European Marine Observation and Data Network

Biology

Simon Claus

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European Marine Observation and Data Network

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- Start: 30-08-2013
- 19 partners + 3 subcontractors

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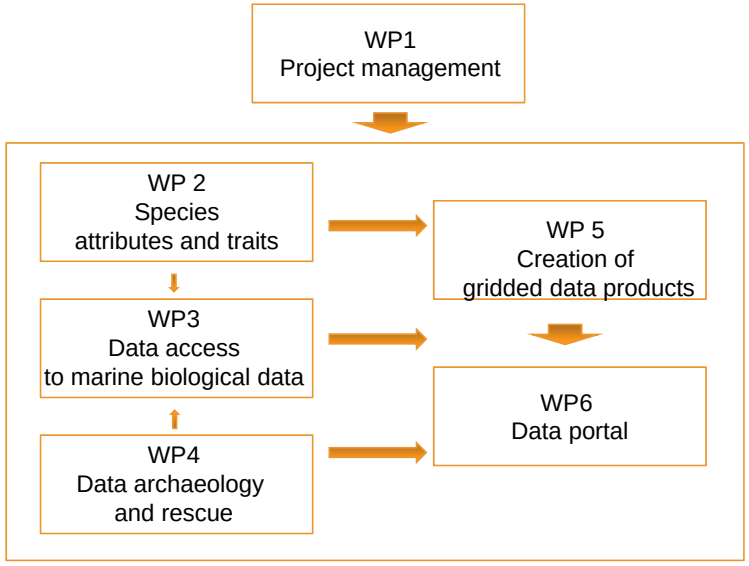

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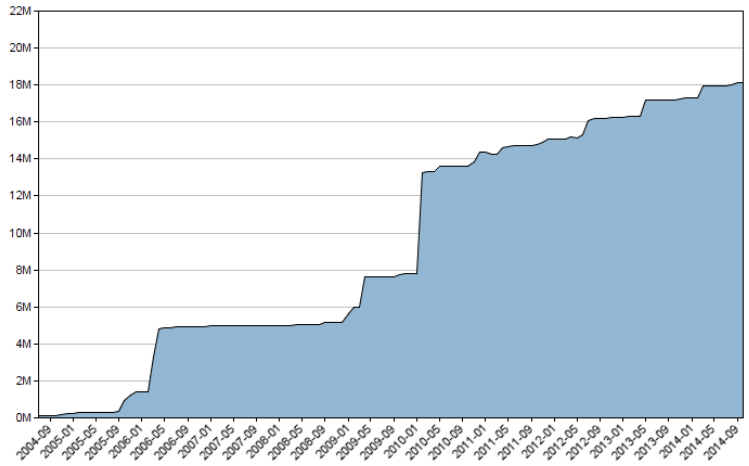

18,682,398 distribution records - 649 datasets - 55,792 species names

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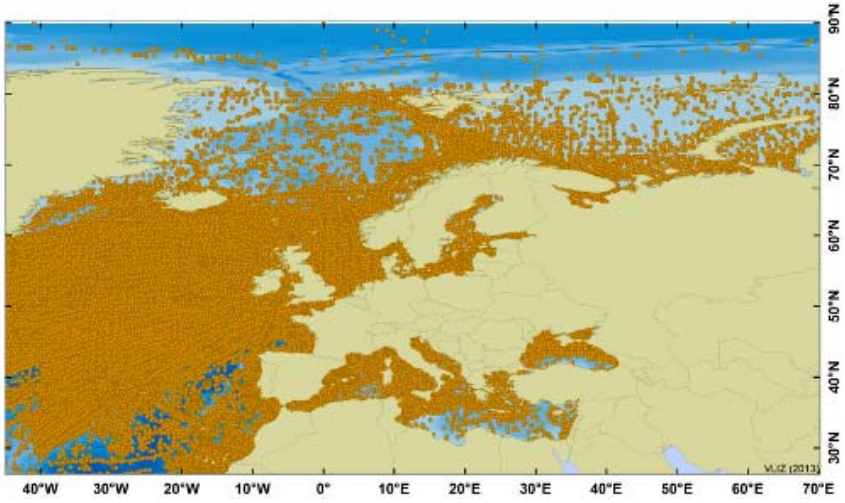

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WP3 Data access to marine biological data

- All WP3 partners have indicated their data transfer protocol of choice, e.g. the mechanism through which the data will become accessible through the EMODnet Biology Portal:

Data transfer protocol	# partners
IPT	5
SeaDataNet format	3
OGC (WFS)	2
Own web services	2
Combination of protocols	3

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- The inventory has lead to the description of 75 new datasets in the metadata catalogue, all of which will become accessible through the Portal. In total, 101 new (sub)data sets will contribute to the Portal.

Group	# datasets	# records
Benthos	12	1.541.685
Phytoplankton	28	1.474.340
Zooplankton	14	1.721.621
Angiosperms	2	1.845
Macro-algae	3	317.209
Birds	3	123.933
Mammals	2	24.593
Reptiles	2	3.242
Fish	15	2.158.305
No indication		1.400.000

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WP 5: Creation of gridded abundance data products

NIOZ

SAHFOS ICES CIEM ULg UNIVERSITÉ de Liège VLIZ

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Objectives

- Implement DIVA methodology to produce statistically optimized gridded map layers.
- Make gridded maps of 3 species per group in appropriate time window
- Estimate the accuracy of the gridding procedure by comparison with validation data.
- Produce spatial maps (data products) relevant for MSFD Descriptor 2 (non-indigenous species).
- Produce spatial maps of quality indicators for MSFD, if available and feasible

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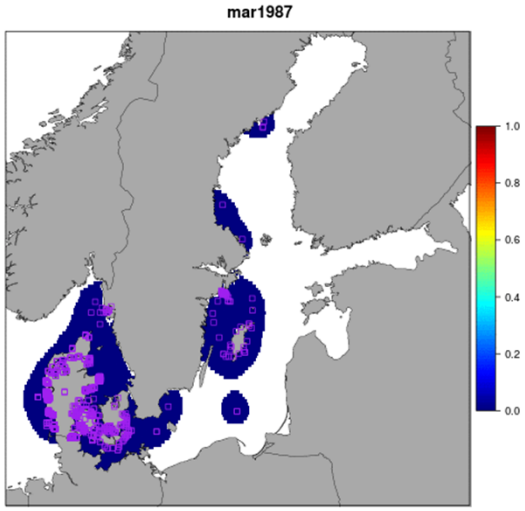
Marenzelleria Baltic Sea



2. Non-indigenous species

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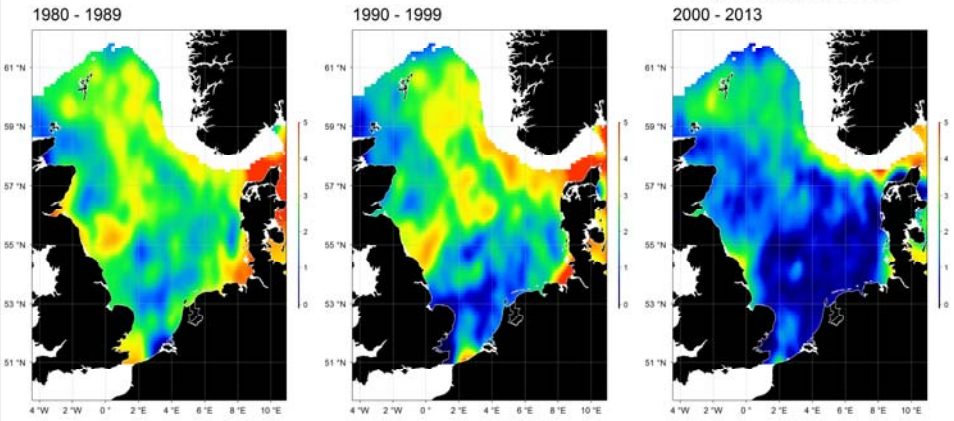
Gadus morhua North Sea

3. Populations of commercial species



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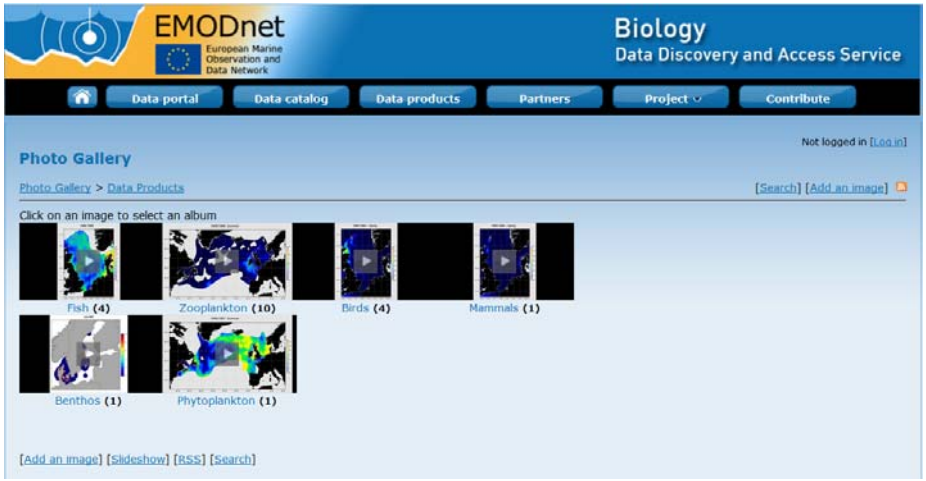

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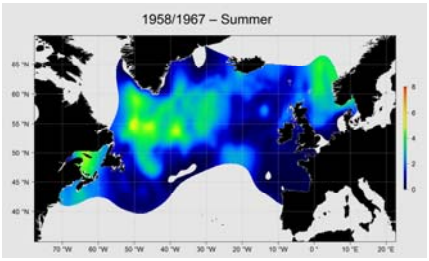
OOPS: operational oceanographic products and services

- Proposal to provide EMODnet biology zooplankton products for regional overviews ICES accepted
- SLA being set up between ICES, VLIZ, SAHFOS (EMODnet product becomes operational)



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Biological and ecological traits of marine species

Costello et al., subm

Trait	Relevance of propsoed high priority traits
Taxonomic	Related species have similar traits so taxonomic relationships predict traits of related species
Environment	Most studies are confined to a particular environment so this trait allows users to quickly isolate species of interest for their purpose.
Depth	The most widely available variable to distinguish species habitat.
Substratum	**A key physical factor determining benthic species habitat.**
Habitat	Derived from environment, depth, and substratum.
'Habit'	Determines mode of dispersal and ecological role (e.g. habitat forming) in the ecosystem.
Skeleton	**Calcareous important for ocean acidification** and fossil record. **Gelatinous** important due to sampling difficulties, role as predators, and hazard to humans.
Diet	Influence on abundance of other species, determines position in food web.
Body size	**Related to position in food web, species abundance, metabolic rates, and dispersal.**

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Biological and ecological traits of marine species

Costello et al., subm

- **Species' importance to society**

Taxon Kingdom or Phylum.	ERMS	WoRMS	Alien	origin unknown	origin uncertain	EU Directive	OSPAR	HAB	FAO
Agnatha	6	93	0	0	0	4	0	0	17
Annelida	2,170	12,658	159	21	22	1	0	0	19
Aves	234	645	2	0	0	143	9	0	133
Bacteria	181	1,716	3	0	0	0	0	1	1
Bryozoa	800	6,112	58	4	4	0	0	0	0
Chaetognatha	41	131	1	0	0	0	0	0	0
Chelicerata	517	2,939	4	0	1	0	0	0	12
Chromista	3,929	20,285	186	29	2	0	0	115	42
Cnidaria	1,294	10,760	79	6	6	1	0	0	86
Crustacea	7,062	53,321	294	16	6	2	1	0	643
Ctenophora	39	187	4	0	0	0	0	0	1
Echinodermata	652	7,277	17	1	1	1	0	0	151
Echiura	37	197	1	0	1	0	0	0	0
Entoprocta	60	174	4	1	0	0	0	0	0

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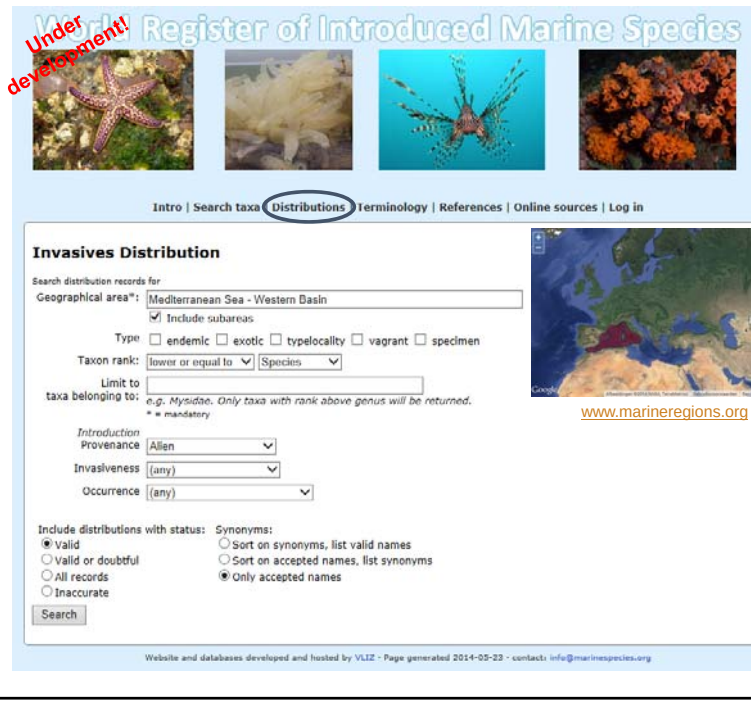
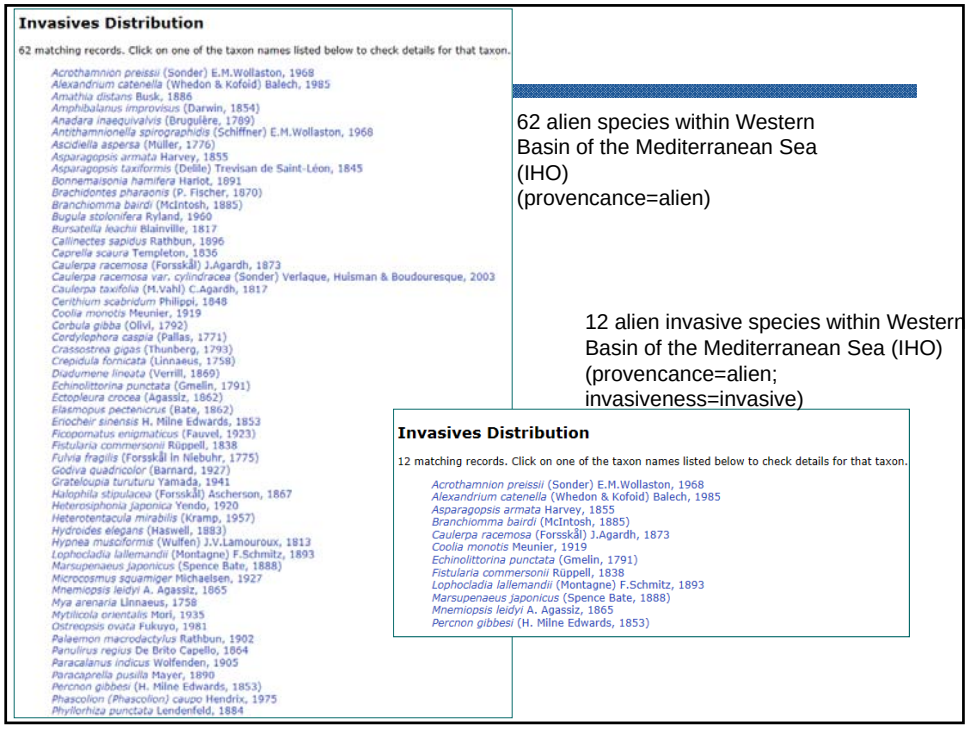
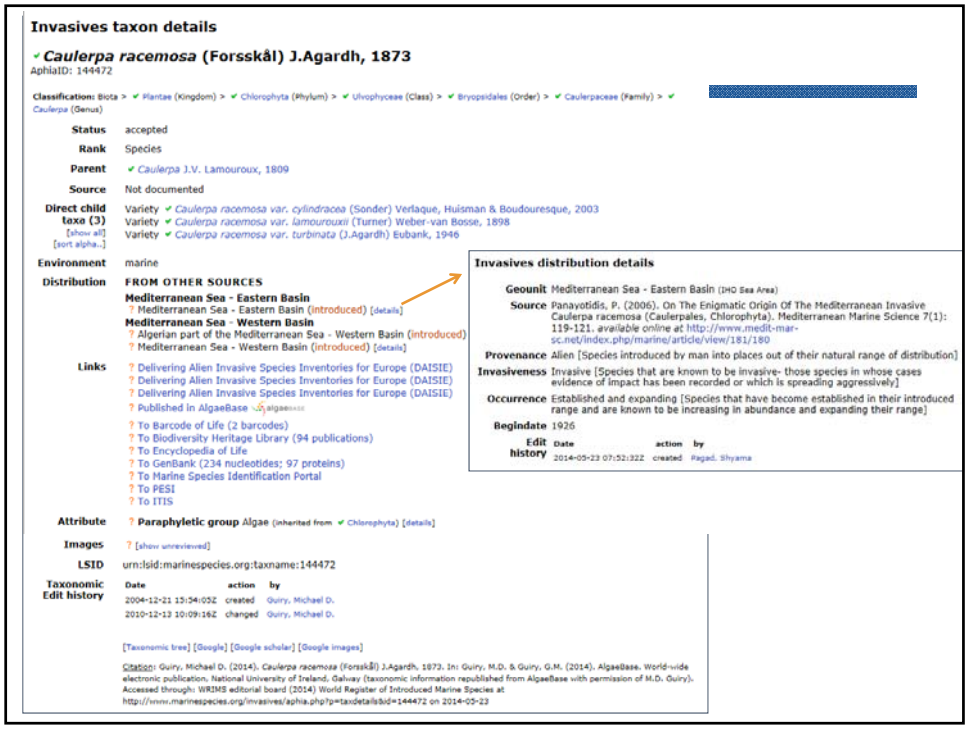


www.marineregions.org


Invasives Distribution
62 matching records. Click on one of the taxon names listed below to check details for that taxon.
Acrothamnion preissii (Sonder) E.M.Wollaston, 1968
Alexandrium catenella (Whedon & Kofoid) Balech, 1985
Amathia distans Busk, 1886
Amphibalanus improvisus (Darwin, 1854)
Anadara inaequivalvis (Brugulière, 1789)
Antithamnionella spirographidis (Schiffner) E.M.Wollaston, 1968
Ascidiella aspersa (Müller, 1776)
Asparagopsis armata Harvey, 1855
Asparagopsis taxiformis (Delile) Trevisan de Saint-Léon, 1845
Bonnemaisonia hamifera Hariot, 1891
Brachidontes pharaonis (P. Fischer, 1870)
Branchiomma bairdi (McIntosh, 1885)
Bugula stolonifera Ryland, 1960
Bursatella leachii Blainville, 1817
Callinectes sapidus Rathbun, 1896
Caprella scaura Templeton, 1836
Caulerpa racemosa (Forsskål) J.Agardh, 1873
Caulerpa racemosa var. cylindracea (Sonder) Verlaque, Huisman & Boudouresque, 2003
Caulerpa taxifolia (M.Vahl) C.Agardh, 1817
Cerithium scabridum Philippi, 1848
Coolia monotis Meunier, 1919
Corbula gibba (Olivi, 1792)
Cordylophora caspia (Pallas, 1771)
Crassostrea gigas (Thunberg, 1793)
Crepidula fornicata (Linnaeus, 1758)
Diadumene lineata (Verrill, 1869)
Echinolittorina punctata (Gmelin, 1791)
Ectopleura crocea (Agassiz, 1862)
Elasmopus pectenicrus (Bate, 1862)
Eriocheir sinensis H. Milne Edwards, 1853
Ficopomatus enigmaticus (Fauvel, 1923)
Fistularia commersonii Rüppell, 1838
Fulvia fragilis (Forsskål in Niebuhr, 1775)
Godiva quadricolor (Barnard, 1927)
Grateloupia turuturu Yamada, 1941
Halophila stipulacea (Forsskål) Ascherson, 1867
Heterosiphonia japonica Yendo, 1920
Heterotentacula mirabilis (Kramp, 1957)
Hydroides elegans (Haswell, 1883)
Hypnea musciformis (Wulfen) J.V.Lamouroux, 1813
Lophocladia lallemandii (Montagne) F.Schmitz, 1893
Marsupenaeus japonicus (Spence Bate, 1888)
Microcosmus squamiger Michaelsen, 1927
Mnemiopsis leidyi A. Agassiz, 1865
Mya arenaria Linnaeus, 1758
Mytilicola orientalis Mori, 1935
Ostreopsis ovata Fukuyo, 1981
Palaemon macrodactylus Rathbun, 1902
Panulirus regius De Brito Capello, 1864
Paracalanus indicus Wolfenden, 1905
Paracaprella pusilla Mayer, 1890
Percnon gibbesi (H. Milne Edwards, 1853)
Phascolion (Phascolion) caupo Hendrix, 1975
Phyllorhiza punctata Lendenfeld, 1884
62 alien species within Western Basin of the Mediterranean Sea (IHO)
(provencance=alien)
12 alien invasive species within Western Basin of the Mediterranean Sea (IHO)
(provencance=alien; invasiveness=invasive)
Invasives Distribution
12 matching records. Click on one of the taxon names listed below to check details for that taxon.
Acrothamnion preissii (Sonder) E.M.Wollaston, 1968
Alexandrium catenella (Whedon & Kofoid) Balech, 1985
Asparagopsis armata Harvey, 1855
Branchiomma bairdi (McIntosh, 1885)
Caulerpa racemosa (Forsskål) J.Agardh, 1873
Coolia monotis Meunier, 1919
Echinolittorina punctata (Gmelin, 1791)
Fistularia commersonii Rüppell, 1838
Lophocladia lallemandii (Montagne) F.Schmitz, 1893
Marsupenaeus japonicus (Spence Bate, 1888)
Mnemiopsis leidyi A. Agassiz, 1865
Percnon gibbesi (H. Milne Edwards, 1853)


Invasives taxon details
Caulerpa racemosa (Forsskål) J.Agardh, 1873
AphiaID: 144472
Classification: Biota > Plantae (Kingdom) > Chlorophyta (Phylum) > Ulvophyceae (Class) > Bryopsidales (Order) > Caulerpaceae (Family) > Caulerpa (Genus)
Status accepted
Rank Species
Parent Caulerpa J.V. Lamouroux, 1809
Source Not documented
Direct child taxa (3)
Variety Caulerpa racemosa var. cylindracea (Sonder) Verlaque, Huisman & Boudouresque, 2003
Variety Caulerpa racemosa var. lamourouxii (Turner) Weber-van Bosse, 1898
Variety Caulerpa racemosa var. turbinata (J.Agardh) Eubank, 1946
Environment marine
Distribution
FROM OTHER SOURCES
Mediterranean Sea - Eastern Basin
? Mediterranean Sea - Eastern Basin (introduced) [details]
Mediterranean Sea - Western Basin
? Algerian part of the Mediterranean Sea - Western Basin (introduced)
? Mediterranean Sea - Western Basin (introduced) [details]
Links
? Delivering Alien Invasive Species Inventories for Europe (DAISIE)
? Delivering Alien Invasive Species Inventories for Europe (DAISIE)
? Delivering Alien Invasive Species Inventories for Europe (DAISIE)
? Published in AlgaeBase
? To Barcode of Life (2 barcodes)
? To Biodiversity Heritage Library (94 publications)
? To Encyclopedia of Life
? To GenBank (234 nucleotides; 97 proteins)
? To Marine Species Identification Portal
? To PESI
? To ITIS
Attribute ? Paraphyletic group Algae (inherited from Chlorophyta) [details]
Images ? [show unreviewed]
LSID urn:lsid:marinespecies.org:taxname:144472
Taxonomic Edit history
Date action by
2004-12-21 15:54:05Z created Guiry, Michael D.
2010-12-13 10:09:16Z changed Guiry, Michael D.
[Taxonomic tree] [Google] [Google scholar] [Google images]
Citation: Guiry, Michael D. (2014). Caulerpa racemosa (Forsskål) J.Agardh, 1873. In: Guiry, M.D. & Guiry, G.M. (2014). AlgaeBase. World-wide electronic publication. National University of Ireland, Galway (taxonomic information republished from AlgaeBase with permission of M.D. Guiry). Accessed through: WRIMS editorial board (2014) World Register of Introduced Marine Species at http://www.marinespecies.org/invasives/aphia.php?p=taxdetails&id=144472 on 2014-05-23
Invasives distribution details
Geounit Mediterranean Sea - Eastern Basin (IHO Sea Area)
Source Panayotidis, P. (2006). On The Enigmatic Origin Of The Mediterranean Invasive Caulerpa racemosa (Caulerpales, Chlorophyta). Mediterranean Marine Science 7(1): 119-121. available online at http://www.medit-mar-sc.net/index.php/marine/article/view/181/180
Provenance Alien [Species introduced by man into places out of their natural range of distribution]
Invasiveness Invasive [Species that are known to be invasive- those species in whose cases evidence of impact has been recorded or which is spreading aggressively]
Occurrence Established and expanding [Species that have become established in their introduced range and are known to be increasing in abundance and expanding their range]
Begindate 1926
Edit history
Date action by
2014-05-23 07:52:32Z created Pagad, Shyama

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Data formats: discussed at biodiversity workshop EEA – in contact with Deltares

- Marine Information System (MIS)" which will encompass both compliance and state-of-the-environment reporting information across the range of MSFD-relevant topics"
- MIS LEVEL 3: Monitoring and data management - OBJECTIVE: To define a common model for managing monitoring programs and data flows
- Draft Structure based on Emodnet Biology, SEADATANET standards (ODV and CDI) and other initiatives
- In progress