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Agenda item 4. Data management and data flows implemented for UNEP/MAP reporting towards an integration into the Knowledge Management Platform.

Integrated Monitoring and Assessment Programme (IMAP) Info System: reporting implementation status and next steps

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INFO/RAC
Rome, 2025

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Integrated Monitoring and Assessment Programme (IMAP) Info System: reporting implementation status and next steps

1. Introduction

1. IMAP Info System, developed by INFO/RAC during the second IMAP cycle, is fully operational and aims to collect, manage and share data from national monitoring programs developed under the framework of the UNEP/MAP Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP).

2. The system allows Contracting Parties to report data for **19 IMAP Common Indicators** through 30 Information Standards developed and implemented in the IMAP Info System, including the one for Candidate Common Indicator 24 (cCI24) “Trends in the amount of litter ingested by or entangling marine organisms focusing on selected mammals, marine birds, and marine turtles”. Relative data flows have been implemented, also for cCI 24 that can be reported on voluntary basis.

3. IMAP Info System web site is user friendly and accessible to the general public. Login is required only to access reserved sections. Guidelines and Tutorial: in this section you can find all what can help users to navigate the IMAP Info System and in the reporting activities. A specific section, Guidelines and Tutorial, has been developed to help users in browsing the web site and performing reporting activities within the IMAP Info System. This section includes an User Guide that explain step by step how to report data in the IMAP Info System, a Technical Guide to guide the user in browsing the website and 6 Video Tutorials, the simplest way to understand how to navigate the website and report data in the IMAP Info System.

1.1 IMAP Info System New features

Assessment functionalities:

4. IMAP Info System, reporting monitoring data, represents the main source of official and reliable information available to build the Mediterranean Quality Status Report as well as other assessment documents produced by UNEP/MAP.

5. On this basis INFO/RAC is exploring possible upgrading of the system to facilitate extraction, aggregation and elaboration of reported data in order to support the activity of Mediterranean. The functions will include:

- Creation of graphical representation and diagram, using business intelligence and data analysis tool like Superset and Jupyter Lab.
- Export of maps and geographical data
- Creation of script and dashboard for data analysis

1.2 Completion of Data Standards and Data Dictionaries for all the IMAP Common Indicators and inclusion of new modules

6. New Data Standards and Data Dictionaries will be developed by INFO/RAC in close cooperation with MAP Components to support data reporting for the new Common Indicators under development as well as for new modules in the framework of already implemented Common Indicators. According to the planned timeline, the development of Data Standards and the implementation of the related data flows will follow the production of CI factsheets and protocols finally approved by Contracting Parties.

1.3 Fine tuning of Data Standards (DSs) and Data Dictionaries (DDs) for all the IMAP Common Indicators

7. For all Data Standards and Data Dictionaries, a first fine-tuning exercise has been already carried out based on inputs and feedback collected from the Contracting Parties (CPs), aiming to improve and facilitate the reporting process. Feedback and comments, referred in particular to mismatch between all the available DSs/DDs and monitoring protocols, missing data and gaps, have been implemented after the respective CORMONs discussions and approvals.

8. INFO/RAC's activity has focused on the most urgent and useful changes in order to support, enhance and simplify CPs reporting. Furthermore, new functionalities have been implemented in IMAP Info System in order to facilitate reporting phase:

- **Drop-down menu** for fields containing lists of values;
- **“Conditional” fields** (blue in the spreadsheets): these fields must be filled in only if a specific field has been previously compiled;
- **Automatic filling** of some fields according to what has been filled in other specific fields (i.e. units of measurement related to specific contaminants); and
- Introduction of **range of values**, under the guidance of MED POL experts, for numerical fields.

9. In the current biennium (2024-2025) an **official systematic revision process** has been initiated for the IMAP Info System aiming to evaluate the feasibility all the possible/proposed changes being in pipeline for all the available information standards, and most importantly selecting those mandated by the IMAP Decisions and in-line with the reporting needs.

10. In this direction, it is necessary to initiate a fine-tuning process of all available information standards, with the aim of evaluating the feasibility of possible changes. Contracting Parties are encouraged to carry out an internal assessment based on data availability, alignment with national monitoring plans, and feedback collected from national IMAP Users.

11. To facilitate this process, INFO/RAC has developed a dedicated form will be shared to support the structured submission of proposals to be discussed with CPs.

12. The efforts to develop the IMAP Info System signify a significant step towards improved monitoring and assessment of the Mediterranean marine environment, facilitating better data collection and sharing among Contracting Parties. The collaboration through the Info/MAP platform is expected to strengthen the implementation of IMAP and support the goals of the Barcelona Convention.

1.4 State of art of the IMAP reporting by Contracting Parties

13. INFO/RAC has developed 30 Information Standards to support data reporting by Contracting Parties (CPs). These standards enable reporting for 19 IMAP Common Indicators, including the Candidate Common

Indicator 24 (cCI24), which addresses trends in marine litter ingestion or entanglement by selected marine species. Although all 30 standards are available, actual usage by CPs remains limited.

14. This report provides an analytical overview of the IMAP data reporting performance, assessing the extent and quality of submissions by CPs. It evaluates the number of standards used, years of monitoring reported, volume and status of files submitted, and identifies key implementation challenges and gaps.

Overview of Standards Utilization by Contracting Parties

15. Despite the availability of 30 Information Standards within the IMAP Info System, the graphs reported in Annex 1 clearly shows that CPs have utilized a significantly lower number in practice. For each CP, the number of standards used ranged from minimal engagement (e.g., 1–3 standards) to partial use (5–8 standards), indicating varying degrees of participation and capacity in implementing the IMAP data reporting. This limited use may point to a range of challenges, such as:

- **Technical constraints** in data collection or formatting,
- **Delays in national implementation** of IMAP monitoring programs,
- **Insufficient prioritization** of certain indicators due to resource allocation,
- **Other:** INFO/RAC would like to discuss with the CPs any further issues.

Monitoring Years Reported per Information Standard

16. The graphs represented in Figure 1 of Annex 1 reflects the number of monitoring years reported per standard. This provides an important insight into the temporal coverage of IMAP reporting.

17. Findings reveal that, even where standards are used, reporting is often limited to 1 or 2 years, suggesting that:

- **Monitoring activities may be sporadic**, with gaps in monitoring and a lack of available data,
- **Data processing or submission cycles are delayed**,
- **Other:** INFO/RAC would like to discuss with the CPs any further issues.

18. This reinforces the need for improving communication between INFO/RAC and the INFO/RAC NFPs in order to work together to identify the main challenges that CPs face in the reporting process. INFO/RAC, as well as the other thematic RACs according to their area of expertise, is available to support CPs in this activity. Over the years, INFO/RAC has organized several webinars and has recently developed video tutorials to facilitate the reporting process. However, given the difficulties encountered in data submission, it would be helpful to better understand the reasons behind the lack of the required data.

Submission of Files per Information Standard

19. The set of graphs showed in Figure 6 of Annex 1 details the number of files submitted by CPs, differentiated by status. The submission statuses are defined as follows:

- **Draft:** File submitted but not yet checked for conformity.
- **Compliant:** File passed conformity checks.
- **Not compliant:** File submitted but does not passed conformity checks.

- **Valid:** File thematically validated by CP.
- **Public:** File has been published and is accessible to general public.

20. The analysis highlights a predominant number of files in draft status, with significantly fewer reaching the compliant or valid status, and only a very limited number published.

21. This trend is concerning, particularly considering the MAP Data Policy in place, which requests that data should be public unless there are well-justified constraints in place.

22. Key observations:

- A **high proportion of drafts** is not explicable, as it represents only a preliminary phase of the process. If the data is not subjected to compliance checks, it is not possible to verify whether the submitted files meet the requirements outlined in the factsheets and monitoring protocols, and consequently, the Data Dictionaries of the information standards.
- **Not compliant files** could suggest issues with data quality, structure, or completeness.
- The **low number of public files** is not in line with the MAP Data Policy approved by the CPs.

Reporting Gaps and Implementation Challenges

23. Despite the first IMAP reporting cycle concluded in 2022, the expected reporting files have not yet been submitted or processed. Moreover, even files that have been uploaded remain frequently in draft form.

24. Although the IMAP Info System provides a well-established structure for reporting, actual implementation by CPs remains partial. Key concerns include under-utilisation of information standards, limited temporal coverage, delays in validation, and poor data publication. It is essential to investigate the main causes of these delays enhancing the communication with CPs.

25. To help the INFO/RAC NFPs understand the reporting status of the CPs they belong to, INFO/RAC has developed a statistical dashboard accessible from the IMAP Info System, where a real-time representation of the reporting status can be viewed in terms of the number of files submitted and the number of monitoring years for which reporting has been done with reference to each information standard.

1.5 IMAP Data policy implementation and role of the Contracting Parties

26. The **IMAP User Network** is the network of IMAP Users responsible to **upload, validate, release and publish** monitoring data related to IMAP Common Indicators, following the workflow explained in Section A of this document.

27. IMAP user Network consists of Country representatives, **officially appointed by each Contracting Party** and coordinated by the INFO/RAC NFPs. The appointment, updating and integration of the IMAP User network is responsibility of the MAP Focal Points.

28. **INFO/RAC NFPs** act as facilitators among INFO/RAC and IMAP users, allowing the sharing and exchange of knowledge and information for data reporting purposes on IMAP Info System. As facilitators, INFO/RAC NFPs collaborate with INFO/RAC providing suggestion and observations to improve Information Standards. Furthermore, INFO/RAC NFPs encourage and facilitate all national IMAP Users participation into the Training/Assistance meeting organized by INFO/RAC.

29. A 3-level structure has been set up for IMAP User profiles, allowing CPs to differentiate the level of responsibility according to the internal national organization on data management.

- **Level I - Upload:** users uploading the monitoring data file and performing the compliance quality check - scientific institutions responsible for data production and elaboration (i.e. monitoring and research institutes).
- **Level II - Validation:** users performing the process of quality control of monitoring data – national institutions responsible for data collection and validation (i.e. Environmental National Agencies).
- **Level III - Official release & Publication:** users have the duty to confirm the official release and publish data (raw data will be visible to any anonymous user connected to the website and joined also through the geographical section directly by maps) - national entities responsible for the official release of the data (i.e. MAP Focal Points).

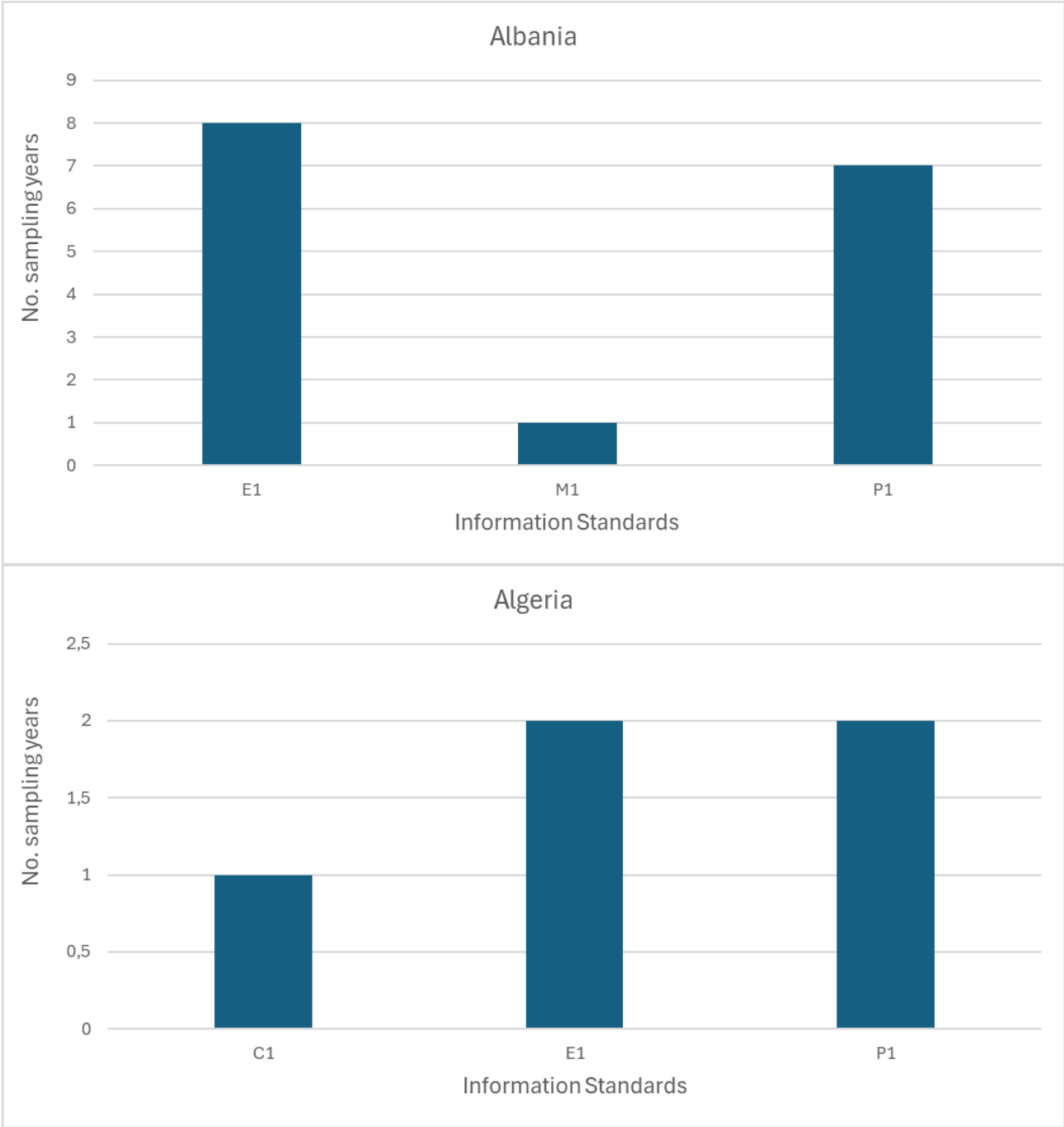


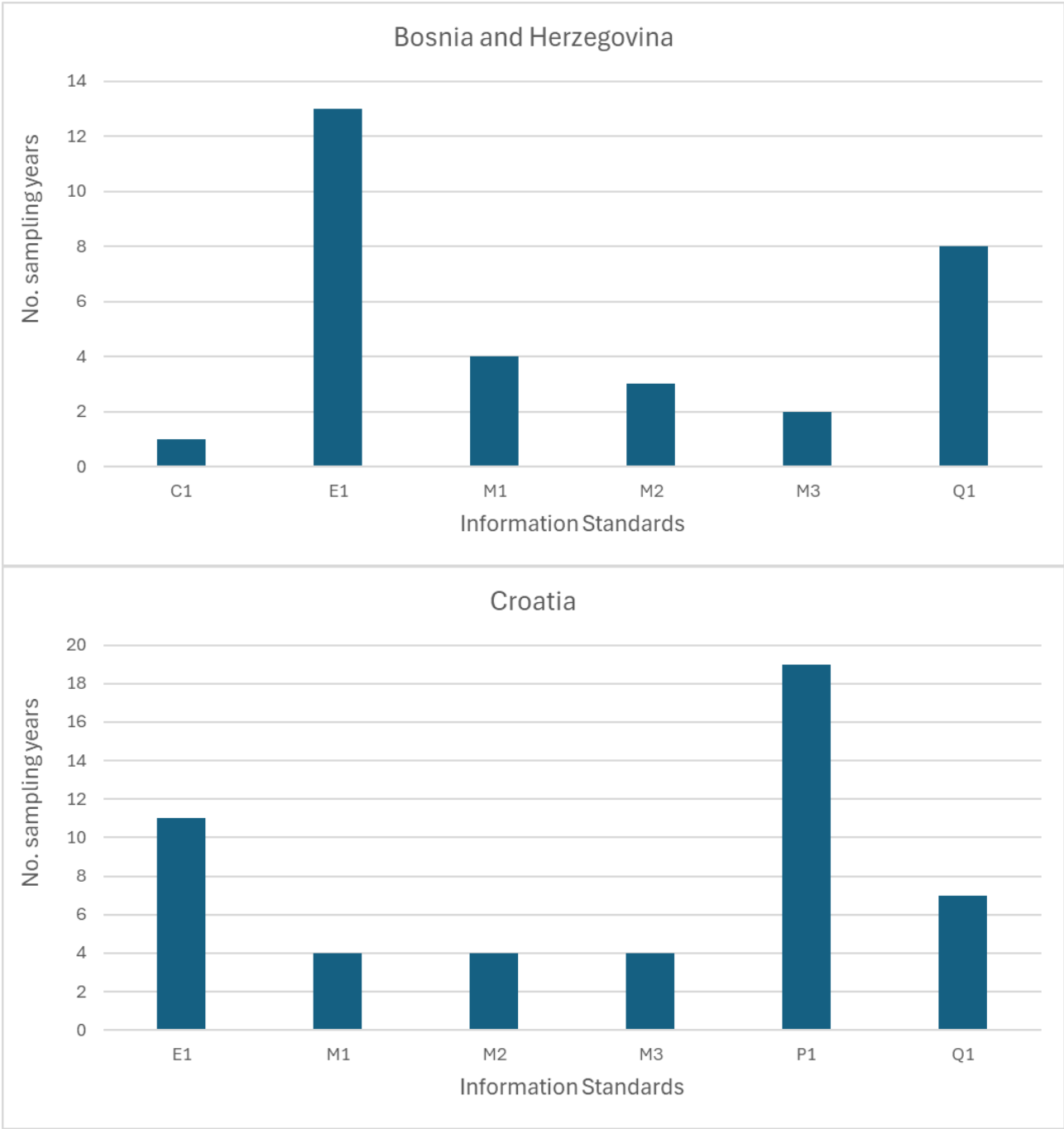
Publication function has been kept by INFO/RAC until now to avoid misunderstandings and accidental publishing of not open data from countries side. Due to the approved MAP Data Policy, the further clarification provided by IMAP Data Policy Annex and the support to data policy implementation provided by INFO/RAC to countries, time is ripe to give back to Contracting Parties the possibility to publish data by their own.

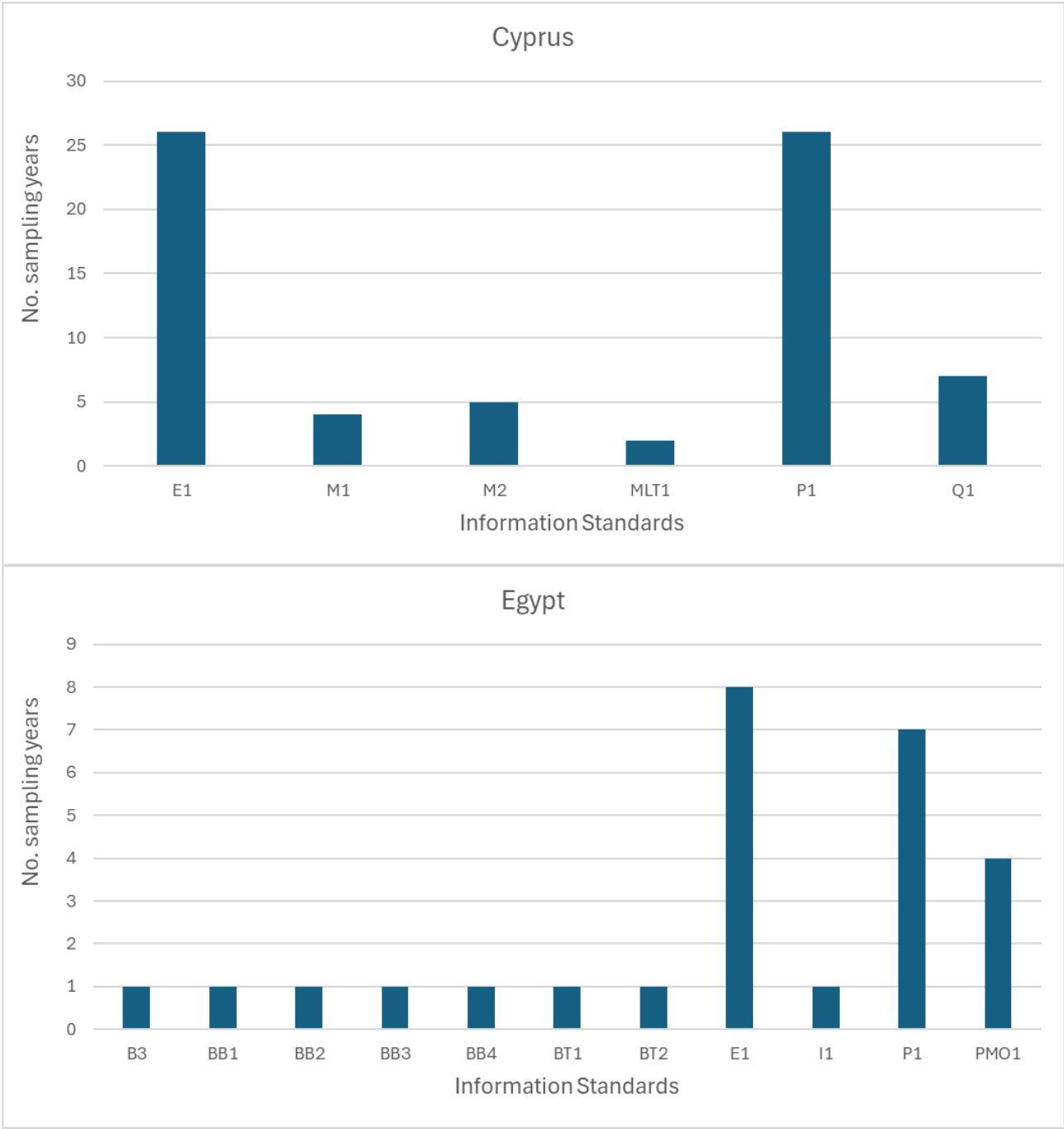
Please notice that, according to MAP Data Policy, all monitoring data reported into IMAP Info System must be considered quite open and should be published by CPs, unless well motivated constraints are in place. Delay in the publishing not motivated according to the specific cases foreseen by MAP Data Policy, will generate a number of kind reminders and **finally the publication of data by UNEP/MAP**.

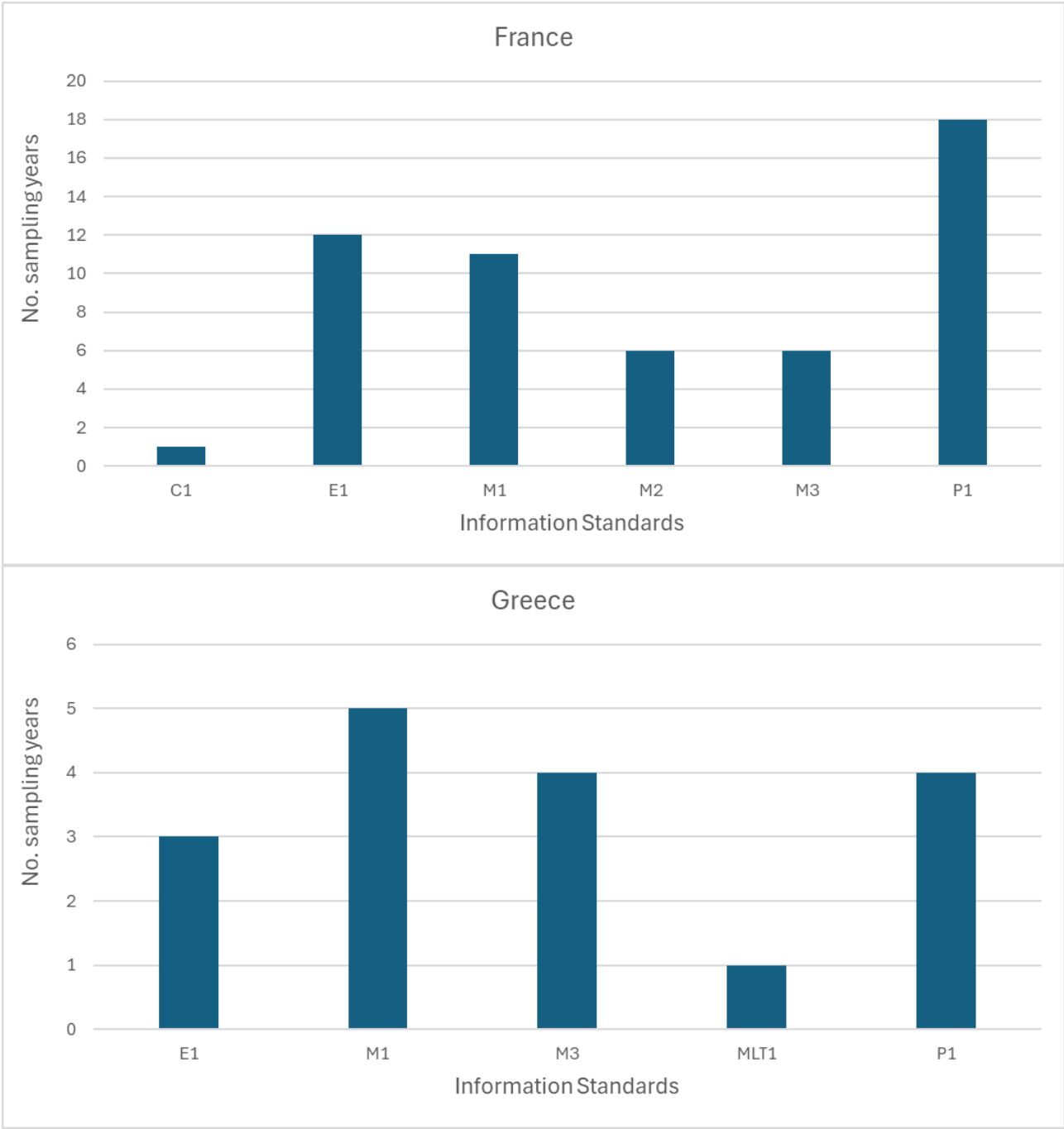
Annex 1. State of art of the IMAP reporting by Contracting Parties

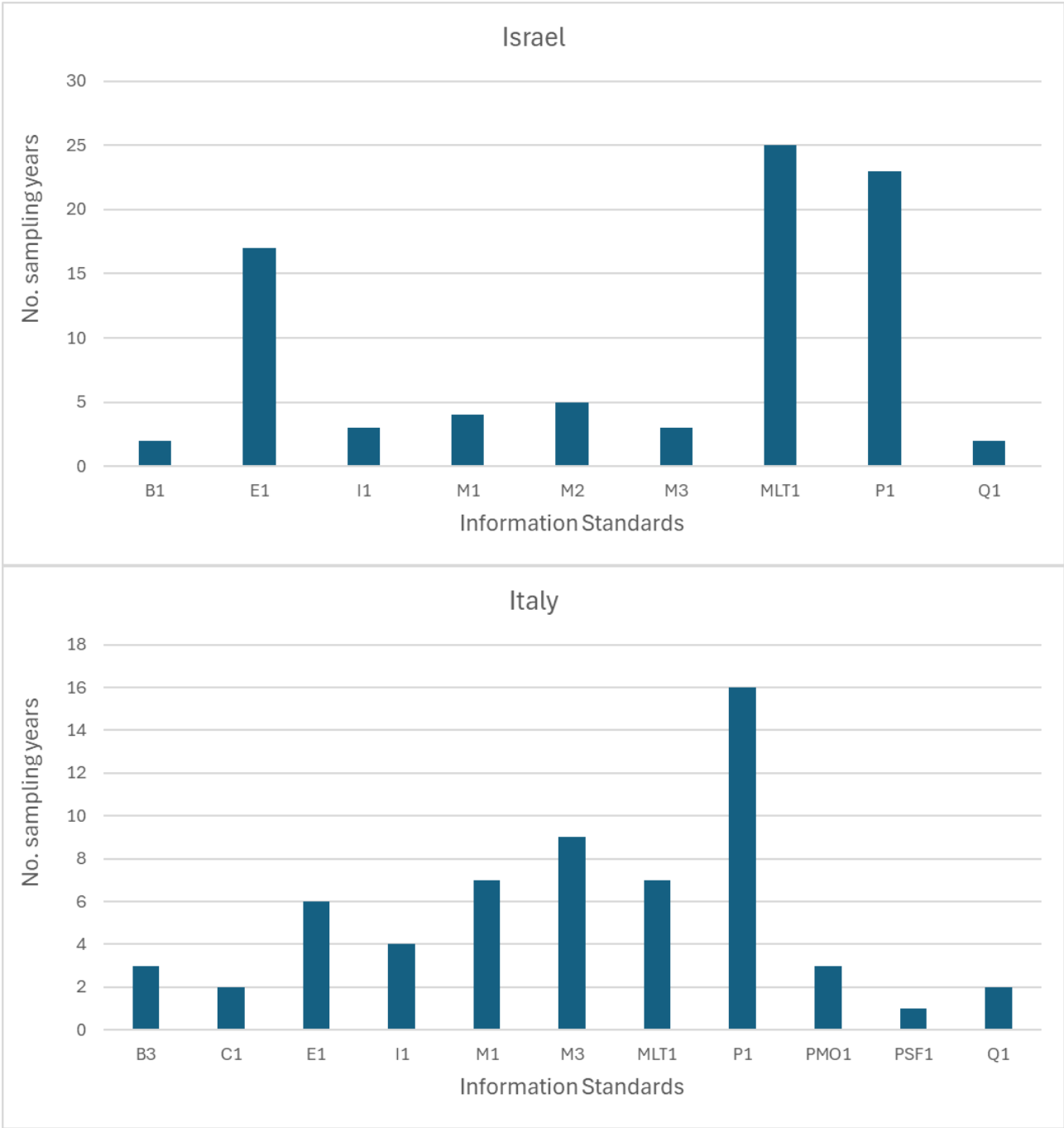
The following charts show, for each CP, the number of sampling years reported in the IMAP Info System.

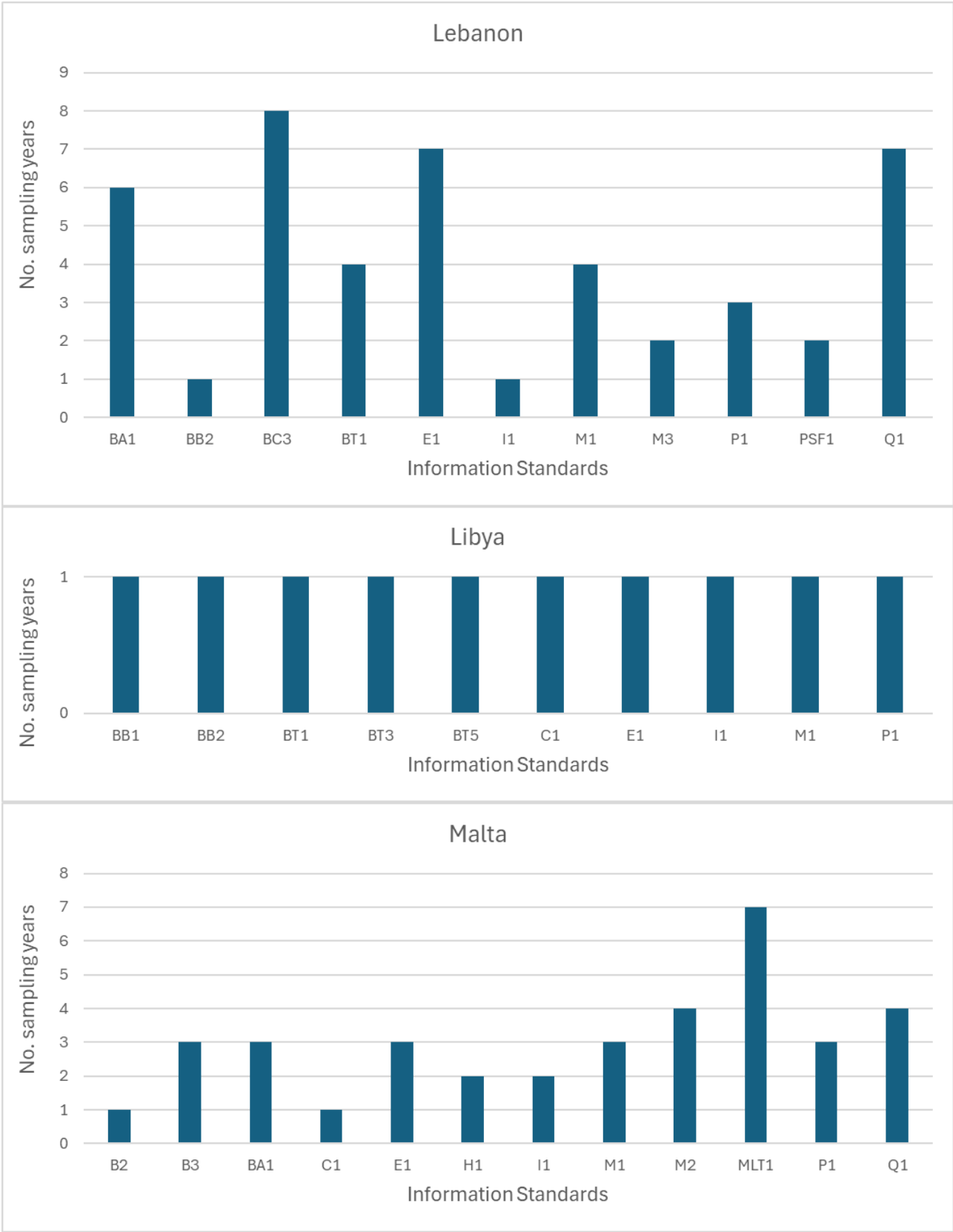


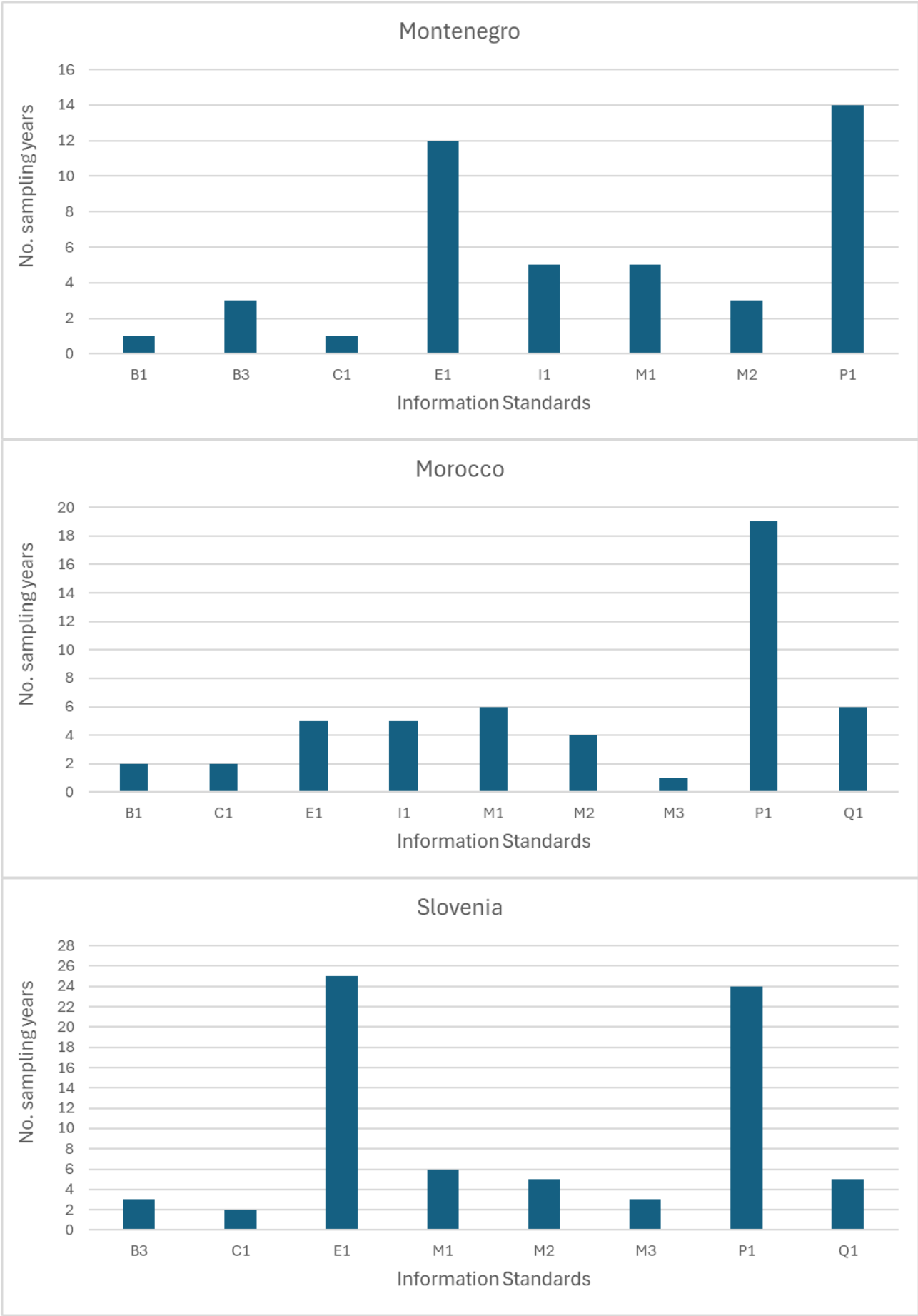


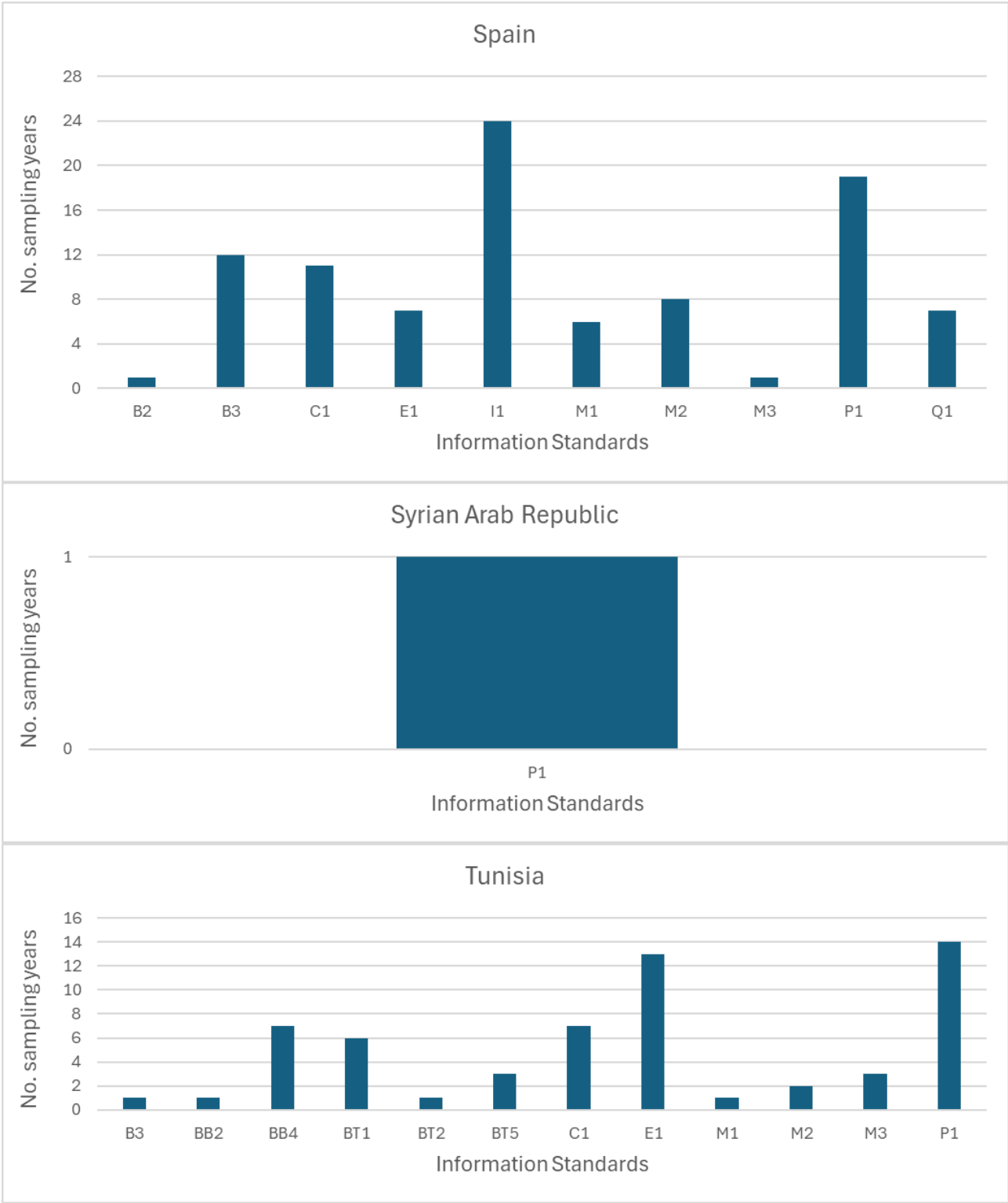












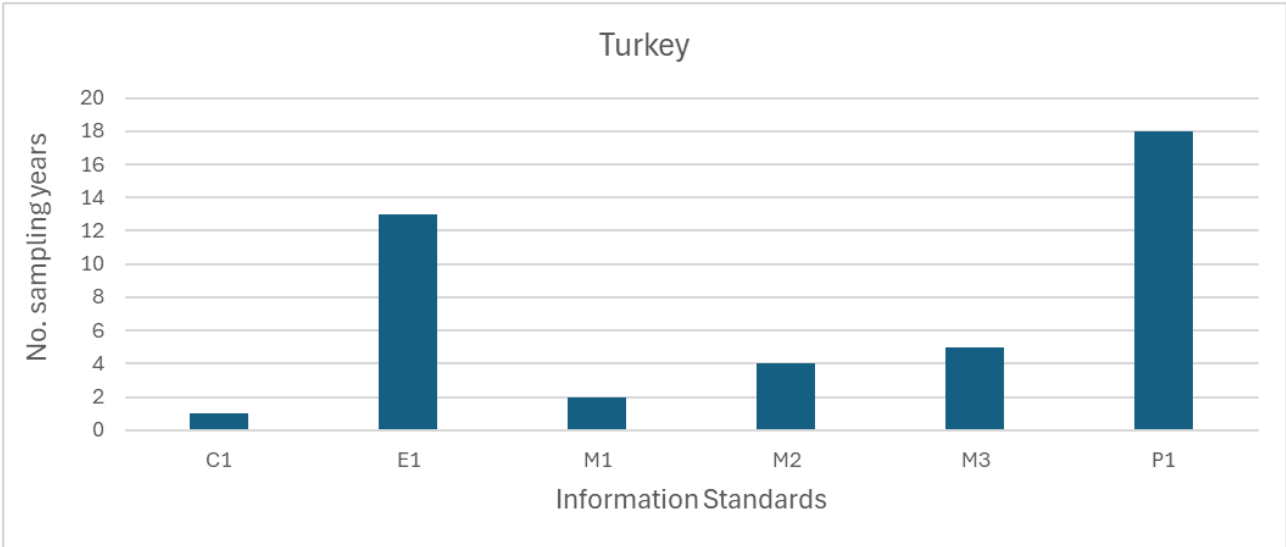


Figure 1: Number of sampling years reported in the IMAP Info System by each CP

The following chart show the number of submitted files in the IMAP Info System per submission year.

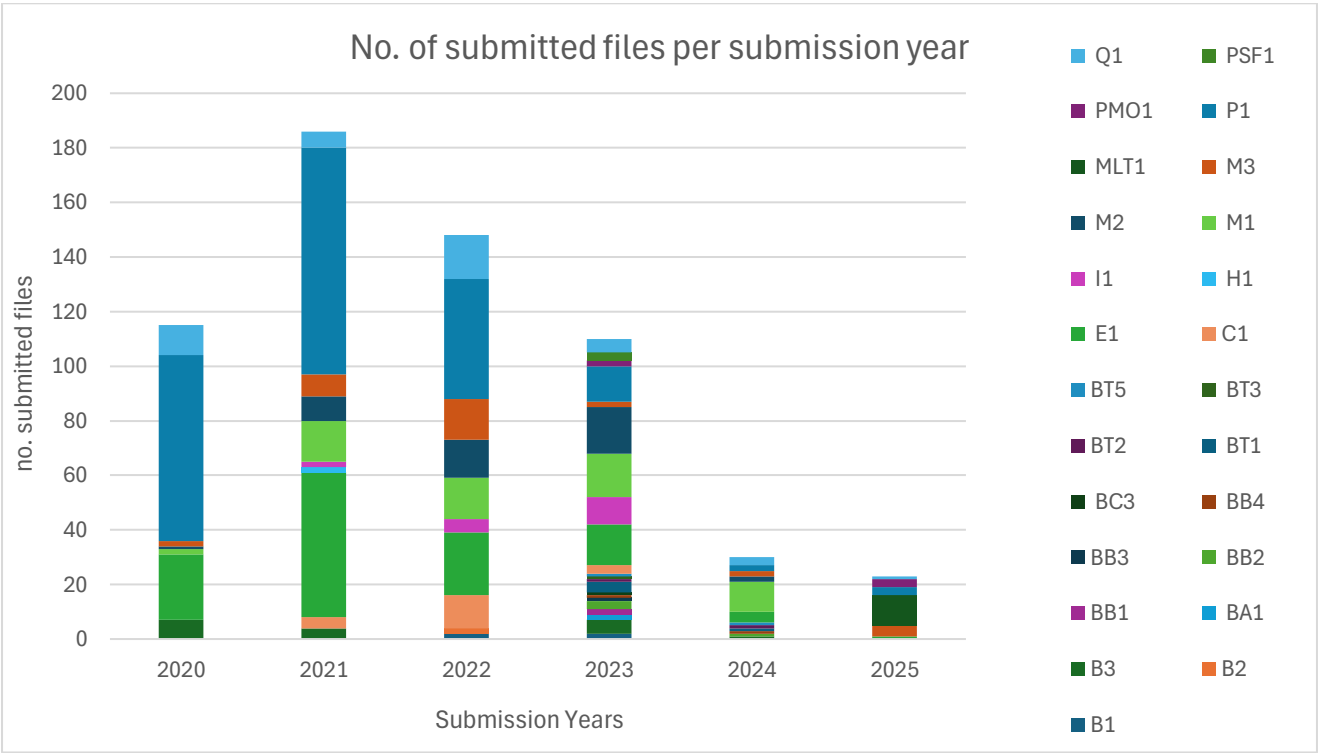


Figure 2: No. of submitted files per submission year, broken down by information standard

The following table/charts show, for each CP, the number of submitted files reported in the IMAP Info System.

	No. of files uploaded in IMAP Info System																									
Contracting Parties	B1	B2	B3	BA1	BB1	BB2	BB3	BB4	BC3	BT1	BT2	BT3	BT5	C1	E1	H1	I1	M1	M2	M3	MLT1	P1	PMO1	PSF1	Q1	
Albania															3			1				1				
Algeria															1	2						6				
Bosnia and Herzegovina															1	5			6	6	3					
Croatia															10				4	4	4	9				
Cyprus															7			3	1			1	14		1	
Egypt			1		1	1	1	1		1	1				3		1					6	2			
France															2	5			3	1	1	19				
Greece															2				2		4	1	5			
Israel	2														11		1	4	7	3		1	19			
Italy			2												2	12		3	5		8	7	13	3	1	
Lebanon				1		1			1	2					9		2	4		2		1	5		2	
Libya					1	1				1			1	1	1		2	1								
Malta		1	8	1											1	1	2	1	1	2		1	2			
Montenegro	1		3												2	11		5	10	3		18				
Morocco	1														4	4		1	5	4	1	13				
Slovenia			1												2	7			2	2	2	16				
Spain		1	1												1	18		1	5	9	1	41				
Syrian Arab Republic																						4				
Tunisia			1			1		1		1	1		1	1	2			1	2	2		7				
Turkey															1	7			2	2	2	14				

Table 1: Number of submitted files reported in the IMAP Info System by each CP

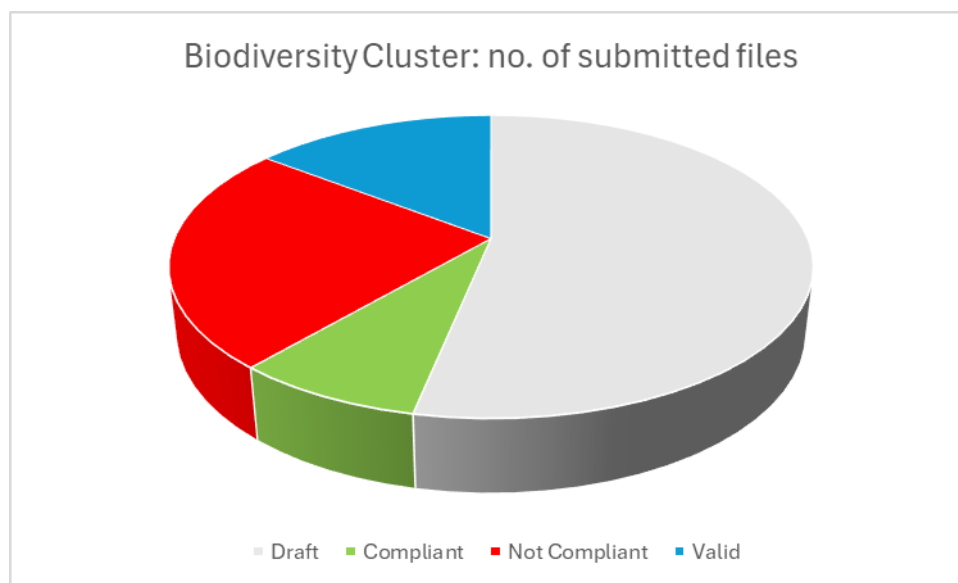


Figure 3: No. of submitted files related to Biodiversity Cluster

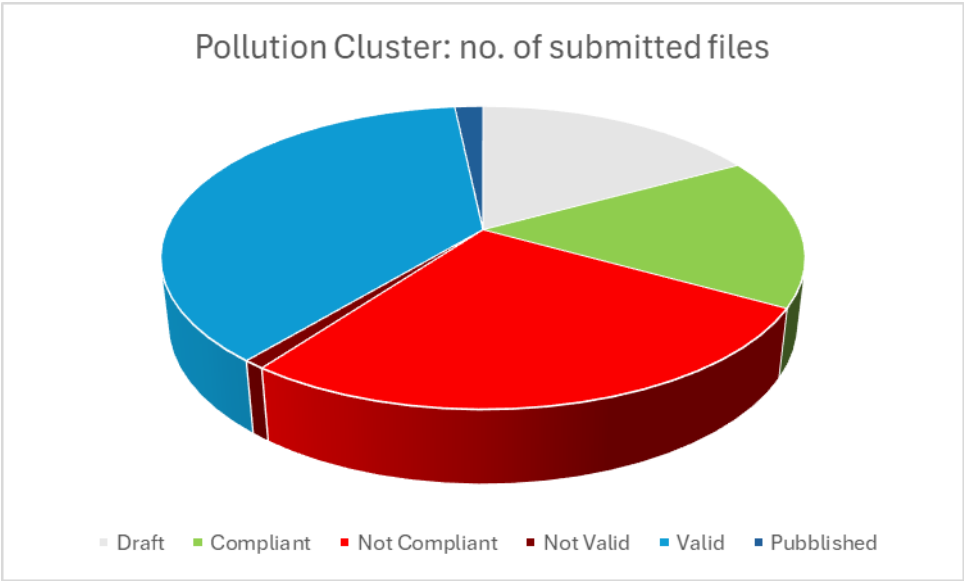


Figure 4: No. of submitted files related to Pollution Cluster

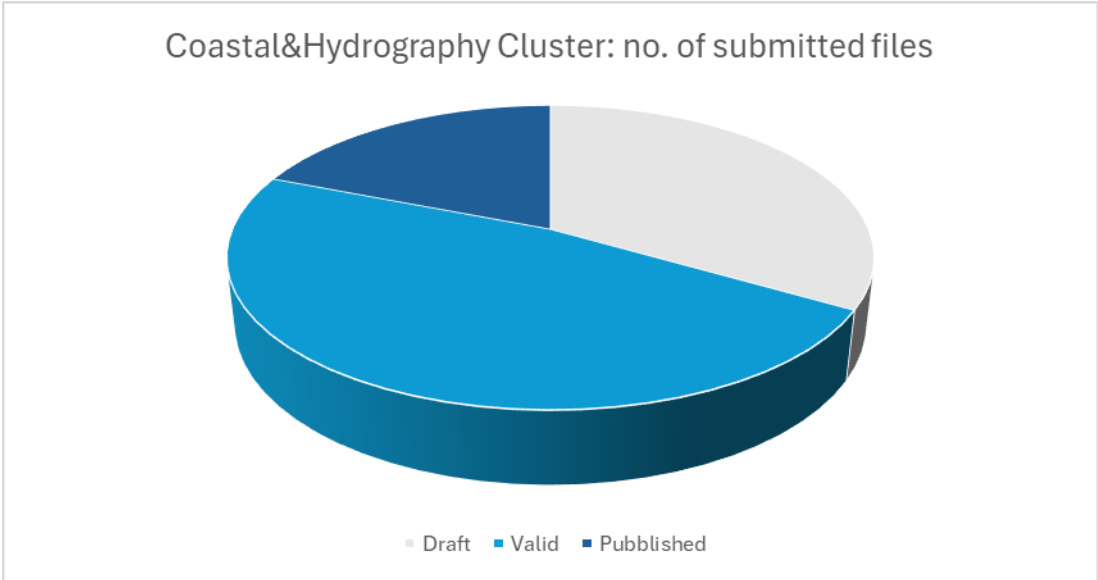
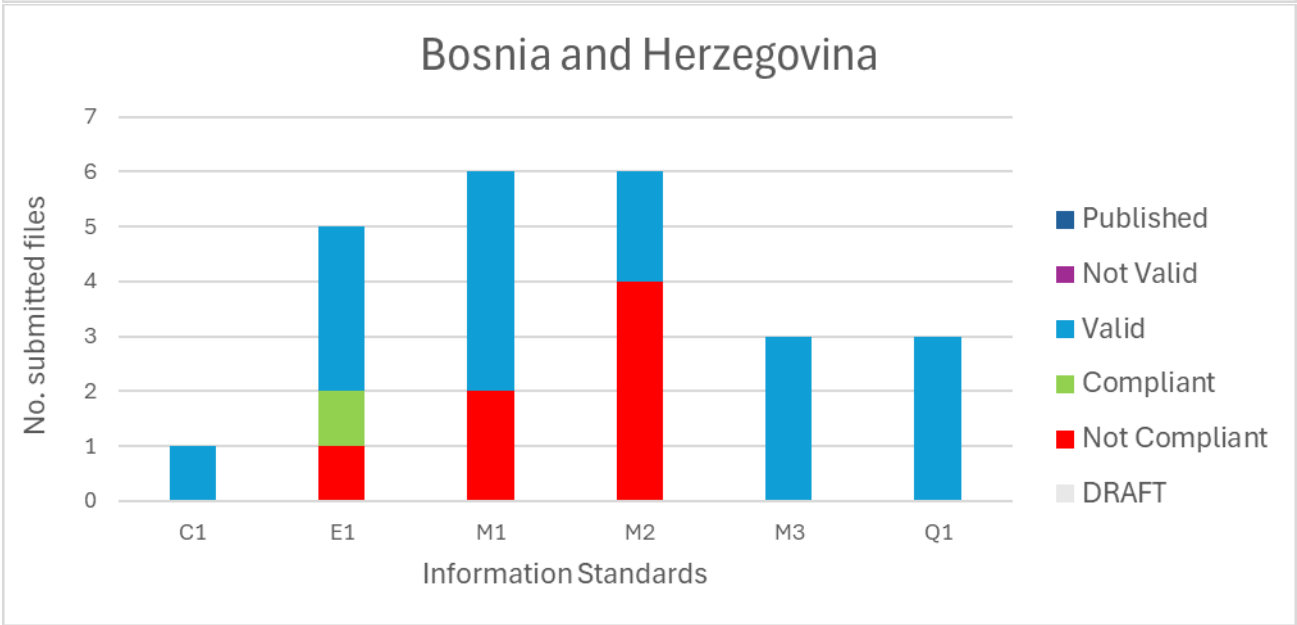
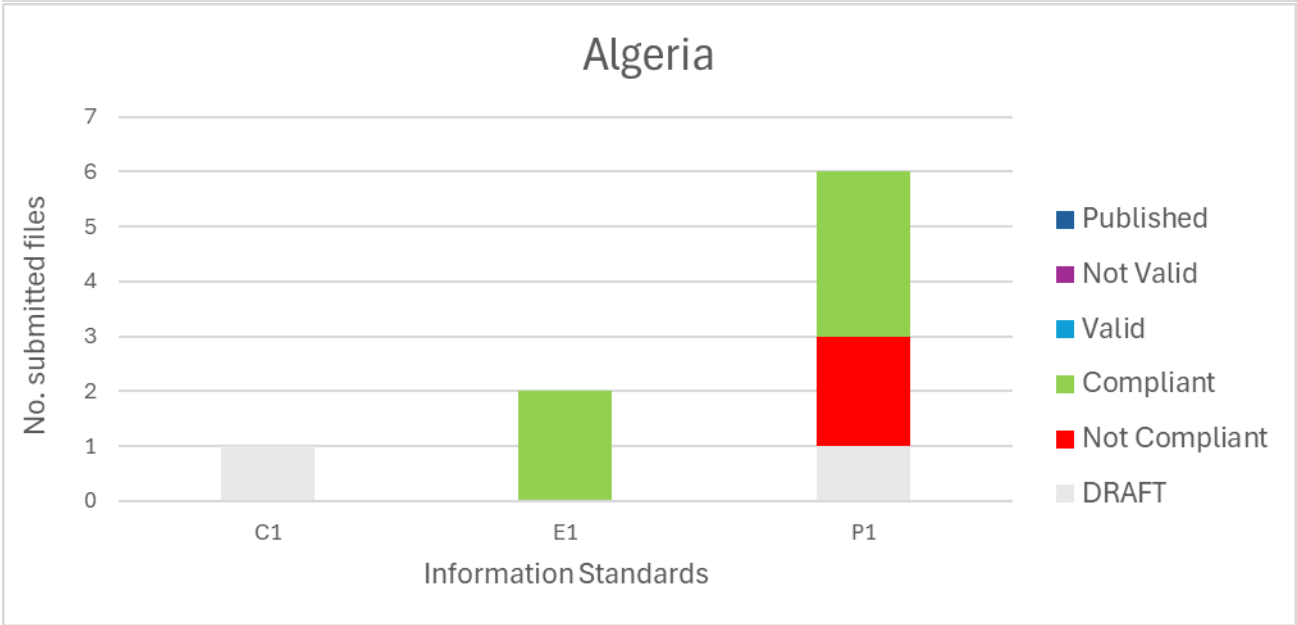
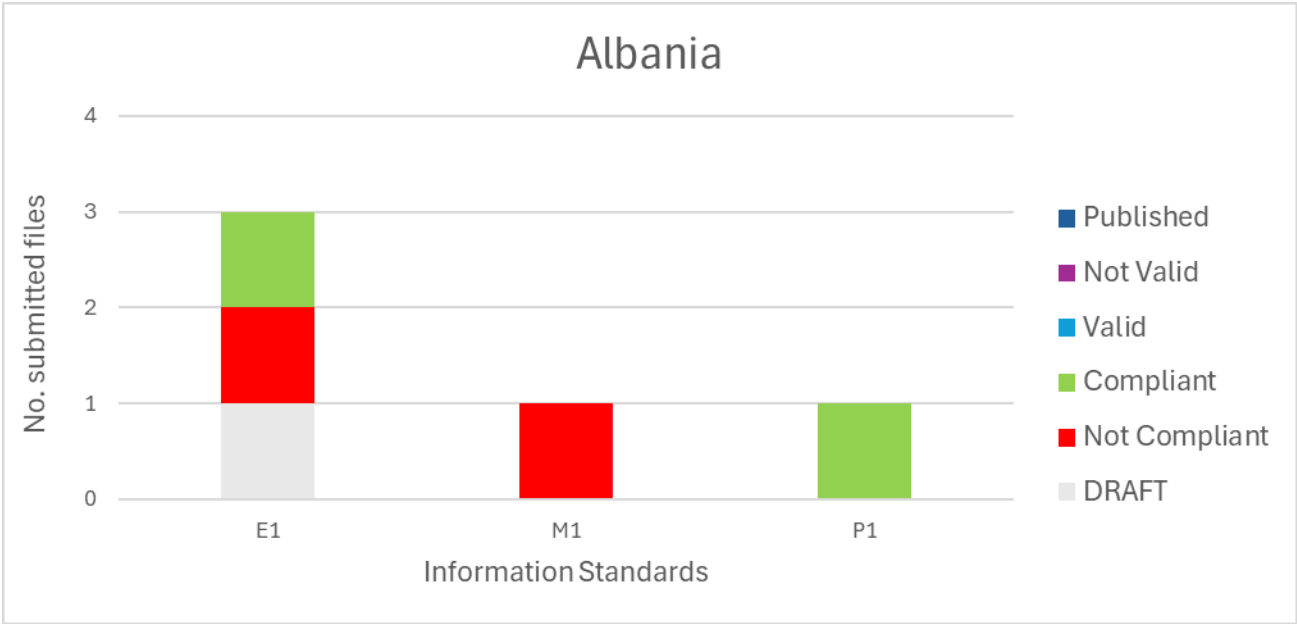
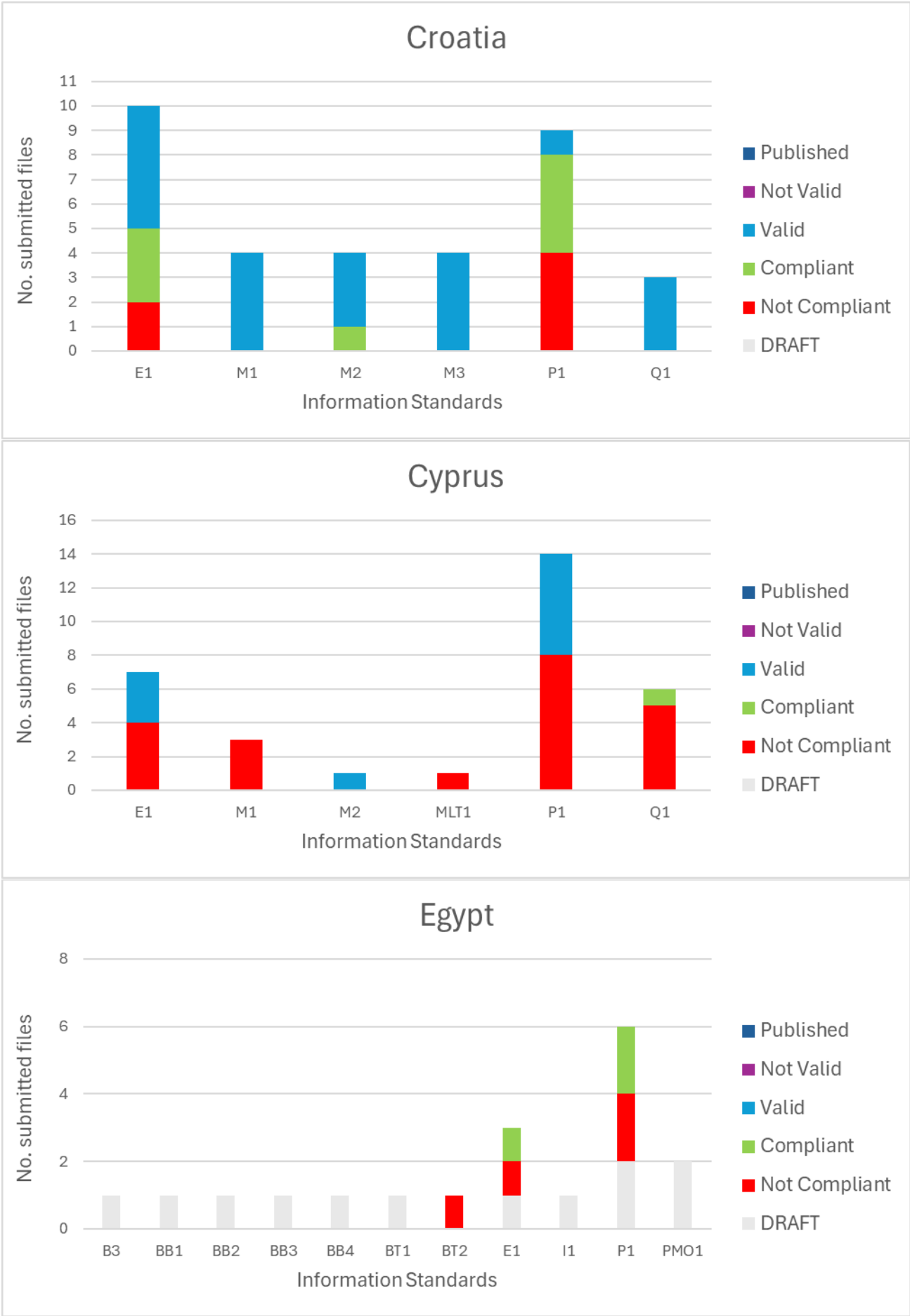
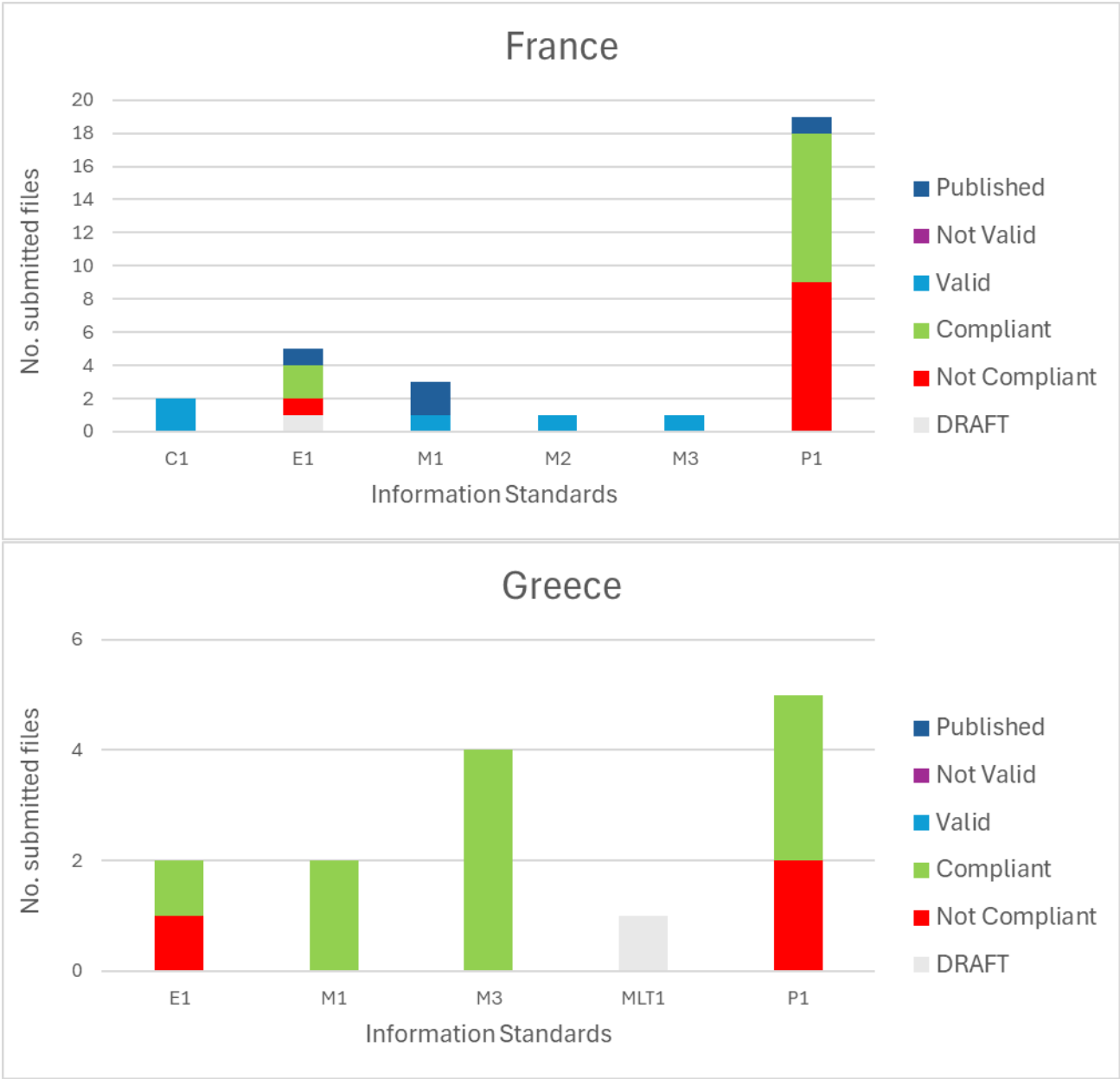
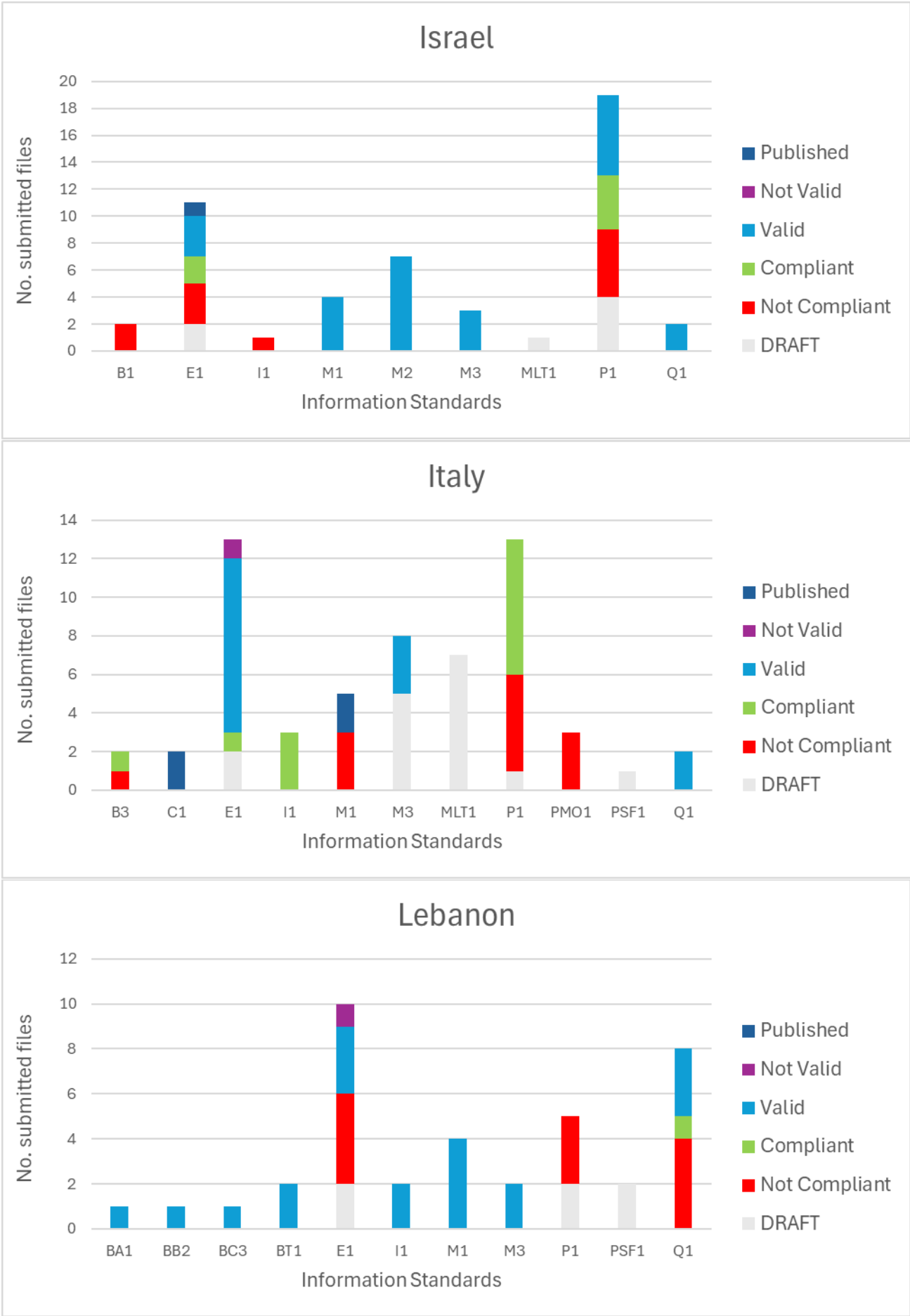


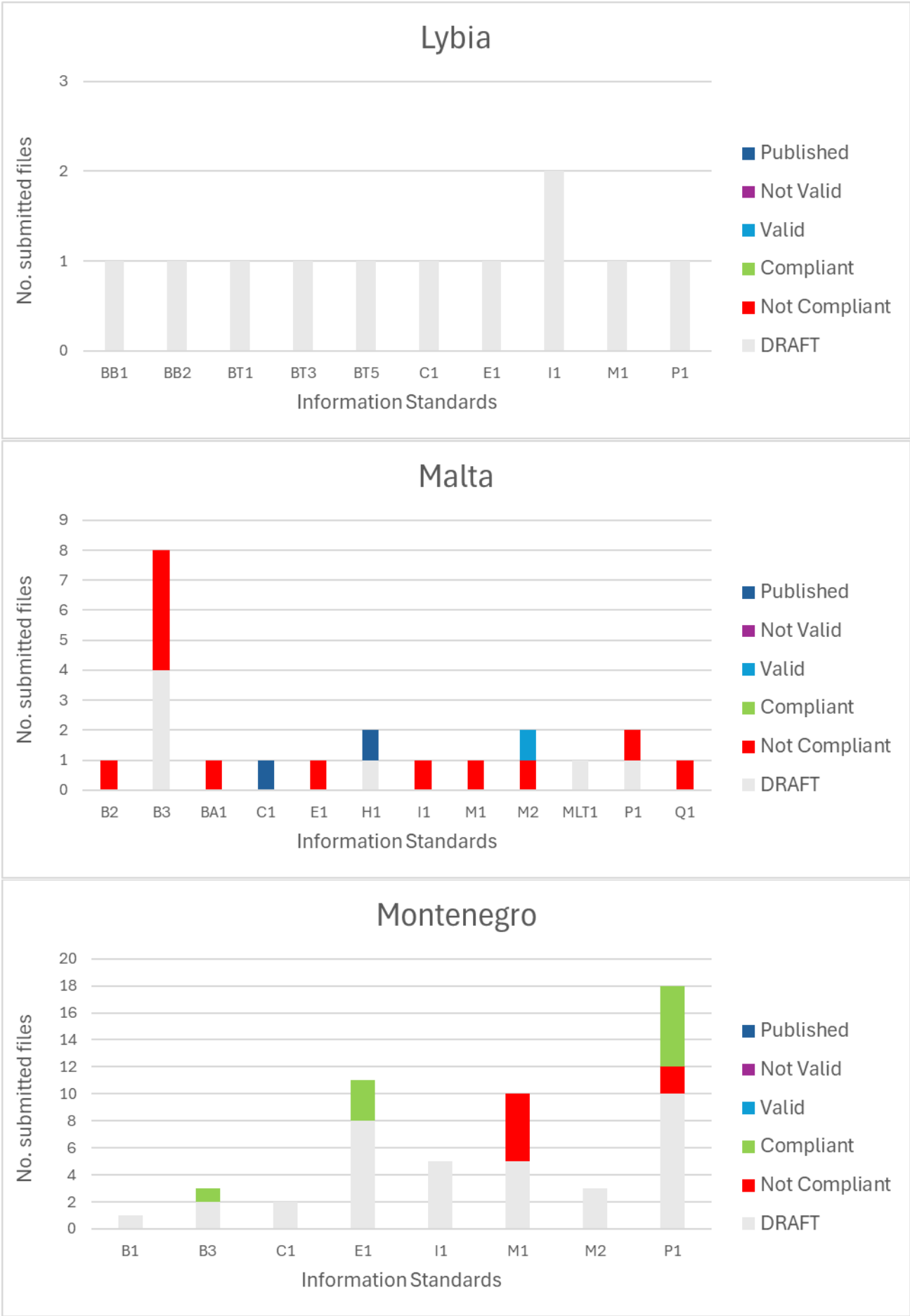
Figure 5: No. of submitted files related to Coastal and Hydrography Cluster

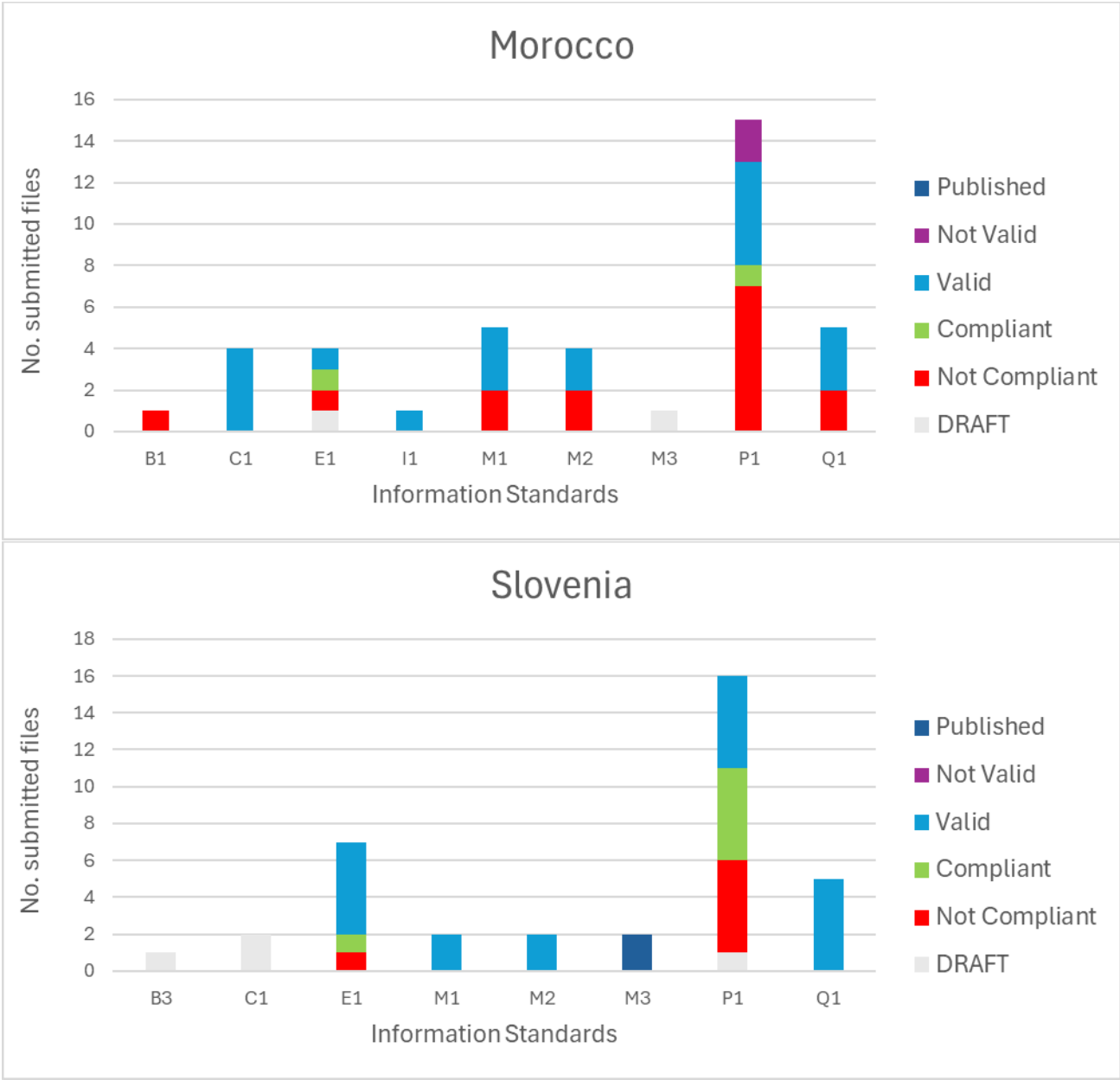


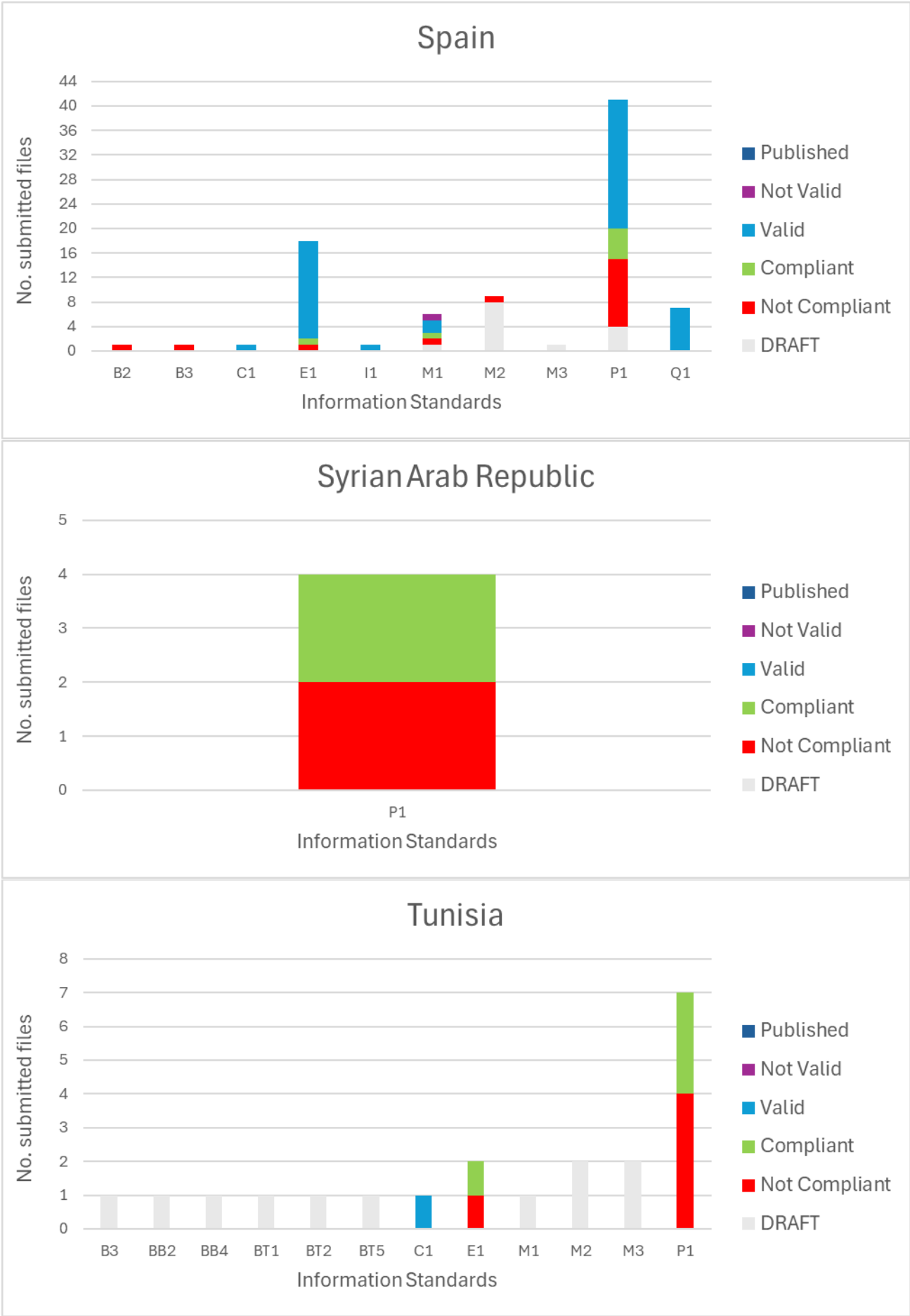












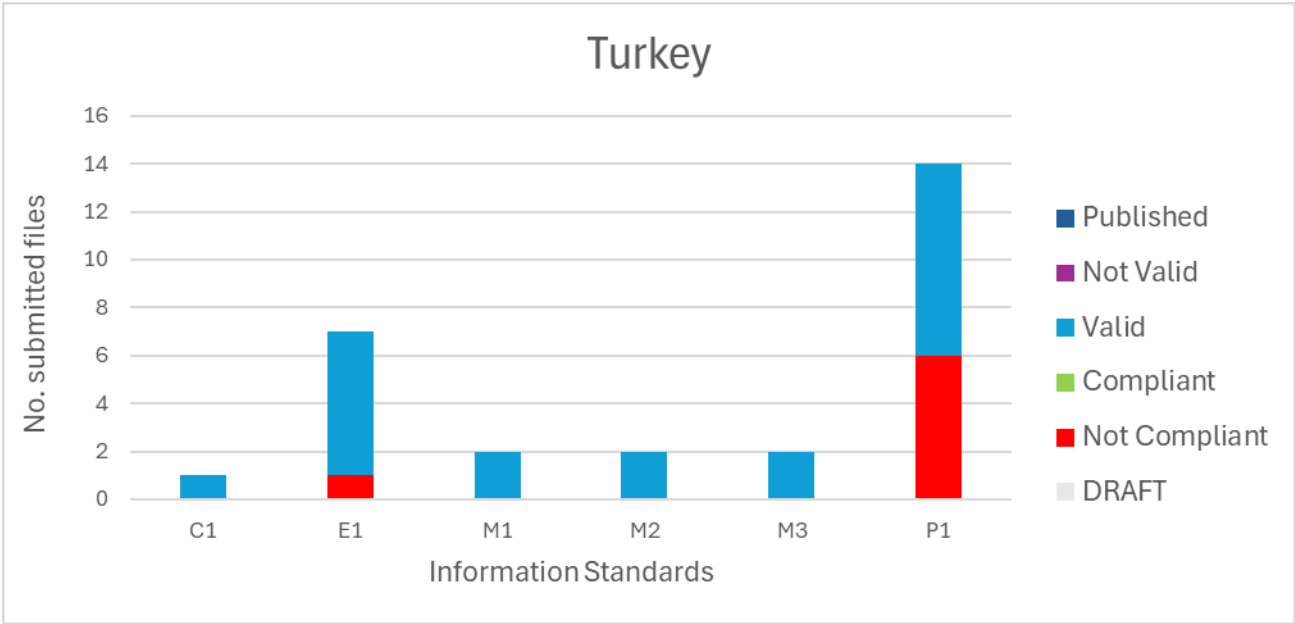


Figure 6: Number of submitted files reported into the IMAP Info System by each CP, differentiated by transmission status