

**Template for Submission of Scientific Information
to Describe Areas Meeting Scientific Criteria for
Ecologically or Biologically Significant Marine Areas**

Title/Name of the area: *Iberian Mediterranean Seas*

Presented by

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Abstract

The “*Iberian Mediterranean Seas*” (IMS) includes the Strait of Gibraltar, Alboran Sea, Balearic and Catalan seas and contains parts of 3 previously proposed SPAMIs (Alboran seamounts, southern Balearic and Gulf of Lion). The complex hydrology due to the confluence of Atlantic and Mediterranean waters and the diverse seafloor geomorphology, with abundant seamounts, submarine canyons and mound structures caused by fluid venting promote a wide diversity of habitats and species, including a large proportion of endangered/vulnerable habitats and threatened species. Due to its geographical location, this biodiversity hotspot resulting from the confluence of typical Atlantic (European and northAfrican) and Mediterranean species also contain several endemic species of invertebrates (Strait of Gibraltar and Alboran Sea), fishes (Balearic Sea), and marine-birds (Alboran and Catalano-Balearic Seas). Moreover, it represents the obligatory pathway and an important and strategic biologically and ecologically significant area for spawning and feeding of several threatened large pelagic species coming from the Atlantic Ocean and returning to this basin such as Blue fin tuna, sea-turtles, cetaceans and marine-birds.

Introduction

The area named as “*Iberian Mediterranean Seas*” (IMS) is located in the westernmost part of the Mediterranean Sea, between the Strait of Gibraltar and Moroccan, Algerian, Italian and French waters, covering an area of ca 250,000 km². Within the area 3 proposed SPAMIs were previously considered (Alboran seamounts, southern Balearic and Gulf of Lion) (UNEP-MAP-RAC/SPA 2010a). The depth range spans between 0 and ca. 3300m, with an average of ca. 2500 m (UNEP-MAP-RAC/SPA 2010b). The circulation pattern is very complex, especially in the Alboran Sea where surface and recent Atlantic Waters (AW) that form 2-3 anticyclonic gyres, and near-bottom Western Mediterranean Deep Waters (WMDW) promote a high oceanographic heterogeneity and the presence of upwellings (for more information check IEO-MAGRAMA 2012a; UICN 2012). In the Catalan and Balearic areas, the influence of AW is less notorious, but a similar mixing of Atlantic and Mediterranean waters still occur, with Modified Atlantic Waters (MAW) flowing north through the Balearic Islands and the colder and more saline Surface Mediterranean Waters (SMW), formerly known as resident AW, coming from the Gulf of Lyons towards the south, and below that the near-bottom waters that are mainly influenced by WMDW (for more information check IEO-MAGRAMA 2012b).

The general information data reported for this proposed EBSA is more detailed for two sectors such as the Strait of Gibraltar-Alboran Sea and the Catalano-Balearic areas due to a higher amount of available information based on scientific documents (publications, conference proceedings), reports from different Spanish and international institutions and organizations (MAGRAMA, IEO, Universities, CSIC, OCEANA, MARUM, IUCN, WWF, GREENPEACE, etc.) and recent projects and assesments (e.g. INDEMARES, DEEPER, IDEADOS, MEDITS, Marine Strategy Framework Directive initial evaluation). Some model outputs displaying that, within the proposed EBSA, there is a high productivity, high biodiversity, high proportion of endangered and vulnerable species and that it represents an area of importance for resident mammals, sea turtles and marine birds within the Mediterranean are available in Coll et al. (2010), IEO- MAGRAMA-SEO (2012) and IEO-MAGRAMA-CSIC et al (2012).

Location

The area represents the westernmost portion of the Mediterranean Sea, between 36 and 42°N and 6°E and 5.5°W. The area proposed is within Spanish waters, but it would be of high interest to expand it to Moroccan and Algerian waters (and then include the entire Alboran Sea and the southern Balearic, previously considered SPAMIs and therefore ecologically and biologically important) and French waters (in connection with the Gulf of Lions proposed SPAMI). In that escenario, the name of the proposed EBSA should be changed to a more appropriated name.



Map representing a sketch of the proposed EBSA. The polygon does not represent the exact boundaries of the EBSA or the boundaries of territorial waters. It is also not part of an official-administrative document.

Feature description of the proposed area

The submarine geomorphology of the IMS proposed area is very complex and diverse with the presence of 3 main basins (Alboran, Algerian and Balearic) and a variable shelf, that can be narrow in the Alboran Sea as less as 3 to 5 km or as wide as more than 50 km. in the Ebro Delta area. The slope in the IMS ranges from abrupt to intermediate or progressive along the Continental and Balearic margin (IEO-MAGRAMA 2012a, b). The shelf is heterogeneous and includes prodeltaic structures (e.g. Ebro Delta), rocky outcrops that can be in some cases of volcanic origin (e.g. Cape of Gata, Columbretes) and different types of carbonate shelves (e.g. Maërl beds and coralligenous formations in Cape of Gata, Alboran Island and Menorca Channel, among others) (Ballesteros 2006; Templado et al. 2006; Barberá et al. 2012; IEO-MAGRAMA 2012a,b,c,d). The slope displays a wide variety of ecologically important submarine structures such as ca. 20 submarine canyons of different sizes (including those of the Alboran Ridge and the northern Catalano-Balearic area) (Würtz 2012), more than 30 seamounts of different heights and geologic origin (Acosta et al. 2003, 2013; DEEPER 2010; UICN 2012; OCEANA 2010a,b; UNEP-MAP-RAC/SPA 2010b; Palomino et al. 2012), several carbonate mounds (Lo Iacono et al. 2008; Hebbeln et al. 2009; Pardo et al. 2011), submarine structures caused by fluid emissions such as pockmarks (Acosta et al. 2001, 2003; Lastras et al. 2004; Somoza et al. 2012) and mud volcanoes (Soto et al. 2010; Hilário et al. 2011; Gennaro et al. 2013) as well as contouritic systems resulted from the strong deep near bottom water currents (Hernández-Molina et al. 2011; Palomino et al. 2011; Vandorpe et al. 2011).

The wide variety of seafloor features in both the shelf and the slope promotes a high diversity of substrate types and habitats, resulting in shelf and slope ecosystems that are rich in species and in

ecological interactions (Templado et al. 2012; IEO-MAGRAMA 2012 a,b,c,d; OCEANA 2010a,b.). In general, a high number of habitats that are rare or threatened within the Mediterranean and Atlantic Ocean occur in IMS (Templado et al. 2012). In the outer shelf, besides the occurrence of important seagrass beds of 4 seagrass species (including the westernmost populations of *Posidonia oceanica*) and macroalgal beds of a wide variety of species (from kelps of the threatened species *Laminaria ochroleuca* to small coralline turfs), other threatened, sensitive, productive and biodiverse habitats increment the seafloor diversity such as coralligenous bottoms dominated by corals (e.g. *Corallium rubrum*, *Dendrophyllia ramea*, *D. cornigera*) (e.g. Alboran, Cap de Creus, Balearic seamounts), gorgonians of Atlantic (e.g. *Leptogorgia lusitanica*, *Eunicella verrucosa*), northwestern Africa (e.g. *Eunicella labiata*, *Elisella paraplexauroides*) (only in Alboran Sea locations) and Mediterranean affinity (e.g. *Paramuricea clavata*) (Alboran and Catalano-Balearic areas), sponges and bryozoans as well as a wide variety of sedimentary habitats such as sea-pen dominated communities, sea-squirts communities, facies of crinoids (e.g. *Leptometra phalangium*) and maërl beds (Barberá et al. 2003; Ballesteros 2006; STCEF 2006; Rossi et al. 2008; Barea Azcón et al. 2008; OCEANA 2007, 2008; García Raso et al. 2010; Barberá et al. 2012; IEO-MAGRAMA 2012a,b,c,d; Templado et al. 2012; Lo Iacono et al 2012; Sitjá and Maldonado 2014).

In the slopes of the IMS, a wide variety of threatened and rare habitats also occur such as (1) cold-water coral reefs (dominated by *Madrepora oculata*, *Lophelia pertusa*, *Dendrophyllia cornigera*) (e.g. Strait of Gibraltar, Alboran seamounts, Balearic seamounts, Cap de Creus submarine canyon), (2) giant deep-sea oyster aggregations (*Neopycnodonte cochlear*) (e.g. Alboran Sea seamounts), (3) Deep-sea sponge aggregations (e.g. Alboran and Balearic seamounts), (4) Gorgonian and black coral gardens (e.g. Alboran and Balearic seamounts), (5) compact muds with seapens or with bamboo corals (*Isidella elongata*) (e.g. throughout the IMS) and (6) cold seeps displaying chemosynthetic communities (e.g. mud volcanoes Alboran Sea) (Alvarez-Pérez et al. 2005; STCEF 2006; Hebbeln et al. 2009; OCEANA 2008, 2010; Ordines and Massutí 2008; Orejas et al. 2009; GREENPEACE 2009; DEEPER 2010; Hilário et al. 2011; UICN 2012; Pardo et al. 2011; Maynou and Cartes 2012; Lo Iacono et al. 2012; Templado et al. 2012; IEO-MAGRAMA 2012 a,b,c,d; Gori et al. 2013; Sitjá and Maldonado 2014). Some of these habitats are common components of the seamounts, submarine canyons and cold seeps that occur in the IMS and are very sensitive to anthropogenic activities (e.g. fisheries), deserving management efforts for conservation and protection as already performed with those occurring in shallow coastal areas (e.g. seagrass beds).

Different areas of the IMS or located close by such as the canyon system of the Gulf of Lions, northern Alboran Sea and the Ebro Delta display high levels of primary production due to the presence of upwellings and river outputs (Estrada 1996; Sarhan et al. 2000; UNEP-MAP-RAC/SPA 2010b; Würtz 2010). These areas also influence a high productivity of zooplankton and of ichthyoplankton, including spawning and nursery areas of important commercial species (e.g. small pelagics, hake) (Champalbert 1996; Abelló et al. 2002a; Gil de Sola et al. 2006; STCEF 2006; Sabatés et al. 2007; Galisteo et al 2013).

As mentioned before, in the proposed EBSA, the mixing of Atlantic and Mediterranean waters promotes an area of confluence of high biodiversity, especially in the Strait of Gibraltar and Alboran Sea, where several tropical components from western Africa also display their single European and Mediterranean populations (Barea Azcón et al. 2008; Rueda et al. 2010). Moreover, several endemic species occur mainly in some locations (Strait of Gibraltar and Alboran Sea, Balearic Sea) or in deep-sea submarine structures throughout the IMS (e.g. submarine canyons in northern Catalano-Balearic Sea, deep shelf of Alboran Island)(Gofas 1998; Gili et al. 2000; Peñas et al. 2006; Malak et al. 2011; Sitjá & Maldonado 2014). Due to its geographical location, the exceptional biodiversity of marine flora and fauna compared to other parts of European Seas and also to other areas of the Mediterranean Sea is relevant in the IMS. Indeed several species well represented in the area are rare in other parts of the Mediterranean and Atlantic (Templado et al. 1993; Gil de Sola 1994; Flores-Moya et al. 1995; Salas 1996; Abelló et al. 2002b; González & Sánchez 2002; Massutí & Moranta 2003; Luque & Templado 2004; Peñas et al. 2006; Barea Azcón et al. 2008; Moranta et al. 2008; Hebbeln et al. 2009; Coll et al. 2010; García-Rodríguez et al. 2011; Gofas et al. 2011; Bradai et al. 2012; Deudero et al. 2012; IEO-MAGRAMA 2012a, b, c, d; Sitjá & Maldonado, 2014; Ramón et al. 2014). More than 70% of the threatened Mediterranean marine flora and fauna display important populations in the IMS, including typical shelf (e.g. seagrasses, *Corallium rubrum*, *Patella ferruginea*, *Astroides calycularis*, *Errina aspera*, *Centrostephanus longispinus*, etc.) and slope occurring species (e.g. Cold-water corals,

antipatharians) as well as large vertebrates (Barea Azcón et al. 2008; Coll et al. 2010; IEO-MAGRAMA 2012a, b, c, d).

Another important feature of the IMS is that it represents a compulsory area for the migratory pathway of different species of tuna, cetaceans and sea turtles entering from the Atlantic to the western Mediterranean, through the Strait of Gibraltar, and represent an important feeding area for some of these threatened vertebrates (Camiñas 2004; De Metrio et al. 2005; IEO-CSIC-MAGRAMA et al. 2012; IEO-SEO-MAGRAMA et al. 2012; Aranda et al. 2013). The waters surrounding the Balearic Islands are also an important spawning area for the migratory bluefin tuna (*Thunnus thynnus*), representing one of the most important spawning grounds for this threatened pelagic fish within the Mediterranean Sea (García et al. 2002, 2005; Fromentin 2006; Alemany et al. 2010; PEW 2010). Moreover these open waters are also of ecological and biological importance for a wide variety of large pelagic species, including the near threatened Albacore (*Thunnus alalunga*) and other tunids, sword fish and marlins, as well as other rare large mesopelagic fishes (e.g. Lamprididae, *Trachipterus trachipterus*, *Zu cristatus*, *Lophotes lacepedei*) (Alemany et al. 2006; STCEF 2006; Rodríguez et al. 2013) and deep-sea elasmobranchs (Massutí & Moranta 2003).

The loggerhead turtle *Caretta caretta* is another important migratory species considered as being extinction threatened under the Habitat Directive, Barcelona Convention, Convention of Migratory Species and included in the IUCN red list of threatened species (<http://www.redlist.org/>) and display important populations in the Alboran and Balearic Seas as well as migratory movements and important foraging within the IMS area (Camiñas 2004; Casale et al. 2007; Eckert et al. 2008; IEO-MAGRAMA 2012a,b,c,d).

A high marine mammal biodiversity is also found in the IMS area (14 spp of cetaceans recorded so far), especially in the Alboran Sea and Strait of Gibraltar sectors. Different sectors of the IMS represent important breeding and foraging areas for these species (e.g. Strait of Gibraltar-Alboran sector for *Delphinus delphis*, *Tursiops truncatus* - listed in Annex II Habitat Directive, *Ziphius cavirostris*; the Balearic-Catalan sector for *Physeter macrocephalus* and *Globicephala melas*, the waters surrounding the Balearic Islands for *T. truncatus*) (IEO-CSIC-MAGRAMA et al. 2012). The short-beaked common dolphin (*Delphinus delphis*) merits particular attention, because its population in the Alboran Sea is one of the healthiest in the Mediterranean, after a dramatic decline in most of its Mediterranean range (Forcada et al 2004; Notarbartolo di Sciara, 2002; Cañadas et al. 2005; Cañadas & Hammond, 2008; IEO-CSIC-MAGRAMA et al. 2012). Records of monk seal (*Monachus monachus*) presence are available for the southern Alboran Sea (e.g. Chafarinas Islands), but no current detailed information on their populations is available (IEO-MAGRAMA 2012a).

Mediterranean marine birds are also a biological and ecological significant component for EBSAs. As for other migratory species, the Strait of Gibraltar-Alboran and Catalano-Balearic sectors are important for the migratory movements (from the Atlantic to the Mediterranean and from Europe to Africa), feeding and breeding of more than 20 marine bird species, including 7 threatened species (SEO/BirdLife 2012; Paracuellos & Jérez 2003; Paracuellos & Nevado 2003). Two of these threatened species, the Audouin's Gull (*Larus audouinii*) and the Balearic Shearwater (*Puffinus mauretanicus*), are endemic of the proposed EBSA and productive areas within the EBSA, such as the Alboran Sea and that between Ebro Delta and Balearic Islands are of high importance for feeding (on small pelagic fishes) and breeding at different seasons of these two migratory species (Abelló et al. 2003; Louzao 2006; Arcos 2009; IEO-SEO-MAGRAMA 2012). Subspecies of other marine birds (*Hydrobates pelagicus melitensis*, *Calonectis diomedea diomedea*, *C.d. borealis* and *Phalacrocorax aristotelis desmarestii*) also display important populations in this proposed EBSA, which is also of importance for wintering of other sensitive marine birds (García-Barcelona et al. 2010).

Feature condition and future outlook of the proposed area

The main anthropogenic impacts in the area are:

- water pollution driven by the intensity of tourism in some coastal areas
- fishing (e.g. bottom trawling, fishing lines) that has produced some impacts in certain habitat types as well as in sea-turtles, cetaceans and seabirds longline bycatch
- Maritime traffic

According to the initial evaluation of MSFD on these areas, the impact on the deep sea and offshore habitats is not as high as in the shelf, and a low amount of information on this topic is still available for some areas (IEO-MAGRAMA et al. 2012a,b,c,d,e,f; IEO-SEO-MAGRAMA 2012; IEO-CSIC-MAGRAMA 2012). The presence of alien species is not significantly higher than in other parts of the Mediterranean Sea, but low information is available for Deep-Sea alien species (Öztürk, 2010; Coll et al. 2010). A number of projects, research programmes, expeditions and sample processing from past projects are planned for this area such as INDEMARES, monitoring programs of the MSFD, MEDITS surveys.

Assessment of the area against CBD EBSA Criteria

CBD EBSA Criteria (Annex I to decision IX/20)	Description (Annex I to decision IX/20)	Ranking of criterion relevance (please mark one column with an X)			
		No information	Low	Medium	High
Uniqueness or rarity	Area contains either (i) unique (“the only one of its kind”), rare (occurs only in few locations) or endemic species, populations or communities, and/or (ii) unique, rare or distinct, habitats or ecosystems; and/or (iii) unique or unusual geomorphological or oceanographic features.		X for Deep-Sea communities in specific areas	X for Deep-Sea habitats, biodiversity	X for large pelagic species and seabirds
<i>Explanation for ranking</i> The current information is still data deficient for some Deep-Sea areas (e.g. southern Balearic below 500m, Gulf of Vera) and submarine structures (e.g. submarine canyons of Alboran Sea, cold seeps) as well as for Deep-sea species that are smaller than megafauna (e.g. microfauna, meiofauna, bacteria). There is a medium knowledge for the presence of Deep-sea habitats in the Alboran Sea and Catalan Coast and for large pelagic species (e.g. sea turtles, pelagic fishes, cetaceans) as well as for seabirds.					
Special importance for life-history stages of species	Areas that are required for a population to survive and thrive.		X for deep-sea microorganisms	X for deep-sea megafauna	X for large pelagic species and seabirds
<i>Explanation for ranking</i> The current information on this criteria is still low for deep-sea small organisms (e.g. microfauna, meiofauna, bacteria), but is medium high for megafauna and vertebrates (fishes, sea-turtles, cetaceans, sea-birds).					
Importance for threatened, endangered or declining species and/or habitats	Area containing habitat for the survival and recovery of endangered, threatened, declining species or area with significant assemblages of such species.		X for deep-sea microfauna, bacteria	X for deep-sea megafauna	X for large pelagic species and seabirds
<i>Explanation for ranking</i> The information is low for some deep-sea small species (e.g. meiofauna, microfauna), but medium high for megafauna and vertebrates. Regarding habitats, information is still low for some Deep-Sea areas (e.g. southern Balearic below 500m, Gulf of Vera, Alboran Sea below 500 m) and submarine structures (e.g. submarine canyons of Alboran Sea and Gulf of Vera, cold seeps,) as well as for Deep-sea species that are smaller than megafauna (e.g. microfauna, meiofauna, bacteria). There is a medium knowledge for the presence of Deep-sea habitats in some areas of the Alboran Sea and Catalan Coast					
Vulnerability, fragility, sensitivity, or slow recovery	Areas that contain a relatively high proportion of sensitive habitats, biotopes or species that are functionally fragile (highly susceptible to degradation or depletion by human activity or by natural events) or with slow recovery.		X for some parts within the	X for some parts within the	

			area (Gulf of Vera, southe rn Balear ic	area (Gulf of Vera, southe rn Balear ic, Albor an and catala n sea	
<i>Explanation for ranking</i> Information is low-medium for some areas (southern Balearic and Gulf of Vera below 500 m) and medium for the Alboran Sea and Catalan Sea					
Biological productivity	Area containing species, populations or communities with comparatively higher natural biological productivity.		X for demersal megafauna	X for small and large pelagics	X for primary production
<i>Explanation for ranking</i> The information is still low for deep-sea demersal megafauna production (including habitat forming species), medium for small and large pelagic species and high for primary production.					
Biological diversity	Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity.		X for specific parts and for microfauna	X for specific parts and for microfauna	X for megafauna, large pelagic species and sea birds
<i>Explanation for ranking</i> There is a low-medium knowledge on different diversity components in specific parts (Gulf of Vera, southern Balearic, areas deeper than 500 m) and for small organisms (e.g. meiofauna, microfauna, bacteria), but is medium-high for vertebrates.					
Naturalness	Area with a comparatively higher degree of naturalness as a result of the lack of or low level of human-induced disturbance or degradation.		X for most deep-sea areas	X for open sea	
<i>Explanation for ranking</i> The information on this criteria is low for most Deep-Sea areas below 500 m but medium for open-sea areas. Low information is still available for the presence of alien species in deep-sea and open-sea.					

Sharing experiences and information applying other criteria (Optional)

Other Criteria	Description	Ranking of criterion relevance (please mark one column with an X)			
		Don't Know	Low	Medium	High
Add relevant criteria					
<i>Explanation for ranking</i>					

References

- Abelló P, Bertrand JA, Gil de Sola L, Papaconstantinou C, Relini G, Souplet A. 2002a. Mediterranean marine demersal resources: the MEDITS international trawl survey (1994-1999). *Scientia Marina* 66(Suppl. 2): 272 pp.
<http://www.icm.csic.es/scimar/index.php/secId/6/IdNum/68/>
- Abelló P, Carbonell A, Torres P. 2002b. Biogeography of epibenthic crustaceans on the shelf and upper slope off the Iberian Peninsula Mediterranean coasts: implications for the establishment of natural management areas. *Scientia Marina* 66(2): 183-198.
<http://digital.csic.es/bitstream/10261/5445/1/crustaceans.pdf>
- Acosta J, Muñoz A, Herranz P, Palomo C. 2001. Pockmarks in the Ibiza Channel and western end of the Balearic Promontory (western Mediterranean) revealed by multibeam mapping. *Geo-Marine Letters* 21: 123-130.
<http://link.springer.com/article/10.1007/s003670100074>
- Acosta J, Canals M, López-Martínez J, Muñoz A, Herranz P, et al. 2003. The Balearic Promontory geomorphology (western Mediterranean): morphostructure and active processes. *Geomorphology* 49: 177-204.
<http://www.sciencedirect.com/science/article/pii/S0169555X0200168X>
- Acosta J, Fontán A, Muñoz A, Muñoz-Martín A, Rivera J, Uchupi E. 2013. The morpho-tectonic setting of the Southeast margin of Iberia and the adjacent oceanic Algero-Balearic Basin. *Marine and Petroleum Geology* 45: 17-41.
<http://www.sciencedirect.com/science/article/pii/S0264817213000895>
- Alemany F, Deudero S, Morales-Nin B, Lopez-Jurado JL, Jansa J, et al. 2006. Influence of physical environmental factors on the composition and horizontal distribution of summer larval fish assemblages off Mallorca island (Balearic archipelago, western Mediterranean). *Journal of Plankton Research* 28(5): 473-487.
<http://plankt.oxfordjournals.org/content/28/5/473.full>
- Alemany F, Quintanilla L, Vélez-Belchí P, García A, Cortés D, et al. 2010. Characterization of the spawning habitat of Atlantic bluefin tuna and related species Balearic Sea (western Mediterranean). *Progress in Oceanography* 86: 21-38.
<http://www.sciencedirect.com/science/article/pii/S0079661110000480>
- Álvarez-Pérez G, Busquets P, De Mol B, Sandoval NG, Canals M, Casamor JL. 2005. Deep-water coral occurrences in the Strait of Gibraltar. In: Freiwald A, Roberts JM (eds.), *Cold-Water Corals and Ecosystems*, pp. 207-221. Springer-Verlag Berlin Heidelberg.
DOI: 10.1007/3-540-27673-4_10.
<http://books.google.es/books?id=zwg3Ro9QGfQC&pg=PA206&lpg=PA206&dq=Deep-water+coral+occurrences+in+the+Strait+of+Gibraltar&source=bl&ots=oOLh1LSj7l&sig=dTrPdmAc6iL3T3xpMyVtUtkEVL8&hl=en&sa=X&ei=ZmkgU6ScF-ib0QXj94DYCw&ved=0CEwQ6AEwBA#v=onepage&q=Deep-water%20coral%20occurrences%20in%20the%20Strait%20of%20Gibraltar&f=false>
- Aranda G, Abascal FJ, Varela JL, Medina A. 2013. Spawning behaviour and post-spawning migration patterns of Atlantic Bluefin Tuna (*Thunnus thynnus*) ascertained from Satellite Archival Tags. *PLoS ONE* 8(10): e76445.
DOI: 10.1371/journal.pone.0076445
<http://www.plosone.org/article/fetchObject.action?uri=info%3Adoi%2F10.1371%2Fjournal.pone.0076445&representation=PDF>

Arcos JM, Bécares J, Rodríguez B, Ruiz A. 2009. *Áreas importantes para la conservación de las aves marinas en España*. LIFE04NAT/ES/000049-Sociedad Española de Ornitología (SEO/BirdLife). Madrid. Disponible en <http://www.seo.org/2012/06/21/documentos-y-enlaces/>

Ballesteros E (2006) Mediterranean coralligenous assemblages: a synthesis of the present knowledge. *Oceanogr Mar Biol Annu Rev* 4:123–195
<http://decapoda.nhm.org/pdfs/29366/29366.pdf>

Barea-Azcón JM, Ballesteros-Duperón E, Moreno D. 2008. Libro Rojo de los Invertebrados de Andalucía. 4 Tomos. Consejería de Medio Ambiente, Junta de Andalucía, Sevilla, 1430 pp.
<http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem.7e1cf46ddf59bb227a9ebe205510e1ca/?vgnnextoid=0d8e968e15636310VgnVCM1000001325e50aRCRD&vgnnextchannel=4b2fa7a aaf4f4310VgnVCM2000000624e50aRCRD>

Barberá, C, Bordehore C, Borg JA, Glemarec M, Grall J, Hall-Spencer J, De La Huz C, Lanfranco E, Lastra M, Moore PG, Mora J, Pita ME, Ramos-Espla AA, Rizzo M, Sanchez-Mata A, Seva A, Schembri PJ, Valle C (2003) Conservation and management of northeast Atlantic and Mediterranean maerl beds. *Aquat Conserv Mar Freshw Ecosyst* 13(S1):S65–S76.
http://www.google.es/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CD0QFjAB&url=http%3A%2F%2Fwww.researchgate.net%2Fpublication%2F233726068_Conservation_and_Management_of_northeast_Atlantic_and_Mediterranean_maerl_beds%2Ffile%2F60b7d525017e778f8c.pdf&ei=Zf0iU87KB-KWYAPa_YDwBQ&usg=AFQjCNGjqiYIBJkOWE-AD-7UcZC9h91wA&sig2=LXI6geVhZIQNPlstQ-Sn0A&bvm=bv.62922401,d.bGQ

Barberá C, Moranta J, Ordines F, Ramón M, de Mesa A, et al. 2012. Biodiversity and habitat mapping of Menorca Channel (western Mediterranean): implications for conservation. *Biodiversity and Conservation* 21:701-728.
http://scholar.google.es/scholar_url?hl=en&q=http://www.researchgate.net/publication/235706594_Biodiversity_and_habitat_mapping_of_Menorca_Channel_%28western_Mediterranean%29_implications_for_conservation/file/3deec52025d0cd9e7c.pdf&sa=X&scisig=AAGBfm3UfmuwfZdPnoMPm6tubvtzs_wDzQ&oi=scholar&ei=upQZU9TEHMWV7Aabo4HoBw&ved=0CCgQgAMoADAA

Bradai MN, Saidi B, Enajjar S. 2012. *Elasmobranchs of the Mediterranean and Black sea: status, ecology and biology. Bibliographic analysis*. Studies and Reviews. General Fisheries Commission for the Mediterranean. No. 91. Rome, FAO. 103 pp.
http://www.fao.org/fileadmin/user_upload/newsroom/docs/i3097e%5B1%5D.pdf

Camiñas JA. 2004. *Sea turtles of the Mediterranean Sea: population dynamics, sources of mortality and relative importance of fisheries impacts*. Expert Consultation on Interactions between Sea Turtles and Fisheries within an Ecosystem Context. Food and Agriculture Organization Fisheries Report 738, Supplement. Rome, FAO. 26 pp.
<ftp://ftp.fao.org/docrep/fao/007/y5750e/y5750e00.pdf>

Cañadas, A., Sagarminaga, R., De Stephanis, R., Urquiola, E. & Hammond, P.S., 2005. Habitat preference modelling as a conservation tool: proposals for marine protected areas for cetaceans in southern Spanish waters *Aquatic Conservation: Marine and Freshwater Ecosystems* 15: 495-521.
http://www.cetaceanalliance.org/download/literature/Canadas_etal_2005.pdf

Cañadas A, Hammond P. 2008. Abundance and habitat preferences of the short-beaked common dolphin, *Delphinus delphis*, in the south-western Mediterranean: implications for conservation. *Endangered Species Research* 4: 309–331.
http://cetaceanalliance.org/download/literature/Canadas_Hammond_2008.pdf

Cartes JE, Maynou F, Fanelli E, Romano C, Mamouridis V, Papiol V. 2009. The distribution of megabenthic, invertebrate epifauna in the Balearic Basin (western Mediterranean) between 400 and

- 2300 m: Environmental gradients influencing assemblages composition and biomass trends. *Journal of Sea Research* 61(4): 244-257.
<http://www.sciencedirect.com/science/article/pii/S1385110109000070>
- Casale P, Freggi D, Basso R, Vallini C, Argano R. 2007. A model of area fidelity, nomadism, and distribution patterns of loggerhead sea turtles (*Caretta caretta*) in the Mediterranean Sea. *Marine Biology* 152: 1039-1049.
https://www.researchgate.net/publication/227111562_A_model_of_area_fidelity_nomadism_and_distribution_patterns_of_loggerhead_sea_turtles_%28Caretta_caretta%29_in_the_Mediterranean_Sea
- Champalbert G. 1996. Characteristics of zooplankton standing stock and communities in Western Mediterranean Sea: relations to hydrology. *Scientia Marina* 60: 97–113.
http://www.icm.csic.es/scimar/pdf/60/sm60s2097.pdf?origin=publication_detail
- Coll M, Piroddi C, Steenbeek J, Kaschner K, Ben Rais Lasram F, et al. 2010. The Biodiversity of the Mediterranean Sea: Estimates, Patterns, and Threats. *PLoS ONE* 5(8): e11842.
 DOI:10.1371/journal.pone.0011842.
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0011842>
- DEEPER. 2010. Web page <http://www.ma.ieo.es/deeper/Ingles/PagMain.htm>
- De Metrio G, Arnold G, De la Serna J, Block B, Megalofonou P, et al. 2005. Movements of bluefin tuna (*Thunnus thynnus* L.) tagged in the Mediterranean Sea with pop-up satellite tags. *Collective Volume of Scientific Papers – ICCAT* 58:1337-1340
http://www.iccat.int/Documents/CVSP/CV058_2005/no_4/CV058041337.pdf
- Deudero S; Vallespir J, Obrador M. (2012) Atlas de biodiversidad marina del Mar Balear, GEOPORTAL servidor cartografico.
<http://www.ba.ieo.es/bioatlasmarino/>
- Eckert SA, Moore JE, Dunn DC, van Buiten RS, Eckert KL, Halpin PN. 2008. Modeling loggerhead turtle movement in the Mediterranean: importance of body size and oceanography. *Ecology Application* 18: 290-308.
https://www.researchgate.net/publication/5361072_Modeling_loggerhead_turtle_movement_in_the_Mediterranean_importance_of_body_size_and_oceanography
- Estrada M. 1996. Primary production in the northwestern Mediterranean. *Scientia Marina* 60(Supl. 2): 55-64.
<http://digital.csic.es/bitstream/10261/28336/1/sm60s2055.pdf>
- Forcada J, Gazo M, Aguilar A, Gonzalvo J, Fernández-Contreras M. 2004. Bottlenose dolphin abundance in the NW Mediterranean: addressing heterogeneity in distribution. *Marine Ecology Progress Series* 275: 275-287.
<http://www.int-res.com/articles/meps2004/275/m275p275.pdf>
- Fromentin JM. 2006. Capítulo 2.1.5: Atún Rojo del Atlántico. Manual de ICCAT.
http://www.iccat.int/Documents/SCRS/Manual/CH2/2_1_5_BFT_SPA.pdf
- Flores-Moya A, Soto J, Sánchez A, Altamirano M, Reyes G, Conde F. 1995. Check-list of Andalusia (S. Spain) seaweeds. I. Phaeophyceae. *Acta Botanica Malacitana* 20: 5-18
<http://www.ecolife.uma.es/wp-content/uploads/2012/02/Check-list-of-Andalusia-S1.-Spain-seaweeds.-I.-Phaeophyceae.-1995.pdf>
- Galisteo A, González Pérez F, Naranjo S, Abreu Fernández L, Losa MT, et al. 2012. *Producción pesquera andaluza. Año 2011*. Junta de Andalucía. Consejería de Agricultura y Pesca. Secretaría General Técnica. Servicio de Publicaciones y Divulgación. Sevilla, Spain. 372 pp.

http://www.juntadeandalucia.es/agriculturaypesca/portal/export/sites/default/comun/galerias/galeriaDescargas/cap/servicio-estadisticas/estadisticas_pesqueras/publicaciones/prod_pesquera_11.pdf

García-Barcelona S, Ortiz de Urbina JM, de la Serna JM, Alot E, Macías D. 2010. Seabird bycatch in Spanish Mediterranean large pelagic longline fisheries, 2000-2008. *Aquatic Living Resources* 57: 65-78.

<http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8036617>

García A, Alemany F, Rodríguez J. 2002. Distribution of tuna larvae off the Balearic sea: preliminary results of the TUNIBAL 0600 larval survey. *Collective Volume of Scientific Papers – ICCAT* 54:554-560

http://www.iccat.int/documents/cvsp/cv054_2002/no_2/cv054020554.pdf

García A, Alemany F, Velez-Belchí P, López Jurado JL, Cortés D, et al. 2005. Characterization of the bluefin tuna spawning habitat off the Balearic Archipelago in relation to key hydrographic features and associated environmental conditions. *Collective Volume of Scientific Papers – ICCAT* 58(2): 535-549.

https://www.iccat.int/Documents/CVSP/CV058_2005/no_2%5CCV058020535.pdf

García Raso JE. 1996. Crustacea Decapoda (Excl. Sergestidae) from Ibero-Moroccan Waters. Results of Balgim-84 Expedition. *Bulletin of Marine Science* 58(3): 730-752.

http://scholar.google.es/scholar_url?hl=en&q=http://www.researchgate.net/publication/233692622_Crustacea_Decapoda_%28Excl._Sergestidae%29_from_Ibero-Moroccan_Waters._Results_of_Balgim-84_Expedition/file/72e7e526651d9b46ad.pdf&sa=X&scisig=AAGBfm2y-gp3Gudp0xeI-zTtHUsTx3Nfgg&oi=scholar&ei=DpkYU_uPLcap7AbWtYGICQ&ved=0CDoQgAMoADAA

García Raso JE, Gofas S, Salas Casanova C, Majón-Cabeza E, Urrea J, García Muñoz JE. 2010. *El mar más rico de Europa: Biodiversidad del litoral occidental de Málaga entre Calaburras y Calahonda*. Consejería de Medio Ambiente, Junta de Andalucía, Sevilla, 138 pp.

García-Rodríguez M, Abelló P, Fernández A, Esteban A. 2011. Demersal Assemblages on the Soft Bottoms off the Catalan-Levante Coast of the Spanish Mediterranean. *Journal of Marine Biology* 2011. Article ID 976396.

DOI:10.1155/2011/976396

<http://www.hindawi.com/journals/jmb/2011/976396/>

Gennari G, Spezzaferri S, Comas MC, Rüggerberg A, López-Rodríguez C, Pinheiro LM. 2013. Sedimentary sources of the mud-breccia and mud volcanic activity in the Western Alboran Basin. *Marine Geology* 339: 83–95.

<http://www.sciencedirect.com/science/article/pii/S0025322713000327>

Gili JM, Pagès F, Bouillon J, Palanques A, Puig P, et al. 2000. A multidisciplinary approach to the understanding of hydromedusan populations inhabiting Mediterranean submarine canyons, *Deep-Sea Research I* 47: 1513–1533.

<http://www.google.es/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CDEQFjAA&url=http%3A%2F%2Fwww.vliz.be%2Fimisdocs%2Fpublications%2F230366.pdf&ei=RD4bU87RKamI7AamrYHoAw&usg=AFQjCNHvAlo90LIpOI5lsqUBjLfuhv92jA&bvm=bv.62578216,d.Yms>

Gil de Sola L. 1994. Ictiofauna demersal de la plataforma continental del mar de Alborán (Mediterráneo suroccidental ibérico). *Boletín Instituto Español de Oceanografía* 10(1):63-79.

<http://www.repositorio.ieo.es/e-ieo/handle/10508/1576?locale-attribute=fr>

Gil de Sola, L., Lloris, D., and Ferrandis, E. 2006. Atlas de las principales especies demersales de interés comercial del litoral mediterráneo español. Campañas MEDITS_ES (1994-2003). Informes y Estudios COPEMED n12. FAO, Rome.

- Gofas S. 1998. Marine molluscs with a very small range in the Strait of Gibraltar. *Diversity and Distributions* 4: 255-266.
<http://www.docin.com/p-290709500.html>
- Gofas S, Salas C, Rueda JL, Canoura J, Farias C, Gil J. 2011. Mollusca from a species-rich deep-water *Leptometra* community in the Alboran Sea. 6th Congress of the European Malacological Societies. Vitoria-Gasteiz, Spain, 18-22 July 2011.
- González M, Sánchez P. 2002. Cephalopod assemblages caught by trawling along the Iberian Peninsula Mediterranean coast. *Scientia Marina* 66: 199-208.
<http://digital.csic.es/bitstream/10261/5446/1/cephalopods.pdf>
- Gori A, Orejas C, Madurell T, Bramanti L, Martins M, et al. 2013. Bathymetrical distribution and size structure of cold-water coral populations in the Cap de Creus and Lacaze-Duthiers canyons (northwestern Mediterranean). *Biogeosciences* 10: 2049-2060.
<http://www.biogeosciences.net/10/2049/2013/bg-10-2049-2013.html>
- Greenpeace 2009. *High Seas Mediterranean Marine Reserves: a case study for the Southern Balearics and the Sicilian Channel*. A briefing to the CBD's Expert workshop on scientific and technical guidance on the use of biogeographic classification systems and identification of marine areas beyond national jurisdiction in need of protection. Greenpeace International, 58 pp.
<http://www.greenpeace.to/publications/mediterranean-cbd-report-august-2009.pdf>
- Hebbeln D, Wienberg C, Beuck L, Freiwald A, Wintersteller P and cruise participants. 2009. *Report and preliminary results of RV POSEIDON Cruise POS 385 "Cold-Water Corals of the Alboran Sea (western Mediterranean Sea)"*, Faro - Toulon, May 29 - June 16, 2009. Berichte, Fachbereich Geowissenschaften, Universität Bremen, No. 273, 79 pp.
https://www.marum.de/Binaries/Binary5309/MARUM_POS385_cruise_report.pdf
- Hernández-Molina FJ, Serra N, Stow DAV, Llave L, Ercilla E, Van Rooij D. 2011 Along-slope oceanographic processes and sedimentary products around the Iberian margin. *Geo-Marine Letters* 31: 315-341
<http://digital.csic.es/bitstream/10261/46249/1/GMLE-S-10-00149.pdf>
- Hilário A, Comas MC, Azevedo L, Pinheiro L, Ivanov MK, Cunha MR. 2011. First record of a Vestimentifera (Polychaeta: Siboglinidae) from chemosynthetic habitats in the western Mediterranean Sea - Biogeographical implications and future exploration. *Deep Sea Research I* 58: 200-207.
<http://www.sciencedirect.com/science/article/pii/S0967063710002372>
- IEO-MAGRAMA, 2012a. *Estrategia Marina Demarcación Marina del Estrecho y Alborán. Parte 1: Marco general evaluación inicial y buen estado ambiental*. Ministerio de Agricultura, Alimentación y Medio Ambiente, Secretaría General Técnica, Centro de Publicaciones, 69 pp.
<http://www.magrama.gob.es/es/costas/temas/estrategias-marinas/>
- IEO-MAGRAMA, 2012b. *Estrategia Marina Demarcación Marina Levantino-Balear. Parte 1: Marco general. Evaluación inicial y buen estado ambiental*. Ministerio de Agricultura, Alimentación y Medio Ambiente, Secretaría General Técnica, Centro de Publicaciones, 91 pp.
<http://www.magrama.gob.es/es/costas/temas/estrategias-marinas/>
- IEO-MAGRAMA, 2012c. *Estrategia Marina Demarcación Marina del Estrecho y Alborán. Parte 4: Descriptores del buen estado ambiental. Descriptor 1: Biodiversidad. Evaluación inicial y buen estado ambiental*. Ministerio de Agricultura, Alimentación y Medio Ambiente, Secretaría General Técnica, Centro de Publicaciones, 615 pp.
<http://www.magrama.gob.es/es/costas/temas/estrategias-marinas/>
- IEO-MAGRAMA, 2012d. *Estrategia Marina Demarcación Marina Levantino-Balear. Parte 4: Descriptores del buen estado ambiental. Descriptor 1: Biodiversidad. Evaluación inicial y buen*

estado ambiental. Ministerio de Agricultura, Alimentación y Medio Ambiente, Secretaría General Técnica, Centro de Publicaciones, 839 pp.

<http://www.magrama.gob.es/es/costas/temas/estrategias-marinas/>

IEO-MAGRAMA, 2012e. *Estrategia Marina Demarcación Marina Estrecho y Alborán. Parte 4: Descriptores del buen estado ambiental. Descriptor 6: Fondos Marinos. Evaluación inicial y buen estado ambiental*. Ministerio de Agricultura, Alimentación y Medio Ambiente, Secretaría General Técnica, Centro de Publicaciones, 41 pp.

<http://www.magrama.gob.es/es/costas/temas/estrategias-marinas/>

IEO-MAGRAMA, 2012f. *Estrategia Marina Demarcación Marina Levantino-Balear. Parte 4: Descriptores del buen estado ambiental. Descriptor 6: Fondos Marinos. Evaluación inicial y buen estado ambiental*. Ministerio de Agricultura, Alimentación y Medio Ambiente, Secretaría General Técnica, Centro de Publicaciones, 126 pp.

<http://www.magrama.gob.es/es/costas/temas/estrategias-marinas/>

IEO- SEO-MAGRAMA, 2012. *Estrategias Marinas. Grupo Aves Marinas. Evaluación inicial y buen estado ambiental*. Ministerio de Agricultura, Alimentación y Medio Ambiente, 296 pp.

http://www.magrama.gob.es/es/costas/temas/estrategias-marinas/0_Documento_grupo_aves_tcm7-223807.pdf

IEO-CSIC-MAGRAMA et al. 2012. *Estrategias Marinas. Grupo Mamíferos marinos. Evaluación inicial y buen estado ambiental*. Ministerio de Agricultura, Alimentación y Medio Ambiente, 296 pp.

http://www.magrama.gob.es/es/costas/temas/estrategias-marinas/0_Documento_grupo_mamiferos_marinos_def_tcm7-229902.pdf

INDEMARES. Web page <http://www.indemares.es/>

Lastras G, Canals M, Urgeles R, Hughes-Clarke JE, Acosta J. 2004. Shallow slides and pockmark swarms in the Eivissa Channel, western Mediterranean Sea. *Sedimentology* 51: 1-14.

http://www.omg.unb.ca/omg/papers/lastras_et_al_2004.pdf

Lo Iacono C, Gràcia E, Diez S, Bozzano G, Moreno X, et al. 2008. Seafloor characterization and backscatter variability of the Almería Margin (Alboran Sea, SW Mediterranean) based on high-resolution acoustic data. *Marine Geology* 250: 1-18.

ftp://soest.hawaii.edu/sjara/roughness_references/sidescan/LoIacono_et_al_08_seafloor_roughness_acoustics.pdf

Lo Iacono C, Orejas C, Gori A, Gili JM, Requena S, et al. 2012. Habitats of the Cap de Creus continental shelf and Cap de Creus canyon, northwestern Mediterranean. In: Harris PT, Baker E K (eds), *Seafloor geomorphology as benthic habitat*, pp. 457-469. Elsevier, London.

http://www.google.es/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CDsQFjAB&url=http%3A%2F%2Fwww.indemares.es%2Findex.php%3Foption%3Dcom_docman%26task%3Ddoc_download%26gid%3D188%26Itemid%3D35%26lang%3Des&ei=iD4bU7S-DoKS7Aa-kYHADA&usg=AFQjCNHU57F2oQpU7zhZn6VjY1tI0BlrGg&bvm=bv.62578216,d.ZGU

Louzao M, Hyrenbach D, Arcos JM, Abelló P, Gil de Sola L, Oro D. 2006. Oceanographic habitat of a critically endangered Mediterranean Procellariiform: implications for the design of Marine Protected Areas. *Ecological Applications* 16(5): 1683-1695.

https://imedea.uib-csic.es/bc/gep/docs/pdfsggrupo/articulos/2006/2.Ecol_apl06_Louzao.pdf

Luque ÁA, Templado J (Coords.). 2004. *Praderas y bosques marinos de Andalucía*. Consejería de Medio Ambiente, Junta de Andalucía, Sevilla, 336 pp.

Malak, AD. et al. (2011). Overview of the Conservation Status of the Marine Fishes of the Mediterranean Sea. Gland, Switzerland and Malaga, Spain: IUCN. vii + 61pp.

<https://portals.iucn.org/library/efiles/edocs/RL-262-001.pdf>

- Massutí E, Moranta J. 2003. Demersal assemblages and depth distribution of elasmobranchs from the continental shelf and slope off the Balearic Islands (western Mediterranean). *ICES Journal of Marine Science* 60: 753–766.
<http://icesjms.oxfordjournals.org/content/60/4/753.full>
- Maynou F, Cartes JE. 2012. Effects of trawling on fish and invertebrates from deep-sea coral facies of *Isidella elongata* in the western Mediterranean. *Journal of the Marine Biological Association of the United Kingdom* 92(7): 1501-150.
<http://digital.csic.es/bitstream/10261/53796/1/3327.pdf>
- Moranta J, Quetglas A, Massutí E, Guijarro B, Hidalgo M, Díaz P. 2008. Spatio-temporal variations in deep-sea demersal communities off the Balearic Islands (western Mediterranean). *J. Mar. Syst.* 71(3-4): 346-366.
<http://www.sciencedirect.com/science/article/pii/S0924796307001972>
- Notarbartolo di Sciara G. 2002. Cetacean species occurring in the Mediterranean and Black Seas. In: Notarbartolo di Sciara G (dd.), *Cetaceans of the Mediterranean and Black Seas: state of knowledge and conservation strategies*. A report to the ACCOBAMS Secretariat, Monaco, February 2002. Section 3, 17 p.
<http://oceandocs.org/bitstream/1834/840/1/Notarbartolo2.pdf>
- OCEANA. 2007. *Estudio Bionómico de Cabrera*. Oceana y Govern Balear, 60 pp.
http://oceana.org/sites/default/files/reports/oceana_estudio_bionomico_cabrera.pdf
- OCEANA. 2008. *Propuesta de áreas marinas de importancia ecológica: Atlántico Sur y Mediterráneo Español*. Oceana, 132 pp.
http://www.google.es/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=0CDkQFjAC&url=http%3A%2F%2Fwww.indemares.es%2Findex.php%3Foption%3Dcom_docman%26task%3Ddoc_download%26gid%3D24%26Itemid%3D39%26lang%3Des&ei=sUAbU-gmqMfsBonXgfgK&usg=AFQjCNH6vaWU8q2JqS_7UjyugvSkOR150w&bvm=bv.62578216,d.ZGU
- OCEANA. 2010a. *Seamounts of the Balearic Islands*. Oceana. 64 pp.
http://oceana.org/sites/default/files/reports/OCEANA_Seamounts_Balearic_Islands_ENG.pdf
- OCEANA. 2010b. *Seamounts of the Mallorca Channel, Balearic Islands*. Standard format for the submission of proposals for GFCM Fisheries Restricted Areas (FRA) in the Mediterranean. 29 pp.
http://151.1.154.86/GfcmWebSite/SAC/SubCommittees/2010/FRAMontes_Baleares.pdf
- OCEANA. 2011. *Montañas submarinas de las Islas baleares: Canal de Mallorca 2011*. Propuesta de protección para Ausias march, Emile Baudot y Ses lives. Fundación Biodiversidad y OCEANA. 64 pp.
http://oceana.org/sites/default/files/reports/OCEANA_Montanas_submarinas_baleares_Canal_mallorca_2011_0.pdf
- Orejas C, Gori A, Lo Iacono C, Puig P, Gili JM, Dale MRT. 2009. Cold-water corals in the Cap de Creus canyon, northwestern Mediterranean: spatial distribution, density and anthropogenic impact. *Marine Ecology Progress Series* 397: 37-51
<http://www.int-res.com/abstracts/meps/v397/p37-51/>
- Ordines F, Massutí E. 2008. Relationships between macro-epibenthic communities and fish on the shelf grounds of the western Mediterranean. *Aquatic Conservation: Marine and Freshwater Ecosystems* 19(4): 370–383.
<http://onlinelibrary.wiley.com/doi/10.1002/aqc.969/abstract>
- Öztürk, B. 2010. Status of alien species in the Black and Mediterranean Seas. Studies and Reviews. General Fisheries Commission for the Mediterranean. No. 87. Rome, FAO. 104 pp.
http://www.faosipam.org/GfcmWebSite/GFCM/37/GFCM_XXXVII_2013_Dma.6.pdf

- Palomera I, Olivar MP, Salat J, Sabatés A, Coll M, et al. 2007. Small Pelagic Fish in the NW Mediterranean Sea: An Ecological Review. *Progress in Oceanography* 74: 377-396.
ftp://ftp.ma.ieo.es/PUBLICO/PUBLICACIONES/AceptManuscript_PROOCE700%20palomera.pdf
- Palomino D, Vázquez JT, Ercilla G, Alonso B, López N, Díaz-del-Río V. 2012. Interrelationship between seabed morphology and water masses on the seamounts of the Djibouti Marginal Shelf (Alborán, western Mediterranean). *Geo-Marine Letters* 31(5-6):465-479.
https://www.researchgate.net/publication/225270386_Interaction_between_seabed_morphology_and_water_masses_around_the_seamounts_on_the_Motril_Marginal_Plateau_%28Alboran_Sea_Western_Mediterranean%29
- Pardo E, Aguilar R, García S, de la Torriente A, Ubero J. 2011. Documentación de arrecifes de corales de agua fría en el Mediterráneo occidental (Mar de Alborán). *Chronica Naturae* 1: 20–34.
http://www.google.es/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCoQFjAA&url=http%3A%2F%2Fdialnet.unirioja.es%2Fdescarga%2Farticulo%2F3793164.pdf&ei=ha8ZU_6aL8yM7AaT14CoDg&usg=AFQjCNFLKi6wKegBNRqVSDXT2IIKNZXLlg&sig2=Ly8Zr82SeyJba3ONuow4Q&bvm=bv.62578216,d.ZGU
- Paracuellos M, Jerez D. 2003. A comparison of two seabird communities on opposite coasts of the Alboran Sea (Western Mediterranean). *Scientia Marina* 67(Suppl 2): 117-123.
<http://www.icm.csic.es/scimar/index.php/secId/6/IdArt/466/>
- Paracuellos M, Nevado JC. 2003. Nesting seabirds in SE Spain: distribution, numbers and trends in the province of Almería. *Scientia Marina* 67 (Suppl. 2): 125-128.
<http://www.icm.csic.es/scimar/index.php/secId/6/IdArt/470/>
- Peñas A, Rolán E, Luque AA, Templado J, Moreno D, et al. 2006. Moluscos marinos de la isla de Alborán. *Iberus* 24: 23-151
<http://biostor.org/reference/133290>
- PEW. 2010. Ocean Science Series Science Brief: Conserving Atlantic Bluefin Tuna with Spawning Sanctuaries. More info available at:
http://www.pewenvironment.org/uploadedFiles/PEG/Publications/Report/PEG_OSD_SpawningScienceBrief.pdf
- Pons GX, Ginard A, Vicens D (eds). 2013. *VI Jornades de Medi Ambient de les Illes Balears*. Societat d'Història Natural de les Balears. 488 pp.
<http://www.shnb.org/jma/Pon%C3%A8nciesiResumsJMA.pdf>
- Ramón M, Abelló P, Ordines F, Massutí E. 2014. Deep epibenthic communities in two contrasting areas of the Balearic Islands (western Mediterranean). *Journal of Marine Systems* 132: 54-65.
<http://www.sciencedirect.com/science/article/pii/S0924796314000074>
- Reglero P, Ciannelli L, Alvarez-Berastegui D, Balbín R, López-Jurado JL, Alemany F. 2012. Geographically and environmentally driven spawning distributions of tuna species in the western Mediterranean Sea. *Marine Ecology Progress Series* 463: 273-284.
http://www.fisheriesoceanographylab.org/wp-content/uploads/2012/11/Reglero_Ciannelli_Tuna.pdf
<http://www.int-res.com/abstracts/meps/v463/p273-284/>
- Revelles M, Isern-Fontanet J, Cardona L, San Felix M, Carreras C, Aguilar A. 2007. Mesoscale eddies, surface circulation and the scale of habitat selection by immature loggerhead sea turtles. *Journal of Experimental Marine Biology and Ecology* 347: 41-57.
http://www.google.es/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CDgQFjAB&url=http%3A%2F%2Fcfse.fra.affrc.go.jp%2Fkiyo%2Fhome%2Finfo_ex%2Fprojects%2FH19Kernel%2FRevelles_etal2007.pdf&ei=AwwbU8vSHsyM7AaT14CoDg&usg=AFQjCNF8W73JUwgiXjpDiJzsp6_6lgc1DQ&bvm=bv.62578216,d.ZGU

- Rodríguez JM, Álvarez I, López-Jurado JL, García A, Balbin R, et al. 2013. Environmental forcing and the larval fish community associated to the Atlantic bluefin tuna spawning habitat of the Balearic region (Western Mediterranean), in early summer 2005. *Deep-Sea Research Part I* 77: 11-22.
https://www.researchgate.net/publication/257426678_Environmental_forcing_and_the_larval_fish_community_associated_to_the_Atlantic_bluefin_tuna_spawning_habitat_of_the_Balearic_region_%28Western_Mediterranean%29_in_early_summer_2005?ev=prf_pub
- Rossi S, Tsounis G, Orejas C, Padrón T, Gili JM, et al. 2008. Survey of deep-dwelling red coral (*Corallium rubrum*) populations at Cap de Creus (NW Mediterranean). *Marine Biology* 154(3): 533-545.
<http://link.springer.com/article/10.1007%2Fs00227-008-0947-6>
- Rueda JL, Urra J, Marina P, Mateo A, Reina-Hervás JA. 2010. Especies africanas en las costas de Andalucía: un patrimonio natural único en el ámbito europeo. *Quercus* 293: 24-30.
https://www.researchgate.net/publication/236902840_Especies_africanas_en_Andalucia?ev=prf_pub
- Sabatés A, Olivar MP, Salat J, Palomera I, Alemany F. 2007. Physical and biological processes controlling the distribution of fish larvae in the NW Mediterranean. *Progress in Oceanography* 74: 355-376
<http://www.sciencedirect.com/science/article/pii/S0079661107000638>
- Sarhan T, García Lafuente J, Vargas M, Vargas JM, Plaza F. 2000. Upwelling mechanisms in the northwestern Alboran Sea. *Journal of Marine Systems* 23: 317-331.
http://ocean.uma.es/WebIngres/ArticulosPDF/TAREK_upwelling.pdf
- Salas C. 1996. Bivalves from off the Southern Iberian Peninsula collected by the FAUNA I and BALGIM expeditions. *Haliotis* 25: 33-100.
- SEO/BirdLife. 2012. *Atlas de las aves en invierno en España 2007-2010*. Ministerio de Agricultura, Alimentación y Medio Ambiente-SEO/BirdLife. Madrid. 816 pp.
http://www.magrama.gob.es/es/biodiversidad/publicaciones/atlas_aves_invierno_tcm7-291664.pdf
- Sitjá C, Maldonado M. 2014. New and rare sponges from the deep shelf of the Alboran Island (Alboran Sea, Western Mediterranean). *Zootaxa* 3760(2): 141-179
http://www.google.es/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CD0QFjAB&url=http%3A%2F%2Fwww.indemares.es%2Findex.php%3Foption%3Dcom_docman%26task%3Ddoc_download%26gid%3D249%26Itemid%3D39&ei=9Y0hU_74BOHG0QX_-YGoBg&usq=AfQjCNG9tPUBjvhY2sXB12ccleEUPQ8EKw&sig2=KDtxrg_B7drriyuJAvyzSA&bv m=bv.62922401,d.d2k
- Somoza L, Medialdea T, León R, Ercilla G, Vázquez JT, et al. 2012. Structure of mud volcano systems and pockmarks in the region of the Ceuta Contourite Depositional System (Western Alborán Sea). *Marine Geology* 332-334: 4-26.
<http://www.sciencedirect.com/science/article/pii/S0025322712001326>
- Soto JI, Fernández-Ibáñez F, Talukder AR, Martínez-García P. 2010. Miocene shale tectonics in the northern Alboran Sea (western Mediterranean). In: Wood L (ed), *Shale tectonics*, pp. 119-144. AAPG Memoir 93.
<http://books.google.es/books?id=nQ8rAgAAQBAJ&pg=PA123&lpg=PA123&dq=Miocene+shale+tectonics+in+the+northern+Alboran+Sea&source=bl&ots=pP5YU2mtyp&sig=LJK7Ee7QXlcYTYvgFbLxHtMHRM&hl=en&sa=X&ei=r1kYU6GyMdCDyAPFwIGQBg&ved=0CDYQ6AEwAQ#v=onepage&q=Miocene%20shale%20tectonics%20in%20the%20northern%20Alboran%20Sea&f=false>
- STECF. 2006. Sensitive and essential habitats in the Mediterranean Sea. Comission of the European Communities. 61 pp.
<http://www.biologiamarinaroma.org/biomar/EFH%20Report.pdf>

Templado J, Guerra A, Bedoya J, Moreno D, Remón JM, et al. 1993. *Fauna marina circalitoral del Sur de la Península Ibérica: Resultados de la campaña oceanográfica "Fauna I"*. Museo Nacional de Ciencias Naturales. CSIC, Madrid. 185 pp.

http://books.google.es/books?id=Cx_dFEEWKDAC&pg=PA129&lpg=PA129&dq=Moluscos+marinos+de+la+isla+de+Albor%C3%A1n.&source=bl&ots=maLToHMB-&sig=WwbW_6t9C-f8yh4t9B-TnxuFyU&hl=en&sa=X&ei=iJkYU-isBqyv7Aaw9oD4CA&ved=0CF8Q6AEwBg#v=onepage&q=Moluscos%20marinos%20de%20la%20isla%20de%20Albor%C3%A1n.&f=false

Templado J, Calvo M. (Eds). 2006. *Flora y Fauna de la Reserva Marina y de Pesca de la Isla de Alborán*. Secretaría General de pesca Marítima, Ministerio de Agricultura, Pesca y Alimentación, Madrid.

https://www.researchgate.net/publication/235525929_Flora_y_fauna_de_la_Reserva_Marina_y_Reserva_de_Pesca_de_la_isla_de_Alborn

Templado J, Ballesteros E, Galparsoro I, Borja A, Serrano A, et al. 2012. *Guía Interpretativa. Inventario Español de Hábitats y Especies Marinos*. Ministerio De Agricultura, Alimentación y Medio Ambiente. 231 pp.

http://normativa.infocentre.es/wps/wcm/connect/b64096804f8b92e2af88ff97b29dcb34/habitats_marinos.pdf?MOD=AJPERES

IUCN. 2012. *Propuesta de una red representativa de áreas marinas protegidas en el mar de Alborán / Vers un réseau représentatif d'aires marines protégées dans la mer d'Alboran*. Gland, Suiza y Málaga, España: IUCN. 124 pp. http://www.iucn.org/knowledge/publications_doc/publications/

UNEP-MAP-RAC/SPA. 2010a. *Overview of scientific findings and criteria relevant to identifying SPAMIs in the Mediterranean open seas, including the deep sea*. By Notarbartolo di Sciara G, Agardy T. (eds). RAC/SPA, Tunis: 71pp.

http://www.rac-spa.org/sites/default/files/meetings/nfp_r_ext_1/wg.348_inf03.pdf

UNEP-MAP-RAC/SPA. 2010b. *Technical report on the geographical information system developed for Mediterranean open seas*. By Requena S (ed). RAC/SPA, Tunis: 50pp.

http://medabnj.rac-spa.org/index.php?option=com_content&view=article&id=8&Itemid=8&lang=en

Vandorpe TP, Van Rooij D, Stow DAV, Henriët JP. 2011. Pliocene to recent shallow-water contourite deposits on the shelf and shelf edge off south-western Mallorca, Spain. *Geo-Marine Letters* 31(5-6): 391-403.

https://www.researchgate.net/publication/225176669_Pliocene_to_Recent_shallow-water_contourite_deposits_on_the_shelf_and_shelf_edge_off_south-western_Mallorca_Spain

WWF/IUCN. 2004. *The Mediterranean deep-sea ecosystems: an overview of their diversity, structure, functioning and anthropogenic impacts, with a proposal for conservation*. IUCN, Málaga-WWF, Rome. 64 pp.

<https://portals.iucn.org/library/efiles/edocs/2004-052.pdf>

Würtz M. 2010. *Mediterranean Pelagic Habitat: Oceanographic and Biological Processes, An Overview*. Gland, Switzerland and Malaga, Spain: IUCN. 90 pp.

<http://data.iucn.org/dbtw-wpd/edocs/2010-016.pdf>

Würtz M (ed). 2012. *Mediterranean Submarine Canyons: Ecology and Governance*. Gland, Switzerland and Málaga, Spain: IUCN. 216 pp.

<http://data.iucn.org/dbtw-wpd/edocs/2012-035.pdf>

Maps and Figures

Habitats and biodiversity

<http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem.220de8226575045b25f09a105510e1ca/?vgnextoid=f51bb2c42f207310VgnVCM2000000624e50aRCRD>

<http://www.eu-hermione.net/news/science/42-new-discoveries-in-the-alboran-sea>

<http://www.magrama.gob.es/es/costas/temas/estrategias-marinas/>

<http://www.indemares.es/>

<http://www.ba.ieo.es/ideados/>

<http://www.ba.ieo.es/bioatlasmarino/>

http://151.1.154.86/GfcmWebSite/SAC/SubCommittees/2010/FRAMontes_Baleares.pdf

http://oceana.org/sites/default/files/reports/OCEANA_Seamounts_Balearic_Islands_ENG.pdf

http://oceana.org/sites/default/files/reports/OCEANA_Montanas_submarinas_baleares_Canal_mallorca_2011_0.pdf

http://oceana.org/sites/default/files/reports/propuesta_areas_marinas_importancia_ecologica.pdf

http://data.iucn.org/dbtw-wpd/edocs/2012-035.pdf?utm_campaign=1111009388&utm_content=1012753981711&utm_medium=email&utm_source=Emailvision

http://oceana.org/sites/default/files/reports/oceana_estudio_bionomico_cabrera.pdf

http://oceana.org/sites/default/files/reports/OCEANA_Poster_Laminarias_2010.pdf

http://oceana.org/sites/default/files/reports/OCEANA_Cartel_CIESM_web.pdf

http://oceana.org/sites/default/files/reports/Poster_Coraligeno_2009.pdf

<http://www.shnb.org/jma/Pon%C3%A8nciesiResumsJMA.pdf>

<http://www.ba.ieo.es/investigacion/informes-tecnicos/686-informe-proyecto-canal-0209>

<http://151.1.154.86/GfcmWebSite/MeetingsReportsRepository.html>

<http://www.gfcm.org/gfcm/en>

Large Pelagics

<http://www.iccat.int/es/>

Marine Mammals

<http://www.circe.info/>

<http://www.alnilam.com.es/spanish/alboran/cetaceos.php>

<http://www.magrama.gob.es/es/costas/temas/estrategias-marinas/>

<http://www.alnilam.info/index.php/es/investigacion/inv-publicaciones/tesis-ana>

<http://www.alnilam.info/index.php/es/investigacion/inv-publicaciones/informes-tecnicos>

<http://www.asociaciontursiops.org/es/proyectos/intro.html>

<http://www.edmaktub.com/cetaceos>

Marine Birds

<https://www.seo.org/>

<http://www.magrama.gob.es/es/costas/temas/estrategias-marinas/>

http://www.cms.int/reports/small_cetaceans/data/t_truncatus/t_truncatus.htm

<http://www.indemares.es/>

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