FigureS1. Pipeline of the methodology of the hybrid two steps clustering
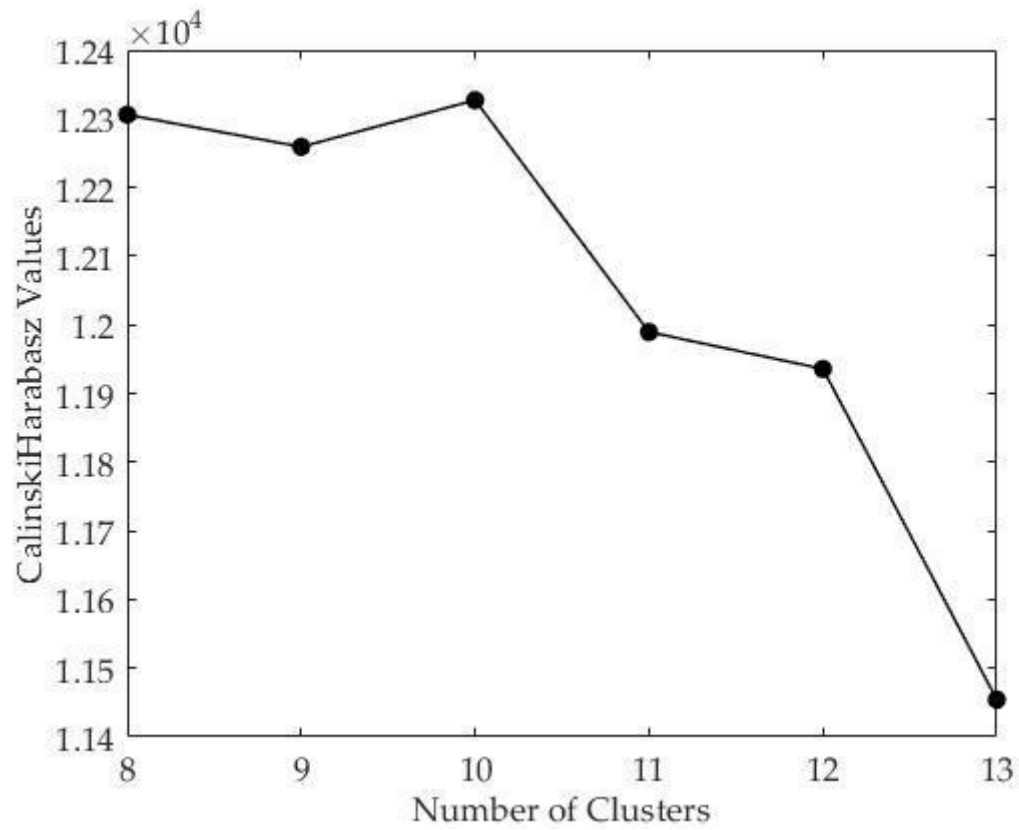
Figure S2. Evaluation of the optimal number of clusters for the global k-means using the Calinski-Harabasz clustering evaluation criterion, within a range of k potential clusters between the minimum (8) and maximum (13) number of clusters detected by AHC.
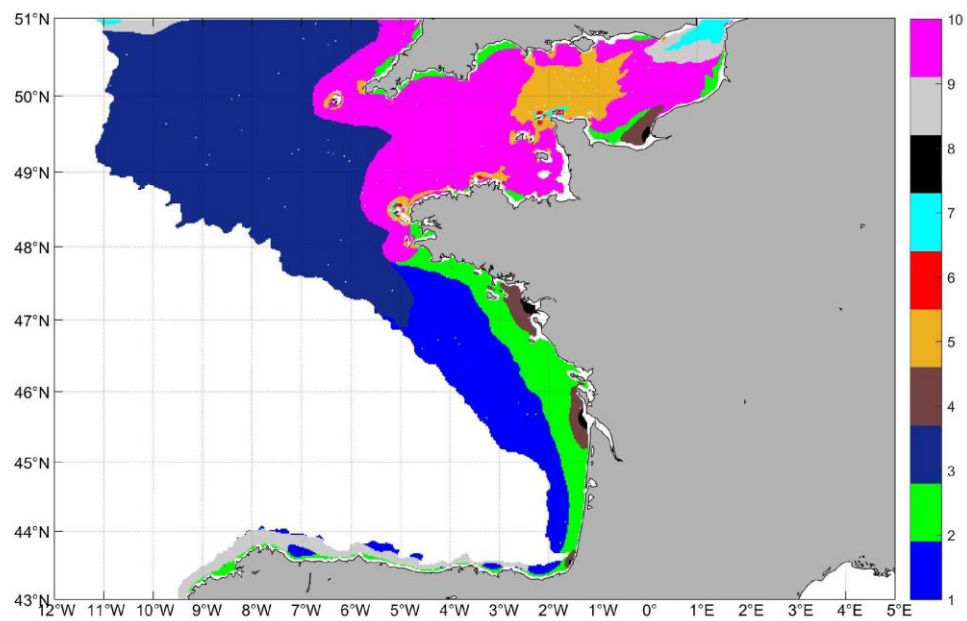

Figure S3. Global k-means results on the whole data set, with an initialization with 10 clusters
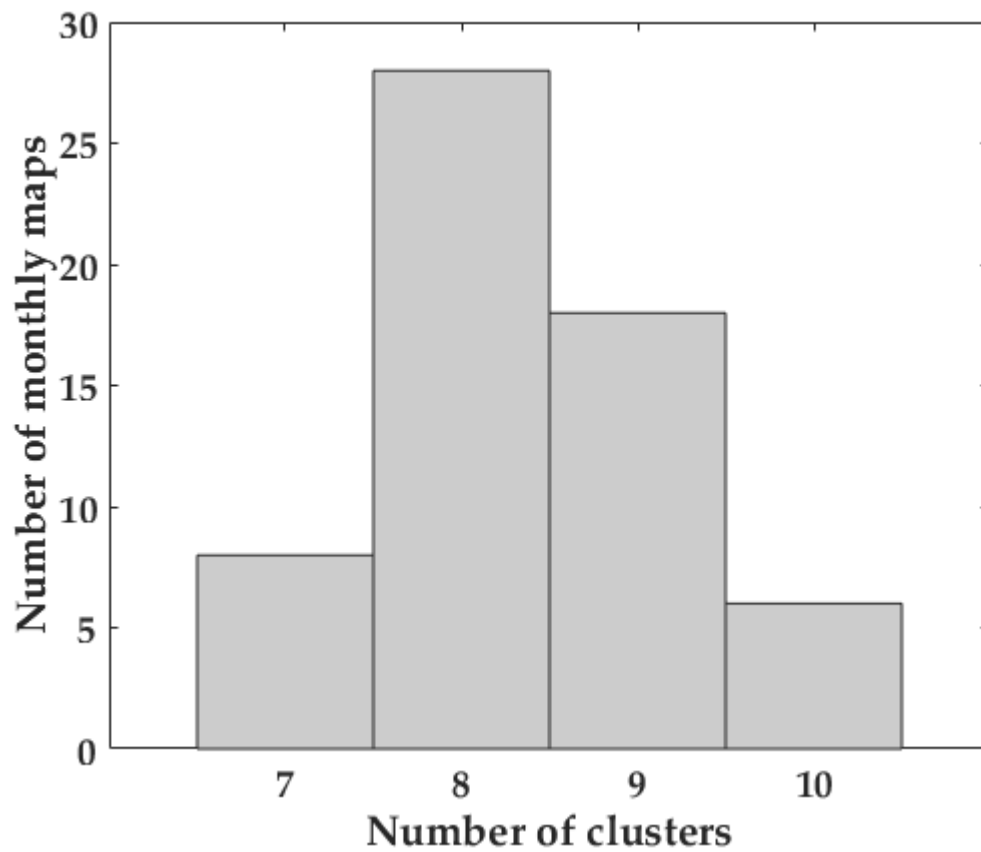
Figure S4. Distribution of the number of clusters after the second-step procedure.

Table S1. Performance and evaluation metrics for the GBM model. ntrees represents the optimal number of total number of boosting trees to fit using k-fold cross validation. RMSE is calculated between predicted values and initial data.

metrics	Patch 1	Patch 2	Patch 3	Patch 4	Patch 5	Patch 6	Patch 7	Patch 8	Patch 9	Patch 10
ntrees	2800	5150	2199	5250	4250	2455	2799	1846	3650	5700
RMSE	0,12	0,19	0,09	0,18	0,17	0,42	0,17	0,11	0,23	0,18