-m resolution

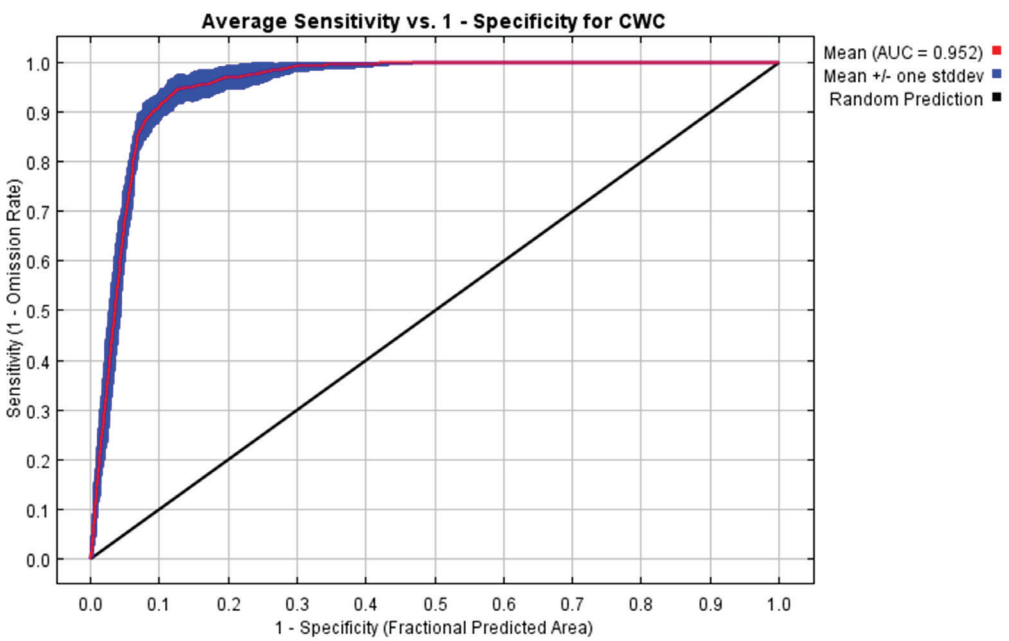
This page summarizes the results of 10-fold cross-validation for CWC, created Fri Feb 21 16:53:02 CET 2025 using Maxent version 3.4.4.

Analysis of omission/commission

The following picture shows the test omission rate and predicted area as a function of the cumulative threshold, averaged over the replicate runs. The omission rate should be close to the predicted omission, because of the definition of the cumulative threshold.



The next picture is the receiver operating characteristic (ROC) curve for the same data, again averaged over the replicate runs. Note that the specificity is defined using predicted area, rather than true commission (see the paper by Phillips, Anderson and Schapire cited on the help page for discussion of what this means). The average test AUC for the replicate runs is 0.952, and the standard deviation is 0.007.



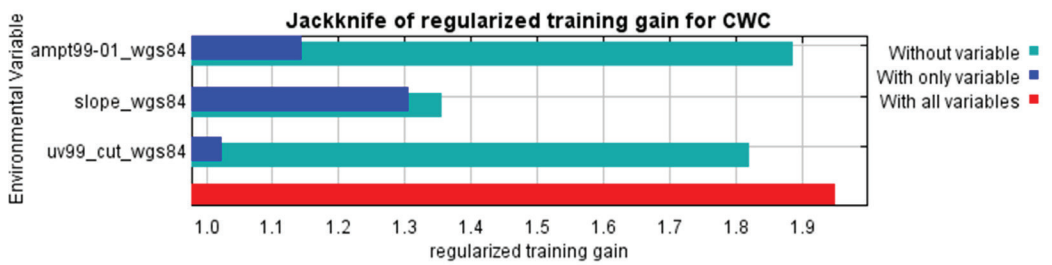
0.007.

Analysis of variable contributions

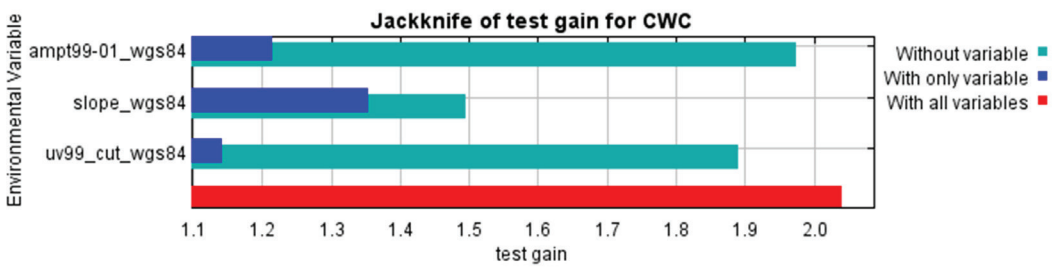
The following table gives estimates of relative contributions of the environmental variables to the Maxent model. To determine the first estimate, in each iteration of the training algorithm, the increase in regularized gain is added to the contribution of the corresponding variable, or subtracted from it if the change to the absolute value of lambda is negative. For the second estimate, for each environmental variable in turn, the values of that variable on training presence and background data are randomly permuted. The model is reevaluated on the permuted data, and the resulting drop in training AUC is shown in the table, normalized to percentages. As with the variable jackknife, variable contributions should be interpreted with caution when the predictor variables are correlated. Values shown are averages over replicate runs.

Variable	Percent contribution	Permutation importance
slope_wgs84	52.7	54.6
ampt99-01_wgs84	24.1	28.7
uv99_cut_wgs84	23.2	16.7

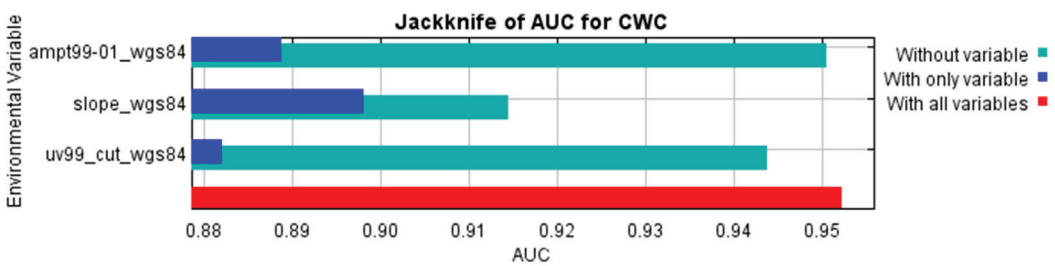
The following picture shows the results of the jackknife test of variable importance. The environmental variable with the highest gain when used in isolation is slope_wgs84, which therefore appears to have the most useful information by itself. The environmental variable that decreases the gain the most when it is omitted is slope_wgs84, which therefore appears to have the most information that is not present in the other variables. Values shown are averages over replicate runs.



The next picture shows the same jackknife test, using test gain instead of training gain. Note that conclusions about which variables are most important can change, when looking at the test data.



Lastly, we have the same jackknife test, using AUC on test data.

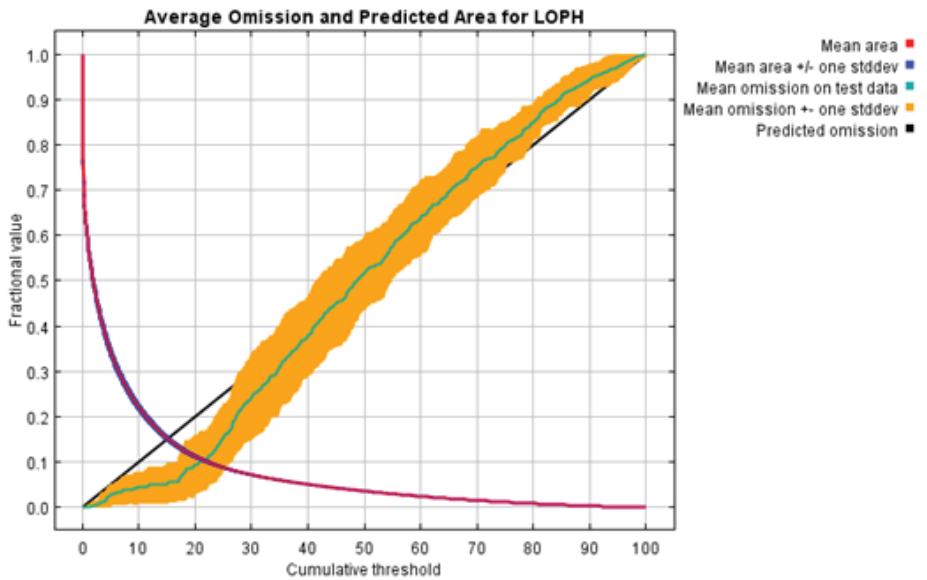


C2 - Maxent validation for D. pertusum models at a 5-m resolution

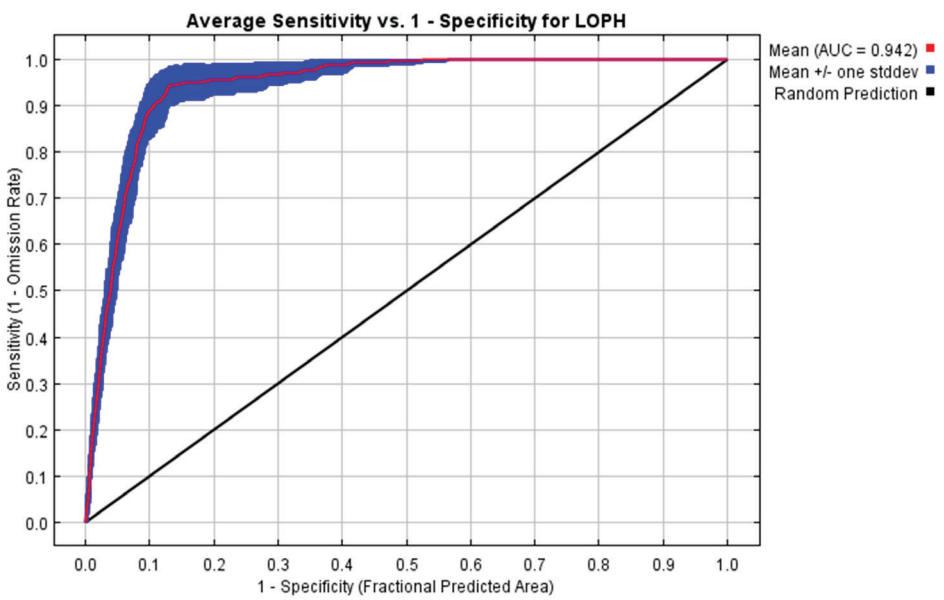
This page summarizes the results of 10-fold cross-validation for LOPH, created Thu Feb 20 17:23:27 CET 2025 using Maxent version 3.4.4.

Analysis of omission/commission

The following picture shows the test omission rate and predicted area as a function of the cumulative threshold, averaged over the replicate runs. The omission rate should be close to the predicted omission, because of the definition of the cumulative threshold.



The next picture is the receiver operating characteristic (ROC) curve for the same data, again averaged over the replicate runs. Note that the specificity is defined using predicted area, rather than true commission (see the paper by Phillips, Anderson and Schapire cited on the help page for discussion of what this means). The average test AUC for the replicate runs is 0.942, and the standard deviation is 0.013.

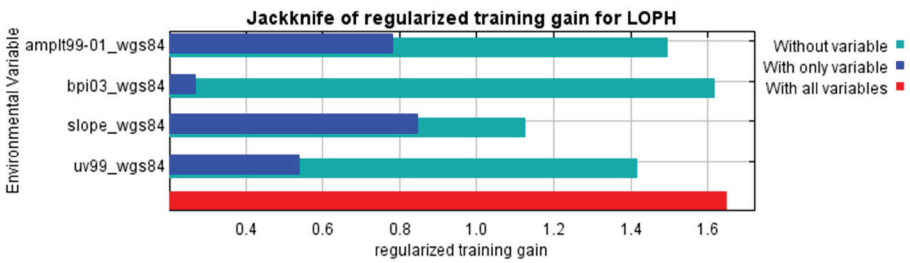


Analysis of variable contributions

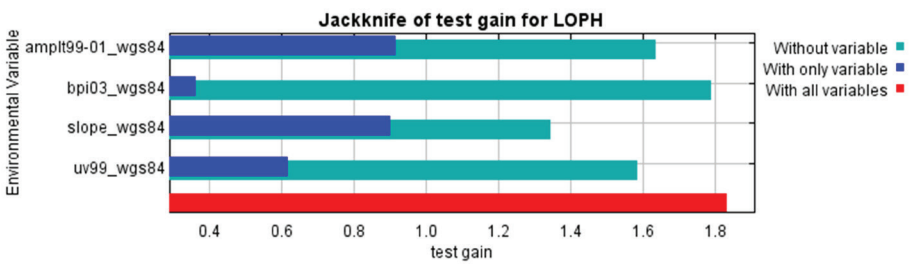
The following table gives estimates of relative contributions of the environmental variables to the Maxent model. To determine the first estimate, in each iteration of the training algorithm, the increase in regularized gain is added to the contribution of the corresponding variable, or subtracted from it if the change to the absolute value of lambda is negative. For the second estimate, for each environmental variable in turn, the values of that variable on training presence and background data are randomly permuted. The model is reevaluated on the permuted data, and the resulting drop in training AUC is shown in the table, normalized to percentages. As with the variable jackknife, variable contributions should be interpreted with caution when the predictor variables are correlated. The values shown are averages over replicate runs.

Variable	Percent contribution	Permutation importance
slope_wgs84	52.3	46.5
uv99_wgs84	31.9	15.1
amplt99-01_wgs84	14	37.1
bpi03_wgs84	1.8	1.3

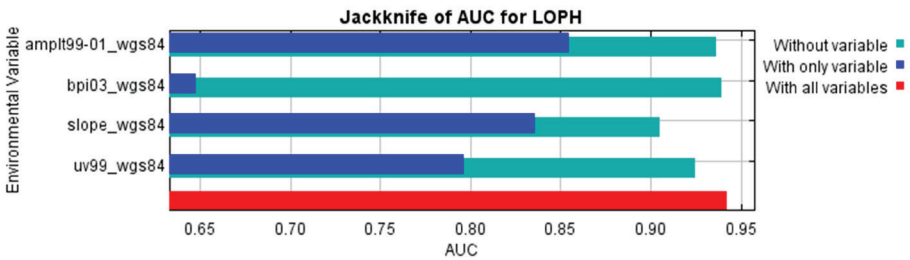
The following picture shows the results of the jackknife test of variable importance. The environmental variable with the highest gain when used in isolation is slope_wgs84, which therefore appears to have the most useful information by itself. The environmental variable that decreases the gain the most when it is omitted is slope_wgs84, which therefore appears to have the most information that is not present in the other variables. The values shown are averages over replicate runs.



The next picture shows the same jackknife test, using test gain instead of training gain. Note that conclusions about which variables are most important can change, when looking at the test data.



Lastly, we have the same jackknife test, using AUC on the test data.

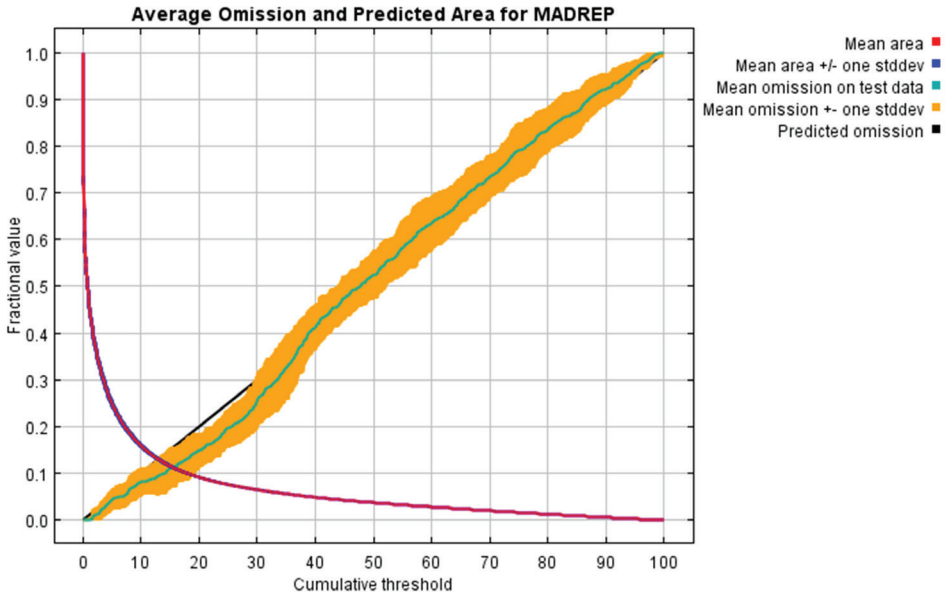


C3 - Maxent validation for M. oculata models at a 5-m resolution

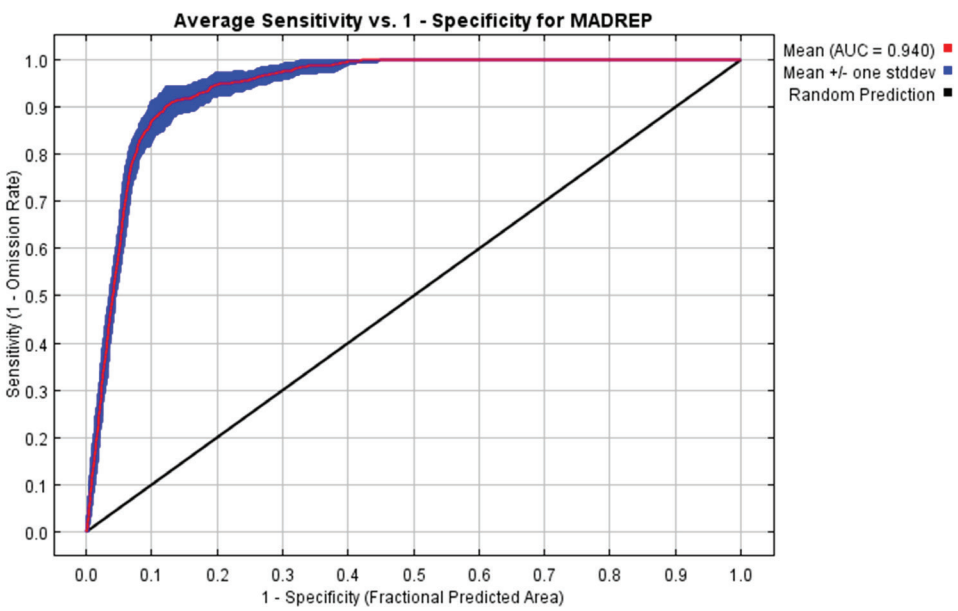
This page summarizes the results of 10-fold cross-validation for MADREP, created Thu Feb 20 16:12:39 CET 2025 using Maxent version 3.4.4.

Analysis of omission/commission

The following picture shows the test omission rate and predicted area as a function of the cumulative threshold, averaged over the replicate runs. The omission rate should be close to the predicted omission, because of the definition of the cumulative threshold.



The next picture is the receiver operating characteristic (ROC) curve for the same data, again averaged over the replicate runs. Note that the specificity is defined using predicted area, rather than true commission (see the paper by Phillips, Anderson and Schapire cited on the help page for a discussion of what this means). The average test AUC for the replicate runs is 0.940, and the standard deviation is 0.009.

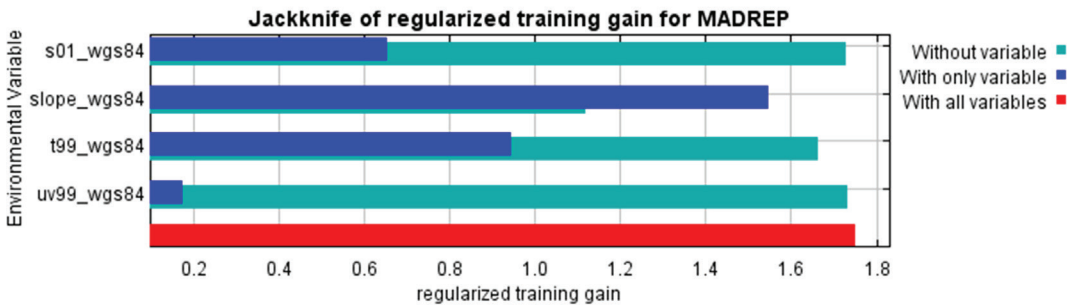


Analysis of variable contributions

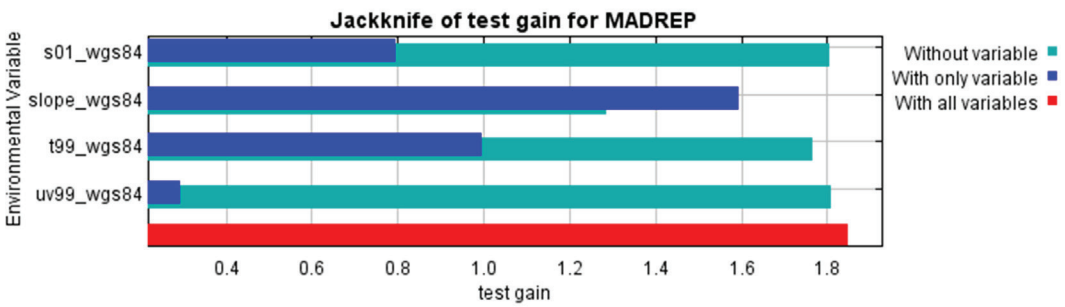
The following table gives estimates of relative contributions of the environmental variables to the Maxent model. To determine the first estimate, in each iteration of the training algorithm, the increase in regularized gain is added to the contribution of the corresponding variable, or subtracted from it if the change to the absolute value of lambda is negative. For the second estimate, for each environmental variable in turn, the values of that variable on training presence and background data are randomly permuted. The model is reevaluated on the permuted data, and the resulting drop in training AUC is shown in the table, normalized to percentages. As with the variable jackknife, variable contributions should be interpreted with caution when the predictor variables are correlated. The values shown are averages over replicate runs.

Variable	Percent contribution	Permutation importance
slope_wgs84	81.5	62.6
t99_wgs84	14.7	32.5
s01_wgs84	2.9	2.2
uv99_wgs84	0.9	2.7

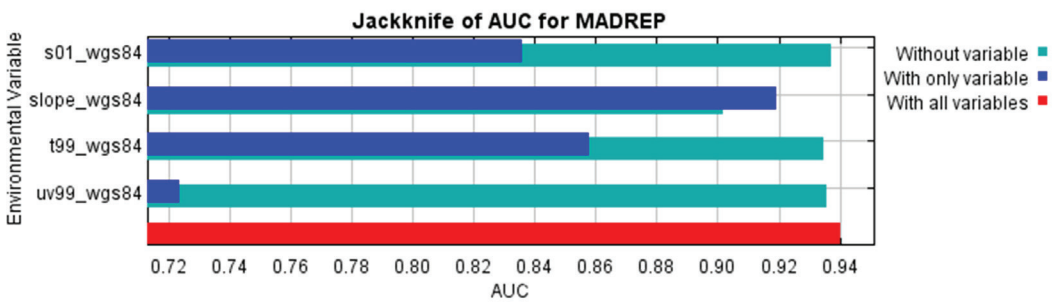
The following picture shows the results of the jackknife test of variable importance. The environmental variable with the highest gain when used in isolation is slope_wgs84, which therefore appears to have the most useful information by itself. The environmental variable that decreases the gain the most when it is omitted is slope_wgs84, which therefore appears to have the most information that is not present in the other variables. The values shown are averages over replicate runs.



The next picture shows the same jackknife test, using test gain instead of training gain. Note that conclusions about which variables are most important can change, when looking at the test data.

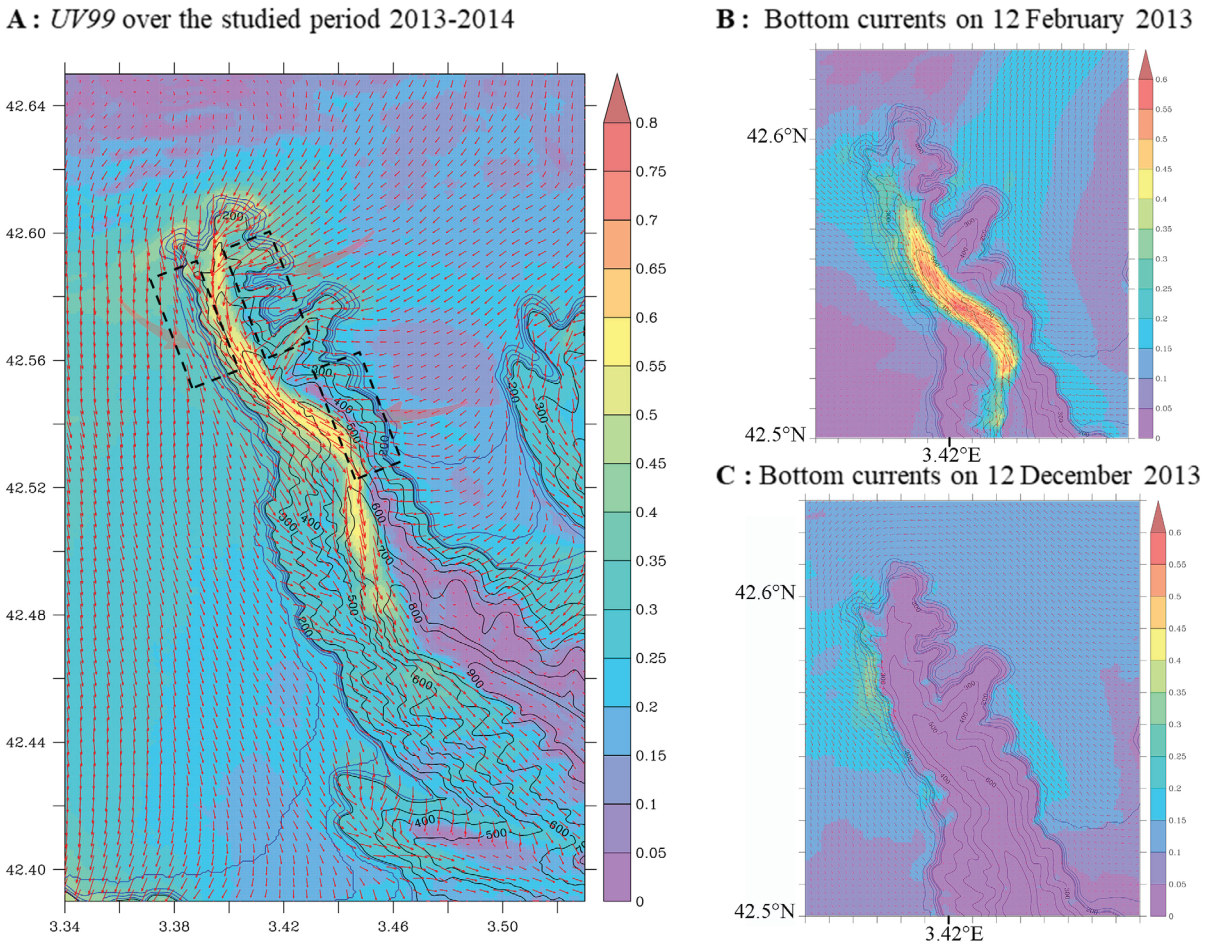


Lastly, we have the same jackknife test, using AUC on test data.



Appendix D – Current flows around and in the Lacaze-Duthiers canyon

At the rim of the Lacaze-Duthiers Canyon, bottom currents simulated in the SYMPHONIE hydrodynamic model showed that currents originating from the western and eastern shelves flow downward toward the canyon axis (Fig. hereafter), carrying resuspended material into its depths.



The figure presents bottom current maps in the Lacaze-Duthiers Canyon. Colors represent current velocity ($m \cdot s^{-1}$), while arrows indicate current direction. Blue contour lines denote isobaths at 10m intervals starting at 130m. Black contour lines denote isobaths at 100 m intervals, starting at 200 m. **Fig. A** shows the 99th percentile of bottom current (*UV99*) at each model grid point, computed over the entire simulation period (2013–2014). Black rectangles highlighting areas where coral species are located and where water flows into the canyon. The vein of strong currents inside the canyon corresponds to the dense shelf water cascading events that characterize the winter of 2012-2013. **Fig. B** is an example of this process for February 12, 2013. **Fig. C**, which shows weak currents in the canyon and stronger ones on the adjacent shelf edge, corresponds to December 12, 2013 during a southeasterly storm. During the winter of 2013-2014, the shelf water is relatively warm, which explains the absence of cascading in the canyon.

Table S2: Apparent Fishing Effort extracted form Global Fishing Watch in the two selected polygon, gathering data from 2020 to 2023

Zone	Year	Flag	Vessel Name	Entry Timestamp	Exit Timestamp	Gear Type	Vessel Type	MMSI	IMO	CallSign	First Transmission Date	Last Transmission Date	Apparent Fishing Hours
Eastern Shelf	2020	Spain	PUIG NAULOS	2020-10-28T04:00:00Z	2020-10-30T14:00:00Z	TRAWLERS	FISHING	224123490		E5883	2015-07-13T04:11:58Z	2023-06-09T05:18:24Z	12.68
Eastern Shelf	2020	Spain	MARGARITA Y ELENA	2020-06-23T07:00:00Z	2020-07-23T10:00:00Z	TRAWLERS	FISHING	224014890		EA4961	2012-12-07T12:11:21Z	2025-03-04T16:28:51Z	5.04
Eastern Shelf	2020	Spain	PALANDRIU	2020-05-07T05:00:00Z	2020-12-03T09:00:00Z	TRAWLERS	FISHING	224072190		EA6271	2013-03-25T06:59:39Z	2025-03-04T18:14:00Z	4.23
Eastern Shelf	2020	Spain	COSTA MEDITERRANIA	2020-01-15T05:00:00Z	2020-11-04T11:00:00Z	TRAWLERS	FISHING	224096950		EA7559	2013-03-22T05:12:58Z	2025-03-04T17:00:52Z	10.72
Eastern Shelf	2020	Spain	PORT DE ROSES	2020-10-29T08:00:00Z	2020-10-30T11:00:00Z	TRAWLERS	FISHING	224160250		EA8262	2012-11-20T15:58:19Z	2025-03-04T23:59:57Z	4.46
Eastern Shelf	2020	Spain	CATALINA GODO	2020-01-02T13:00:00Z	2020-12-17T10:00:00Z	TRAWLERS	FISHING	224000390		EA2435	2013-03-25T19:15:23Z	2025-03-04T17:00:06Z	51.96
Eastern Shelf	2020	France	F/B MARIA-GABRIEL	2020-12-16T10:00:00Z	2020-12-17T11:00:00Z	TRAWLERS	FISHING	227318070		FG7842	2013-01-08T04:30:54Z	2022-12-28T15:11:05Z	1.96
Eastern Shelf	2020	France	GIOVANI JEAN	2020-12-15T09:00:00Z	2020-12-16T08:00:00Z	TRAWLERS	FISHING	228149700		FQCZ	2012-02-08T05:14:32Z	2025-03-04T19:12:23Z	1.26
Eastern Shelf	2020	Spain	NORAI	2020-10-30T07:00:00Z	2020-10-30T12:00:00Z	TRAWLERS	FISHING	224072140		EA3514	2013-05-14T08:38:21Z	2025-03-04T17:47:15Z	2.82
Eastern Shelf	2020	Spain	BERTO	2020-04-06T05:00:00Z	2020-11-19T07:00:00Z	TRAWLERS	FISHING	224185350		ECKI	2013-01-18T19:59:24Z	2022-06-08T08:57:03Z	4.3
Eastern Shelf	2020	Spain	J.GARRIGA	2020-01-30T10:00:00Z	2020-09-14T11:00:00Z	TRAWLERS	FISHING	224200490			2018-01-25T07:55:46Z	2024-04-03T04:50:35Z	6.72
Eastern Shelf	2020	Spain	FERRAN	2020-07-10T07:00:00Z	2020-12-29T13:00:00Z	TRAWLERS	FISHING	224248220		EA6872	2014-08-13T08:32:43Z	2025-02-27T16:38:15Z	22.86
Eastern Shelf	2020	Spain	SORT DE TARANET	2020-07-31T08:00:00Z	2020-11-17T14:00:00Z	TRAWLERS	FISHING	224104180		EA3979	2013-03-09T10:44:02Z	2022-03-01T08:47:52Z	74.38
Eastern Shelf	2020	France	F/V RAYMOND ELISE 4	2020-12-15T10:00:00Z	2020-12-17T11:00:00Z	TRAWLERS	FISHING	228154900		FQDX	2012-01-03T01:57:36Z	2025-03-04T23:59:57Z	3.92
Eastern Shelf	2020	Spain	ARMONIA UNO	2020-01-14T02:00:00Z	2020-12-23T14:00:00Z	TRAWLERS	FISHING	224104430		EA3936	2013-05-21T06:42:49Z	2025-02-17T15:20:00Z	18.33
Eastern Shelf	2020	Spain	DON BORJA	2020-10-06T12:00:00Z	2020-10-06T12:00:00Z	TRAWLERS	FISHING	224106860		EA2947	2013-03-21T08:41:54Z	2025-01-20T15:51:19Z	0.27
Eastern Shelf	2020	Spain	ELI-HERMI-DOS	2020-01-09T07:00:00Z	2020-12-10T12:00:00Z	TRAWLERS	FISHING	224126630		EGLX	2018-06-29T10:33:08Z	2025-03-04T16:37:17Z	16.33
Eastern Shelf	2021	Spain	PUIG NAULOS	2021-07-29T06:00:00Z	2021-11-02T12:00:00Z	TRAWLERS	FISHING	224123490		E5883	2015-07-13T04:11:58Z	2023-06-09T05:18:24Z	9.6
Eastern Shelf	2021	Spain	MARGARITA Y ELENA	2021-06-09T06:00:00Z	2021-12-29T13:00:00Z	TRAWLERS	FISHING	224014890		EA4961	2012-12-07T12:11:21Z	2025-03-04T16:28:51Z	54.64
Eastern Shelf	2021	Spain	COSTA MEDITERRANIA	2021-03-05T08:00:00Z	2021-07-19T10:00:00Z	TRAWLERS	FISHING	224096950		EA7559	2013-03-22T05:12:58Z	2025-03-04T17:00:52Z	16.97

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Table S2 continued

Zone	Year	Flag	Vessel Name	Entry Timestamp	Exit Timestamp	Gear Type	Vessel Type	MMSI	IMO	CallSign	First Transmission Date	Last Transmission Date	Apparent Fishing Hours
Eastern Shelf	2021	Spain	CATALINA GODO	2021-03-25T09:00:00Z	2021-12-13T10:00:00Z	TRAWLERS	FISHING	224000390		EA2435	2013-03-25T19:15:23Z	2025-03-04T17:00:06Z	59.36
Eastern Shelf	2021	Spain	BERTO	2021-05-28T06:00:00Z	2021-05-28T06:00:00Z	TRAWLERS	FISHING	224185350		ECKI	2013-01-18T19:59:24Z	2022-06-08T08:57:03Z	1.06
Eastern Shelf	2021	Spain	PORT DE ROSES	2021-11-02T03:00:00Z	2021-11-02T13:00:00Z	TRAWLERS	FISHING	224160250		EA8262	2012-11-20T15:58:19Z	2025-03-04T23:59:57Z	5.8
Eastern Shelf	2021	Spain	J.GARRIGA	2021-05-28T14:00:00Z	2021-05-28T14:00:00Z	TRAWLERS	FISHING	224200490			2018-01-25T07:55:46Z	2024-04-03T04:50:35Z	0.91
Eastern Shelf	2021	Spain	SORT DE TARANET	2021-03-01T06:00:00Z	2021-12-20T14:00:00Z	TRAWLERS	FISHING	224104180		EA3979	2013-03-09T10:44:02Z	2022-03-01T08:47:52Z	72.96
Eastern Shelf	2021	Spain	NOU ESTEVE	2021-08-11T12:00:00Z	2021-08-11T12:00:00Z	TRAWLERS	FISHING	224080940		ECAY	2013-03-05T09:15:13Z	2025-03-04T17:29:08Z	7.03
Eastern Shelf	2021	France	F/V RAYMOND ELISE 4	2021-12-29T08:00:00Z	2021-12-29T08:00:00Z	TRAWLERS	FISHING	228154900		FQDX	2012-01-03T01:57:36Z	2025-03-04T23:59:57Z	1.05
Eastern Shelf	2021	Spain	MONTSENY	2021-11-02T10:00:00Z	2021-12-21T13:00:00Z	TRAWLERS	FISHING	225980880		EA4219	2021-09-22T05:41:02Z	2025-03-04T17:10:19Z	5.97
Eastern Shelf	2021	Spain	ARMONIA UNO	2021-05-28T08:00:00Z	2021-08-03T11:00:00Z	TRAWLERS	FISHING	224104430		EA3936	2013-05-21T06:42:49Z	2025-02-17T15:20:00Z	15.39
Eastern Shelf	2021	Spain	DON BORJA	2021-03-11T14:00:00Z	2021-03-11T14:00:00Z	TRAWLERS	FISHING	224106860		EA2947	2013-03-21T08:41:54Z	2025-01-20T15:51:19Z	0.43
Eastern Shelf	2021	Spain	ELI-HERMI-DOS	2021-04-20T01:00:00Z	2021-12-17T10:00:00Z	TRAWLERS	FISHING	224126630		EGLX	2018-06-29T10:33:08Z	2025-03-04T16:37:17Z	11.04
Eastern Shelf	2022	Spain	BERGANTI	2022-09-26T10:00:00Z	2022-11-10T14:00:00Z	TRAWLERS	FISHING	224222430			2022-08-29T06:50:27Z	2022-11-28T05:05:16Z	52.27
Eastern Shelf	2022	Spain	MARGARITA Y ELENA	2022-01-04T08:00:00Z	2022-11-21T10:00:00Z	TRAWLERS	FISHING	224014890		EA4961	2012-12-07T12:11:21Z	2025-03-04T16:28:51Z	19.16
Eastern Shelf	2022	Spain	CATALINA GODO	2022-01-18T07:00:00Z	2022-11-16T07:00:00Z	TRAWLERS	FISHING	224000390		EA2435	2013-03-25T19:15:23Z	2025-03-04T17:00:06Z	12.07
Eastern Shelf	2022	Spain	COSTA MEDITERRANIA	2022-04-04T12:00:00Z	2022-10-17T05:00:00Z	TRAWLERS	FISHING	224096950		EA7559	2013-03-22T05:12:58Z	2025-03-04T17:00:52Z	26.14
Eastern Shelf	2022	Spain	BERGANTI	2022-05-19T06:00:00Z	2022-06-01T06:00:00Z	TRAWLERS	FISHING	224222430		EA9288	2012-11-08T15:48:08Z	2022-08-16T16:04:48Z	1.64
Eastern Shelf	2022	Spain	NOVA ARMONIA	2022-05-19T13:00:00Z	2022-11-17T14:00:00Z	TRAWLERS	FISHING	224175320	8743701	ECKP	2021-12-07T04:42:59Z	2025-02-06T09:34:46Z	4.46
Eastern Shelf	2022	Spain	FERRAN	2022-08-09T12:00:00Z	2022-12-27T07:00:00Z	TRAWLERS	FISHING	224248220		EA6872	2014-08-13T08:32:43Z	2025-02-27T16:38:15Z	9.45
Eastern Shelf	2022	Spain	MONTSENY	2022-05-17T02:00:00Z	2022-12-23T08:00:00Z	TRAWLERS	FISHING	225980880		EA4219	2021-09-22T05:41:02Z	2025-03-04T17:10:19Z	48.34
Eastern Shelf	2022	Spain	ELI-HERMI-DOS	2022-10-07T07:00:00Z	2022-12-30T13:00:00Z	TRAWLERS	FISHING	224126630		EGLX	2018-06-29T10:33:08Z	2025-03-04T16:37:17Z	105.35

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Table S2 continued

Zone	Year	Flag	Vessel Name	Entry Timestamp	Exit Timestamp	Gear Type	Vessel Type	MMSI	IMO	CallSign	First Transmission Date	Last Transmission Date	Apparent Fishing Hours
Eastern Shelf	2022	Spain	DON BORJA	2022-05-30T09:00:00Z	2022-11-17T06:00:00Z	TRAWLERS	FISHING	224106860		EA2947	2013-03-21T08:41:54Z	2025-01-20T15:51:19Z	2.83
Eastern Shelf	2023	Spain	MARGARITA Y ELENA	2023-05-03T08:00:00Z	2023-11-08T10:00:00Z	TRAWLERS	FISHING	224014890		EA4961	2012-12-07T12:11:21Z	2025-03-04T16:28:51Z	12.94
Eastern Shelf	2023	Spain	PALANDRIU	2023-09-29T08:00:00Z	2023-09-29T12:00:00Z	TRAWLERS	FISHING	224072190		EA6271	2013-03-25T06:59:39Z	2025-03-04T18:14:00Z	4.01
Eastern Shelf	2023	Spain	CATALINA GODO	2023-01-12T10:00:00Z	2023-12-13T04:00:00Z	TRAWLERS	FISHING	224000390		EA2435	2013-03-25T19:15:23Z	2025-03-04T17:00:06Z	20.37
Eastern Shelf	2023	Spain	COSTA MEDITERRANIA	2023-04-17T09:00:00Z	2023-07-06T09:00:00Z	TRAWLERS	FISHING	224096950		EA7559	2013-03-22T05:12:58Z	2025-03-04T17:00:52Z	3.25
Eastern Shelf	2023	Spain	NOVA ARMONIA	2023-11-27T14:00:00Z	2023-11-27T14:00:00Z	TRAWLERS	FISHING	224175320	8743701	ECKP	2021-12-07T04:42:59Z	2025-02-06T09:34:46Z	0.25
Eastern Shelf	2023	Spain	FERRAN	2023-06-02T12:00:00Z	2023-11-16T13:00:00Z	TRAWLERS	FISHING	224248220		EA6872	2014-08-13T08:32:43Z	2025-02-27T16:38:15Z	9.47
Eastern Shelf	2023	Spain	PAPA BARRANCO	2023-04-27T05:00:00Z	2023-08-14T14:00:00Z	TRAWLERS	FISHING	224222430		EA9288	2022-12-01T04:50:24Z	2024-08-26T21:05:03Z	4.77
Eastern Shelf	2023	Spain	MONTSENY	2023-06-13T07:00:00Z	2023-12-28T13:00:00Z	TRAWLERS	FISHING	225980880		EA4219	2021-09-22T05:41:02Z	2025-03-04T17:10:19Z	30.86
Eastern Shelf	2023	Spain	DON BORJA	2023-01-04T13:00:00Z	2023-12-27T05:00:00Z	TRAWLERS	FISHING	224106860		EA2947	2013-03-21T08:41:54Z	2025-01-20T15:51:19Z	1.9
Eastern Shelf	2023	Spain	ELI-HERMI-DOS	2023-01-13T09:00:00Z	2023-12-28T13:00:00Z	TRAWLERS	FISHING	224126630		EGLX	2018-06-29T10:33:08Z	2025-03-04T16:37:17Z	38.55
Western Shelf	2020	Spain	PUIG NAULOS	2020-05-06T11:00:00Z	2020-09-14T08:00:00Z	TRAWLERS	FISHING	224123490		E5883	2015-07-13T04:11:58Z	2023-06-09T05:18:24Z	7.3
Western Shelf	2020	Spain	MARGARITA Y ELENA	2020-06-18T11:00:00Z	2020-07-01T07:00:00Z	TRAWLERS	FISHING	224014890		EA4961	2012-12-07T12:11:21Z	2025-03-04T16:28:51Z	5.56
Western Shelf	2020	Spain	PALANDRIU	2020-01-28T05:00:00Z	2020-12-29T06:00:00Z	TRAWLERS	FISHING	224072190		EA6271	2013-03-25T06:59:39Z	2025-03-04T18:14:00Z	14.51
Western Shelf	2020	France	GIOVANI JEAN	2020-12-03T10:00:00Z	2020-12-03T11:00:00Z	TRAWLERS	FISHING	228149700		FQCZ	2012-02-08T05:14:32Z	2025-03-04T19:12:23Z	1.97
Western Shelf	2020	Spain	CATALINA GODO	2020-01-07T07:00:00Z	2020-11-12T12:00:00Z	TRAWLERS	FISHING	224000390		EA2435	2013-03-25T19:15:23Z	2025-03-04T17:00:06Z	20.62
Western Shelf	2020	Spain	COSTA MEDITERRANIA	2020-03-06T06:00:00Z	2020-10-22T07:00:00Z	TRAWLERS	FISHING	224096950		EA7559	2013-03-22T05:12:58Z	2025-03-04T17:00:52Z	11.57
Western Shelf	2020	France	F/B MARIA-GABRIEL	2020-12-15T06:00:00Z	2020-12-17T13:00:00Z	TRAWLERS	FISHING	227318070		FG7842	2013-01-08T04:30:54Z	2022-12-28T15:11:05Z	3.56
Western Shelf	2020	Spain	BERTO	2020-01-15T11:00:00Z	2020-11-19T12:00:00Z	TRAWLERS	FISHING	224185350		ECKI	2013-01-18T19:59:24Z	2022-06-08T08:57:03Z	14.98
Western Shelf	2020	Spain	ROCA FORNE	2020-01-03T09:00:00Z	2020-01-14T12:00:00Z	TRAWLERS	FISHING	224303360		EA8474	2014-07-14T14:42:24Z	2025-03-04T16:05:10Z	9.37

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Table S2 continued

Zone	Year	Flag	Vessel Name	Entry Timestamp	Exit Timestamp	Gear Type	Vessel Type	MMSI	IMO	CallSign	First Transmission Date	Last Transmission Date	Apparent Fishing Hours
Western Shelf	2020	Spain	NOU ESTEVE	2020-01-09T08:00:00Z	2020-01-15T12:00:00Z	TRAWLERS	FISHING	224080940		ECAY	2013-03-05T09:15:13Z	2025-03-04T17:29:08Z	6.77
Western Shelf	2020	Spain	J.GARRIGA	2020-01-15T10:00:00Z	2020-12-28T08:00:00Z	TRAWLERS	FISHING	224200490			2018-01-25T07:55:46Z	2024-04-03T04:50:35Z	19.12
Western Shelf	2020	France	F/V RAYMOND ELISE 4	2020-12-03T10:00:00Z	2020-12-03T10:00:00Z	TRAWLERS	FISHING	228154900		FQDX	2012-01-03T01:57:36Z	2025-03-04T23:59:57Z	0.81
Western Shelf	2020	Spain	FERRAN	2020-07-27T07:00:00Z	2020-08-13T13:00:00Z	TRAWLERS	FISHING	224248220		EA6872	2014-08-13T08:32:43Z	2025-02-27T16:38:15Z	17.05
Western Shelf	2020	Spain	SORT DE TARANET	2020-03-23T07:00:00Z	2020-03-23T11:00:00Z	TRAWLERS	FISHING	224104180		EA3979	2013-03-09T10:44:02Z	2022-03-01T08:47:52Z	3.04
Western Shelf	2020	Spain	GERMANS MAURA	2020-01-13T06:00:00Z	2020-12-23T10:00:00Z	TRAWLERS	FISHING	224047490		EA4596	2013-04-12T04:19:54Z	2025-01-10T14:03:51Z	48.38
Western Shelf	2020	Spain	ROCA FORNE	2020-07-13T08:00:00Z	2020-07-13T08:00:00Z	TRAWLERS	FISHING	224303336		EA8474	2020-06-08T04:35:01Z	2023-10-10T10:23:47Z	2.17
Western Shelf	2020	Spain	ARMONIA UNO	2020-07-13T05:00:00Z	2020-12-18T11:00:00Z	TRAWLERS	FISHING	224104430		EA3936	2013-05-21T06:42:49Z	2025-02-17T15:20:00Z	18.97
Western Shelf	2020	Spain	DON BORJA	2020-01-09T11:00:00Z	2020-12-29T14:00:00Z	TRAWLERS	FISHING	224106860		EA2947	2013-03-21T08:41:54Z	2025-01-20T15:51:19Z	68.01
Western Shelf	2020	Spain	ELI-HERMI-DOS	2020-01-15T06:00:00Z	2020-05-13T13:00:00Z	TRAWLERS	FISHING	224126630		EGLX	2018-06-29T10:33:08Z	2025-03-04T16:37:17Z	4.58
Western Shelf	2021	Spain	PUIG NAULOS	2021-06-14T06:00:00Z	2021-06-14T10:00:00Z	TRAWLERS	FISHING	224123490		E5883	2015-07-13T04:11:58Z	2023-06-09T05:18:24Z	4.94
Western Shelf	2021	Spain	CATALINA GODO	2021-01-07T09:00:00Z	2021-10-20T08:00:00Z	TRAWLERS	FISHING	224000390		EA2435	2013-03-25T19:15:23Z	2025-03-04T17:00:06Z	15.56
Western Shelf	2021	Spain	PALANDRIU	2021-01-04T11:00:00Z	2021-06-21T12:00:00Z	TRAWLERS	FISHING	224072190		EA6271	2013-03-25T06:59:39Z	2025-03-04T18:14:00Z	11.68
Western Shelf	2021	Spain	PORT DE ROSES	2021-07-29T12:00:00Z	2021-07-29T12:00:00Z	TRAWLERS	FISHING	224160250		EA8262	2012-11-20T15:58:19Z	2025-03-04T23:59:57Z	1.4
Western Shelf	2021	Spain	MARGARITA Y ELENA	2021-01-21T10:00:00Z	2021-11-02T09:00:00Z	TRAWLERS	FISHING	224014890		EA4961	2012-12-07T12:11:21Z	2025-03-04T16:28:51Z	14.21
Western Shelf	2021	France	F/B MARIA-GABRIEL	2021-12-20T09:00:00Z	2021-12-20T09:00:00Z	TRAWLERS	FISHING	227318070		FG7842	2013-01-08T04:30:54Z	2022-12-28T15:11:05Z	0.71
Western Shelf	2021	Spain	COSTA MEDITERRANIA	2021-05-13T07:00:00Z	2021-06-28T11:00:00Z	TRAWLERS	FISHING	224096950		EA7559	2013-03-22T05:12:58Z	2025-03-04T17:00:52Z	2.23
Western Shelf	2021	Spain	NOU ESTEVE	2021-05-18T08:00:00Z	2021-08-19T12:00:00Z	TRAWLERS	FISHING	224080940		ECAY	2013-03-05T09:15:13Z	2025-03-04T17:29:08Z	6.1
Western Shelf	2021	Spain	SORT DE TARANET	2021-03-10T12:00:00Z	2021-03-10T12:00:00Z	TRAWLERS	FISHING	224104180		EA3979	2013-03-09T10:44:02Z	2022-03-01T08:47:52Z	1.11
Western Shelf	2021	Spain	GERMANS MAURA	2021-01-04T10:00:00Z	2021-12-28T07:00:00Z	TRAWLERS	FISHING	224047490		EA4596	2013-04-12T04:19:54Z	2025-01-10T14:03:51Z	145.39

Continued

Table S2 continued

Zone	Year	Flag	Vessel Name	Entry Timestamp	Exit Timestamp	Gear Type	Vessel Type	MMSI	IMO	CallSign	First Transmission Date	Last Transmission Date	Apparent Fishing Hours
Western Shelf	2021	Spain	ELI-HERMI-DOS	2021-01-08T07:00:00Z	2021-11-10T08:00:00Z	TRAWLERS	FISHING	224126630		EGLX	2018-06-29T10:33:08Z	2025-03-04T16:37:17Z	8.78
Western Shelf	2021	Spain	ARMONIA UNO	2021-03-31T11:00:00Z	2021-09-15T08:00:00Z	TRAWLERS	FISHING	224104430		EA3936	2013-05-21T06:42:49Z	2025-02-17T15:20:00Z	7.7
Western Shelf	2021	Spain	DON BORJA	2021-01-04T09:00:00Z	2021-09-03T10:00:00Z	TRAWLERS	FISHING	224106860		EA2947	2013-03-21T08:41:54Z	2025-01-20T15:51:19Z	47.2
Western Shelf	2021	Spain	J.GARRIGA	2021-01-04T07:00:00Z	2021-12-29T03:00:00Z	TRAWLERS	FISHING	224200490			2018-01-25T07:55:46Z	2024-04-03T04:50:35Z	47.83
Western Shelf	2021	Spain	BERTO	2021-01-18T13:00:00Z	2021-06-21T11:00:00Z	TRAWLERS	FISHING	224185350		ECKI	2013-01-18T19:59:24Z	2022-06-08T08:57:03Z	16.5
Western Shelf	2021	Spain	GALANDU	2021-05-07T09:00:00Z	2021-05-24T11:00:00Z	TRAWLERS	FISHING	224133306		EA4014	2013-05-22T16:12:12Z	2023-06-29T16:11:50Z	5.51
Western Shelf	2022	Spain	MARGARITA Y ELENA	2022-07-14T12:00:00Z	2022-12-02T08:00:00Z	TRAWLERS	FISHING	224014890		EA4961	2012-12-07T12:11:21Z	2025-03-04T16:28:51Z	18.88
Western Shelf	2022	Spain	PALANDRIU	2022-04-04T07:00:00Z	2022-07-27T11:00:00Z	TRAWLERS	FISHING	224072190		EA6271	2013-03-25T06:59:39Z	2025-03-04T18:14:00Z	5.66
Western Shelf	2022	Spain	GALANDU	2022-08-04T07:00:00Z	2022-08-10T09:00:00Z	TRAWLERS	FISHING	224133306		EA4014	2013-05-22T16:12:12Z	2023-06-29T16:11:50Z	28.01
Western Shelf	2022	Spain	CATALINA GODO	2022-09-15T15:00:00Z	2022-09-15T15:00:00Z	TRAWLERS	FISHING	224000390		EA2435	2013-03-25T19:15:23Z	2025-03-04T17:00:06Z	1.36
Western Shelf	2022	Spain	COSTA MEDITERRANIA	2022-05-09T14:00:00Z	2022-12-07T04:00:00Z	TRAWLERS	FISHING	224096950		EA7559	2013-03-22T05:12:58Z	2025-03-04T17:00:52Z	9.64
Western Shelf	2022	Spain	ESTEL DE ROSES	2022-09-19T08:00:00Z	2022-09-19T09:00:00Z	TRAWLERS	FISHING	224095180			2022-08-01T04:32:27Z	2025-03-04T17:01:16Z	2.15
Western Shelf	2022	Spain	NOVA ARMONIA	2022-01-19T12:00:00Z	2022-09-15T11:00:00Z	TRAWLERS	FISHING	224175320	8743701	ECKP	2021-12-07T04:42:59Z	2025-02-06T09:34:46Z	39.92
Western Shelf	2022	Spain	J.GARRIGA	2022-01-12T05:00:00Z	2022-11-16T03:00:00Z	TRAWLERS	FISHING	224200490			2018-01-25T07:55:46Z	2024-04-03T04:50:35Z	9
Western Shelf	2022	Spain	GERMANS MAURA	2022-01-03T07:00:00Z	2022-08-10T11:00:00Z	TRAWLERS	FISHING	224047490		EA4596	2013-04-12T04:19:54Z	2025-01-10T14:03:51Z	25.51
Western Shelf	2022	Spain	ROCA FORNE	2022-08-09T08:00:00Z	2022-08-10T08:00:00Z	TRAWLERS	FISHING	224303336		EA8474	2020-06-08T04:35:01Z	2023-10-10T10:23:47Z	3.11
Western Shelf	2022	Spain	MONTSENY	2022-08-02T13:00:00Z	2022-08-02T13:00:00Z	TRAWLERS	FISHING	225980880		EA4219	2021-09-22T05:41:02Z	2025-03-04T17:10:19Z	0.87
Western Shelf	2022	Spain	DON BORJA	2022-04-13T13:00:00Z	2022-11-16T04:00:00Z	TRAWLERS	FISHING	224106860		EA2947	2013-03-21T08:41:54Z	2025-01-20T15:51:19Z	6.4
Western Shelf	2022	Spain	ELI-HERMI-DOS	2022-05-16T12:00:00Z	2022-12-28T15:00:00Z	TRAWLERS	FISHING	224126630		EGLX	2018-06-29T10:33:08Z	2025-03-04T16:37:17Z	13.94
Western Shelf	2023	Spain	MARGARITA Y ELENA	2023-01-16T08:00:00Z	2023-11-08T09:00:00Z	TRAWLERS	FISHING	224014890		EA4961	2012-12-07T12:11:21Z	2025-03-04T16:28:51Z	22.34

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Table S2 continued

Zone	Year	Flag	Vessel Name	Entry Timestamp	Exit Timestamp	Gear Type	Vessel Type	MMSI	IMO	CallSign	First Transmission Date	Last Transmission Date	Apparent Fishing Hours
Western Shelf	2023	Spain	PALANDRIU	2023-06-16T04:00:00Z	2023-12-04T10:00:00Z	TRAWLERS	FISHING	224072190		EA6271	2013-03-25T06:59:39Z	2025-03-04T18:14:00Z	12.51
Western Shelf	2023	Spain	CATALINA GODO	2023-01-17T08:00:00Z	2023-05-04T11:00:00Z	TRAWLERS	FISHING	224000390		EA2435	2013-03-25T19:15:23Z	2025-03-04T17:00:06Z	7.7
Western Shelf	2023	France	GIOVANI JEAN	2023-02-09T09:00:00Z	2023-02-09T09:00:00Z	TRAWLERS	FISHING	228149700		FQCZ	2012-02-08T05:14:32Z	2025-03-04T19:12:23Z	1.9
Western Shelf	2023	Spain	JOANET	2023-01-16T08:00:00Z	2023-06-12T08:00:00Z	TRAWLERS	FISHING	224005270		EA2308	2013-06-21T14:15:23Z	2025-03-04T17:05:17Z	10.3
Western Shelf	2023	Spain	ESTEL DE ROSES	2023-08-01T08:00:00Z	2023-08-01T10:00:00Z	TRAWLERS	FISHING	224095180			2022-08-01T04:32:27Z	2025-03-04T17:01:16Z	4.78
Western Shelf	2023	Spain	COSTA MEDITERRANIA	2023-05-12T14:00:00Z	2023-07-21T07:00:00Z	TRAWLERS	FISHING	224096950		EA7559	2013-03-22T05:12:58Z	2025-03-04T17:00:52Z	4.1
Western Shelf	2023	Spain	ROCA FORNE	2023-10-16T08:00:00Z	2023-12-29T09:00:00Z	TRAWLERS	FISHING	224303360		EA8474	2014-07-14T14:42:24Z	2025-03-04T16:05:10Z	12.71
Western Shelf	2023	Spain	NOVA ARMONIA	2023-08-14T14:00:00Z	2023-12-13T08:00:00Z	TRAWLERS	FISHING	224175320	8743701	ECKP	2021-12-07T04:42:59Z	2025-02-06T09:34:46Z	5.07
Western Shelf	2023	Spain	J.GARRIGA	2023-11-28T08:00:00Z	2023-11-28T11:00:00Z	TRAWLERS	FISHING	224200490			2018-01-25T07:55:46Z	2024-04-03T04:50:35Z	2.77
Western Shelf	2023	Spain	GERMANS MAURA	2023-08-17T12:00:00Z	2023-12-28T10:00:00Z	TRAWLERS	FISHING	224047490		EA4596	2013-04-12T04:19:54Z	2025-01-10T14:03:51Z	11
Western Shelf	2023	Spain	MONTSENY	2023-01-03T13:00:00Z	2023-12-13T09:00:00Z	TRAWLERS	FISHING	225980880		EA4219	2021-09-22T05:41:02Z	2025-03-04T17:10:19Z	6.5
Western Shelf	2023	Spain	ROCA FORNE	2023-01-13T09:00:00Z	2023-10-06T10:00:00Z	TRAWLERS	FISHING	224303336		EA8474	2020-06-08T04:35:01Z	2023-10-10T10:23:47Z	47.55
Western Shelf	2023	Spain	ELI-HERMI-DOS	2023-01-16T07:00:00Z	2023-12-04T11:00:00Z	TRAWLERS	FISHING	224126630		EGLX	2018-06-29T10:33:08Z	2025-03-04T16:37:17Z	15.76
Western Shelf	2023	Spain	DON BORJA	2023-08-22T13:00:00Z	2023-12-19T13:00:00Z	TRAWLERS	FISHING	224106860		EA2947	2013-03-21T08:41:54Z	2025-01-20T15:51:19Z	15.47