



**UNITED
NATIONS**

EP

UNEP/MED WG.482/Inf.12



**UNITED NATIONS
ENVIRONMENT PROGRAMME
MEDITERRANEAN ACTION PLAN**

17 November 2020
Original: English

Integrated Meetings of the Ecosystem Approach Correspondence Groups on IMAP Implementation (CORMONs)

Videoconference, 1-3 December 2020

Agenda item 3: Implementation of 2023 MED QSR Roadmap

Country-Level IMAP Implementation Analysis per Common Indicator (Draft)

For environmental and economic reasons, this document is printed in a limited number. Delegates are kindly requested to bring their copies to meetings and not to request additional copies.

UNEP/MAP
Athens, 2020

Country-Level IMAP Implementation Analysis

Country-level IMAP implementation for Biodiversity and NIS indicators		
	IMAP MPA	EcAp MED III
Algeria		
<p>National monitoring programme adopted in May 2018, with agreement to monitor and assess the status of the 6 common indicators on biodiversity and NIS component during the second phase of IMAP (2019-2021). This set of indicators will be monitored in two coastal areas among the 4 hereafter listed sites: Jijel, Rachgoun island, Agueli island and Bay of Bou Ismail. One dataset on the common indicators 1 and 2 regarding marine habitats is available within the MAVA funded "MedKeyHabitat II Project" for Rachgoun island (2019). In order to ensure the delivery of at least two sets of data for each IMAP cluster to the 2023 MED QSR, the IMAP MPA project will provide an additional data set on habitats.</p>	<p>CI1, CI2 (one set) CI3, CI4, CI5 (marine reptiles, sea birds)</p>	<p>CI 3, 4, 5. CI 3, 4 and 5 will address only the marine mammals. A baseline assessment will be undertaken on sea bed habitats with respect to the impact and pressures coming from the fishing activities.</p>
Egypt		
<p>National monitoring programme adopted in October 2017, including the set of agreed common indicators related to biodiversity and NIS. A short list of species was adopted in order to be monitored at least in two areas: Al Sallum area and the Nile Delta. There are no data sets available for any of the indicators in Egypt. Preliminary studies on sea birds and marine reptiles nesting sites are ongoing within the MAVA funded projects and Action Plan activities. The IMAP MPA project is considered as the first initiative to monitor and assess the stats of benthic habitats in the protected area of Al Sallum. Indicators on marine reptiles and sea birds will be also monitored by the IMAP MPA project in order to ensure one data set useful for the 2023 MED QSR. For the purpose of monitoring and assessment, Egyptian Environmental Affairs Agency (EEAA) will be the national institution leading the implementation of the national IMAP in Egypt.</p>	<p>CI1, CI2 (one set) CI3, CI4, CI5 (marine reptiles, sea birds)</p>	<p>CI 3, 4, 5, 6. CI 3, 4 and 5 will address only the marine mammals. A baseline assessment will be undertaken on sea bed habitats with respect to the impact and pressures coming from the fishing activities. With regard to CI 6, the focus will be a) to support the monitoring of seven agreed species of the sub regional monitoring programme on NIS in collaboration with GFCM. b) undertake a baseline sub-regional assessment for the entire list of NIS of the IMAP</p>
Israel		
<p>Israel developed its national monitoring programme in June 2019, including the whole set of the agreed common indicators related to biodiversity and NIS. Regular monitoring is conducted by national institutions, covering the whole coastline. INPA (Israel nature and national parks protection authority) will lead the implementation of the monitoring activities in the</p>	<p>CI1, CI2 (one set) CI3, CI4, CI5 (marine reptiles, sea birds)</p>	<p>CI 3, 4, 5, 6. CI 3, 4 and 5 will address only the marine mammals. A baseline assessment will be undertaken on sea bed habitats with respect to the impact and pressures</p>

<p>selected areas of monitoring: Rosh Hanikra; Shakmoona; Gador.</p>		<p>coming from the fishing activities.</p> <p>With regard to CI 6, the focus will be</p> <p>a) to support the monitoring of seven agreed species of the sub regional monitoring programme on NIS in collaboration with GFCM.</p> <p>b) undertake a baseline sub-regional assessment for the entire list of NIS of the IMAP</p>
<p>Lebanon</p>		
<p>Lebanon adopted its national monitoring programme in January 2018, during a dedicated national workshop. Participants agreed to cover the monitoring of the whole common indicators related to biodiversity and NIS. Data about CI1&2 is available in some stations within the Deep-Sea Lebanon. Data on sea turtle and sea birds nesting sites is also available within the MAVA funded projects. Additional set of data will be made available within the IMAP MPA Project.</p> <p>The EcAp MEDIII project will provide data about marine mammals and NIS common indicators. Monitoring areas will cover the Palm islands MPA, Tyre MPA and the Beirut bay.</p> <p>The Ministry of environment will lead the implementation of the IMAP in close collaboration with the National Scientific Research Centre (CNRS).</p>	<p>CI1, CI2 (one set) CI3, CI4, CI5 (marine reptiles, sea birds)</p>	<p>CI 3, 4, 5, 6.</p> <p>CI 3, 4 and 5 will address only the marine mammals. A baseline assessment will be undertaken on sea bed habitats with respect to the impact and pressures coming from the fishing activities.</p> <p>With regard to CI 6, the focus will be</p> <p>a) to support the monitoring of seven agreed species of the sub regional monitoring programme on NIS in collaboration with GFCM.</p> <p>b) undertake a baseline sub-regional assessment for the entire list of NIS of the IMAP</p>
<p>Libya</p>		
<p>Libya adopted its national monitoring programme in April 2017, and agreed to cover the whole set of common indicators related to biodiversity and NIS. At least two monitoring areas will be selected among the following three potential sites: Ain el Ghazela, Farwa lagoon and Gulf of Sirte.</p> <p>No data sets are available. The IMAP MPA project will provide the first set of data and the EcAp MEDIII will provide additional data particularly on marine mammals and NIS. The MAVA funded projects (turtle and species) will contribute to delivering quality assured data on marine turtles and sea birds.</p>	<p>CI1, CI2 (one set) CI3, CI4, CI5 (marine reptiles, sea birds)</p>	<p>CI 3, 4, 5.</p> <p>CI 3, 4 and 5 will address only the marine mammals. A baseline assessment will be undertaken on sea bed habitats with respect to the impact and pressures coming from the fishing activities.</p> <p>The design of a sub-regional pilot for CI6 monitoring and baseline</p>

EGA (Environment General Authority) is the main authority that will lead the implementation of the national IMAP in Libya.		may be considered subject to funding.
Morocco		
<p>Morocco endorsed its national IMAP in July 2017, covering the whole agreed common indicators on biodiversity and NIS. Monitoring will be carried out at least in two sites from the hereafter list: Cap des Trois Fourches; Parc national d'Al Hoceima and Jbel Moussa. The MAVA funded project (MedKeyHabitats) is providing data on the common indicators of habitats in Al Hoceima (2019) and Jbel Moussa (2017). Thus, the IMAP MPA project will offer the opportunity to have a second set of data on those common indicators.</p> <p>The EcAp MED III will be dedicated to implement the national IMAP on marine mammals and NIS in the selected sites under the governance of the Ministry of Environment in Morocco.</p>	<p>CI1, CI2 (one set) CI3, CI4, CI5 (marine reptiles, sea birds)</p>	<p>CI 3, 4, 5.</p> <p>CI 3, 4 and 5 will address only the marine mammals. A baseline assessment will be undertaken on sea bed habitats with respect to the impact and pressures coming from the fishing activities.</p>
Tunisia		
<p>Tunisia endorsed its national monitoring programme on biodiversity and NIS common indicators in April 2017. List of species and areas of monitoring were adopted during a dedicated national workshop. Monitoring areas include the National Park of Zembra and Zembretta; Kuriat island; la Galite archipelago and Gulf of Gabes area.</p> <p>First set of data about habitats is under development within the MAVA funded project MedKeyHabitats II. Common indicators on sea turtles and sea birds are ongoing within the Turtle project and species project respectively.</p> <p>The IMAP MPA project will deliver the second set of data on the above cited indicators.</p> <p>The EcAp III project will be dedicated to monitor common indicators on marine mammals and NIS. The Ministry of environment, through its agency "Agence de Protection et d'aménagement du Littoral" (APAL) will manage the implementation of the national IMAP in Tunisia in close cooperation with national NGOs.</p>	<p>CI1, CI2 (one set) CI3, CI4, CI5 (marine reptiles, sea birds)</p>	<p>CI 3, 4, 5.</p> <p>CI 3, 4 and 5 will address only the marine mammals. A baseline assessment will be undertaken on sea bed habitats with respect to the impact and pressures coming from the fishing activities.</p> <p>The design of a sub-regional pilot for CI6 monitoring and baseline may be considered subject to funding.</p>

Country-level IMAP implementation for Eutrophication and Pollution indicators		
	IMAP MPA	EcAp MED III
Algeria		
<p>The country has the minimal institutional capacity to establish monitoring efforts related to CIs 13, 14 and 17, in coastal area only, during the initial phase of IMAP implementation once it is launched, whilst for all other CIs further significant support is needed in order to establish regular monitoring efforts after completion of the initial phase. The monitoring efforts related to all CIs require significant technical and financial support, especially in off shore monitoring areas. Present national IMAP-based monitoring programme needs to be further elaborated regarding CIs 18, 19, 20 and 21, ensuring its compatibility with the present monitoring network primarily proposed for CI13, 14 and 17. Newly proposed national IMAP-based monitoring programme defines 27 sampling stations within 9 transects for EO5 (CI13, CI14), whilst 32 sampling locations for EO9 (CI17, CI18) are defined within 9 transects to fulfill the IMAP requirements.</p> <p>The 9 transects includes joint monitoring efforts for EO5 and EO9 in 18 stations for the stations located in offshore area. In addition, 4 coastal sampling locations and 1 offshore also includes joint monitoring for EO5 and EO9. The Ministry of Environment and Renewable Energy (Ministère de l'Environnement et des Énergies Renouvelables), represented by the National Observatory of the Environment and</p>	<p>Two data sets related to CI 13, CI14, CI 17, CI18, CI19, CI20, in one MPA and one high-pressured area, preferably collected at monitoring stations/areas/transects in off shore zones.</p>	<p>The project will support monitoring of CI 13, 14, 17, 18, 19, 20, 21. This considers that the eutrophication related CI 13 and 14 in many cases are to be monitored jointly with CI 17 and 18. Complementary external financial resources will be allocated for this purpose from the core budget of MAP Barcelona Convention (MTF) to cover additional monitoring stations as much as possible, in particular under UNEP/MAP POW Activity 2.4.1.1: Continue supporting updated national monitoring programmes on marine litter, contaminants and eutrophication in line with IMAP, the LBS protocol and the Regional Plan on ML.</p> <p>The project will support a baseline or updated assessment for CIs 19 and 20 based on existing data sets collected through different monitoring surveys and/or remote sensing methods (i.e satellite images, etc.) carried by the Contracting Parties or Partners. Selection of monitoring stations/areas/transects to be included with support from EcAp MED III will be defined in consultation with Contracting Parties, during the finalization of the fully fledged EcAp MED III project document and inception phase of the project, also taking into account the complementarities with IMAP MPA and support from the MTF.</p>

<p>Sustainable Development (Observatoire National de l'Environnement et du Développement Durable, ONEDD), is relevant for implementation of the national IMAP. There are also other national counterparts recognized as relevant for IMAP implementation. Significant gaps are reported with regards to national readiness to implement all CIs related to Pollution and Marine Litter (including eutrophication and contaminants) Cluster, respectively the gaps are related to: i) routine monitoring, ii) data processing (analytical techniques); iii) quality control and IT infrastructure; iii) data reporting; iv) as well as the significant needs for laboratory equipment and research vessels. It should be noted there are available vessels used for fishery surveys that need to be adapted to the needs of IMAP field surveys.</p>		
<p>Egypt</p>		
<p>The country has the minimal institutional capacity to establish monitoring efforts related to CIs 13, 14 and 17, in coastal area only, during the initial phase of IMAP implementation once it is launched, whilst for all other CIs further significant support is needed in order to establish regular monitoring efforts after completion of the initial phase. The monitoring efforts related to all CIs require significant technical and financial support, especially in off shore monitoring areas. Present national IMAP-based monitoring programme needs</p>	<p>Two data sets related to CI 13, CI14, CI 17, CI18, CI19, CI20, in one MPA and one high-pressured area, preferably collected at monitoring stations/areas/transects in off shore zones</p>	<p>The project will support monitoring of CI 13, 14, 17, 18, 19, 20, 21. This considers that the eutrophication related CI 13 and 14 in many cases are to be monitored jointly with CI 17 and 18. Complementary external financial resources will be allocated for this purpose from the core budget of MAP Barcelona Convention (MTF) to cover additional monitoring stations as much as possible, in particular under UNEP/MAP POW Activity 2.4.1.1: Continue supporting updated national monitoring programmes on marine litter, contaminants and eutrophication in line with IMAP, the LBS protocol and the Regional Plan on ML.</p>

<p>to be further elaborated regarding CIs 18, 19, 20 and 21, ensuring its compatibility with the present monitoring network primarily proposed for CI13, 14 and 17.</p> <p>Newly proposed national IMAP-based monitoring programme defines 45 sampling stations within 6 transects for EO5 (CI13, CI14), whilst 20 sampling locations are defined for EO9 (CI17, CI18) within 6 transects to fulfill the IMAP requirements.</p> <p>All 6transects include joint monitoring efforts for EO5 and EO9 in the offshore stations.</p> <p>The Egyptian Environment Affairs Agency (EEAA) is relevant to lead the implementation of the national IMAP.</p> <p>Significant gaps are reported with regards to national readiness to implement all CIs related to Pollution and Marine Litter (including eutrophication and contaminants) Cluster, respectively the gaps are related to: i) routine monitoring, ii) data processing (analytical techniques); iii) quality control and IT infrastructure; iii) data reporting; iv) as well as the significant needs for laboratory equipment and research vessels.</p>		<p>The project will support a baseline or updated assessment for CIs 19 and 20 based on existing data sets collected through different monitoring surveys and/or remote sensing methods (i.e satellite images, etc.) carried by the Contracting Parties or Partners. Selection of monitoring stations/areas/transects to be included with support from EcAp MED III will be defined in consultation with Contracting Parties, during the finalization of the fully fledged EcAp MED III project document and inception phase of the project, also taking into account the complementarities with IMAP MPA and support from the MTF.</p>
Lebanon		
<p>The country has the minimal institutional capacity to establish monitoring efforts related to CIs 13, 14 and 17 with regards trace elements in biota only, all in coastal area only, during the initial phase of IMAP implementation once it is launched, whilst for all</p>	<p>Two data sets related to CI 13, CI14, CI 17, CI18, CI19, CI20, in one MPA and one high-pressured area, preferably collected at monitoring stations/areas/transects in off shore zones.</p>	<p>The project will support monitoring of CI 13, 14, 17, 18, 19, 20, 21. This considers that the eutrophication related CI 13 and 14 in many cases are to be monitored jointly with CI 17 and 18. Complementary external financial resources will be allocated for this purpose from the core budget of MAP Barcelona</p>

<p>other CIs further significant support is needed in order to establish regular monitoring efforts after completion of the initial phase. The monitoring efforts related to all CIs require significant technical and financial support, especially in off shore monitoring areas. Present national IMAP-based monitoring programme needs to be further elaborated regarding CIs 18, 19, 20 and 21, ensuring its compatibility with the present monitoring network primarily proposed for CI13, 14 and 17.</p> <p>Newly proposed national IMAP-based monitoring programme defines 20 sampling stations within 5 defined transects for EO5 (CI13, CI14), whilst 20 new sampling locations are defined for EO9 (CI17, CI18), within 10 transects, to fulfill the IMAP requirements.</p> <p>All the measurement areas contemplate joint monitoring between EO5 and EO9, with a few exceptions: EO5 (Batroun) and EO9 (Byblos and Jounieh) with independent monitoring efforts.</p> <p>The National Council for Scientific Research (“CNRS”), is recognized by the Ministry of the Environment, as the competent national institution to lead IMAP implementation. Significant gaps are reported with regards to national readiness to implement all CIs related to Pollution and Marine Litter (including eutrophication and contaminants) Cluster, respectively the gaps are related to: i) routine monitoring, ii) data processing (analytical techniques); iii) quality control and IT</p>		<p>Convention (MTF) to cover additional monitoring stations as much as possible, in particular under UNEP/MAP POW Activity 2.4.1.1: Continue supporting updated national monitoring programmes on marine litter, contaminants and eutrophication in line with IMAP, the LBS protocol and the Regional Plan on ML.</p> <p>The project will support a baseline or updated assessment for CIs 19 and 20 based on existing data sets collected through different monitoring surveys and/or remote sensing methods (i.e satellite images, etc.) carried by the Contracting Parties or Partners.</p> <p>Selection of monitoring stations/areas/transects to be included with support from EcAp MED III will be defined in consultation with Contracting Parties, during the finalization of the fully fledged EcAp MED III project document and inception phase of the project, also taking into account the complementarities with IMAP MPA and support from the MTF.</p>
---	--	--

<p>infrastructure; iii) data reporting; CNRS possesses research vessel with capacity for sampling in coastal and offshore waters.</p>		
Libya		
<p>Support is needed for all CIs in order to establish regular monitoring. The country has the minimal institutional capacity, and no experience, to establish monitoring efforts related to CIs 13, 14 and 17 with regards trace elements in biota, in coastal area only, during the initial phase of IMAP implementation once it is launched, whilst for all other CIs further significant support is needed in order to establish regular monitoring efforts after completion of the initial phase. The monitoring efforts related to all CIs require significant technical and financial support, especially in off shore monitoring areas. Present national IMAP-based monitoring programme needs to be further elaborated regarding CIs 18, 19, 20 and 21, ensuring its compatibility with the present monitoring network primarily proposed for CI13, 14 and 17. Newly proposed national IMAP-based monitoring programme defines 30 sampling stations for EO5 (CI13, CI14) within 10 transects, whilst 32 sampling locations are defined for EO9 (CI17, CI18) within 8 transects to fulfill the IMAP requirements. The Environment General Authority (EGA) is recognized as the main authority for IMAP implementation. The list of competent national institutions of relevance for</p>	<p>Two data sets related to CI 13, CI14, CI 17, CI18, CI19, CI20, in one MPA and one high-pressured area, preferably collected at monitoring</p>	<p>The project will support monitoring of CI 13, 14, 17, 18, 19, 20, 21. This considers that the eutrophication related CI 13 and 14 in many cases are to be monitored jointly with CI 17 and 18. Complementary external financial resources will be allocated for this purpose from the core budget of MAP Barcelona Convention (MTF) to cover additional monitoring stations as much as possible, in particular under UNEP/MAP POW Activity 2.4.1.1: Continue supporting updated national monitoring programmes on marine litter, contaminants and eutrophication in line with IMAP, the LBS protocol and the Regional Plan on ML. The project will support a baseline or updated assessment for CIs 19 and 20 based on existing data sets collected through different monitoring surveys and/or remote sensing methods (i.e. satellite images, etc.) carried by the Contracting Parties or Partners.</p> <p>Selection of monitoring stations/areas/transects to be included with support from EcAp MED III will be defined in consultation with Contracting Parties, during the finalization of the fully fledged EcAp MED III project document and inception phase of the project, also taking into account the complementarities with IMAP MPA and support from the MTF.</p>

<p>IMAP implementation, including IMAP Pollution and Litter (including eutrophication and contaminants) Cluster, include also other national counterparts. Significant gaps are reported with regards to national readiness to implement all CIs related to Pollution and Marine Litter (including eutrophication and contaminants) Cluster, respectively the gaps are related to: i) routine monitoring, ii) data processing (analytical techniques); iii) quality control and IT infrastructure; iii) data reporting; iv) as well as the significant needs for laboratory equipment and research vessels.</p>		
<p>Morocco</p>		
<p>The country has the minimal institutional capacity to establish monitoring efforts related to CIs 17 and 21, in coastal area only, during the initial phase of IMAP implementation once it is launched, whilst the monitoring efforts related to all CIs require significant technical and financial support, especially in off shore monitoring areas, in order to establish regular monitoring efforts after completion of the initial phase. There is an urgent need for provision of laboratory equipment to support monitoring efforts related to CIs 13 and 14 during the initial phase. Present national IMAP-based monitoring programme needs to be further elaborated regarding CIs 18, 19, 20 and 21, ensuring its compatibility with the present monitoring</p>	<p>Two data sets related to CI 13, CI14, CI 17, CI18, CI19, CI20, in one MPA and one high-pressured area, preferably collected at monitoring</p>	<p>The project will support monitoring of CI 13, 14, 17, 18, 19, 20, 21. This considers that the eutrophication related CI 13 and 14 in many cases are to be monitored jointly with CI 17 and 18. Complementary external financial resources will be allocated from the core budget of MAP Barcelona Convention (MTF) to cover additional monitoring stations as much as possible, in particular under UNEP/MAP POW Activity 2.4.1.1: Continue supporting updated national monitoring programmes on marine litter, contaminants and eutrophication in line with IMAP, the LBS protocol and the Regional Plan on ML. The project will support a baseline or updated assessment for CIs 19 and 20 based on existing data sets collected through different monitoring surveys and/or remote sensing methods (i.e. satellite images, etc.) carried by the Contracting Parties or Partners.</p>

<p>network primarily proposed for CI13, 14 and 17. Newly proposed national IMAP-based monitoring programme defines 15 sampling stations for EO 5 (CI13, CI14) within 5 transects, whilst 10 sampling locations are defined for E09 (CI17, CI18) within 5 transects, to fulfill the IMAP requirements.</p> <p>The competent national counterparts include the Ministry of Energy, Mines, Water and Environment (Ministère délégué auprès du Ministre de l’Energie, des Mines, de l’Eau et de l’Environnement, chargé de l’Environnement), whilst the National Laboratory for Pollution Research and Monitoring (Laboratoire National des Études et de Surveillance de la Pollution, LMESP) is the main national institution to lead national IMAP implementation.</p> <p>Significant gaps are reported with regards to national readiness to implement all CIs related to Pollution and Marine Litter (including eutrophication and contaminants) Cluster, respectively the gaps are related to: i) routine monitoring, ii) data processing (analytical techniques); iii) quality control and IT infrastructure; iii) data reporting; iv) as well as the significant needs for laboratory equipment and research vessels.</p>		<p>Selection of monitoring stations/areas/transects to be included with support from EcAp MED III will be defined in consultation with Contracting Parties, during the finalization of the fully fledged EcAp MED III project document and inception phase of the project, also taking into account the complementarities with IMAP MPA and support from the MTF.</p>
Tunisia		
<p>The country has the minimal institutional capacity to establish monitoring efforts related to CIs 13, 14 and 17, in coastal area only, during the</p>	<p>Two data sets related to CI 13, CI14, CI 17, CI18, CI19, CI20, in one MPA and one high-pressured area,</p>	<p>The project will support monitoring of CI 13, 14, 17, 18, 19, 20, 21. This considers that the eutrophication related CI 13 and 14 in many cases are to be monitored jointly with CI</p>

<p>initial phase of IMAP implementation once it is launched, whilst for all other CIs further significant support is needed in order to establish regular monitoring efforts after completion of the initial phase. The monitoring efforts related to all CIs require significant technical and financial support, especially in off shore monitoring areas. Present national IMAP-based monitoring programme needs to be further elaborated regarding CIs 18, 19, 20 and 21, ensuring its compatibility with the present monitoring network primarily proposed for CI13, 14 and 17.</p> <p>Newly proposed national IMAP-based monitoring programme defines 21 sampling stations for EO5 (CI13, CI14) within 7 transects, whilst 17 sampling locations are defined for E09 (CI17, CI18) within 7 defined transects to fulfill the IMAP requirements.</p> <p>The Agency for Coastal Protection and Management (Agence de Protection et d'Aménagement du Littoral, « APAL ») is the main national counterpart recognized as relevant for IMAP implementation.</p> <p>Significant gaps are reported with regards to national readiness to implement all CIs related to Pollution and Marine Litter (including eutrophication and contaminants) Cluster, respectively the gaps are related to: i) routine monitoring, ii) data processing (analytical techniques); iii) quality control and IT infrastructure; iii) data reporting; iv) as well as the</p>	<p>preferably collected at monitoring</p>	<p>17 and 18. Complementary external financial resources will be allocated from the core budget of MAP Barcelona Convention (MTF) to cover additional monitoring stations as much as possible, in particular under UNEP/MAP POW Activity 2.4.1.1: Continue supporting updated national monitoring programmes on marine litter, contaminants and eutrophication in line with IMAP, the LBS protocol and the Regional Plan on ML.</p> <p>The project will support a baseline or updated assessment for CIs 19 and 20 based on existing data sets collected through different monitoring surveys and/or remote sensing methods (i.e. satellite images, etc.) carried by the Contracting Parties or Partners. Selection of monitoring stations/areas/transects to be included with support from EcAp MED III will be defined in consultation with Contracting Parties, during the finalization of the fully fledged EcAp MED III project document and inception phase of the project, also taking into account the complementarities with IMAP MPA and support from the MTF.</p>
--	---	--

<p>significant needs for laboratory equipment and research vessels.</p> <p>The national authority still needs to verify national IMAP-based monitoring programme prepared in the framework of EcAp MED II Project.</p>		
--	--	--

Country-level IMAP implementation for Marine Litter indicators		
	IMAP MPA	EcAp MED III
Algeria		
Stations are not yet defined	2 (new) surveys sites (tbd) within MPAs. <ul style="list-style-type: none"> - CI23: seafloor macro-litter – ROV & divers; - CI23: floating micro-litter – manta net; - CI23: floating macro-litter – visual observations. 	Survey sites as indicated in the national monitoring programme for¹: <ul style="list-style-type: none"> - CI22: beach macro-litter; beach micro litter
Egypt		
Stations are not yet defined	2 (new) surveys sites (tbd) within MPAs. <ul style="list-style-type: none"> - CI23: seafloor macro-litter – ROV & divers; - CI23: floating micro-litter – manta net; - CI23: floating macro-litter – visual observations. 	Survey sites as indicated in the national monitoring programme for¹: <ul style="list-style-type: none"> - CI22: beach macro-litter; beach micro-litter
Israel		
CI22 (beach macro-litter): two sites (i.e. Alexander Stream and Neveh Yam). CI23 (seafloor shallow macro-litter): two sites (i.e. Alexander Stream and Neveh Yam).	2 (new) surveys sites (tbd) within MPAs. <ul style="list-style-type: none"> - CI23: seafloor macro-litter – ROV & divers; - CI23: floating micro-litter – manta net; - CI23: floating macro-litter – visual observations. 	Survey sites as indicated in the national monitoring programme for: <ul style="list-style-type: none"> - CI22: beach macro-litter; micro-litter
Lebanon		
Stations are not yet defined	2 (new) surveys sites (tbd) within MPAs. <ul style="list-style-type: none"> - CI23: seafloor macro-litter – ROV & divers; - CI23: floating micro-litter – manta net; - CI23: floating macro-litter – visual observations. 	Survey sites as indicated in the national monitoring programme for¹: <ul style="list-style-type: none"> - CI22: beach macro-litter; micro litter
Libya		
CI22 (beach macro-litter): five sites (i.e. Tripoli, Kaam, Sirt, Benghazi, Tubroq). CI23 (seafloor): ten sites (i.e. Ziwarra, Tripoli, Tripoli, Ganima, Kaam, Buirat)	2 (new) surveys sites (tbd) within MPAs. <ul style="list-style-type: none"> - CI23: seafloor macro-litter – ROV & divers; - CI23: floating micro-litter – manta net; 	Survey sites as indicated in the national monitoring programme for: <ul style="list-style-type: none"> - CI22: beach macro-litter

¹ Exact information to be confirmed based on the submission of the final monitoring programme.

<p>Alhason, Bin jawwad, Brega, Benghazi, sosa, Tubroq). CI23 (floating micro-litter): and ten sites (i.e. Ziwarra, Tripoli, Tripoli, Ganima, Kaam, Buirat Alhason, Bin, jawwad, Brega, Benghazi, sosa, Tubroq).</p>	<ul style="list-style-type: none"> - CI23: floating macro-litter – visual observations. 	
Morocco		
<p>CI22 (beach macro-litter): six sites (i.e. Saidia Med, Miami Nador, Sabadilla, Amsa, Martil, Tanger) CI23 (seafloor macro-litter): same stations as with those of the fish stock assessment programmes. CI23 (seafloor shallow macro-litter): five sites (i.e. Baie de M'diq, Embouchure Oued Laou, Embouchure Oued Martil, Cala Iris, Cap de l'eau). CI23 (floating macro-litter): five sites (i.e. Baie de M'diq, Embouchure Oued Laou, Embouchure Oued Martil, Cala Iris, Cap de l'eau)</p>	<p>2 (new) surveys sites (tbd) within MPAs.</p> <ul style="list-style-type: none"> - CI23: seafloor macro-litter – ROV & divers; - CI23: floating micro-litter – manta net; - CI23: floating macro-litter – visual observations. 	<p>Survey sites as indicated in the national monitoring programme for:</p> <ul style="list-style-type: none"> - CI22: beach macro-litter; micro litter
Tunisia		
<p>Stations are not yet defined</p>	<p>2 (new) surveys sites (tbd) within MPAs.</p> <ul style="list-style-type: none"> - CI23: seafloor macro-litter – ROV & divers; - CI23: floating micro-litter – manta net; - CI23: floating macro-litter – visual observations. 	<p>Survey sites as indicated in the national monitoring programme for¹:</p> <ul style="list-style-type: none"> - CI22: beach macro-litter; micro litter

Country briefs on Coast and Hydrography IMAP indicators			
	CI 15 Location and extend of habitats impacted directly by hydrographic alterations	CI 16 Length of coastline subject to physical disturbance due to the influence of man-made structures	CCI 25 Land cover change
Algeria			
General/Common	<p>All three indicators are covered by the national IMAP on coast and hydrography prepared in the frame of EcAp MED II. The Observatoire National de l'Environnement et du Développement Durable (ONEDD), under the Ministry of Environment, is the national institution responsible for the implementation and management of the observation network and for the monitoring. It is therefore responsible for the monitoring of the three indicators. The ONEDD has four regional laboratories and several monitoring stations. The national commissariat for the coastal areas is among others responsible for the coastal management plans, data bases, GIS etc. and to coordinate with local institutions.</p> <p>There is a need to establish a task force under the Ministry for environment to coordinate data collection and sharing. Also, training, transfer of relevant technologies and improvement of capacities of responsible national institutions with a priority for the ONEDD staff is needed.</p>		
<p>Indicators covered by national IMAP</p> <p>Geographical scope (coastal, off shore etc)</p> <p>Responsible institutions</p> <p>Data availability, data gaps</p>	<p>Some parameters to monitor CI15 are available such as bathymetry (data base by GEBCO-General Bathymetric Chart of the Oceans), winds, waves, currents, temperature, salinity, turbidity etc.</p> <p>There is an existing example of modelling (EIA study) for a new structure (port) that was prepared by the l'Ecole Nationale des Sciences de la Mer et de l'Aménagement du Littoral -ENSSMAL. GIS analysis of impacts to habitats was also done, So, some practice is available, supported by external institutions.</p> <p>There is a need to establish a baseline, i.e. to analyse the current status of human-made structures that would require/required monitoring of hydrographic changes that could impact marine habitats. Also, the current</p>	<p>There is an archive of around 30 years available for some parameters to allow temporal series of data that cover the marine and coastal areas. Some of them are created from satellite images. Some recent data specifically related to monitoring according to Guidance Fact Sheets are missing. Information on availability of an official coastline, important for the CI16, is not available from the IMAP.</p> <p>There is a need for a concrete desk work to calculate the CI16 (as well as CCI 25 which require satellite images. Through EEA-UNEP/MAP collaboration implementation of CCI 25 could be tested at least).</p>	

	<p>constructions and planned installations that would require EIA (due to hydrographic changes) should be reported. On this basis pilot monitoring could take place.</p>	
Egypt		
<p>Indicators covered by national IMAP Geographical scope (coastal, off shore etc) Responsible institutions Data availability, data gaps</p>	<p>In spite of constant invitations to join the EcAp MED II project (interventions even by MAP Coordinator) the country has not joined the partnership. However, when meeting PAP/RAC FP in person the willingness to participate in the future projects was expressed. So at present there is no info available on their national IMAP for coast and hydrography indicators.</p> <p>There is a need to prepare a national IMAP for coast and hydrography indicators, in parallel provide capacity/training and working on the calculation of at least CI16 and provide a baseline for CI15.</p>	
Israel		
<p>Indicators covered by national IMAP Geographical scope (coastal, off shore etc) Responsible institutions Data availability, data gaps</p>	<p>In Israel many hydrographic parameters are measured on regular basis: bathymetry, waves, currents, sea temperature and salinity, climatic parameters etc.</p> <p>A very detailed bathymetry survey up to 1,600 m depth, is undertaken by the Geological Survey of Israel (GSI), together with the Israel Oceanographic and Limnological Research (IOLR) and the Survey of Israel, as part of the National Bathymetric Survey project, initiated in 2001.</p> <p>More than 20 years of wave measurements at Haifa and Ashdod have been continuously recorded by Datawell directional waverider buoys operated by Coastal and Marine Engineering Research Institute (CAMERI). Other wave measurements are continuously conducted at Hadera and Ashkelon</p>	<p>In Israel there are aerial images of higher resolution than required by IMAP (0.5 m and 2 m, while required one is 5 m). Institutions in charge are: Survey of Israel (SOI) and the Ministry of Environmental Protection.</p>
		<p>The land cover is available in resolution 1:40 000. Institutions in charge are: Survey of Israel (SOI) - The ITSI Structure - Israeli Topographic Spatial Infrastructure; and the Ministry of Finance (Planning Authority).</p> <p>The SOI is responsible for the National GIS database, including a uniform set of codes to ensure compatibility. The National GIS includes a topographic database, derived from aerial photographs at the scale of 1:40,000 and periodically revised.</p> <p>With regards to the coastal environment, SOI is responsible for the production and update of a</p>

	<p>(IOLR) and Ashdod (CAMERI).</p> <p>A program for measuring currents in the Israeli continental shelf was initiated by IOLR in 1987. Historical and up-to-date records are offered for more than 20 offshore stations located at different places south of Haifa, opposite Hadera, Netanya, Ashdod and Ashkelon, and for depths ranging from 30 m to more than 500 m. Sea surface temperatures are being measured for approximately two decades at both Haifa and Ashdod. In addition, Conductivity-Temperature-Depth (CTD) instruments are in continuous operation at Hadera and Ashkelon, operated by IOLR. The long term wind measurements are carried out by the Israel Meteorological Service (IMS).</p> <p>Regarding the impact of marine/coastal structures, an EIA is required for sea ports, marinas, and land reclamations, or for any other marine infrastructure proposed in the marine environment (e.g., long wave breakers, marine aquaculture, gas drilling), which the planning committee has decided that it may have a significant impact on the environment. EIAs for marine infrastructure are required, inter alia, to assess the hydrographic and ecological impacts of the proposed project. Therefore, they can be used as an important source for baseline and predicted data.</p>		<p>reference coastline and the ITSI Structure - Israeli Topographic Spatial Infrastructure, which contains information on land use and land cover.</p> <p>The main gap is that the categories of land use and land cover, as determined by SOI and the Planning Authority at Ministry of Finance, are dynamic and may vary over time.</p>
--	--	--	---

	<p>However, the regulations are very general and do not specify content of the assessment. This is determined case by case by the Ministry of Environmental Protection. Most EIAs and monitoring programmes, are written in Hebrew and so funds will be required for acquisition of data that has to be collected differently, or further processed, or translated to English, for the purposes of this monitoring plan. At this stage, the Ministry of Environmental Protection cannot determine the scope of the human and financial resources needed for these purposes.</p> <p>High-resolution raw databases and purchased databases cannot be publicly distributed. Nevertheless, the products of processed data (with lower spatial resolution that still fits the requirements of this monitoring program), could be distributed, subject to authorization from the respective governmental and/or non-governmental sources. Consequently, the access policy for each parameter will have to be determined in the future, case by case.</p>		
Lebanon			
<p>Indicators covered by national IMAP Geographical scope (coastal, off shore etc) Responsible institutions Data availability, data gaps</p>	<p>In Lebanon there were some works on prediction of surface velocity in the Eastern Levantine Mediterranean. For example, in M3-HAB project in 2015, Mike model was used to downscale the circulation form the Mediterranean</p>	<p>The Remote Sensing Centre (RSC) uses analysis of satellite imagery and GISs to produce reports and maps on the country's land resources. RSC will handle this EO8 indicator through the suitable available data imagery</p>	<p>The most recent Land cover map for Lebanon is produced in 2016 by National council for scientific research (CNRS), and it is mapped on a scale of 1:20 000, based on CORINE 4th</p>

	<p>Forecasting System (MFS) model available from Copernicus.</p> <p>The future monitoring of EO7 indicator can be achieved on 6 sites (Enfeh, Ras Chekaa, Raoucheh, Saida, Tyre and Nakoura) distributed over the Lebanese coast from North to South. These site are witnessing development in touristic activities and differ in their biodiversity. In those sites, Sediment dumping, hyper-sedimentation, organic pollution, land reclamation, littoral dynamic alterations (marinas, ports) are the main threats.</p> <p>An open-access 3D hydrographic model needs to be used for this indicator. TELEMAC-MASCARET is an example. Other models like Delft 3D can be also considered for the modelling process requested for EO7 indicator.</p> <p>Depending on the required scale and resolution, it is possible to extract local spatial and temporal distribution of parameters from regional models, such as the products and services for the Mediterranean Sea as part of the Copernicus Marine Environment Monitoring Service. These include temperature, salinity, sea surface height, velocity, mixed layer thickness, wind, planktons, oxygen, nutrients, primary production, turbidity,</p>	<p>(very high resolution IKONOS 1m resolution 2005 images and 40 cm GeoEye 2013 Satellite imageries) to monitor and evolution of artificial coastline using ArcGIS interface each 5 to 6 years with no major gaps.</p>	<p>level nomenclature. It is actually derived from GeoEye 2013 Satellite imageries.</p> <p>Previous land cover images are from 2003 and 1998, and these were used to detect land cover change (1998-2003).</p> <p>The Remote Sensing Centre (RSC) will be in charge in calculating this indicator.</p>
--	--	--	--

	<p>transparency and sea surface waves.</p> <p>The resolution of the bathymetric data will depend on the local topography. If topography is uniform, low resolution data from lower precision at EMODNET (http://portal.emodnet-bathymetry.eu/#) is sufficient; if very complex, high resolution bathymetric data can be requested from National Centre for Geophysics who is updating the bathymetric map of the Lebanese coast with a high precision.</p> <p>Meteorological data (wind statistical data) collected by local meteorological stations close to the 6 sites, should be part of the baseline data collection. Remote Sensing Centre (RSC) can handle this indicator due to its expertise in mapping and integrated coastal zone management but only in collaboration with:</p> <p>National Center for Marine Sciences (NCMS) that has data about water quality, biodiversity and habitats</p> <p>National Center for Geophysics is updating the bathymetric map of the Lebanese coast that can be also found with lower precision at EMODNET</p> <p>There exist some gaps in the Legislations level in Lebanon especially that several ministers can have direct or indirect influence on the coast. Some difficulties may be faced with the EO7 that requires input data from several institutions and expertise in</p>		
--	---	--	--

	modelling and habitats as well.		
Libya			
<p>Indicators covered by national IMAP</p> <p>Geographical scope (coastal, off shore etc)</p> <p>Responsible institutions</p> <p>Data availability, data gaps</p>	<p>There is no monitoring network for the marine environment in Libya. Some studies and surveys were undertaken before 2011 (civil war), such as the report of oceanographic data in 2008 of offshore and onshore Libyan waters of Gulf of Sirt, prepared by Libyan Marine Biology Research Centre (MRBC).</p> <p>Most of the recent coastal facilities (constructed during the past ten years) have been documented and evaluated environmentally by Environment General Authority (EGA), through EIA study.</p> <p>The main responsibility for implementation and coordination of this indicator rests on EGA and MBRC, Faculty of science at the University of Tripoli , Libyan Centre for Remote Sensing and Space Science (LCRSSS) and others stakeholders engagement.</p> <p>After 2011, all activities of research centres are weak due to security reasons, political instability and lack of financial resources.</p> <p>More capacity building needed in the area of (remote sensing) and their contribution to the modelling, processing, data, specific software , GIS , implementation training courses related to IMAP .</p>	<p>EGA with related institutions (LCRSSS, MBRC, Department of Urban Planning, Ministry of Local Government-Coastal Municipalities, Faculty of Science (Tripoli university)) can be considered as main responsible for implementation of this indicator.</p> <p>Although LCRSSS can be considered as crucial for implementing this indicator via interpretation of high resolution aerial photographs (VHR), the reference coastline is actually a speciality of Libyan Survey Department (LSD), through approved reference points, i.e. ground controls. The latest update of such coastline was in 2006</p>	<p>Libyan Centre for Remote Sensing and Space Science (LCRSSS) can assess the high resolution aerial photographs (VHR) to monitor the change of land use, if sufficient financial resources are available.</p>

	Bathymetric map up-to-date for all coast not found in (MBRC) especially not for the areas affected by conflict. Some maps for sea ports are available but to obtain new map is only available with private sector.		
Morocco			
General/Common	<p>All three indicators are covered by the national IMAP on coast and hydrography. The main responsible institution for the implementation of IMAP is the Secrétariat d'Etat chargé du Développement Durable (SEcDD) in cooperation with environmental observatories at national and regional levels. It can assure coordination for monitoring, however there is a need for human and logistic capacities. The Centre Royale de Télédétection Spatial (CRTS) with a rich experience with satellite images and coastal cartography. This centre has a good archive of images, satellite, aerial that can be capitalised for monitoring. With the decentralisation other partners such as the region de l'Oriental or the one of Tanger-Téouan-Al Hoceima which cover the majority of the coastal area in Morocco. Also, the Agence du Nord pour le Développement could assist with the administrative support related to monitoring.</p> <p>There are some other institutions that poses some existing data as well but they are dispersed and available in pdf formats.</p> <p>Sharing of data seems to be an important problem, as well as different formats used, methodologies etc. The general need is to improve human capacities to implement monitoring as well as financial resources that are very scares for these purposes.</p>		
Indicators covered by national IMAP Geographical scope (coastal, off shore etc) Responsible institutions Data availability, data gaps	<p>Gaps and needs are related to some specific human capacities and material means (equipment, software). Data needed to elaborate CI15 are very sectoral/dispersed, not harmonized as far as the methods etc. For example, the bathymetry data are available with the hydrographic service of the Marine Royale.</p> <p>Monitoring requires a multidisciplinary team and there is a need for financial and human capacities. A number of coastal sites exist that would require such monitoring (ports, marinas, other installations).</p> <p>To sum, the system to monitor CI15 is still far</p>	<p>The information to monitor CI16 could be available from the SPOT with the resolution of 2 or 2,5 m, or from aerial photographs such as Laser (Lidar), drones etc. Currently different methods exist and there is a need to harmonise (photointerpretation, GIS, validation on the ground).</p> <p>The official coastline is needed to monitor this indicator and the information in IMAP is not available if such a line exists.</p>	<p>Information on land cover is dispersed and not available for all land cover classes.</p> <p>Harmonisation is needed. Discussions with Moroccan authorities are on-going with EEA (PAP/RAC is contributing with information on current status, suggestions on the process etc) for the implementation of CCI 25. This could be a good possibility to test such cooperation that would allow for a harmonised approach as far as</p>

	from what is required by IMAP. At least a baseline could be analysed.		the data sources (Sentinel) and land cover classes derived from the satellite images.
Tunisia			
General/Common	<p>All three indicators are covered by the national IMAP on coast and hydrography. The Agence Nationale de Protection de l'Environnement (ANPE) is the main institution to be involved in monitoring of these indicators that is closely linked with the Agence de Protection et d'Aménagement du Littoral (APAL) and its Observatoire de littorale. The Observatoire de littoral has a data base on bathymetry in GIS, structured and georeferenced. It cooperates with many other specific institutions that can provide information. Such as the Centre Hydrographique et Océanographique (CHOMN) de la Marine Nationale which has a data base on sea levels in major ports and for the bathymetry. They have a continuous series of data since 1999 for the ports of Bizerte, Goulette, Sousse, Sfax and Zarzis. As far as data availability it seems hat Tunisia is well covered and would need to systemize the procedure and connects all data providers for the purpose of CI15, for example. Some data can be obtained only by a permission from the Ministry of national defense.</p>		
<p>Indicators covered by national IMAP</p> <p>Geographical scope (coastal, off shore etc)</p> <p>Responsible institutions</p> <p>Data availability, data gaps</p>	<p>The national IMAP contains an example of EIA for the port of Enfidha (future largest Tunisian port) which is a good case although not following completely the IMAP Guidance Factsheet. So some experience exists and should be only upgraded according to the agreed method.</p> <p>A list of possible sites to monitor CI15 is elaborated as well and includes l'aéroport d'Enfidha, commercial ports, marinas (Marina de Bizerte, Marina de Gammarth), encroachments, and other structures that should be monitored (Kerkennah, Rafraf, Soliman, Gammarth-Carthage).</p> <p>Below is the list of institutions related to monitoring:</p> <ol style="list-style-type: none"> 1. Observatoire du Littoral-APAL 2. OTEDD, ANPE 	<p>Data bases of the Observatoire du littoral include information on coastal structures and land cover. Information of an official coastline is also available.</p> <p>The CNCT has a good archive of data since 1980 covering practically the whole national territory. Available are also satellite images from Quick Bird, aerophotos of high resolution and other maps on geomorphology etc. These data (resolution 0,65m) were already used by the Observatoire du Littoral for analyzing coastal changes.</p> <p>Analysis of different types of coast (with regard to coastal erosion) is available based on a very good data sets. Also, an analysis of the CI 16 is available however not completely</p>	<p>Monitoring of this indicator is based on GIS at the Observatoire du littoral following the CORINE land classes. Testing of this indicator has been done not following completely the Guidance Factsheet, but in some aspects even at a more detailed level that required. With aggregation the land cover map could be easily prepared.</p> <p>Discussions with Tunisian authorities are on-going with EEA (PAP/RAC is contributing with information on current status, suggestions on the process etc) for the implementation of CCI 25 using the Sentinel images that</p>

	<p>3. Observatoire de la mer et ses réseaux de surveillance, INSTM 4. INM 5. CHOMN 6. CNCT 7. Observatoire Urbain du Grand Tunis 8. Observatoire de l'immobilier et du foncier 9. Cadastre des industriels, ONAS 10. Réseau de surveillance de la qualité des eaux, ONAS, DHMPE, INSTM 11. Observatoire de l'agriculture 12. Tourisme en chiffres 13. Institut National de la Statistique 14. Système d'information sur les déchets</p> <p>The Centre National de la Cartographie et de la Télédétection (CNCT) for example is responsible for the satellite images but it is under the Ministry of national defense and requires special permissions and can be bought, even to APAL.</p>	<p>following the Guidance Factsheet and in a broad resolution. What is needed is a structured on-the-spot training and calculating the indicator following the Guidance Factsheet.</p>	<p>will guarantee a harmonized method for the whole Mediterranean basin. This could be a good possibility to test such cooperation that would allow for a harmonised approach as far as the data sources (Sentinel) and land cover classes derived from the satellite images.</p>
--	---	---	---