The IMAP GES Assessment of the Adriatic Sea Sub-region (ADR)

300. The GES assessment of EO 5 is provided at IMAP CIs 13 and14 level per TP, DIN and Chl a, as mandatory parameters measured within monitoring of these two indicators. Other parameters were not considered given lack of data reported by the CPs. The results of aggregation and integration within the nested scheme are provided at i) the IMAP national SAUs & subSAUs, as the finest level; ii) the IMAP coastal and offshore assessment zones of SubDivisions (NAS-1, NAS-12, CAS-1, CAS-12, SAS-1, SAS-12); iii) the sub-division level (NAS, CAS, SAS) and iv) the sub-regional level (the Adriatic Sea). Given Albania, Bosnia and Herzegovina, and Greece faced the lack of data for CIs 13 and 14, they were not considered in the GES assessment for IMAP EO5.

The comparison and harmonization of the assessment methodologies applied for IMAP CI 14: By selecting the 85th percentile of the normalized distribution as G/M boundary limit, therefore as the limit between the acceptable and the unacceptable statuses i.e. GES and non GES/ good and non-good, the compatibility of the classification within application of the Simplified assessment methodology based on G/M comparison was achieved with a five classes GES/non GES scale set for IMAP NEAT GES assessment of the Adriatic Sea Sub-region. The harmonization was achieved to the maximum possible extent given the Simplified assessment methodology based on G/M comparison and NEAT GES assessment methodology are different methodologies which application across the Mediterranean Sub-regions/Sub-divisions was conditioned with the statuses of data reported by the CPs.
Therefore, the bias assessment of CI 14 within the 2023 MED QSR was avoided as the Simplified G/M method relay on the assessment criteria corresponding to RC and G/M as stated in the Decision 22/7 on Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria . Based on statistical calculations and related selection of the 85th percentile ~ mean +1 SD represents the G/M threshold, the synchronization was achieved to the maximal possible extent between the classification statuses assigned in the AEL, CEN and WMS , and those in the Adriatic Sea Sub-region .
Assessment classification for harmonized IMAP/NEAT and IMAP/Simplified G/M assessment methodologies application for CIs14 in the Mediterannean Sea sub-regions:

	GES			non-GES		
IMAP/NEAT	RC	High	Good	Moderate	Poor	Bad
Boundary limits and normalized NEAT scores	< RC/H limit, not in score scale	1 < score ≤ 0.8	0.8<score≤ 0.6	0.6<score ≤ 0.4	0.4< score ≤0.2	Score<0.2
IMAP/Simplified G/M						
Boundary limits*	≤10th %	>10th% CHL_GM ≤85th%		CHL_GM >85th %		
G/nG threshold			G/M			
*** Percentile are calculated from normalized (with Ordered Quantile transformation) annual geometric mean (for at list 5 year)**						

Available data.

301. Data reported to the IMAP Pilot Info System by the Contracting Parties bordering the Adriatic Sea i.e. Croatia, Italy, Montenegro, and Slovenia for the period 2015-2020, as shown in Table 3.1.3.2.1, were used for the sub-regional assessment for Chl a, TP and DIN, within present NEAT GES assessment

for IMAP CIs 13 and14. Data reported by Albania, Bosnia and Herzegovina and Greece were missing or were insufficient or not reported in line with mandatory data standards. [57]

302. Data elaboration was done only for the surface layer as the main layer of eutrophication impact. Namely, freshwaters are the main pressure driver and mostly contribute to the stratification of the water column, therefore they confine the newly fetched nutrients mainly to the surface layer.

Table 3.1.3.2.1: Data availability by country and year for the Adriatic Sea (ADR) Sub-region showing data reported by the CPs for the assessment of EO5 (CI 13 and CI 14) up to 31st Oct 2022.

Country	Year	Amon	Ntri	Ntra	Phos	Tphs	Slca	Cphl	Temp	Psal	Doxy
Albania	2016-2021	No data provided									
Bosnia and Herzegovina	2016	12	12	12	12	12	12	12	12	12	12
	2017	4	4	4	4	4	4	4	4	4	4
	2018	4	4	4	4	4	4	4	4	4	4
	2019	12	12	12	12	12	12	12	12	12	12
	2020	5	5	5	5	5	5	5	5	5	5
	2021	3	3	3	-	3	3	3	3	3	3
Croatia	2016	72	72	72	72	72	72	72	63	63	63
	2017	144	144	144	144	144	144	144	132	132	132
	2018	94	94	94	94	94	94	94	83	83	83
	2019	216	216	216	216	216	216	216	203	203	203
	2020	177	177	177	177	177	177	177	165	165	165
	2021	-	-	-	-	-	-	-	-	-	-
Greece	2016-2021	No data provided									
Italy	2016	803	803	803	803	803	803	17171	17180	17180	17171
	2017	783	783	783	777	777	783	15612	15631	15632	15631
	2018	809	809	809	809	809	807	16669	16670	16670	16670
	2019	729	729	729	729	729	728	15995	16020	16020	16020
	2020	-	-	-	-	-	-	430	430	430	430
	2021	-	-	-	-	-	-	-	-	-	-
Montenegro	2016	80	80	80	80	80	80	80	80	80	80
	2017	82	82	82	82	82	82	82	82	82	82
	2018	103	103	103	103	103	103	103	103	103	103
	2019	116	116	116	116	116	116	116	116	116	116
	2020	-	-	-	-	-	-	-	-	-	-
	2021	-	-	-	-	-	-	-	-	-	-
Slovenia	2016	99	99	99	99	99	99	99	99	99	99
	2017	160	160	160	160	160	160	160	288	288	288
	2018	184	184	184	184	184	184	184	296	296	296
	2019	160	160	160	160	160	160	160	240	240	240
	2020	141	141	141	141	141	141	162	165	165	165
	2021	150	150	150	150	150	150	180	180	180	180

Amon - Ammonium; Ntri- Nitrite; Ntra – Nitrate; Phos – Orthophosphate; Tphs—Total phosphorous; Slca – Orthosilicate; Cphl – Chlorophyll *a*; Temp – Temperature; Psal – Salinity; Doxy – Dissolved Oxygen.

[57] UNEP/MED WG. 550/15, Table IV in Annex VIII (CH 4.2.2 & 4.3.2) provides the spatial distribution of monitoring stations for IMAP CIs13&14 by the spatial assessment units (SAUs, km2)) in the Adriatic Sea Sub-region; Table V in Annex VIII (CH 4.2.2 & 4.3.2) provides the detailed temporal coverage of the monitoring data collected for the Adriatic Sea shown against the finest areas of assessment (IMAP subSAUs), including the years of data collected per SAU.

303. For the application of the NEAT software for assessment of CIs 13&14, data were grouped per parameters, ecosystem and SAUs in all the Adriatic sub-divisions (NAS, CAS, SAS). Average concentrations (geometric means) and respective geometric standard deviation, and standard error of geometric means were then calculated in the respective groups as presented here-below.

The NEAT GES Assessment of IMAP CIs 13&14:
The geometric mean (*GM*) is defined as the n^{th} root of the product of n numbers, i.e., for a set of numbers x_1, x_2, ..., x_n, the geometric mean is defined as

$$GM[x] = (\prod x_i)^{\frac{1}{n}} \quad (1)$$

or, equivalently, as the arithmetic mean (*AM*) in logscale:

$$GM[x] = e^{AM[\log x]} \quad (2)$$

The geometric standard deviation (GSD) is calculated as the regular statistic on the log data, $SD[logx]$ then rescaled back:

$$GSD[x] = e^{SD[\log x]} \quad (3)$$

The standard error of geometric mean (SEGM): Since the through mean of the population (μ_G) is not normally known the sample mean $GM[x]$ is used, but then, like with the regular standard deviation and error formulas N−1 instead of N is used:

$$SEGM[x, N] = \frac{GM[x]}{\sqrt{N-1}} SD[\log x] \quad (4)$$

A difference between EO9/CI 17 and EO5/CIS 13&14 must be noted. For the NEAT assessment different metrics were used. For CI 17 as a measure of central tendency, the arithmetic mean and standard error were used, on opposite to the use of geometric mean and the standard error of geometric mean for CIs 13&14. It was necessary given the assessment criteria for EO5 were developed by applying the later metrics.

The integration of the areas of assessment and assessment results by applying the 4 levels nesting approach.

304. For setting the IMAP areas of assessment for IMAP CIs 13 and 14, the 4 levels nesting approach was followed as elaborated for IMAP CI 17 (amended for the purpose of CIs 13 and 14) and presented here-below. However, the finest areas of assessment set for CI 17 were further adjusted to serve the purpose of EO5 assessment. One additional GIS layer was created within 3rd step of nesting scheme. This layer shows a distribution of the water classes within the coastal and offshore zones. It was overlaid on the IMAP sub-SAUs defined for IMAP CI 17, which resulted in an adjustment of the finest areas of assessment for IMAP CIs 13 and 14. In that regard, distribution of the finest areas of assessment is mainly related to the scientific knowledge which takes into account the specifics of the monitoring and assessment of national waters. Where it was possible, the distribution of water types existing in the Adriatic Sea Sub-region (I, IIA and IIIW) also guided the adjustment of the finest areas of assessment for IMAP EO5. Namely, the three types of water are mainly discriminated by freshwater content which on the other side is correlated with the pressures from land. This leaded to a separate aggregation of the assessment results per water types in order to get the status of CIs 13 and 14 in different water types for all SAUs. Accordingly, details on setting the finest areas of assessment for IMAP EO 5 were provided per countries.

305. After setting the finest IMAP areas of assessment, their nesting within three sub-divisions of the Adriatic Sea sub-region was undertaken in the same manner applied for IMAP CI 17. The approach followed for the nesting of the areas is 4 levels nesting scheme (1 - being the finest level, 4 - the highest):

a) 1st level provided nesting of all national IMAP SAUs and subSAUs within the two key IMAP assessment zones per country i.e. coastal and offshore zone;
b) 2nd level provided nesting of the assessment areas set in IMAP assessment zones i.e. the coastal and offshore zones, on the subdivision level i.e. i) NAS coastal (NAS-1), NAS offshore (NAS-12); ii) CAS coastal (CAS-1), CAS offshore (CAS-12); iii) SAS coastal (SAS-1), SAS offshore (SAS-12);
c) 3rd level provided nesting of the areas of assessment within the 3 subdivisions (NAS, CAS, SAS);
d) 4th level provided nesting of the areas of assessment within the Adriatic Sea Sub Region.

306. This nesting scheme is shown schematically in Figure 3.1.3.2.1**.**

307. Further to spatial analysis of the monitoring stations distribution, along with recognition of corresponding monitoring and assessment areas, as well as optimal nesting of the finest areas of assessment, the scope of all Adriatic SAUs and subSAUs were defined. All of them were introduced in the NEAT tool along with their respective codes and surface of the areas (km2).

308. Within each SAU under ‘habitats’ the water types are introduced. Under ‘ecosystem component’ the 3 measured parameters i.e. DIN, TP and Chl a are assigned.

309. For each SAU and ‘Ecological Component’ and ‘Habitat’ (Water type), geometric mean and standard error of the geometric mean per parameter are inserted.

310. Boundary limits and class threshold values per SAU per parameter and per matrix (i.e. NEAT habitat) are applied. The tool obligatory requires 2 limits which define the best and the worse conditions and one threshold discriminating between GES-nonGES status. A five classes assessment scale ‘High-Good-Moderate-Poor-Bad’ is then produced. The GES-nGES threshold discriminates between the Good-Moderate classes. Details on boundary limits and threshold values are given in Chapter 4 and in Tables 4 and 5.

Setting the GES/non-GES boundary value/threshold for the IMAP NEAT GES Assessment in the ADR.

311. The definition of baselines and threshold values for IMAP CIs 13 and 14 in the Mediterranean Sea is an ongoing process. The setting of GES-nonGES boundaries within NEAT GES assessment for IMAP CIs 13 and 14 are based on the boundary values defined for TP and DIN, and updated ones for chlorophyll a, in the Adriatic Sea, as approved by the Meeting of CorMon on Pollution Monitoring (17 and 30 May 2022).

312. Following the methodology applied for setting GES-nonGES threshold for IMAP CI17, the NEAT GES assessment of IMAP CIs 13 and 14 in the Adritic Sea sub-region considers that the range of concentrations equal to or below the G/M values corresponds to the good environmental status i.e. in GES, and the range of concentrations above the G/M values corresponds to non-good environmental status i.e. non-GES. This principle was also used for application of the traffic light approach within the 2017 MED QSR.

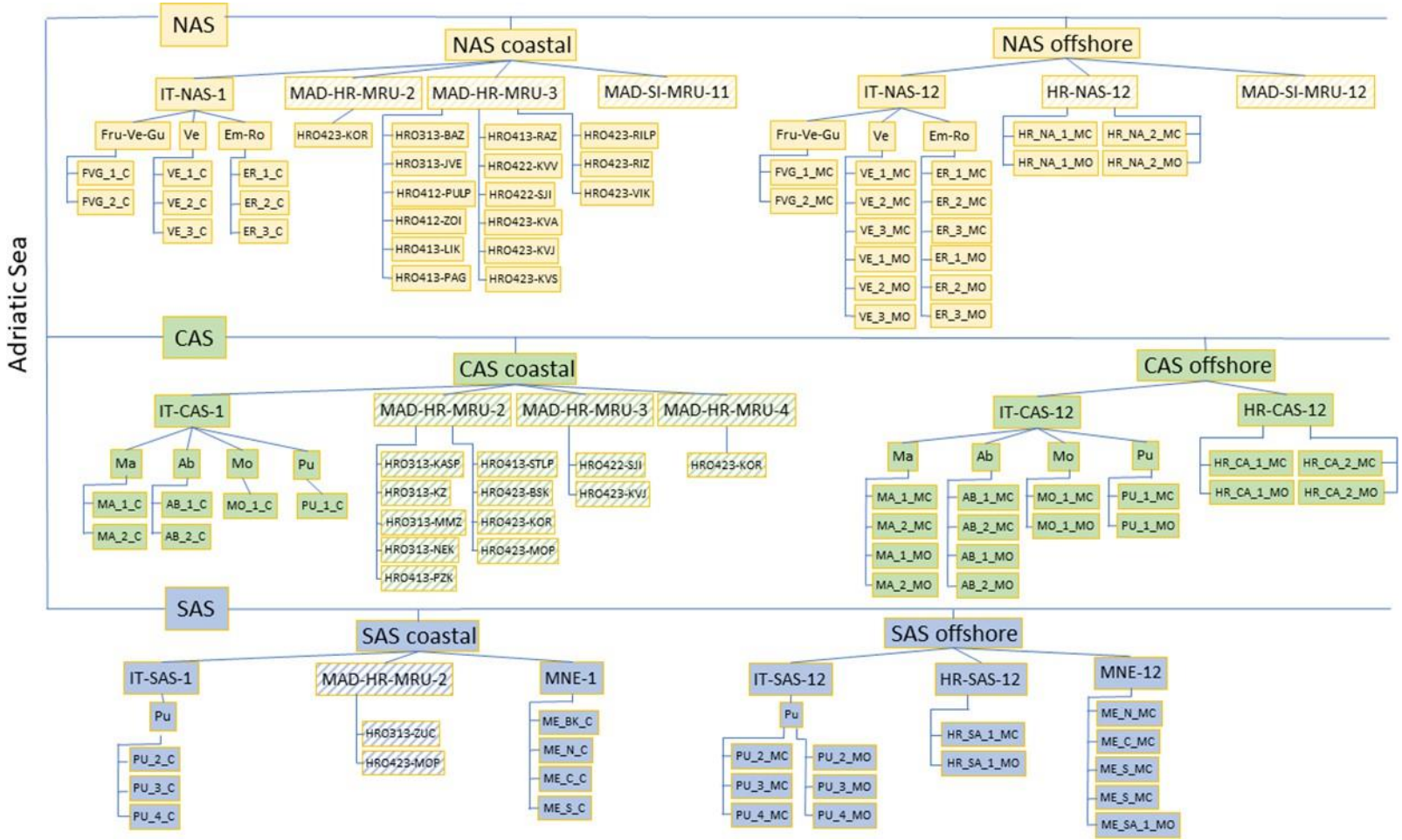


Figure 3.1.3.2.1: The nesting scheme of the SAUs defined for the Adriatic Sea based on the available information. Shaded boxes correspond to official MRUs declared by the countries that are EU MSs and that were decided to be used as IMAP SAUs.

313. The use of NEAT tool for IMAP GES status requires in total five status classes i.e. high, good, moderate, poor, bad, in order to optimally discriminate the status related to different classes. The NEAT application also requires the two boundary limit values for the best and worse conditions (these are not threshold values but minimum and maximum values that determine the scale of the GES assessment) and one threshold value for the GES – nonGES status. These are mandatory by the tool which then produces five status classes linearly, depending on the distance of the concentrations from the two boundary limit values and the GES-nonGES threshold.

314. The two boundary limit values were applied: i) Reference Conditions (RC); and ii) for maximum concentration of nutrients and chlorophyll a, the value calculated from the relationship (equation) of DIN and TP (the parameters of CI 13) with a value of 8 that is supposed to be highest one for TRIX (as internal standard). For CI14 (Chla) the equation is related to the pressure variable in our case DIN and TP where possible. All the equations and boundary values by water type are given in Table 3.1.3.2.2.

315. In line with such defined the two boundary limits, the following five status classes are produced: i) the high status (H) referring to RC (best conditions) < good status; ii) the good status (G); iii) the moderate status (M); iv) the poor status (P); v) the bad status (B) referring to values > than poor state and < than the maximum concentration. The five classes are divided by the boundary between them as follows: H/G; G/M (also the GES-nonGES threshold); M/P; and P/B.

Table 3.1.3.2.2: Boundary limits of the NEAT GES Cis 13 & 14 assessment scale and threshold values between five status classes.

Type	**Equation**	RC	H/G	**G/M**	M/P	P/B	Worst
Coastal							
I	**[TRIX]**		4.25	**5.25**	6.25	7	8
	[TP] = exp [(TRIX – 6.064)/1.349]	0.19	0.26	**0.55**	1.15	2.00	4.20
	[Chla] = 10.591 [TP]^1.237	1.4	2.01	**5.02**	12.56	24.99	62.5
IIA	**[TRIX]**	-	4	**5**	6	7	8
	[TP] = exp [(TRIX – 6.148)/1.583]	0.16	0.26	**0.48**	0.91	1.71	3.2
	[Chla] = 3.978 [TP]^1.347	0.33	0.64	**1.50**	3.51	8.21	19.2
IIIW	**[TRIX]**	2	3	**4**	5	6	7
	[TP] = exp [(TRIX – 6.148)/1.583]	0.07	0.14	**0.26**	0.48	0.91	1.7
	[Chla] = 3.978 [TP]^1.347	0.12	0.27	**0.64**	1.50	3.51	8.2
Offshore							
I	**[TRIX]**		4.25	**5.25**	6.25	7	8
	[DIN] = 10^[(TRIX – 3.08)/1.61]	0.15*; 0.29**	5.33	**22.28**	93.1	272	1 137
	[Chla] = 0.4295 [DIN]^0.64	0.21*; 0.66**	1.25	**3.13**	7.82	15.53	38.79
IIA	**[TRIX]**	-	4	**5**	6	7	8
	[TP] = exp [(TRIX – 6.148)/1.583]	0.16	0.26	**0.48**	0.91	1.71	3.22
	[Chla] = 3.978 [TP]^1.347	0.33	0.64	**1.50**	3.51	8.21	19.23
IIIW	**[TRIX]**	2	3	**4**	5	6	7
	[TP] = exp [(TRIX – 6.148)/1.583]	0.07	0.14	**0.26**	0.48	0.91	1.71
	[Chla] = 3.978 [TP]^1.347	0.12	0.27	**0.64**	1.50	3.51	8.21

*ME; **HR. IT

316. Data (i.e. average values), as well as limits and threshold values are normalized by NEAT in a scale of 0 to 1 to be comparable among parameters and to facilitate aggregation on the CI or EO level.

317. Threshold concentrations are normalized in a 0 to 1 scale as follows:
$0 \leq \text{bad} < 0.2 \leq \text{poor} < 0.4 \leq \text{moderate} < 0.6 \leq \text{good} < 0.8 \leq \text{high} \leq 1$

318. The NEAT tool further aggregates data by calculating the average of normalized values of indicators (DIN, TP; Chla) on the SAU level. This can be done either per each indicator per habitat separately or for all indicators i.e. parameters per habitats within the specific SAU. The first option leads to one value for each indicator separately for the specific SAU.

319. The process is then repeated for all nested SAUs (in a weighted or non- weighted mode). At the end one NEAT value for the highest area of assessment is obtained (i.e. for the Adriatic Sea) either for all ecosystem components i.e, indicators/parameters assessed (TP, DIN – CI 13, chl a – CI 14) separately, or for all ecosystem components by habitat (water). In the weighted mode a weighting factor based on the surface area of each SAU is used.

320. The NEAT values are values between 0 to 1 and correspond to an overall assessment status per contaminant according to the 5-class scale.

321. The decision rule of GES/ non-GES is by comparison to the boundary class defined by the G/M threshold, and this is above/below Good (0.6).

Results of the IMAP NEAT GES Assessment of CIs 13 and 14 in the ADR.

322. Detailed assessment results for EO5 are provided per TP, DIN and Chl a, as mandatory parameters measured for CIs 13 and 14 level and also spatially integrated within the nested scheme at i) the IMAP national SAUs & sub-SAUs, as the finest level; ii) the IMAP coastal and offshore assessment zones of SubDivisions (NAS-1, NAS-12, CAS-1, CAS-12, SAS-1, SAS-12); iii) the sub-division level (NAS, CAS, SAS) and iv) the sub-regional level (Adriatic Sea) are presented in Table 3.1.3.2.3.

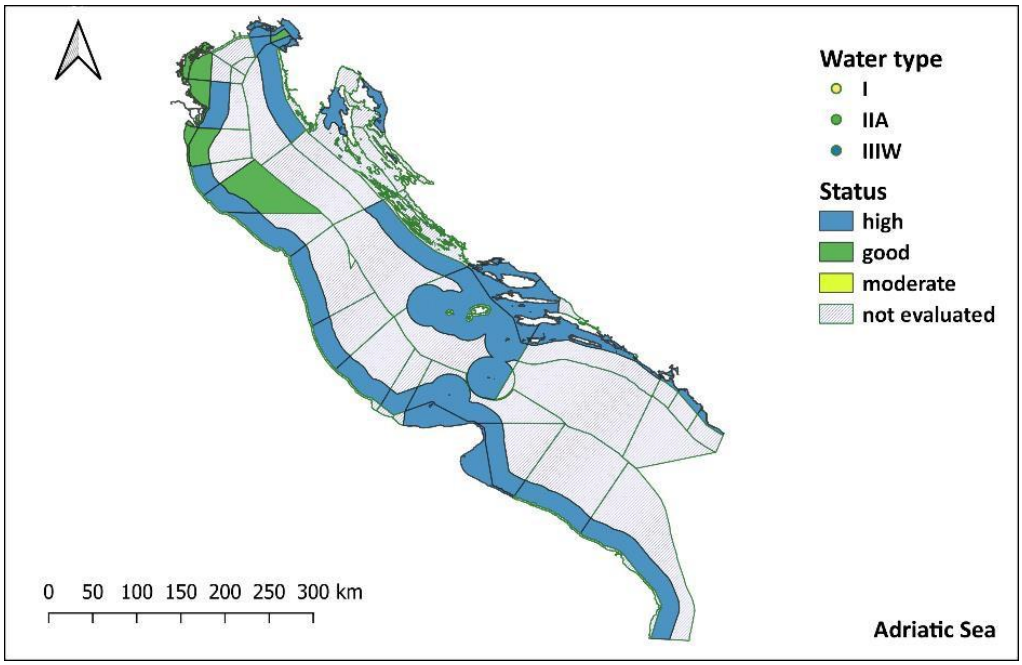
323. The aggregation of TP, DIN and Chl a was undertaken to obtain one status value (NEAT value) for all the levels of the nesting scheme. The aggregation of the assessment findings for these three parameters resulted in the NEAT value per specific SAUs. Then NEAT values per SAUs were spatially integrated to the sub-divisions and regional levels. Data matrix in Table 3.1.3.2.3 shows the results per indicator for all nesting levels. The integrated results for the sub-divisions (NAS, CAS, SAS) are shown in bold. The NEAT classes are marked per all three parameters to show the status.

324. Along with the aggregation of the parameters per SAUs, the NEAT tool has the possibility to provide assessment results by aggregating data per habitat in this case water types and then to provide their spatial integration within the nested scheme. This possibility was not used for the present assessment since the water types are more relevant in the coastal waters and less in the offshore waters. The final integrated result per SAUs (NEAT value) are expected to be the same irrespective of the two ways of aggregation of the assessment results (i.e. per indicator or per habitat).

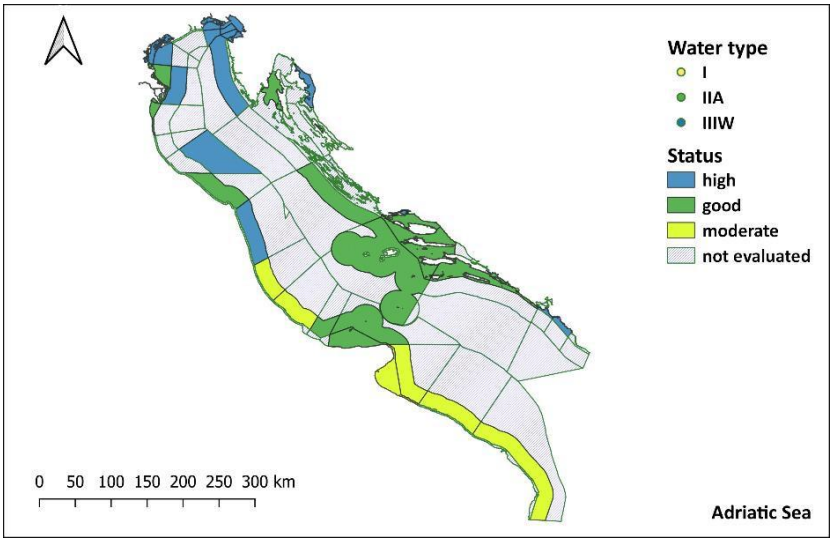
325. The detailed status assessment results show that all the SAUs achieve GES conditions (high, good status) that is indicated by the blue and green cells in Table 3.1.3.2.3. The GES status per assessment units and parameter is also shown on Figure 3.1.3.2.2. For all three parameters (CI 13 – DIN, TP and CI 14 – Chla), the results show that all SAUs and subSAUs are in GES. The only exception is the results for TP in a part of CAS and the SAS along the Italian coast, where a few subSAUs (AB_1_MC,

AB_2_MC, PU_2_MC, PU_3_MC, PU_4_MC) are in moderate status. The assessment status for TP was possible for the whole Adriatic Sea given data availability at the level of subSAUs. The results of TP assessment indicate that probably an accumulation of phosphorus is present in the area. It is necessary to explore if the problem is related to nitrogen limitation of the area and subsequent accumulation of phosphorus, or a local source of pollution contribute to the generation of the pressure on marine environment. Non-GES status of a few subSAUs do not affect the overall assessment status and all SAUs fall under the GES status (high, good). The absence of some SAUs evaluation is related to the decision of the countries to monitor areas that are found relevant for the assessment of eutrophication and therefore excluding the areas where problems were not historically observed.

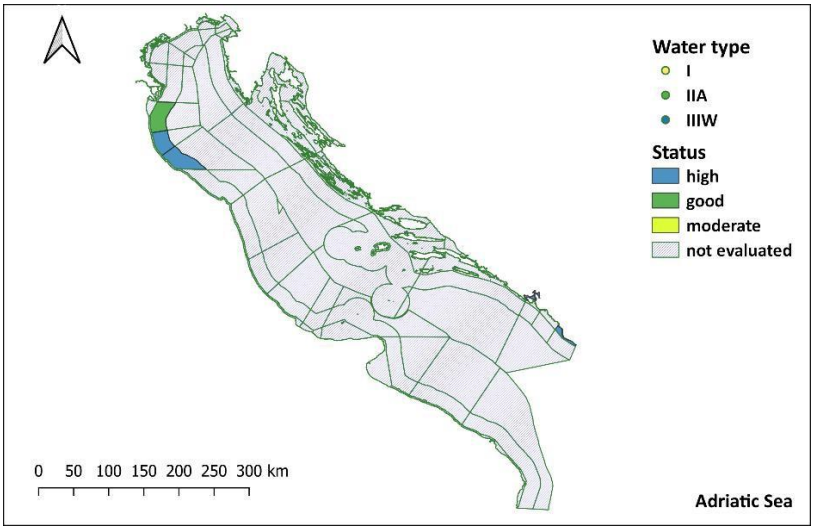
326. As observed for IMAP CI17, the present integrated assessment status results produced by applying the NEAT tool on the sub-division (NAS, CAS, SAS) and/or the Adriatic Sub-region level can only be considered as an example of how the tool works (4th and 3rd nesting levels). This is related to the fact that many SAUs lack data (blank cells in Table 3.1.3.2.3). The lack of data can be related to the recognition that many CPs monitor an area of interest, therefore excluding the areas where problems were not historically observed. However, the assessment per SAUs and integrated assessment on the two key nesting IMAP assessment zones i.e., coastal and offshore (NAS-1, NAS-12; CAS-1, CAS-12; SAS-1, SAS-12) (1st and 2nd nesting levels) can be considered more detailed for decision making.



Chl *a*



TP



DIN

Figure 3.1.3.2.2: The NEAT assessment results for IMAP CI13 (TP, DIN) and CI14 (Chl *a*), in the Adriatic Sea. Blank area corresponds to non-assessed subSAUs.

Table 3.1.3.2.3. Status assessment results of the NEAT tool applied on the Adriatic nesting scheme for the assessment of IMAP CIs 13 and 14. The various levels of spatial integration (nesting) are marked in bold. Blank cells denote absence of data. The % confidence is based on the sensitivity analysis.

SAU	Area	Total SAU weight	NEAT value	Status class	Confidence	CI14_Chla	CI13-TP	CI13-DIN
Adriatic Sea	**128180**	**0**	**0.815**	**high**	**99.8**	**0.954**	**0.673**	**0.845**
Northern Adriatic Sea	**30865**	**0**	**0.888**	**high**	**100.0**	**0.892**	**0.890**	**0.84**
NAS-1	**9130**	**0**	**0.866**	**high**	**100.0**	**0.896**	**0.837**	
MAD-HR-MRU-3	6302	0	0.900	high	100.0	0.952	0.847	
HRO313-JVE	73	0						
HRO313-BAZ	4	0	0.787	good	56.9	0.760	0.814	
HRO412-PULP	7	0						
HRO412-ZOI	467	0						
HRO413-LIK	7	0						
HRO413-PAG	30	0.001	0.898	high	100.0	1.000	0.795	
HRO413-RAZ	10	0						
HRO422-KVV	494	0						
HRO422-SJI	1924	0						
HRO423-KVA	687	0.029	0.848	high	90.2	0.919	0.777	
HRO423-KVJ	1089	0						
HRO423-KVS	577	0						
HRO423-RILP	6	0						
HRO423-RIZ	475	0						
HRO423-VIK	455	0.019	0.979	high	100.0	1.000	0.958	
IT-NAS-1	2576	0	0.783	good	92.7	0.759	0.806	
IT-Em-Ro-1	372	0	0.682	good	99.6	0.757	0.608	
ER_1_C	254	0.003	0.682	good	99.6	0.757	0.608	
ER_2_C	64	0						
ER_3_C	54	0						
IT-Fr-Ve-Gi-1	560	0	0.958	high	100.0	0.917	1.000	
FVG_1_C	277	0.002	0.916	high	100.0	0.832	1.000	
FVG_2_C	283	0.002	1.000	high	100.0	1.000	1.000	

SAU	Area	Total SAU weight	NEAT value	Status class	Confidence	CI14_Chla	CI13-TP	CI13-DIN
IT-Ve-1	1646	0	0.746	good	100.0	0.706	0.785	
VE_1_C	88	0						
VE_2_C	905	0.008	0.792	good	63.5	0.755	0.828	
VE_3_C	653	0.005	0.682	good	99.9	0.638	0.726	
MAD-Sl-MRU-11	85	0.001	0.923	high	100.0	0.903	0.942	
MAD-HR-MRU-2	166	0						
HRO423-KOR	166	0						
NAS-12	**21735**	**0**	**0.897**	**high**	**100.0**	**0.890**	**0.917**	**0.840**
IT-NAS-12	11141	0	0.832	high	98.8	0.777	0.898	0.840
IT-Em-Ro-12	7144	0	0.814	high	82.3	0.750	0.888	0.840
ER_1_MC	858	0.009	0.752	good	99.4	0.735		0.770
ER_2_MC	586	0.006	0.824	high	92.8	0.805		0.860
ER_3_MC	893	0.010	0.869	high	100.0			0.869
ER_3_MO	2888	0.031	0.814	high	67.9	0.739	0.888	
ER_2_MO	600	0						
ER_1_MO	1319	0						
IT-Fr-Ve-Gi-12	410	0	0.945	high	100.0	0.890	1.000	
FVG_1_MC	139	0.001	0.895	high	100.0	0.791	1.000	
FVG_2_MC	271	0.002	0.971	high	100.0	0.941	1.000	
IT-Ve-12	3588	0	0.854	high	95.9	0.811	0.898	
VE_1_MC	714	0						
VE_2_MC	467	0						
VE_3_MC	1041	0.028	0.854	high	95.9	0.811	0.898	
VE_1_MO	234	0						
VE_2_MO	190	0						
VE_3_MO	941	0						
MAD-Sl-MRU-12	129	0.001	0.935	high	100.0	0.870	1.000	
HR-NAS-12	10465	0	0.965	high	100.0	1.000	0.930	
HR_NA_1_MC	2057	0.082	0.965	high	100.0	1.000	0.930	
HR_NA_2_MC	2183	0						

SAU	Area	Total SAU weight	NEAT value	Status class	Confidence	CI14_Chla	CI13-TP	CI13-DIN
HR_NA_1_MO	2566	0						
HR_NA_2_MO	3659	0						
Central Adriatic	**48802**	**0**	**0.832**	**high**	**100.0**	**0.984**	**0.680**	
CAS-1	**7582**	**0**	**0.853**	**high**	**100.0**	**0.995**	**0.712**	
MAD-HR-MRU-2	5240	0	0.870	high	100.0	0.994	0.747	
HRO313-NEK	253	0						
HRO313-KASP	44	0.001	0.783	good	66.7	0.750	0.816	
HRO313-KZ	34	0	0.938	high	100.0	0.991	0.886	
HRO313-MMZ	56	0						
HRO413-PZK	196	0						
HRO413-STLP	1	0						
HRO423-BSK	613	0.008	0.844	high	91.1	0.985	0.702	
HRO423-KOR	1564	0						
HRO423-MOP	2480	0.033	0.877	high	100.0	1.000	0.755	
IT-CAS-1	2091	0	0.811	high	66.6	1.000	0.623	
IT-Ab-1	282	0						
AB_1_C	103	0						
AB_2_C	179	0						
IT-Ma-1	320	0						
MA_1_C	172	0						
MA_2_C	148	0						
IT-Mo-1	229	0						
MO_1_C	229	0						
IT-Ap-1	1261	0	0.811	high	66.6	1.000	0.623	
PU_1_C	1261	0.017	0.811	high	66.6	1.000	0.623	
MAD-HR-MRU-4	184	0						
HRO422-VIS	184	0						
MAD-HR-MRU-3	67	0						
HRO422-SJI	14	0						
HRO423-KVJ	53	0						

SAU	Area	Total SAU weight	NEAT value	Status class	Confidence	CI14_Chla	CI13-TP	CI13-DIN
CAS-12	**41219**	**0**	**0.828**	**high**	**100.0**	**0.981**	**0.674**	
HR-CAS-12	18797	0	0.845	high	100.0	1.000	0.691	
HR_CA_1_MC	2337	0.034	0.852	high	94.6	1.000	0.703	
HR_CA_2_MC	7745	0.113	0.843	high	100.0	1.000	0.687	
HR_CA_1_MO	5328	0						
HR_CA_2_MO	3388	0						
IT-CAS-12	22422	0	0.813	high	90.4	0.966	0.661	
IT-Ab-12	7526	0	0.719	good	100.0	1.000	0.438	
AB_1_MC	1056	0.027	0.705	good	100.0	1.000	0.411	
AB_2_MC	1250	0.032	0.731	good	100.0	1.000	0.461	
AB_1_MO	2480	0						
AB_2_MO	2741	0						
IT-Ap-12	5096	0	0.842	high	87.9	1.000	0.685	
PU_1_MC	2618	0.04	0.842	high	87.9	1.000	0.685	
PU_1_MO	2478	0						
IT-Ma-12	8097	0	0.871	high	100.0	0.907	0.835	
MA_1_MC	1480	0.03	0.822	high	90.0	0.870	0.775	
MA_2_MC	1629	0.033	0.915	high	100.0	0.941	0.890	
MA_1_MO	1391	0						
MA_2_MO	3597	0						
IT-Mo-12	1702	0	0.868	high	100.0	0.992	0.745	
MO_1_MC	654	0.013	0.868	high	100.0	0.992	0.745	
MO_1_MO	1048	0						
Southern Adriatic Sea	**48514**	**0**	**0.753**	**good**	**99.9**	**0.963**	**0.540**	**0.920**
SAS-1	**4793**	**0**	**0.765**	**good**	**98.7**	**0.928**	**0.583**	**0.920**
MAD-HR-MRU-2	1769	0	0.813	high	59.7	0.989	0.637	
HRO313-ZUC	13	0						
HRO423-MOP	1756	0.016	0.813	high	59.7	0.989	0.637	
IT-SAS-1 (Ap-1)	1810	0	0.677	good	99.8	0.869	0.485	
PU_2_C	1140	0.016	0.677	good	99.8	0.869	0.485	

SAU	Area	Total SAU weight	NEAT value	Status class	Confidence	CI14_Chla	CI13-TP	CI13-DIN
PU_3_C	172	0						
PU_4_C	498	0						
MNE-SAS-1	568	0	0.892	high	100.0	0.920	0.823	0.920
MNE-1-N	86	0.001	0.828	high	85.0	0.852	0.804	
MNE-1-C	246	0.002	0.884	high	100.0	0.937	0.830	
MNE-1-S	151	0.001	0.945	high	100.0	0.956		0.933
MNE-Kotor	85	0.001	0.887	high	100.0	0.877		0.896
AL-SAS-1	646	0						
SAS-12	**43721**	**0**	**0.752**	**good**	**99.5**	**0.967**	**0.536**	
IT-SAS-12	22695	0	0.752	good	99.5	0.967	0.536	
PU_2_MC	1753	0.084	0.729	good	93.9	0.928	0.530	
PU_3_MC	1760	0.085	0.702	good	99.9	0.940	0.465	
PU_4_MC	3581	0.172	0.787	good	81.2	1.000	0.574	
PU_2_MO	2619	0						
PU_3_MO	6066	0						
PU_4_MO	6915	0						
MNE-SAS-12	5772	0						
MNE-12-N	468	0						
MNE-12-C	653	0						
MNE-12-S	781	0						
ME_SA_1_MO	3870	0						
AL-SAS-12	716	0						
MAD-EL-MS-AD	2253	0						
HR-SAS-12	12286	0						
HR_SA_1_MC	3397	0						
HR_SA_1_MO	8889	0						

327. The final GES assessment findings for all the IMAP SAUs in the Adriatic Sea, as provided in Table 3.1.3.2.3. are shown by the respective colour in the maps included in Figures ADR 3.1.3.2.1.E-ADR 3.1.3.2.5.E. The maps depict the integrated NEAT value for each SAU i.e. aggregated NEAT value for the three parameters assessed i.e., TP, DIN and chlorophyll a.

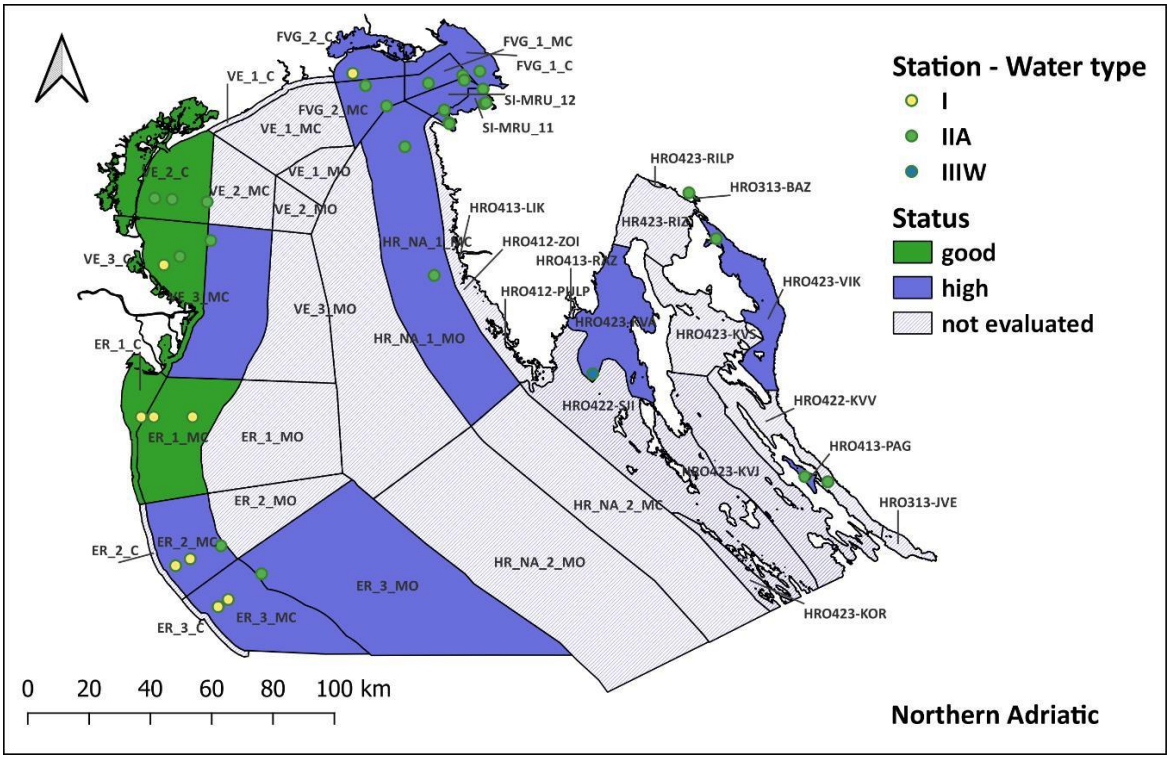


Figure ADR 3.1.3.2.3.E: The NEAT assessment results for IMAP CIs 13 and 14 in the North Adriatic Sea. All IMAP SAUs are in GES characterized by High or Good status. Blank area corresponds to not evaluated subSAUs.

328. The overall status of IMAP CI 13 and CI 14 regarding the three parameters assessed i.e. TP, DIN and chlorophyll a, on the sub-division level for NAS, is Good and in GES. Thirteen out of 20 SAUs are classified under High status and six under Good.

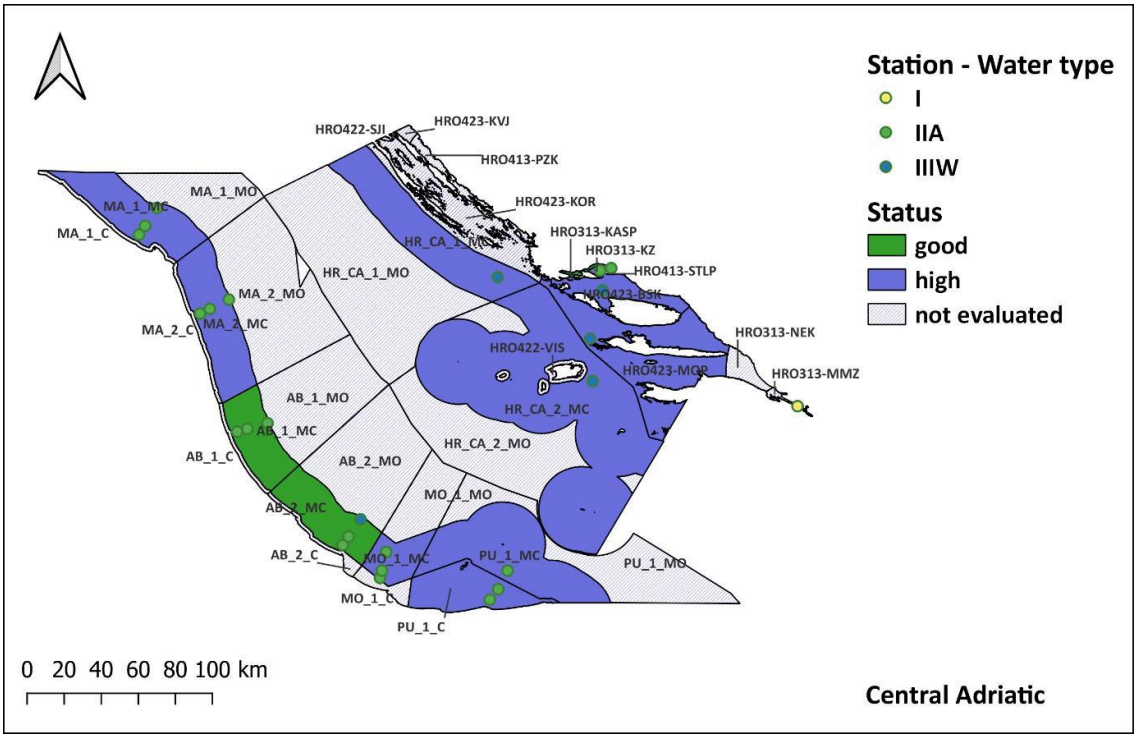


Figure ADR 3.1.3.2.4.E: The NEAT assessment results for IMAP CIs 13 and 14 in the Central Adriatic Sea. All IMAP SAUs are in GES, characterized by High or Good status.

329. The overall status of IMAP CIs 13 and 14 CI14 regarding the three parameters assessed i.e. TP, DIN and chlorophyll a, on the sub-division level for CAS is High and in GES. Nine out of fourteen SAUs are classified under High status and five under Good.

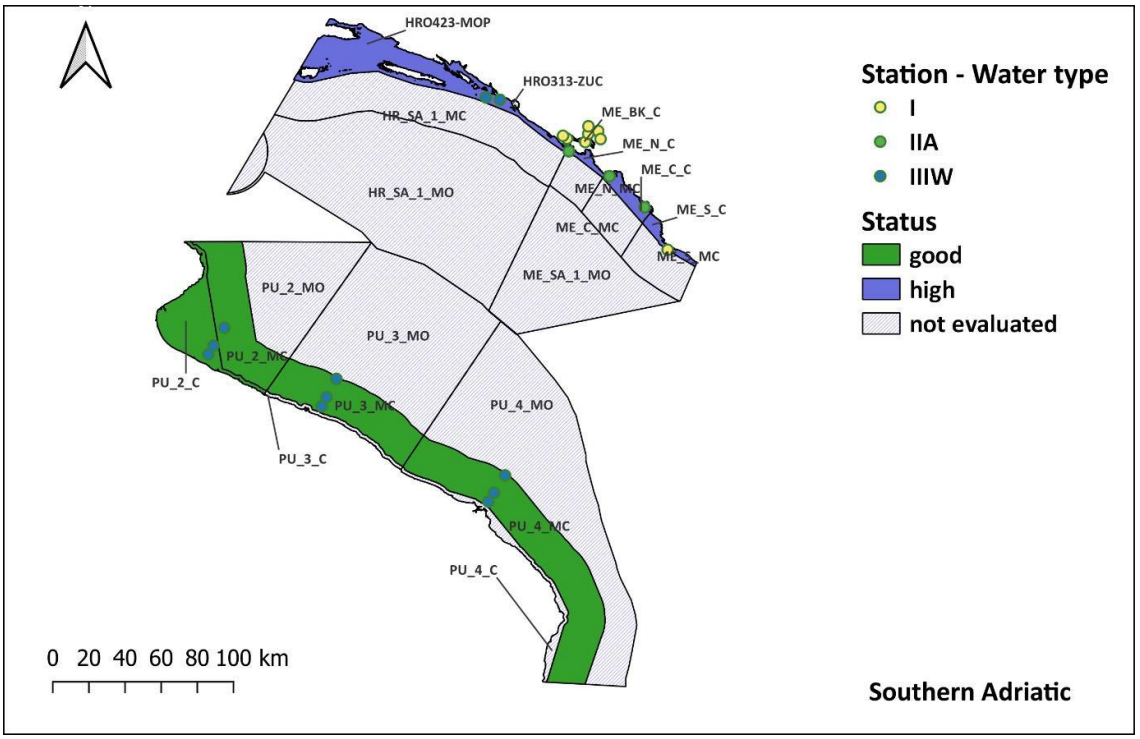


Figure ADR 3.1.3.2.5.E: The NEAT assessment results for IMAP CIs 13 and 14 in the South Adriatic Sea. All IMAP SAUs are in GES, characterized by High or Good status. Blank area corresponds to no available data.