

# EASIN

European Alien Species Information Network

*Eugenio Gervasini – JRC EASIN Team*



Invasive Alien Species Workshop, Budapest -20.04.2016



<http://www.repubblica.it/ambiente/2016/04/19/news/tarquini-137966384/?ref=HRLV-16>

# Outline

- **Scope & approach of EASIN**
- **EASIN tools**
- **On going & future developments**



# Outline

- **Scope & approach of EASIN**
- EASIN tools
- On going & future developments



# Support to European policy

- ❖ **COM (2011) 244** an EU biodiversity strategy to 2020
- ❖ **MSFD Descriptor 2: Non-indigenous species**
- ❖ **REGULATION (EU) No 1143/2014** on the prevention and management of the introduction and spread of invasive alien species (IAS)

*EASIN is being developed as the information support system as foreseen under Article 25 of Regulation 1143/2014*

# Why EASIN?

1. Tackling alien species demands international collaboration, integration, harmonization of information and promotion of management coherence;
2. Sharing knowledge is a key issue when handling alien species;
3. Data discovery portal facilitating the exploration of information on alien species occurring in Europe from distributed sources, developing tools and web services, to assist AS management;

# EASIN in a nutshell

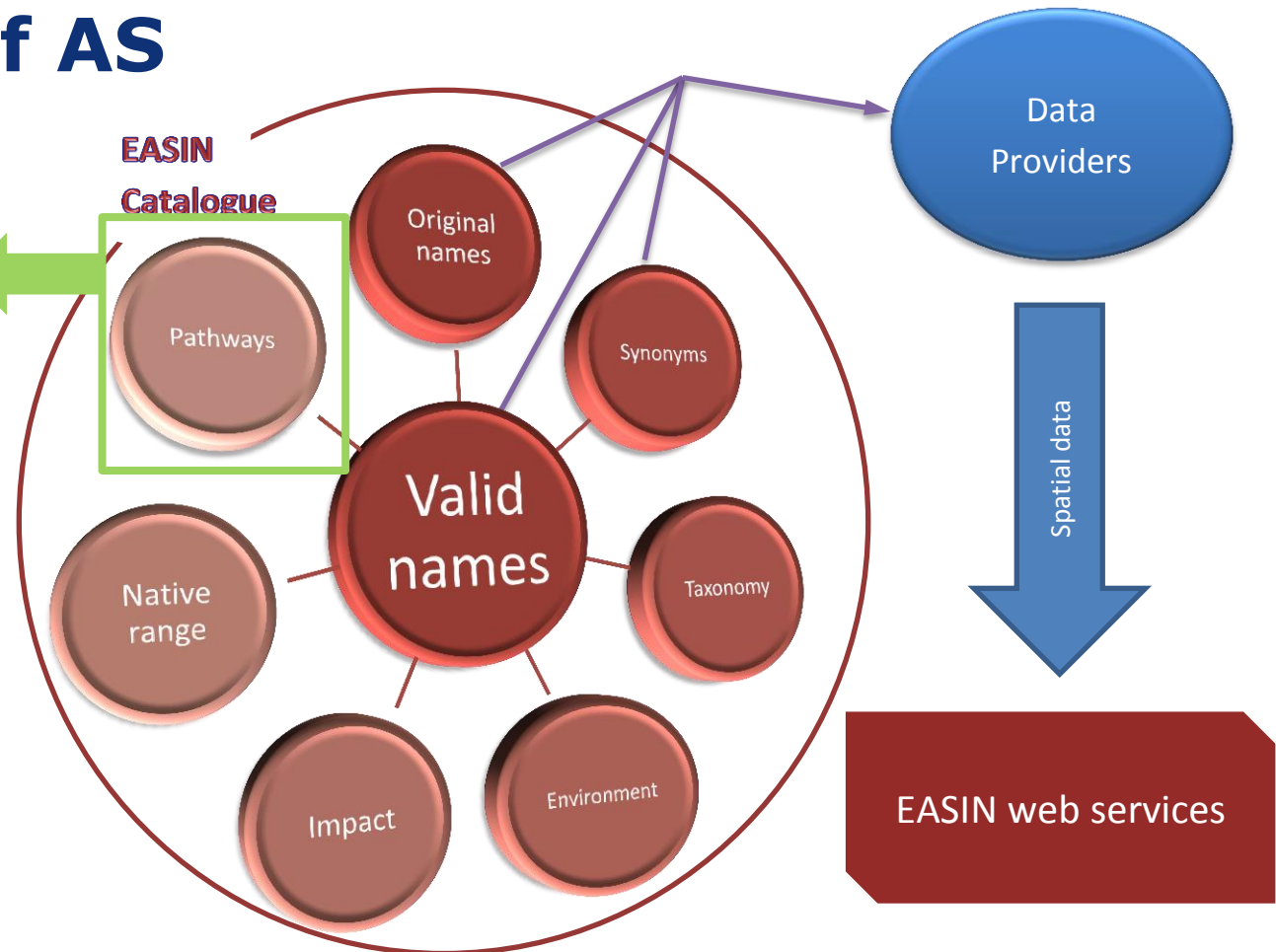
- Developed by JRC with DG ENV financial support as a mechanism interconnecting existing databases enabling easy access to data and information on alien species (AS) in Europe, launched in 2012;
- Information on > 14,000 AS on: taxonomy, environment, gateways and pathways of introduction, impact and spatial data covering marine, freshwater and terrestrial organisms;
- EASIN is a network that promotes cooperation among information systems aiming at improving the quality of data and supporting the implementation of the European policy on biodiversity;



# EASIN Catalogue: pan-European inventory of AS

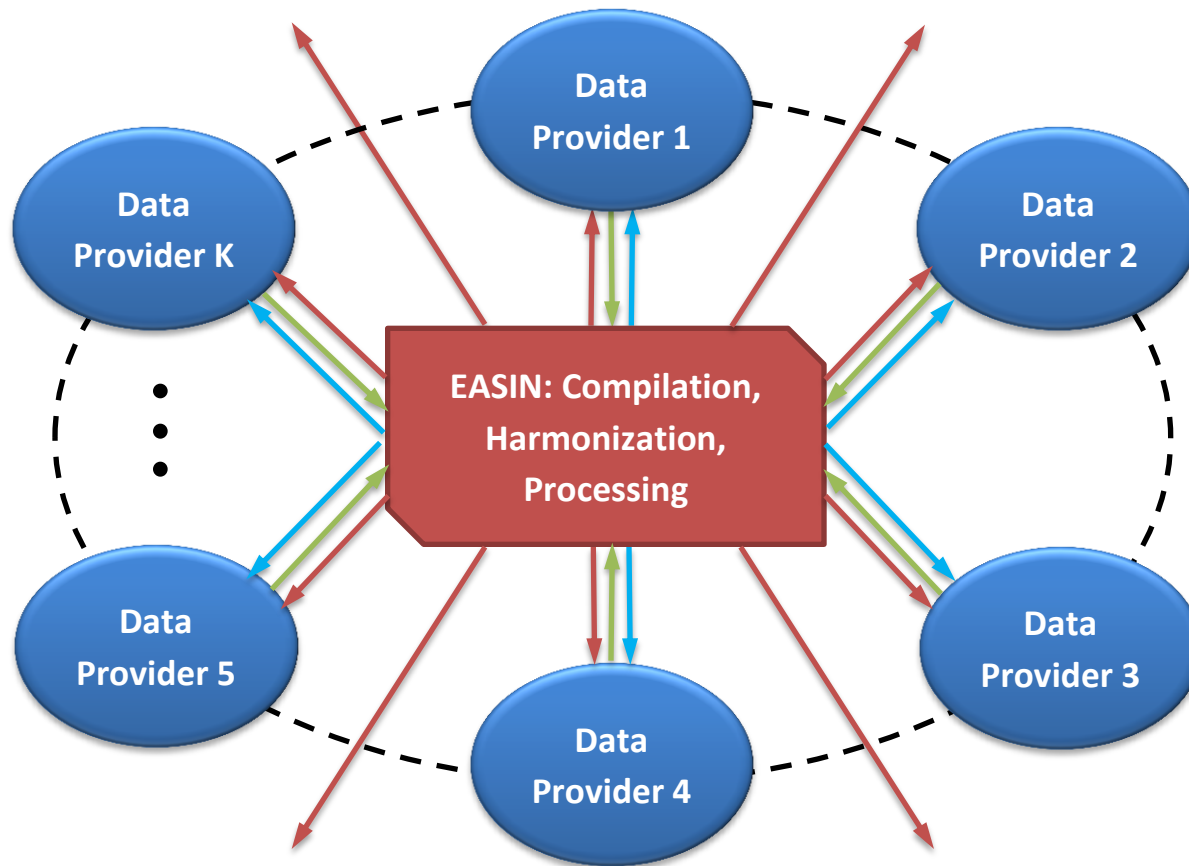
**alignment based  
on CBD**




1<sup>st</sup> version  
developed by  
integrating and  
reviewing  
information from  
43 databases





# Network of online interoperable web services

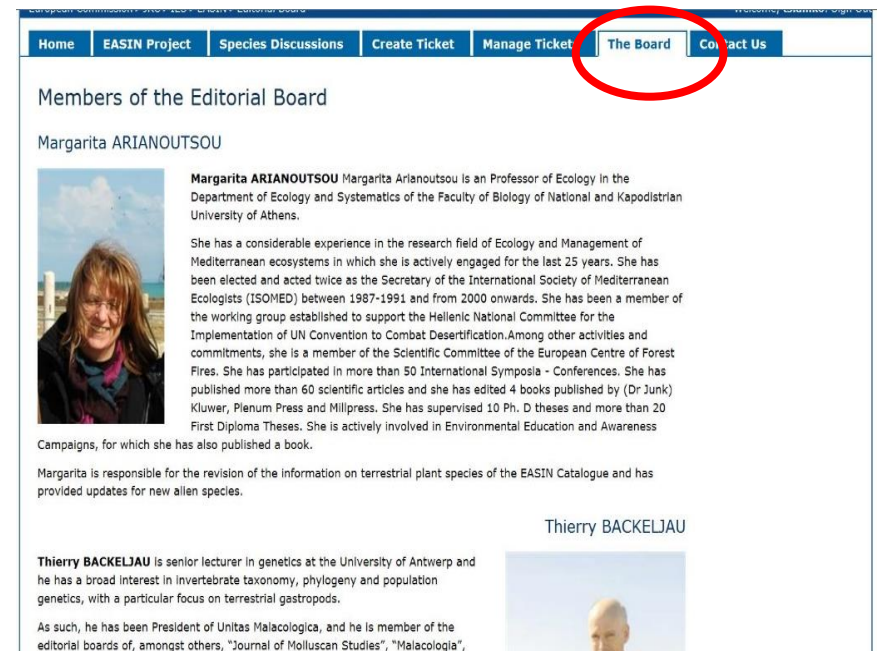


-  Provision of spatial data
-  Provision of services & tools
-  Links to more detailed information

**Katsanevakis et al. 2012 *Building the European Alien Species Information Network (EASIN): a novel approach for the exploration of distributed alien species data. BioInvasions Records 1: 235–245***

# Data Quality: EASIN Editorial Board

- systematic update of EASIN Catalogue
- data quality assurance
- participatory approach
- 28 Members
- On-line platform for discussion
- Working procedures



<http://easin-eb.jrc.ec.europa.eu/>

# Data Quality: EASIN - Lit

- EASIN internal activity;
- Geodatabase providing data on species distribution (georeferenced records and distribution ranges) coming from the review of scientific literature and reports;

# EASIN Current Database Partners

GBIF



GISIN



REABIC



ELNAIS



CIESM



HCMR-EEA



MEDMIS



- On-going discussion on collaboration with more than 20 data partners, including: CABI, VLIZ, AQUANIS, EEIKO, NOBANIS, ESENIAS, MAMIAS, GRIIS; NCBI GenBank, EMBL-EBI European Nucleotide Archive;
- MS surveillance under Reg. 1143/2014 can feed into EASIN, as well as National and Regional data from Universities, Research centres, Public organizations (CAEN), ...;

# Outline

- Scope & approach of EASIN
- **EASIN tools**
- On going & future developments





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### EASIN - European Alien Species Information Network

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Type scientific or common name

Heracleum mantegazzianum

 Search

Environment

Impact

Terrestrial

FreshWater

Marine

Oligohaline

High

Low/Unknown

All

Species Status

Alien

Cryptogenic

Questionable

Show  entries

	Ext	Name by EASIN Catalog	Env	Impact
<input type="checkbox"/>		Heracleum mantegazzianum	TER	High

Showing 1 to 1 of 1 entries



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### Species Search using Scientific or Common Name



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Type scientific or common name

Heracleum mantegazzianum

[Search](#)

Environment

Impact

**Terrestrial**

[FreshWater](#)

[Marine](#)

[Oligohaline](#)

[High](#)

[Low/Unknown](#)

**All**

Species Status

**Alien**

[Cryptogenic](#)

[Questionable](#)

Show **10** entries

Ext	Name by EASIN Catalog	Env	Impact
<input type="checkbox"/>	Heracleum mantegazzianum	TER	High

Found in [EASIN](#) catalog. STATUS: VALID


- LSID
  - urn:lsid:alien.jrc.ec.europa.eu:species:R07248:5.3
- First Introduction
  - 1814 :: Estonia :: [NOBANIS]
- Species Status
  - Alien
- Factsheets
  - [\[CABI factsheet\]](#)
  - [\[DAISIE factsheet\]](#)
  - [\[NOBANIS factsheet\]](#)

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# Invasive Species Compendium

Datasheets, maps, images, abstracts and full text on invasive species of the world

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Datasheet

## Heracleum mantegazzianum (giant hogweed)

### Index

[Pictures](#)  
[Identity](#)  
[Summary of Invasiveness](#)  
[Taxonomic Tree](#)  
[Notes on Taxonomy and Nomenclature](#)  
[Description](#)  
[Plant Type](#)  
[Distribution](#)  
[Distribution Table](#)  
[History of Introduction and Spread](#)  
[Introductions](#)  
[Risk of Introduction](#)

### Summary

Last modified  
 24 July 2015  
  
 Datasheet Type(s)  
 Invasive Species  
 Pest  
  
 Preferred Scientific Name  
 Heracleum mantegazzianum  
  
 Preferred Common Name  
 giant hogweed



[More information](#)

EASIN Species, Maps & Services LSID: [urn:lsid:alien.jrc.ec.europa.eu:query:Par\_WofD8UOWTUKwTsBAyQ:5.3]

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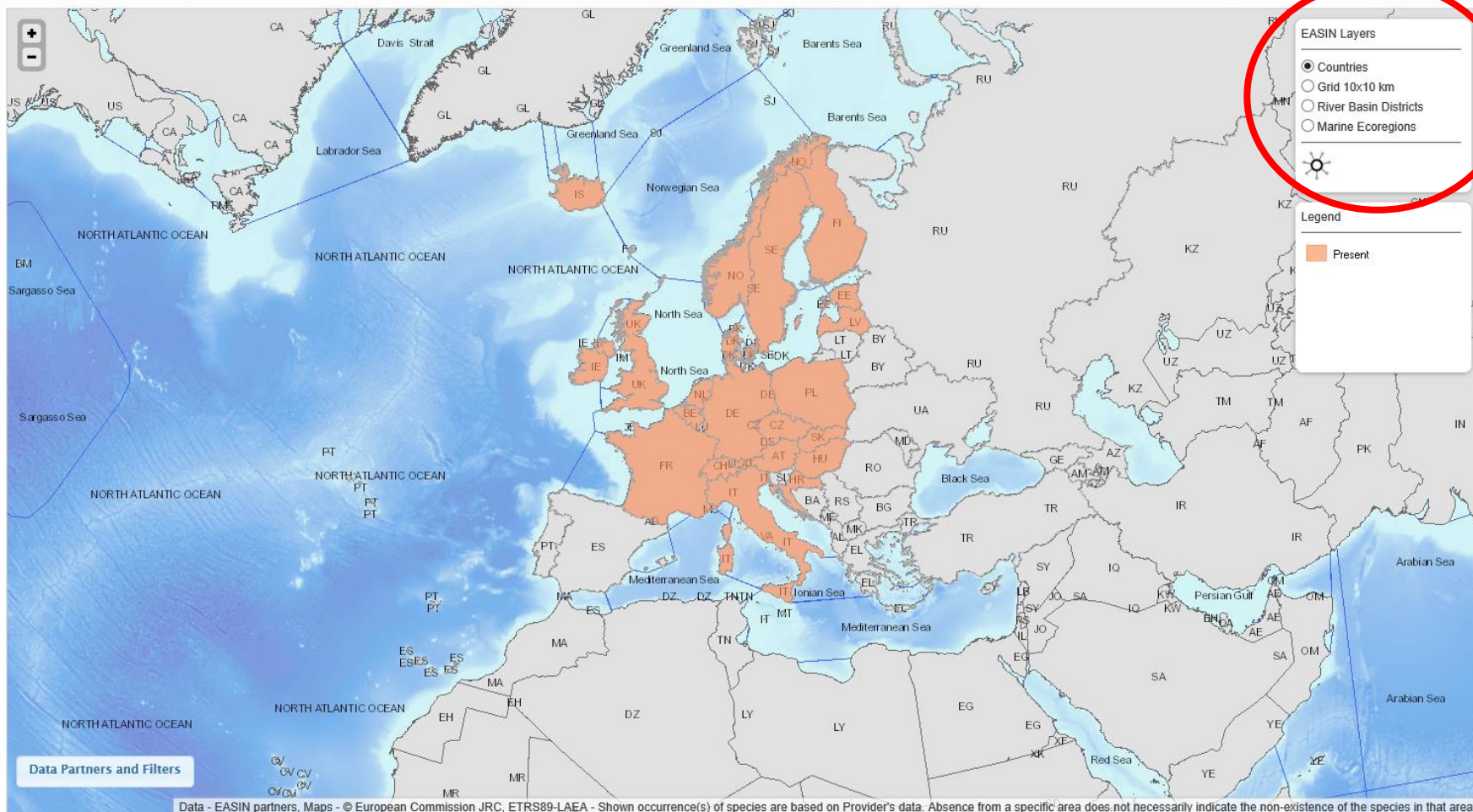
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Species

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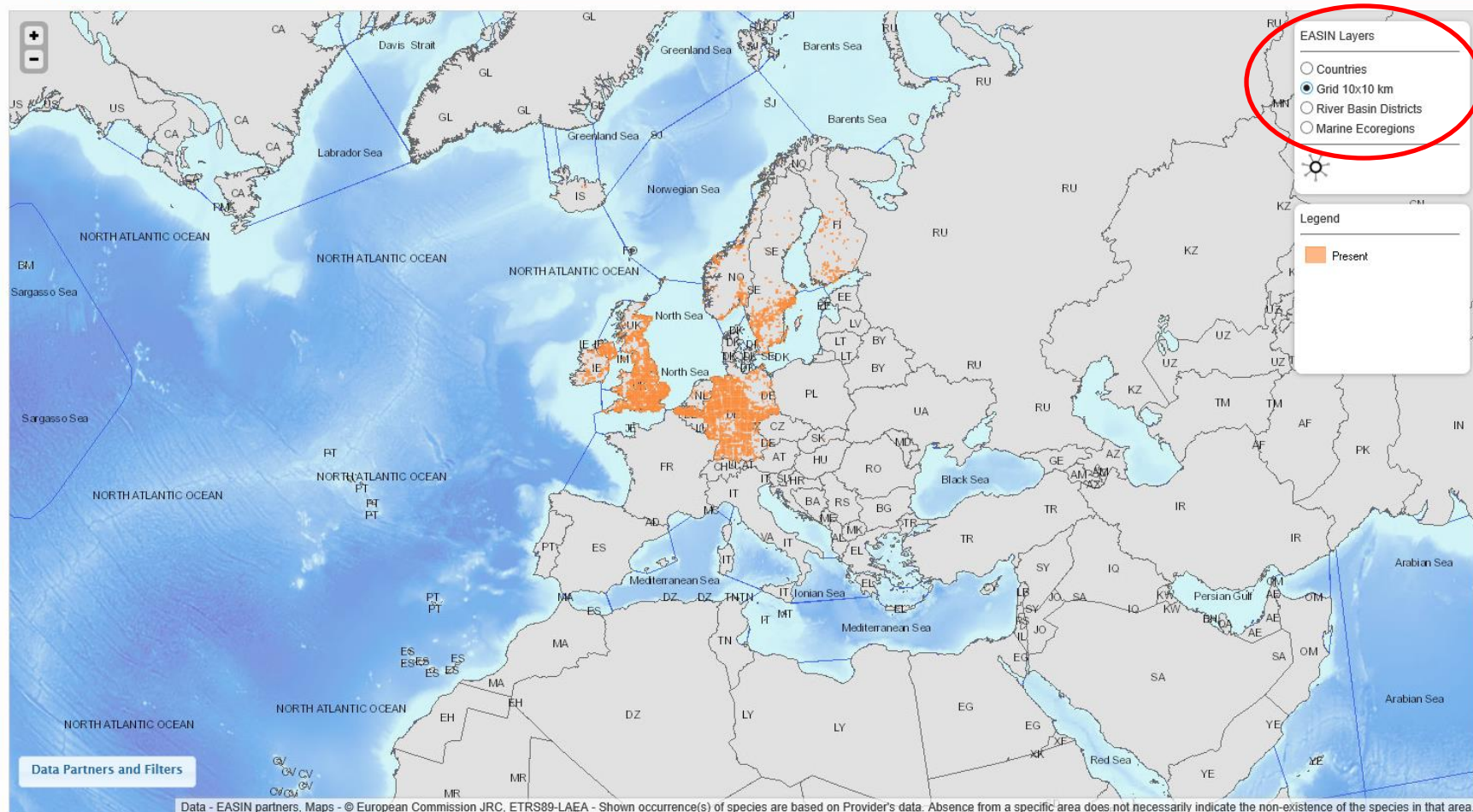


EASIN Species, Maps & Services LSID: [urn:lsid:alien.jrc.ec.europa.eu:query:Par\_WoFD8UOWTUKwTsBayQ:5.3]

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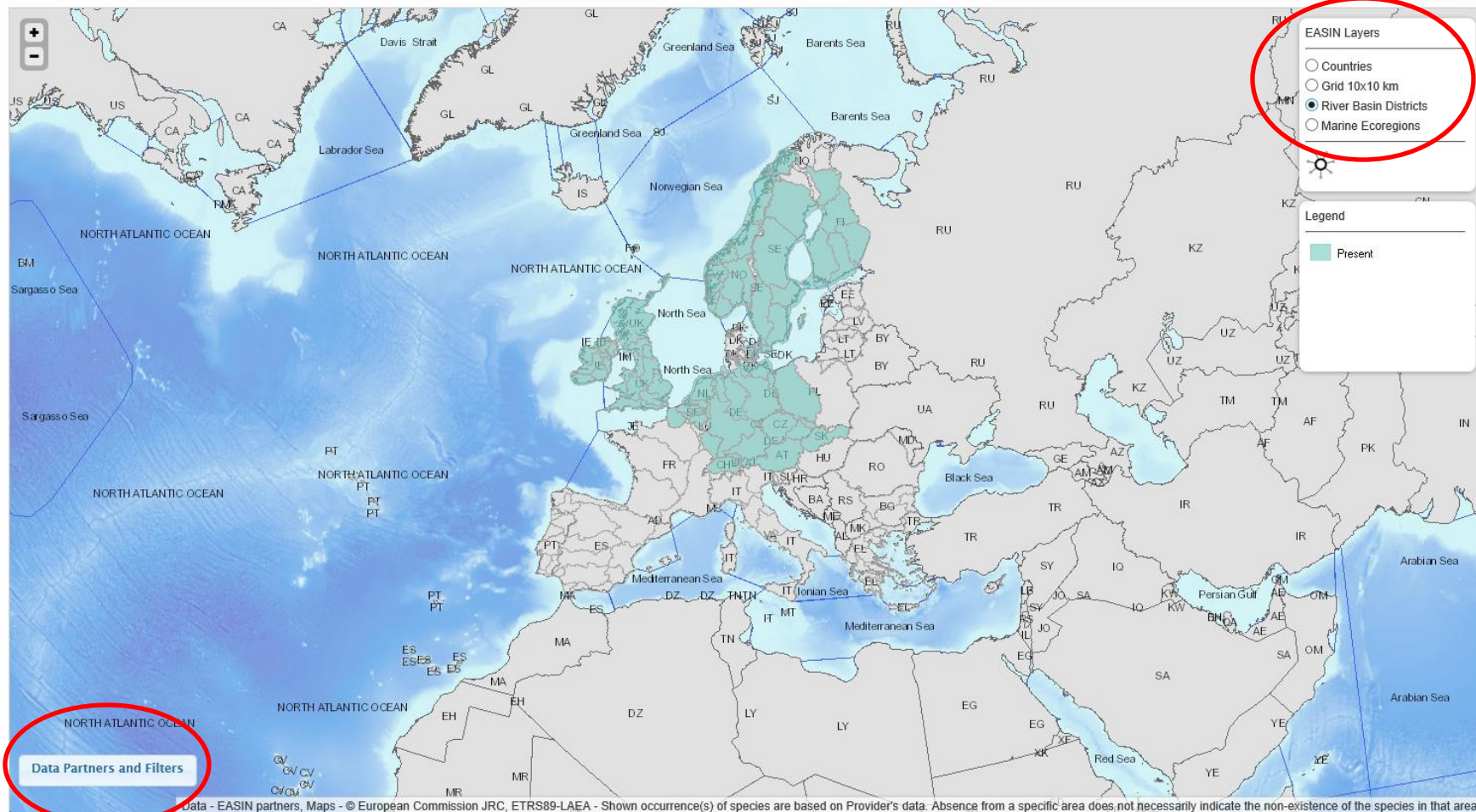


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EASIN Species, Maps & Services LSID: [urn:lsid:alien.jrc.ec.europa.eu:query:Par\_WoFD8UOWTUKwTsBayQ:5.3]

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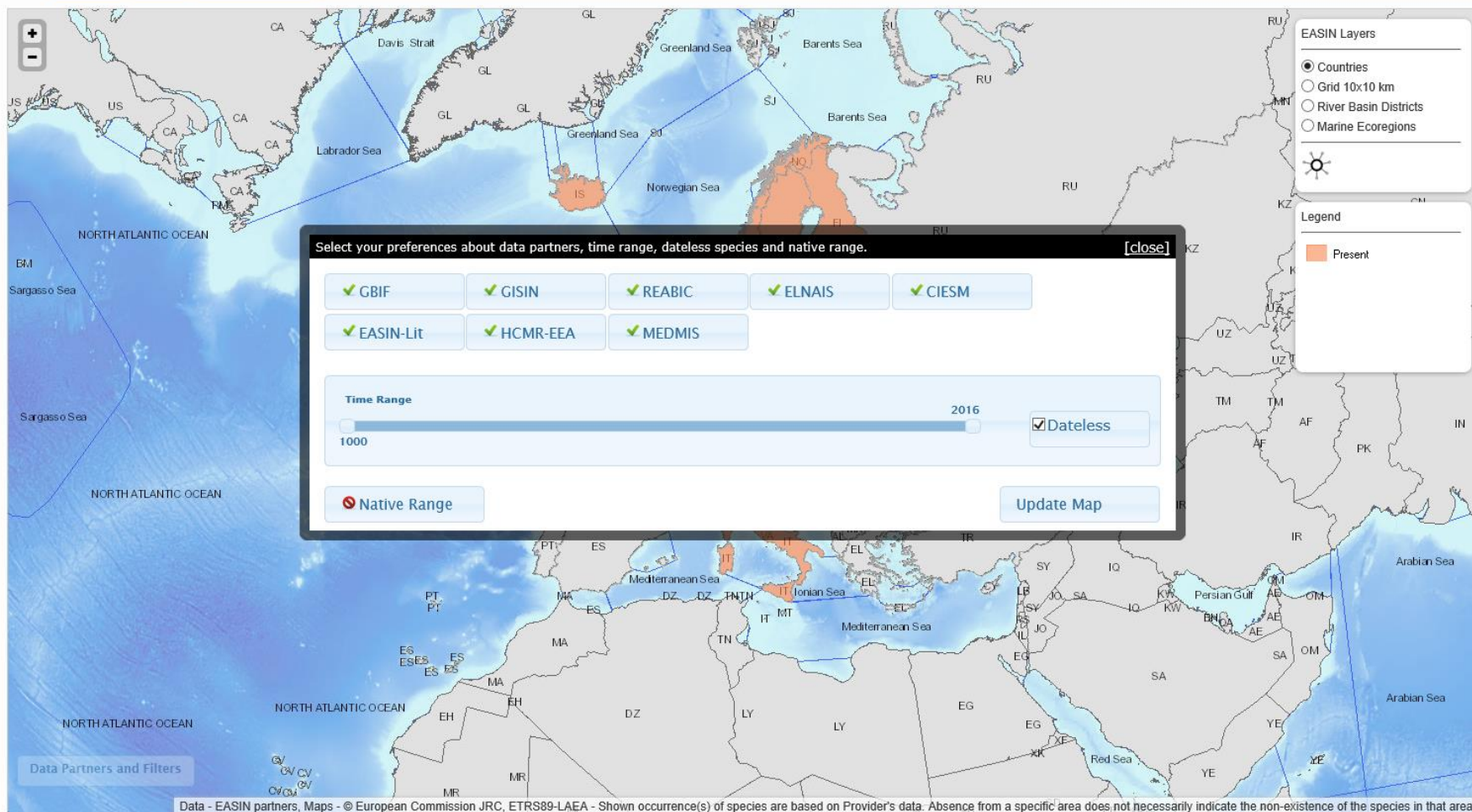
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Species

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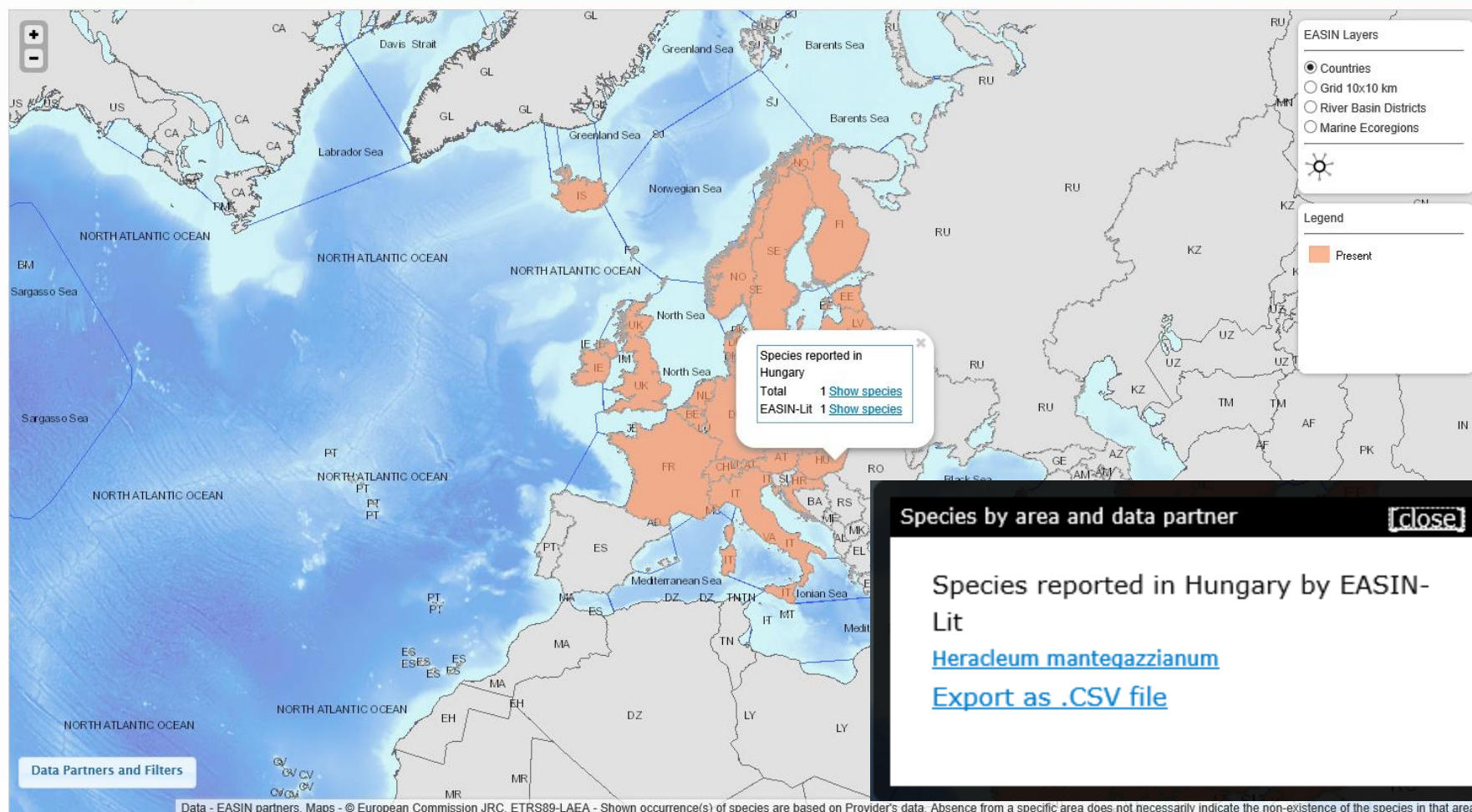


EASIN Species, Maps & Services LSID: [urn:lsid:alien.jrc.ec.europa.eu:query:l61\_u5CLXkq1lBYK9viQOA:5.3]

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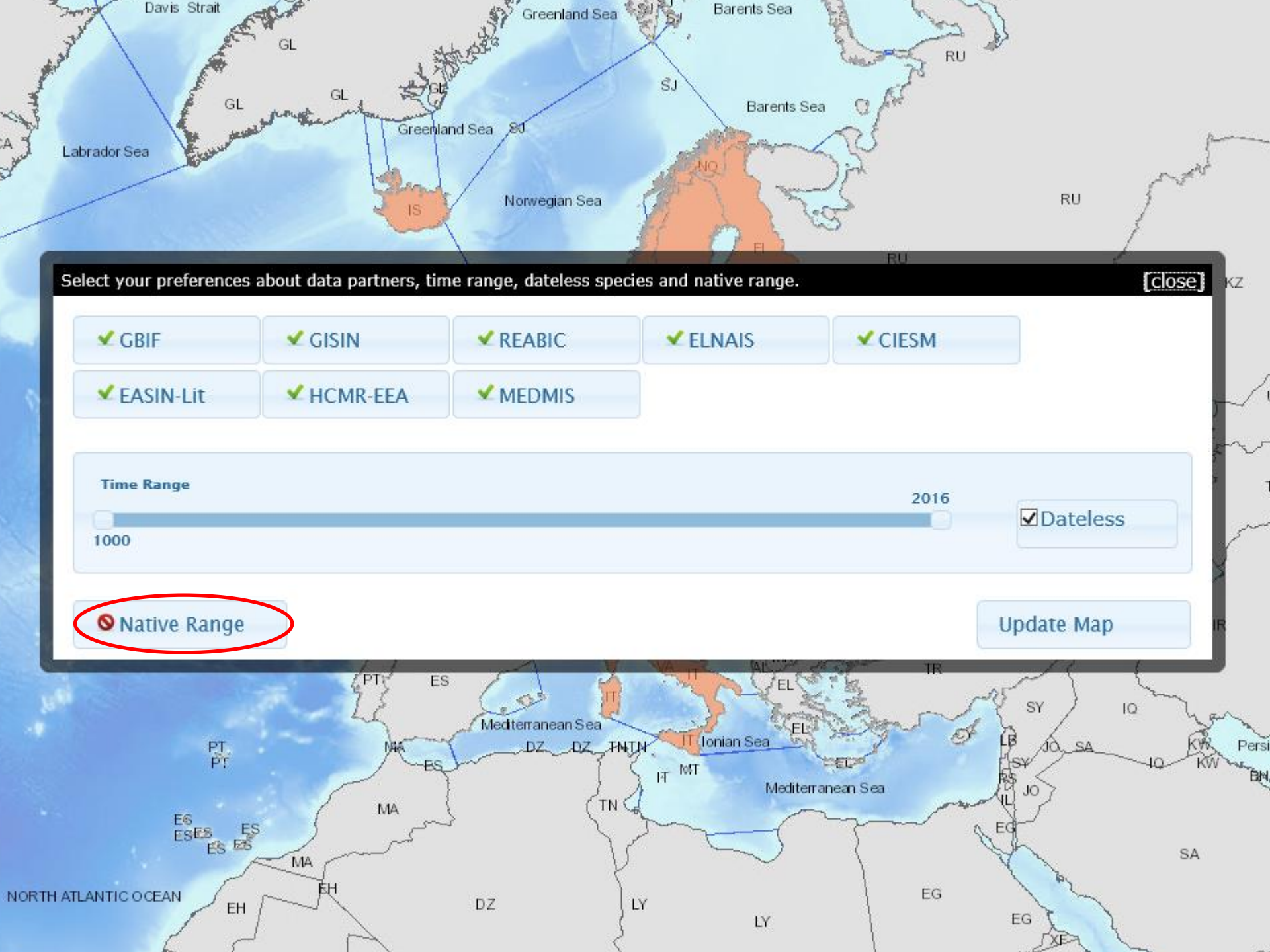
Original data provider for selected species.

[close]

#### Original Data Providers

- Name: Kovács, A. Z., & Nádasy-Ihárosi, E. (2014). Allelopathy of tree of heaven (*Ailanthus altissima*), common milkweed (*Asclepias syriaca*) and giant hogweed (*Heracleum mantegazzianum*) on maize. *Növényvédelem*, 50(12), 537-545.
- Url (if available): <http://goo.gl/me0ysM>
- Name: Brummitt RK, 1968. *Heracleum* L. In: Tutin, TG, Heywood VH, Burges NA, Moore DM, Valentine DH, Walters SM, Webb DA, eds. *Flora Europaea*, Vol. 2. Rosaceae to Umbelliferae. Cambridge, UK: Cambridge University Press.
- Url (if available): <http://goo.gl/sDl7df>





Select your preferences about data partners, time range, dateless species and native range.

[close]

✓ GBIF

✓ GISIN

✓ REABIC

✓ ELNAIS

✓ CIESM

✓ EASIN-Lit

✓ HCMR-EEA

✓ MEDMIS

Time Range

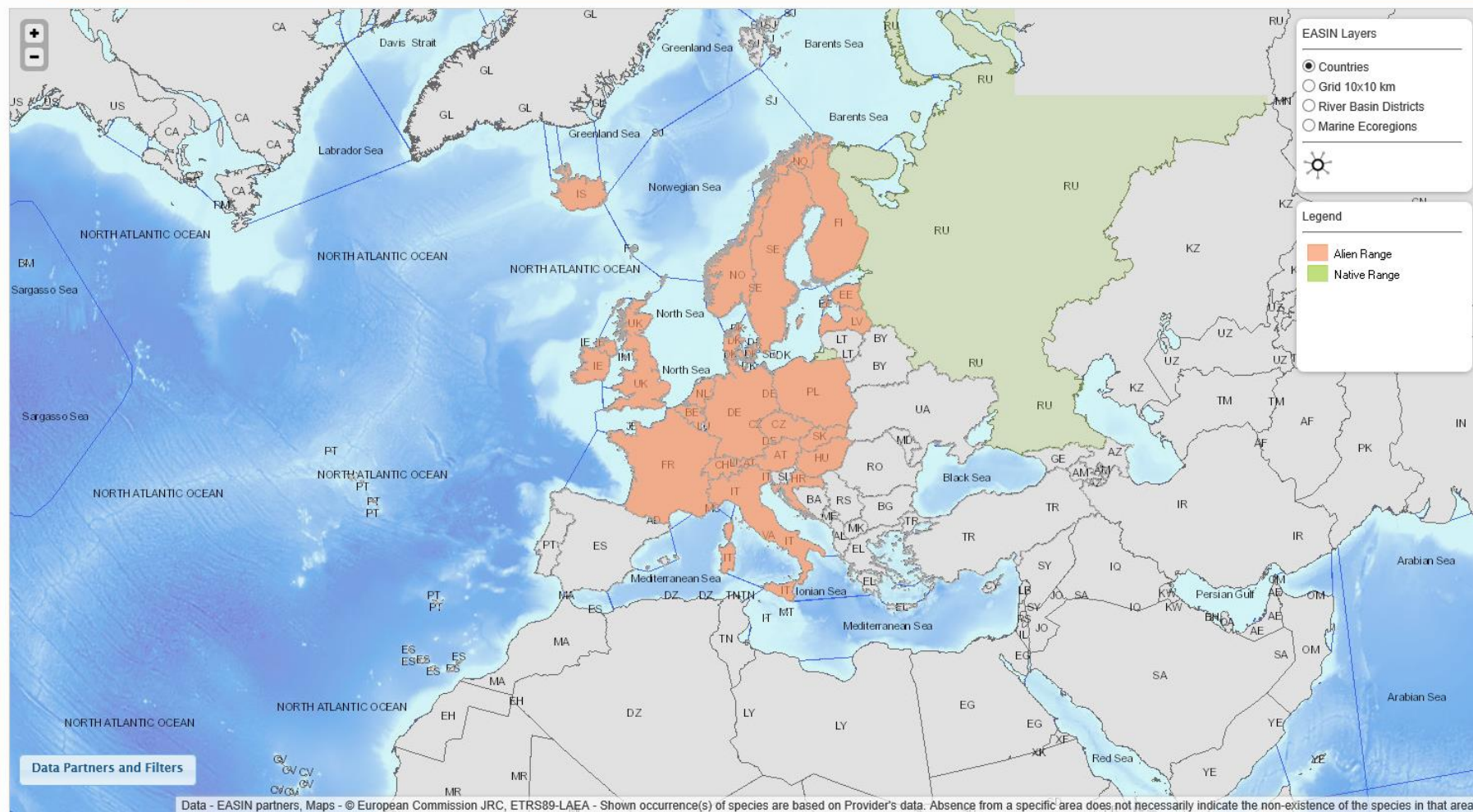
2016

1000

☒ Dateless

☒ Native Range

Update Map





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## Environment

Terrestrial

FreshWater

Marine

Oligohaline

## Impact

High

Low/Unknown

All

## Species Status

Alien

Cryptogenic

Questionable

## Taxonomy

☐ Select all

- ☐ Animalia
- ☐ Bacteria
- ☐ Chromista
- ☐ Fungi
- ☒ Plantae
- ☐ Protozoa
- ☐ Unresolved
- ☐ Viruses

Pathways: some terrestrial groups are not yet assessed.

☐ Select all ☐ Primary only

- ☐ CONTAMINANT
- ☐ CORRIDOR
- ☒ ESCAPE
- ☐ RELEASE
- ☐ STOWAWAY
- ☐ NOT ASSESSED
- ☐ OTHER
- ☐ UNKNOWN

	Ext	Scientific Name	Taxonomy					Env	Impact
			Kingdom	Phylum	Class	Order	Family		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Abutilon theophrasti</i>	Plantae	Tracheo..	Magnoli..	Malvale..	Malvace..	TER	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Acacia cyclops</i>	Plantae	Tracheo..	Magnoli..	Fabales	Fabacea..	TER	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Acacia dealbata</i>	Plantae	Tracheo..	Magnoli..	Fabales	Fabacea..	TER	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Acacia decurrens</i>	Plantae	Tracheo..	Magnoli..	Fabales	Fabacea..	TER	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Acacia farnesiana</i>	Plantae	Tracheo..	Magnoli..	Fabales	Fabacea..	TER	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Acacia karroo</i>	Plantae	Tracheo..	Magnoli..	Fabales	Fabacea..	TER	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Acacia longifolia</i>	Plantae	Tracheo..	Magnoli..	Fabales	Fabacea..	TER	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Acacia melanoxylon</i>	Plantae	Tracheo..	Magnoli..	Fabales	Fabacea..	TER	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Acacia saligna</i>	Plantae	Tracheo..	Magnoli..	Fabales	Fabacea..	TER	High



## Environment

## Impact

## Species Status

Terrestrial

FreshWater

Marine

Oligohaline

High

Low/Unknown

All

Alien

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Query (309 selected)

Run Query

Save Query

## Taxonomy

Pathways: some terrestrial groups are not yet assessed.

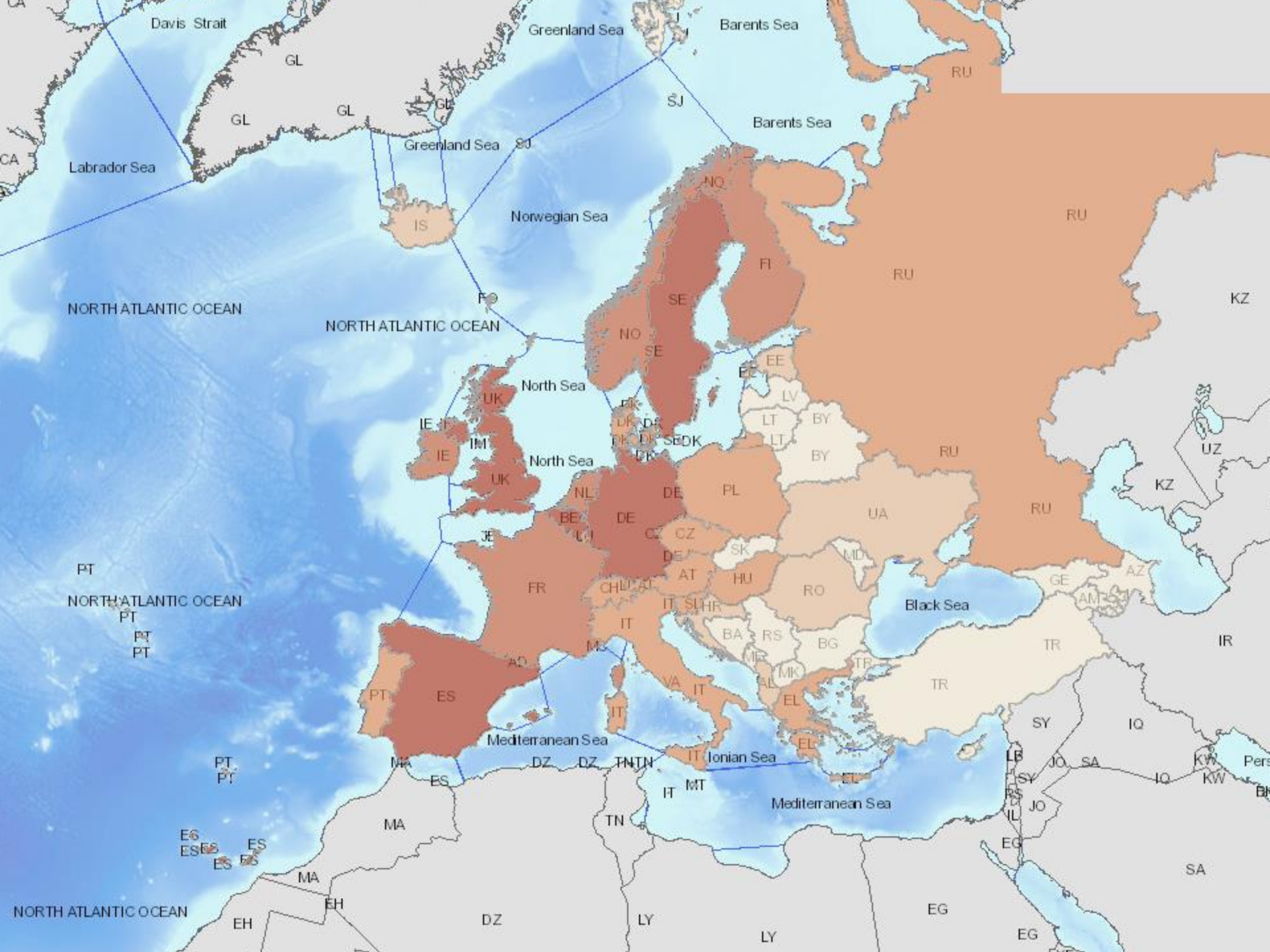
☐ Select all

- ☐ Animalia
- ☐ Bacteria
- ☐ Chromista
- ☐ Fungi
- ☒ Plantae
- ☐ Protozoa
- ☐ Unresolved
- ☐ Viruses

☐ Select all ☐ Primary only

- ☐ CONTAMINANT
- ☐ CORRIDOR
- ☒ ESCAPE
- ☐ RELEASE
- ☐ STOWAWAY
- ☐ NOT ASSESSED
- ☐ OTHER
- ☐ UNKNOWN

<input checked="" type="checkbox"/>	Ext	Scientific Name	Taxonomy					Env	Impact
			Kingdom	Phylum	Class	Order	Family		
<input checked="" type="checkbox"/>		Abutilon theophrasti	Plantae	Tracheo..	Magnoli..	Malvale..	Malvace..	TER	High
<input checked="" type="checkbox"/>		Acacia cyclops	Plantae	Tracheo..	Magnoli..	Fabales	Fabacea..	TER	High
<input checked="" type="checkbox"/>		Acacia dealbata	Plantae	Tracheo..	Magnoli..	Fabales	Fabacea..	TER	High
<input checked="" type="checkbox"/>		Acacia decurrens	Plantae	Tracheo..	Magnoli..	Fabales	Fabacea..	TER	High
<input checked="" type="checkbox"/>		Acacia farnesiana	Plantae	Tracheo..	Magnoli..	Fabales	Fabacea..	TER	High
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<input checked="" type="checkbox"/>		Acacia melanoxylon	Plantae	Tracheo..	Magnoli..	Fabales	Fabacea..	TER	High
<input checked="" type="checkbox"/>		Acacia saligna	Plantae	Tracheo..	Magnoli..	Fabales	Fabacea..	TER	High





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### Species Search using Combined Criteria

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You authorized as Konstantinos

Show 10 entries

Ext.	Title
red algae in I	

Found in EASIN catalog: 54

- LSID
  - urn:lsid:alien.jrc.ec.europa.eu:query:T\_ggZZIce
- Abstract
- Nr of Species
  - 104

Showing 1 to 1 of 1 entries

#### Share Query

LSID:  
urn:lsid:alien.jrc.ec.europa.eu:query:T\_ggZZIce

Subject\* (left 25 chars):

Share via:

Grid of social media sharing icons: Twitter, Facebook, YouTube, LinkedIn, Email, Yahoo!, Google+, RSS, and a generic share icon (plus sign).

Send to Email

From: easin@jrc.  
To:

Send

#### Bookmark & Share

marine alien molluscs

<http://easin.jrc.ec.europa.eu/data/aggregations?lsid=urn:lsid:alien.jrc.ec...>



- |                |                  |                |
|----------------|------------------|----------------|
| 100zakladok    | 2 Tag            | 2linkme        |
| A97abi         | Adfly            | Adifni         |
| ADV QR code    | Amazon           | Amen Me!       |
| Aol Lifestream | AOL Mail         | APSense        |
| Armenix        | Arto             | Aviary Capture |
| Azadegi        | Baang            | Baidu          |
| BallTribe      | Beat100          | Bebo           |
| Bentio         | BiggerPockets    | Bit.ly         |
| bizSugar       | Bland takinn     | Blinkist       |
| Blip           | Blogger          | Bloggy         |
| Blogkeen       | Blogmarks        | Blogtrottr     |
| Blurpalicious  | BO.LT            | Bobrdobr       |
| BonzoBox       | BookmarkingNet   | Bookmarky.cz   |
| Bookmerken     | Box.net          | Brainify       |
| Bryderi        | BuddyMarks       | Buffer         |
| Buzzzy         | Camyoo           | CardThis       |
| Care2          | Chime.In         | Chiq           |
| Cirip          | CiteULike        | ClassicalPlace |
| CleanPrint     | CleanSave        | clipDO         |
| Cndig          | Colivia.de       | Communicate    |
| Connotea       | cOOTOPIA         | iQ COSMiQ      |
| CSS Based      | Curate.Us        | Delicious      |
| DesignBump     | Dig This Webhost | DigaCultura    |
| Digg           | Diggita          | Digo           |
| Digzign        | Diigo            | Dipdive        |
| doMelhor       | Dosti            | DotNetKicks    |





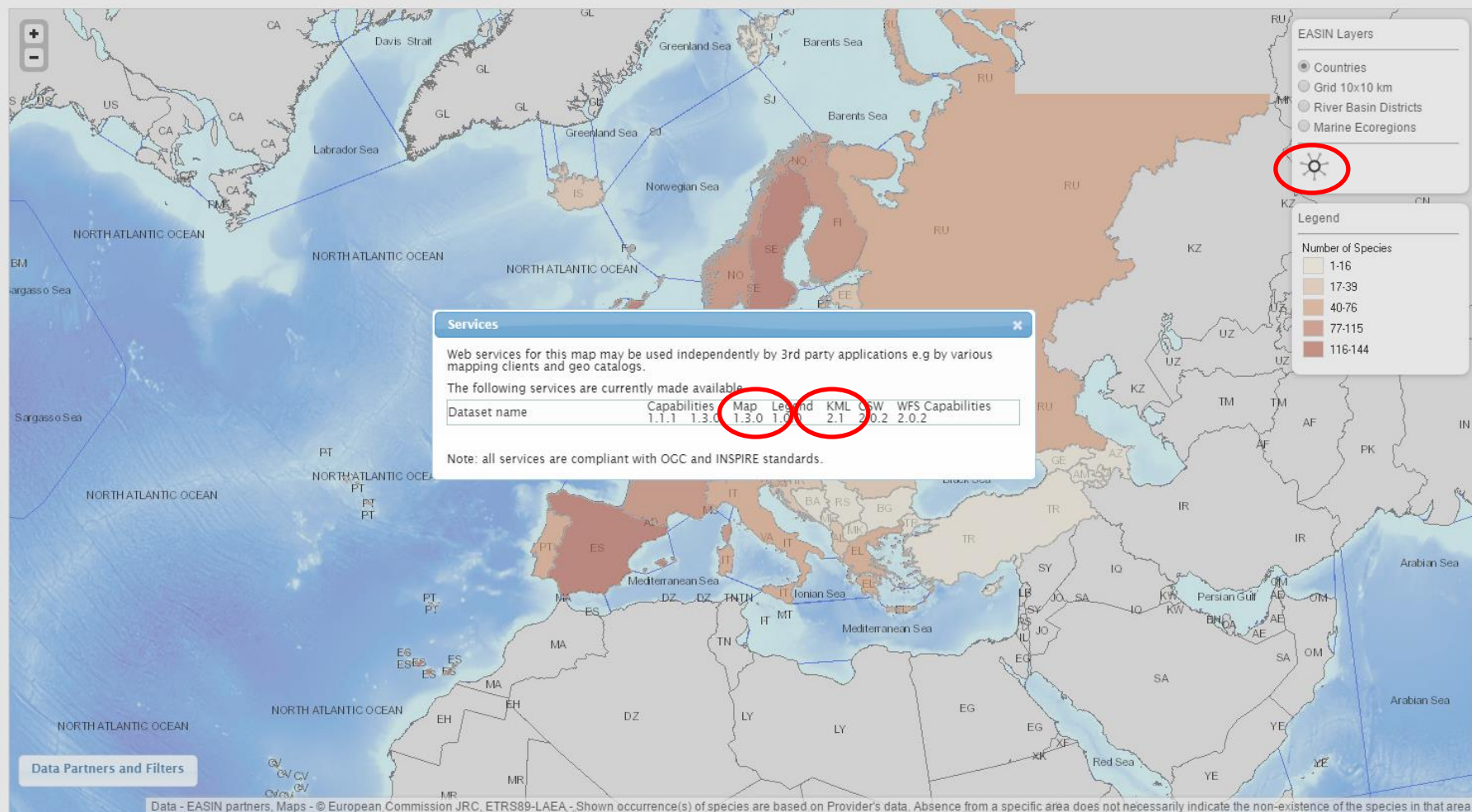
European  
Commission

EASIN Species, Maps & Services LSID: [urn:lsid:alien.jrc.ec.europa.eu:query:2Jbkjq9ajEG5bYJ5J-0w:5.3]

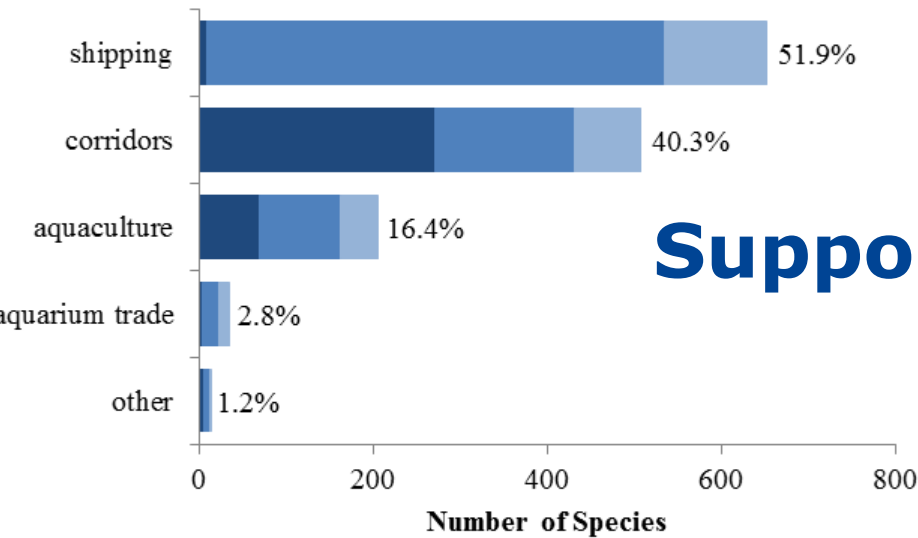
[close]

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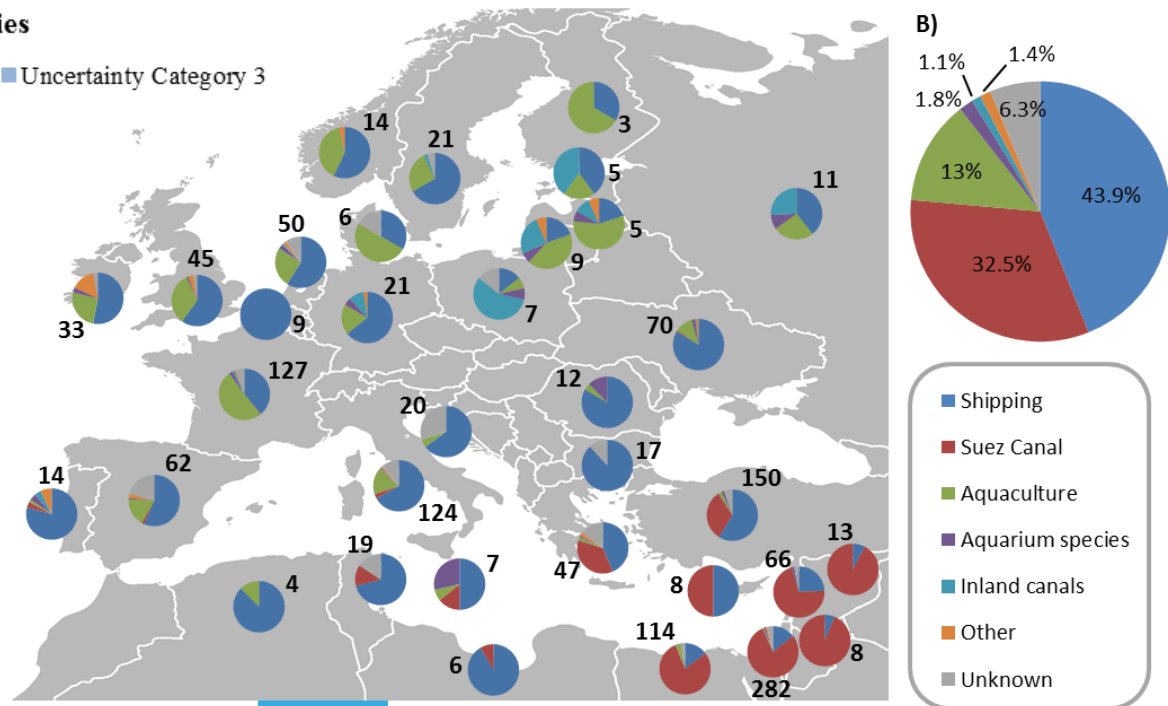


# Support to scientific research

■ Uncertainty Category 1 ■ Uncertainty Category 2 ■ Uncertainty Category 3

*Nunes et al, 2013. Gateways to alien invasions in the European Seas. Aquatic Invasions*

*Katsanevakis et al, 2013. Invading European Seas: assessing pathways of introduction of marine aliens. Ocean and Coastal Management 76: 64-74*



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- Scope & approach of EASIN
- EASIN tools
- **On going & future developments**

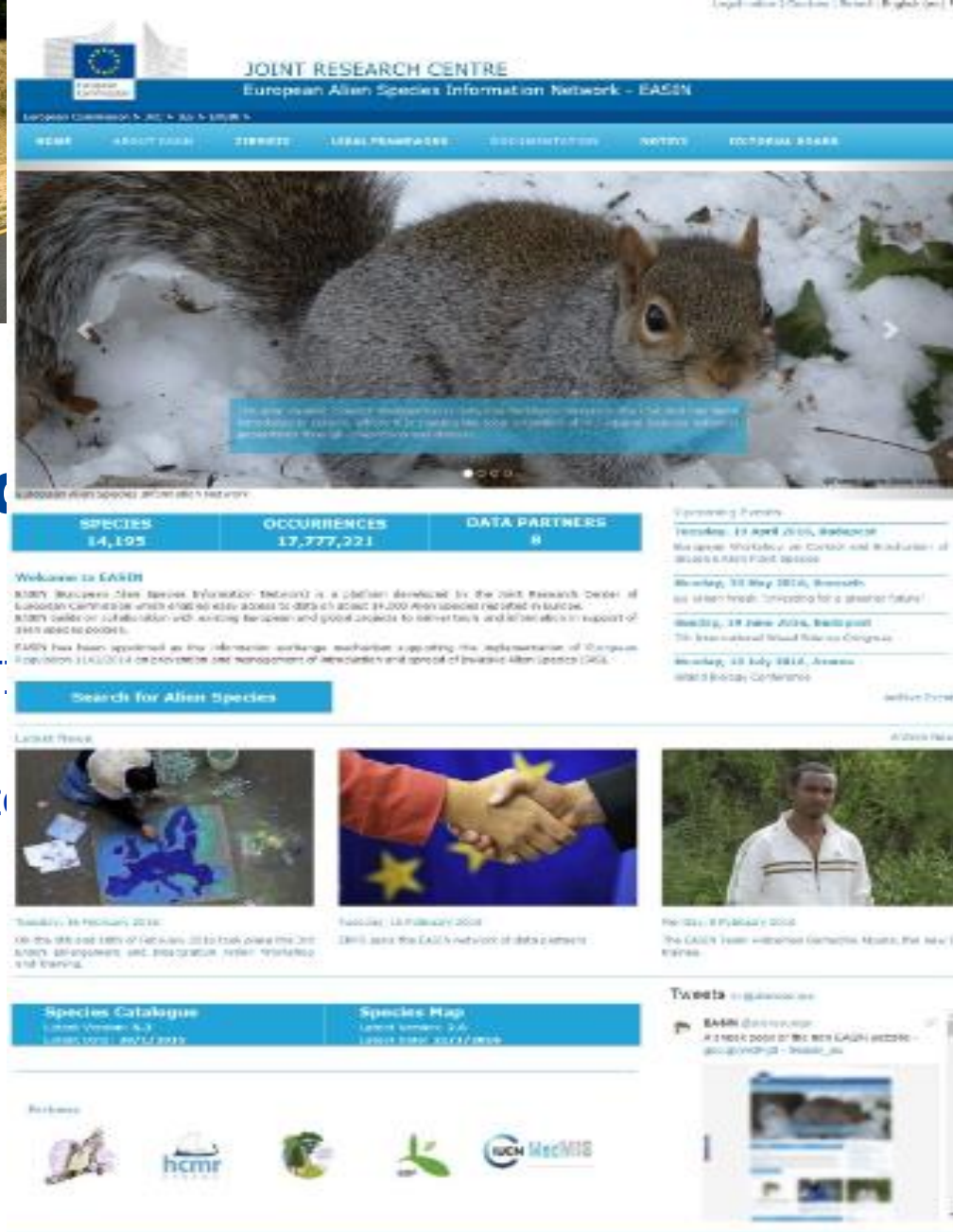


## Current activities

- EASIN website updates (widgets, maps, “news”, links, photos, registration, etc)
- Updated EASIN Catalogue (v.5.3), including:
  - ❖ updated higher taxonomy revision, revision of terrestrial plants (7,000 species)
  - ❖ fixed nomenclatura issues of further 1300 records (typos, valid names, synonyms, autonyms) – Revised EASIN protocol
  - ❖ updated common names
- new alien species entries and spatial records through EASIN-Lit

## Current activities

- Terrestrial Mollusca revision
- Mediterranean marine species updates Land plants updates
- 80 priority IAS spatial occurrences (including the List of Union concern) updated through dedicated literature review
- Updated Geo Database released (v.2.6)





# **On-going and future developments in EASIN**

1. Revision of pathways according to CBD categorization
2. Guidelines, best practices
3. Citizen science (raising awareness, involvement in detection)
4. Data mining & Horizon scanning
5. Modeling

# Thank you for your attention!

## EASIN TEAM

**Ana Cristina Cardoso**

**Eugenio Gervasini**

**Fabio D'Amico**

**Ivan Deriu**

**Kostas Tsiamis**

**Anna Maria Addamo**

**Gemechis Akuma**

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