



Croissance bleue
en Méditerranée,
un enjeu pour
l'écosystème
marin en
Méditerranée

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Chargée de Programme, WWF

Le projet MedTrends a été financé par



Ordre du jour

- La croissance bleue
- Et en Méditerranée?
- Sur le chemin des solutions





Croissance des secteurs de l'économie maritime d'ici 2030 au niveau mondial

*Pêche
professionnelle*



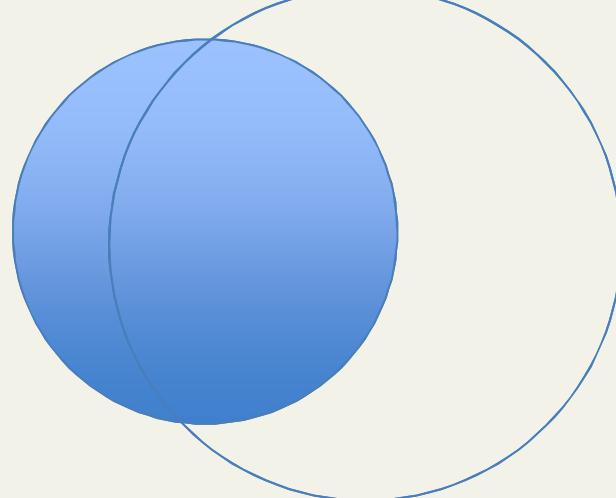
Aquaculture



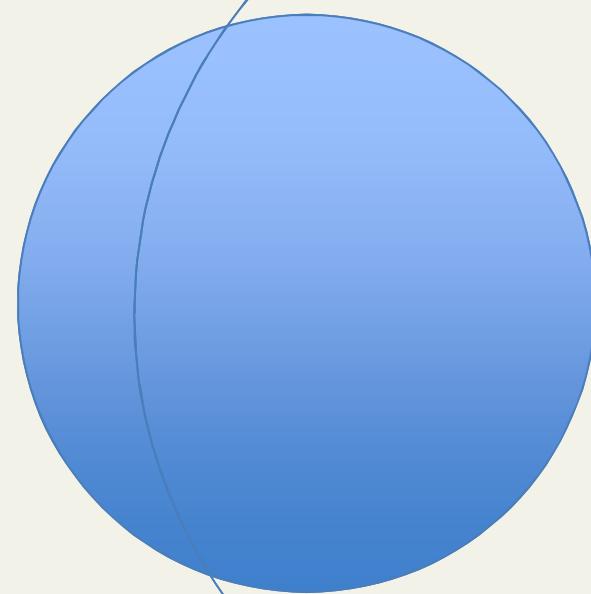
*Exploitation
minière*



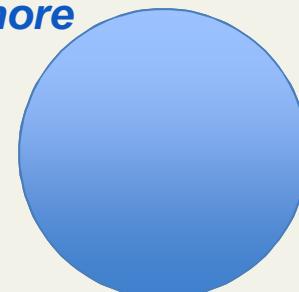
Tourisme



Transport maritime



*Hydrocarbures
Offshore*



Eolien Offshore



Taille relative actuelle (PIB)

*Taille attendue en
2030
(estimations)*



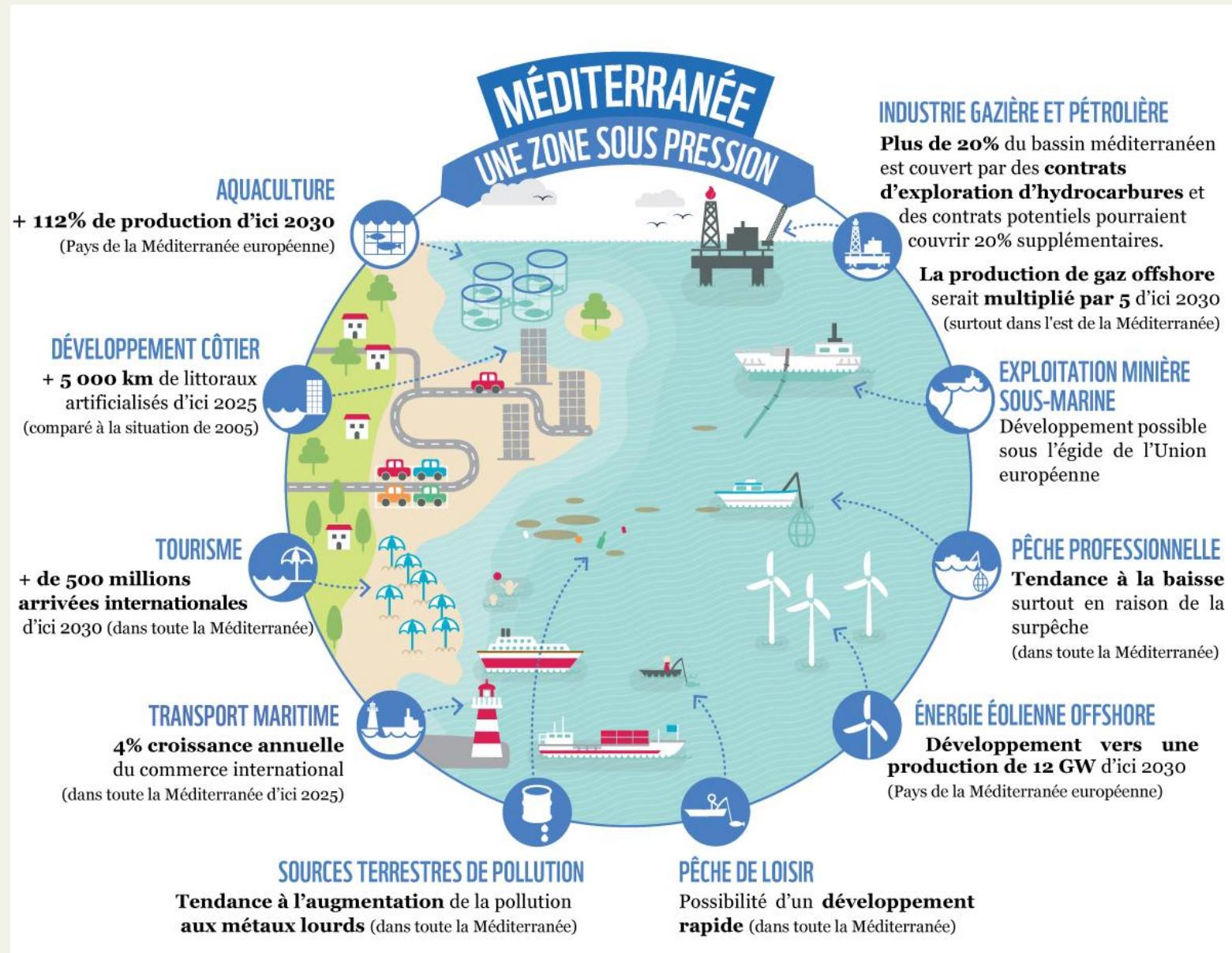


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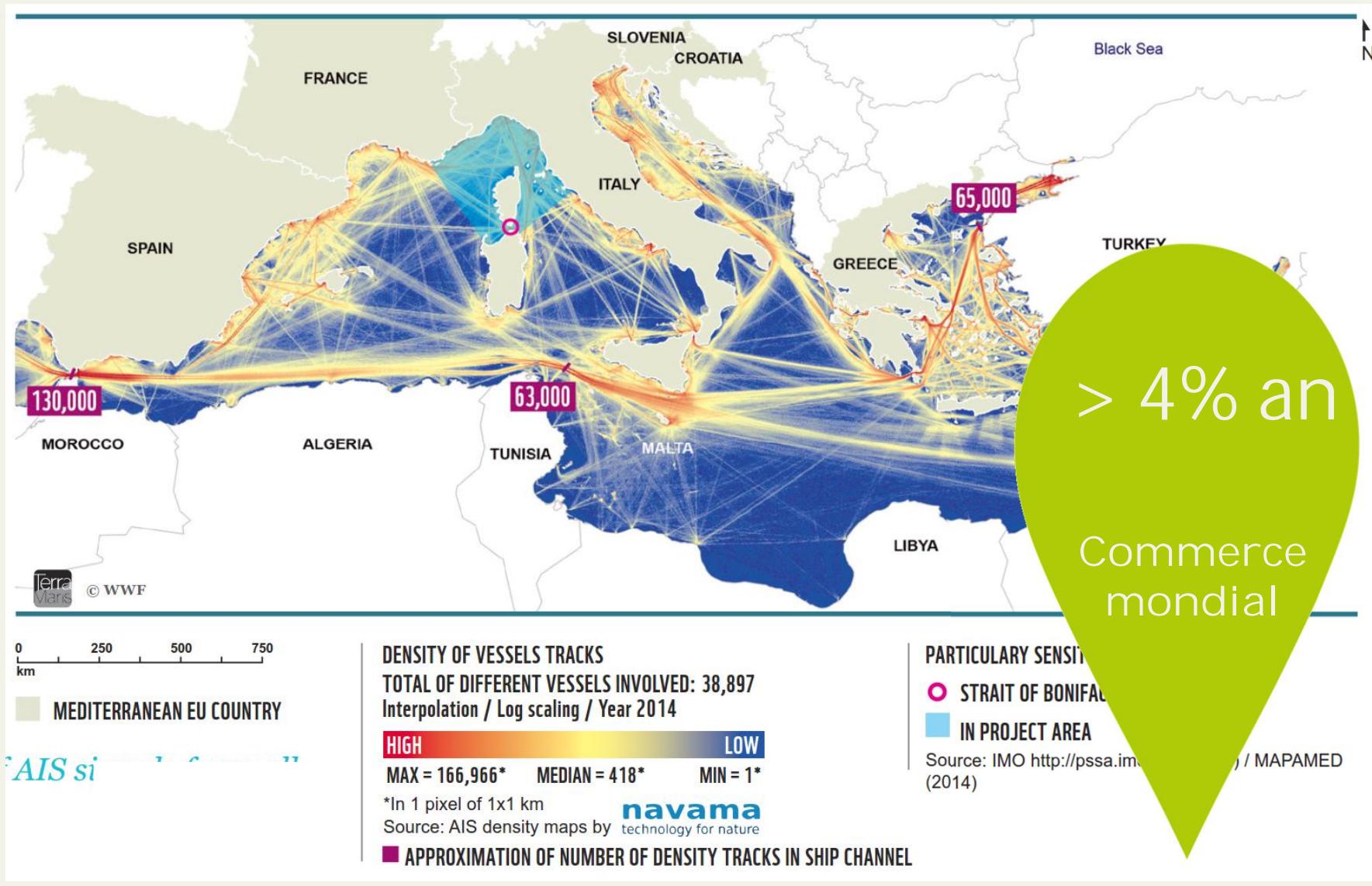


La croissance bleue en Méditerranée





Doublement du trafic maritime d'ici 15 ans





\$13.5bn
Projected revenues by 2023

\$1.25m
Cost of a large ship passing both ways through canal

101 miles
Length of current canal

44.74 miles
Length of proposed new channel

\$4bn
Cost of drilling new channel

SUEZ CANAL EXPANSION

Egypt has ambitious plans to boost revenues from its historic waterway

\$5bn
Egypt's current annual revenues from Suez Canal

5 years
Estimated time to complete project

29,000 sq miles
Area of proposed logistics hub around canal

العربي
Arabia
Source: Reuters; theloadstar.co.uk



Regions » Africa | Americas | Asia | China | Europe | Middle East | World

International Edition + menu

Red Sea jellyfish 'invading' Mediterranean through Suez Canal

By Oren Liebermann

⌚ Updated 0618 GMT (1318 HKT) August 30, 2015



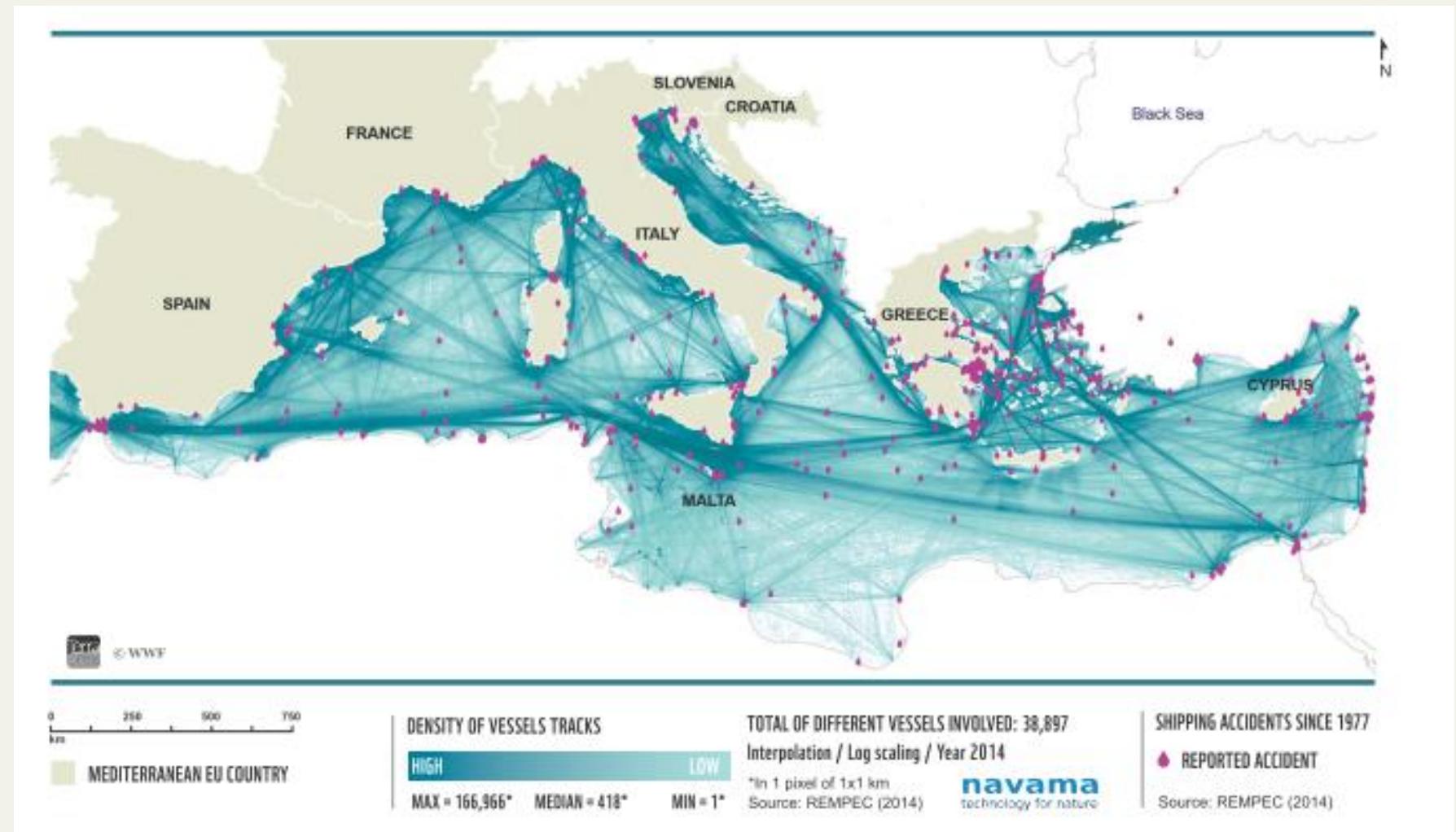
Invasive species fill waters of Mediterranean Sea 02:19

Transfert des données depuis optimized-by.rubiconproject.com...

Haifa, Israel (CNN) — Swarms of stinging jellyfish have



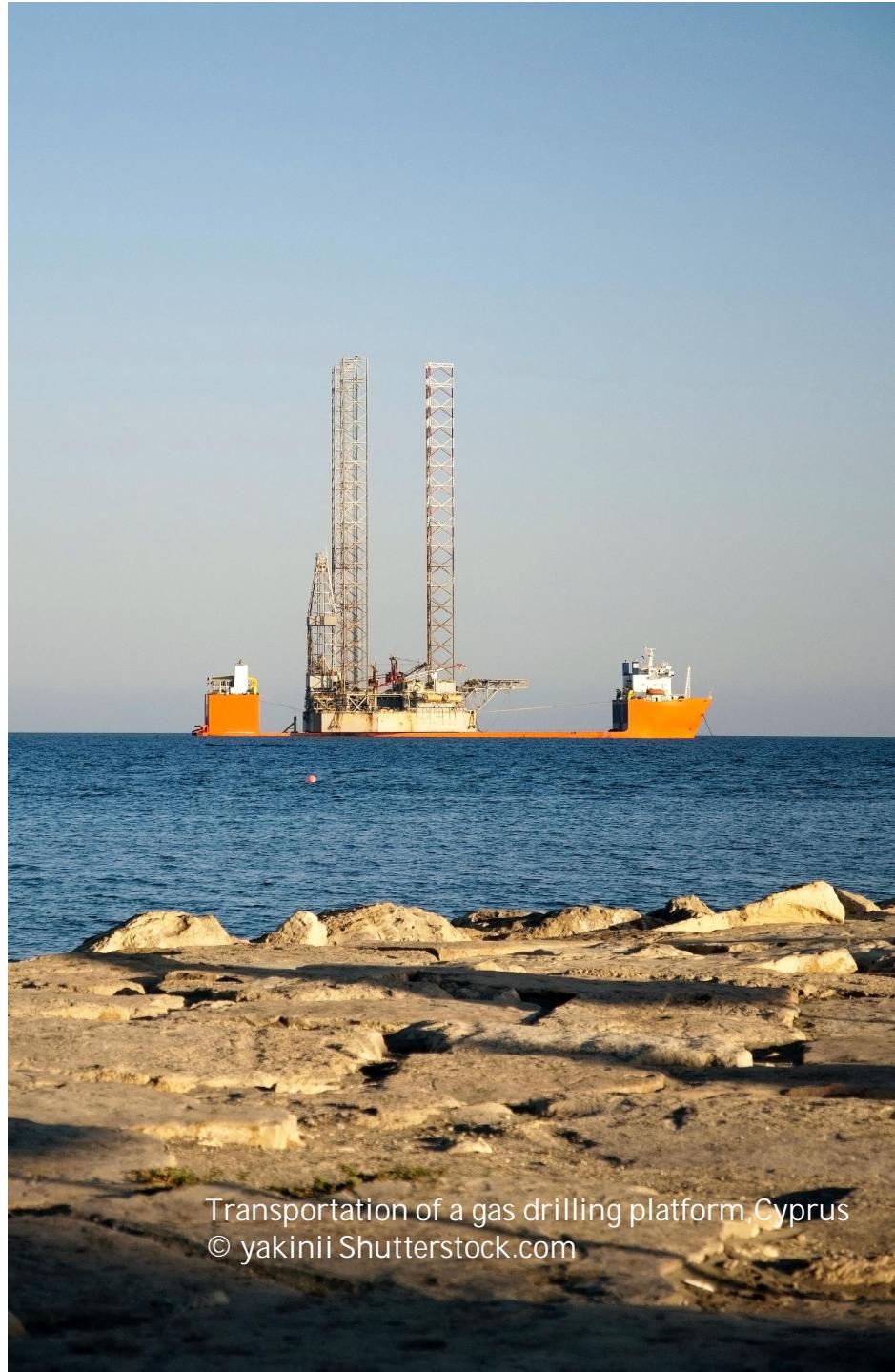
Un risque d'accidents accrûs



Pétrole et gaz en Méditerranée: le nouveau Far-West?



Plateforme pétrolière offshore au sud est de la Sicile, Italie ©
Angelo Giampiccolo Shutterstock.com



Transportation of a gas drilling platform,Cyprus
© yakinii Shutterstock.com

Des tendances fortes

x 5 d'ici
2030

Production
de gaz
offshore

+60% d'ici
2020

Production
de pétrole
offshore



Hydrocarbures offshore : contrats d'exploration (Avril 2015)

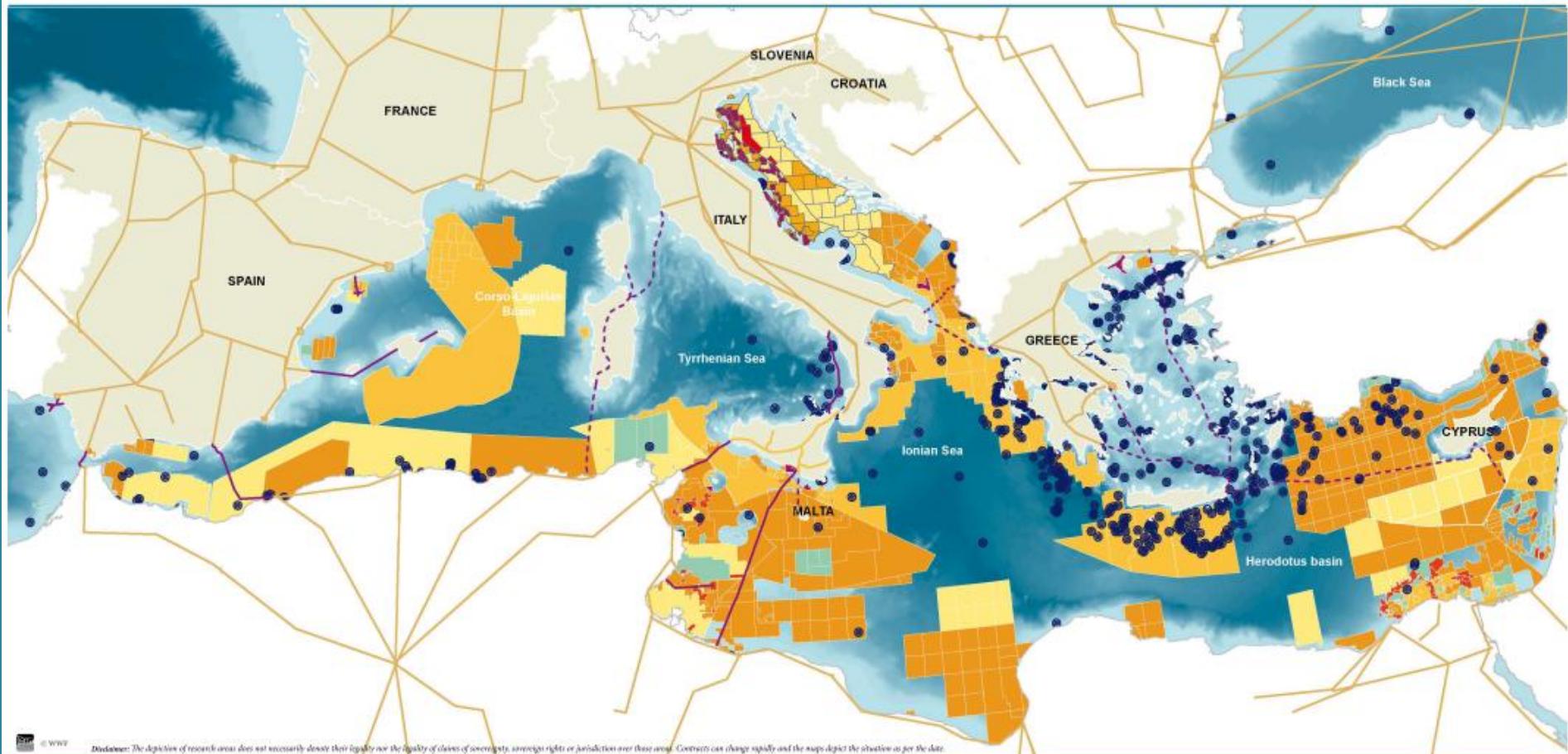


Figure 7. Map of seismic events of magnitude > 4 overlapped with oil and gas contracts map

0 200 300 km

MEDITERRANEAN EU COUNTRY

OIL AND GAS CONTRACTS

- OPEN AREA
- EXPLORATION AREA
- PRODUCTION AREA
- BIDBLOCK AREA
- DEVELOPMENT AREA
- RELINQUISHED AREA

Sources: DrillInfo (avril 2015)

NATURAL GAS INFRASTRUCTURES

- MARINE GAS PIPELINE - ACTIVE
- MARINE GAS PIPELINE - PROJECT
- TERRESTRIAL GAS PIPELINE

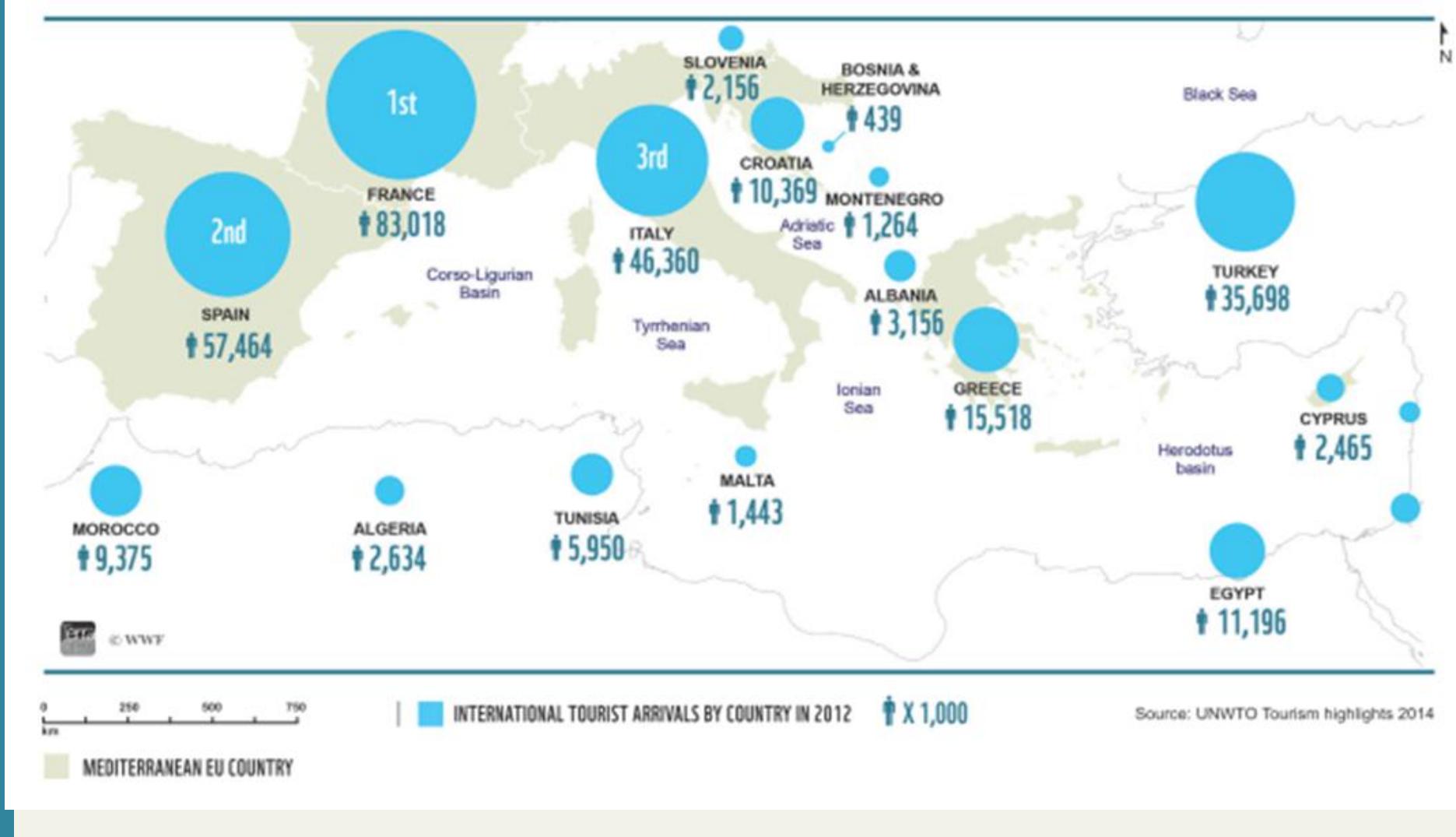
Source: Géodatam (2014)

SEISMIC EVENT SINCE 2006 (MAGNITUDE > 4)

Source: Orfeus (2014)



Méditerranée: 1ère destination touristique au monde





Un tourisme international en forte expansion

☰ MENU

Le Point Économie

Actualité > Économie

Le nombre de touristes chinois explode

Ils sont 107 millions de Chinois à être partis à l'étranger en 2014, soit 20 % de plus que l'année précédente. Ils ont dépensé plus de 146 milliards d'euros.

SOURCE AFP

Publié le 28/08/2015 à 16:45 - Modifié le 28/08/2015 à 18:36 | Le Point.fr



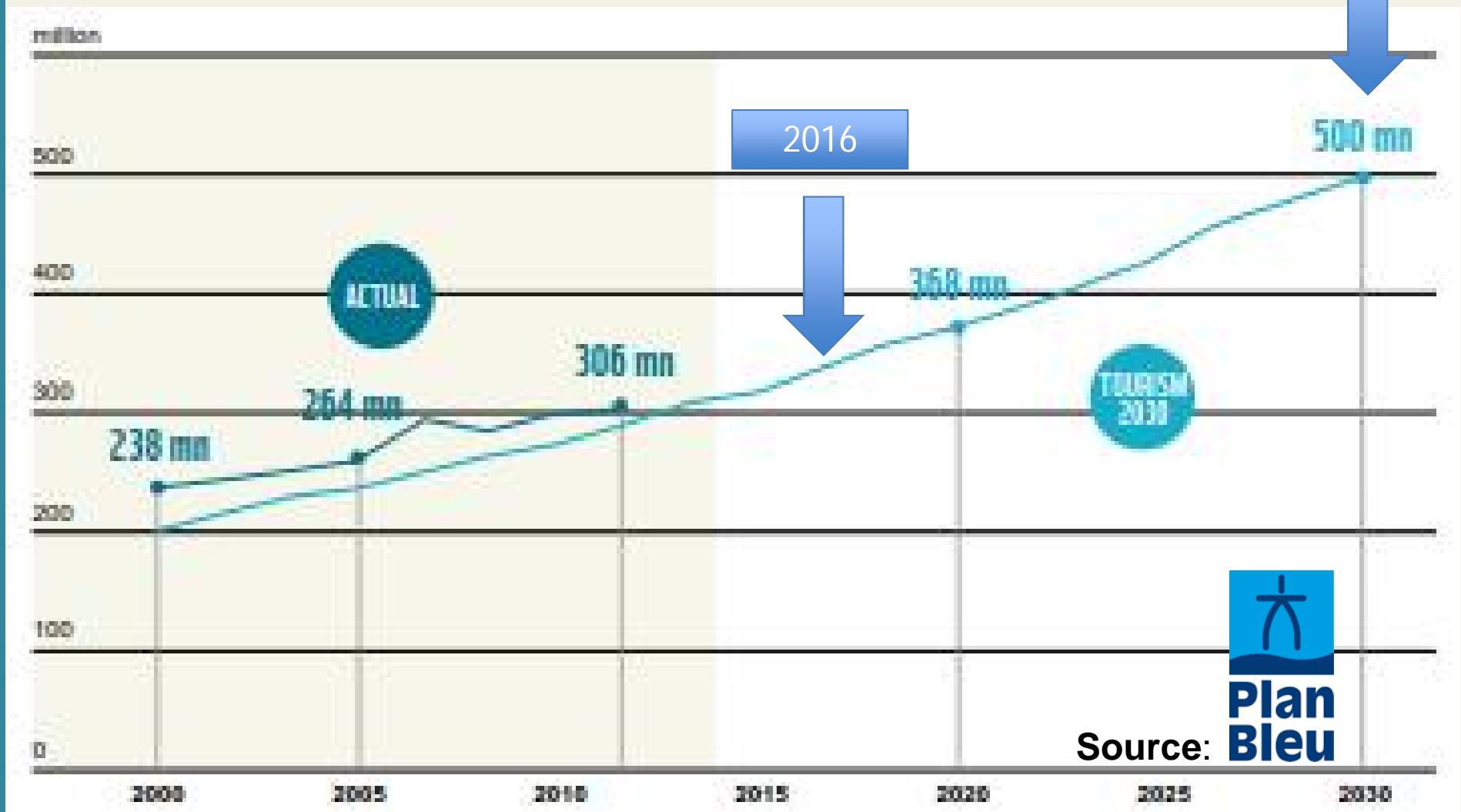
ABONNEZ-VOUS À PARTIR DE 1€



Environ 107 millions de Chinois ont effectué un voyage touristique à l'étranger en 2014, une progression de près de 20 % par rapport à l'année précédente, selon un rapport cité vendredi par l'agence de presse officielle Chine nouvelle. Les touristes chinois ont par ailleurs dépensé en 2014 plus de 146 milliards d'euros, quatre fois plus qu'en 2008, d'après le rapport de l'Académie de tourisme chinoise, un groupe

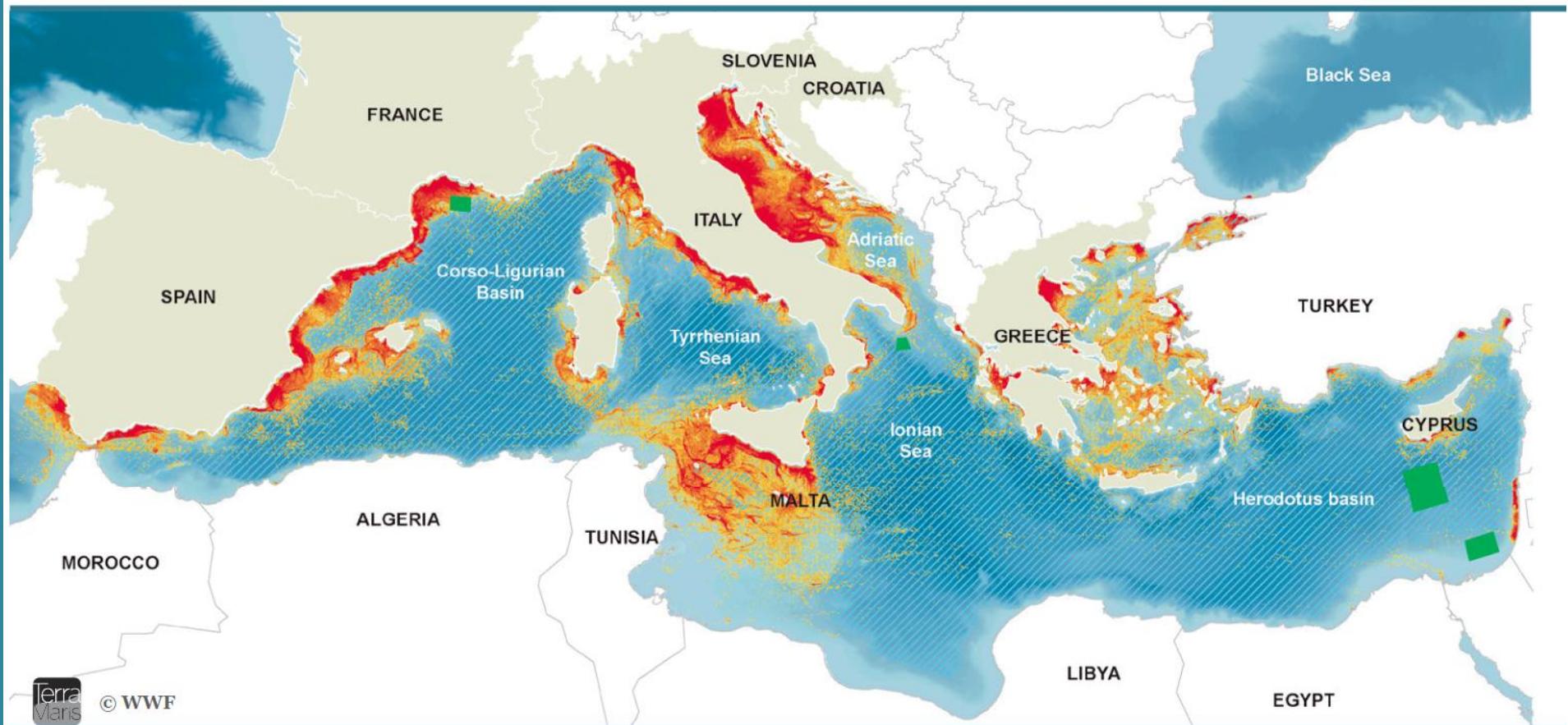


Méditerranée: la première destination touristique au monde





Pêche professionnelle



0 250 500 750
km

MEDITERRANEAN EU COUNTRY

* In 1 pixel of 1x1 km
Source: AIS density maps by

MEDITERRANEAN AIS-EQUIPPED FISHING VESSELS
DENSITY OF AIS SIGNALS - 2014
NO Interpolation / Log scaling

HIGH

MAX = 102,667*

MEDIAN = 328*

TOTAL OF VESSELS
INVOLVED: 4580

LOW

MIN = 1*

navama
technology for nature

GFCM REGIONAL SPATIAL REGULATIONS

FISHERIES RESTRICTED AREA (FRA)
TRAWLING BAN ZONE (ISOBATH > 1000 M)

Source: GFCM* (2005,2006,2009)

*General Fisheries Commission for the
Mediterranean

Pêche professionnelle

Tendance à la baisse

Diminution
des
captures,
pertes de
zones de
pêche



Pêche de loisir



Fort
développement
sur le littoral
européen
de la Med

© Toni Font



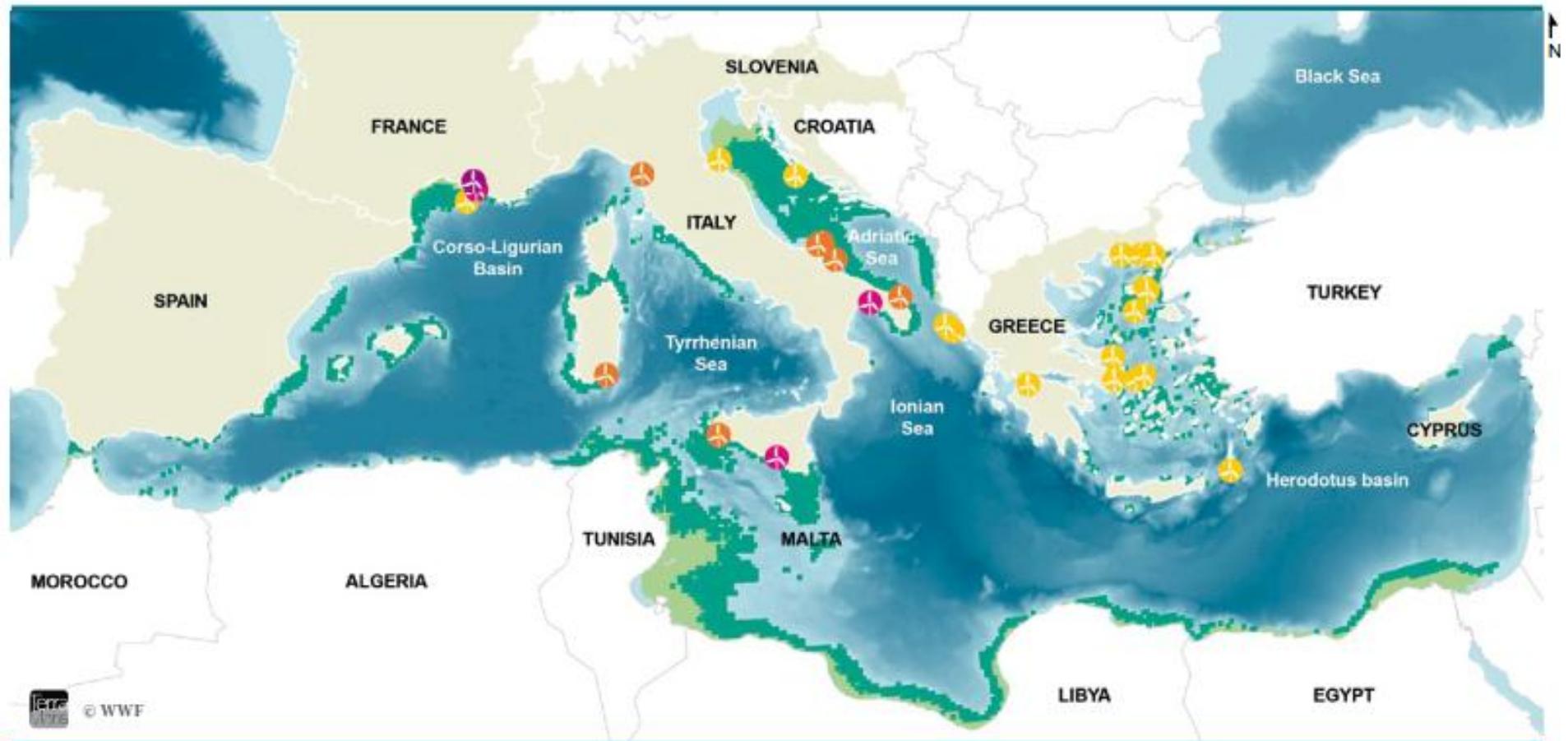
Eolien offshore

Une filière émergente

12
gigawatts
(GW) d'ici
2030 (pays
européens)



Projets de fermes éoliennes offshore



0 250 500 750
km

MEDITERRANEAN EU COUNTRY

POTENTIAL LOCATIONS FOR OFFSHORE WIND FARM

The points are characterized by annual wind speeds greater than 5m/sec at 80 m height above sea level.

WATER DEPTHS <50M 50 TO 200M

Source: FP7 Collaborative project - Towards COast to COast NETworks of marine protected areas (from the shore to the high and deep sea), coupled with sea-based wind energy potential (CoCoNET 2015)

WIND FARMS PROJECTS

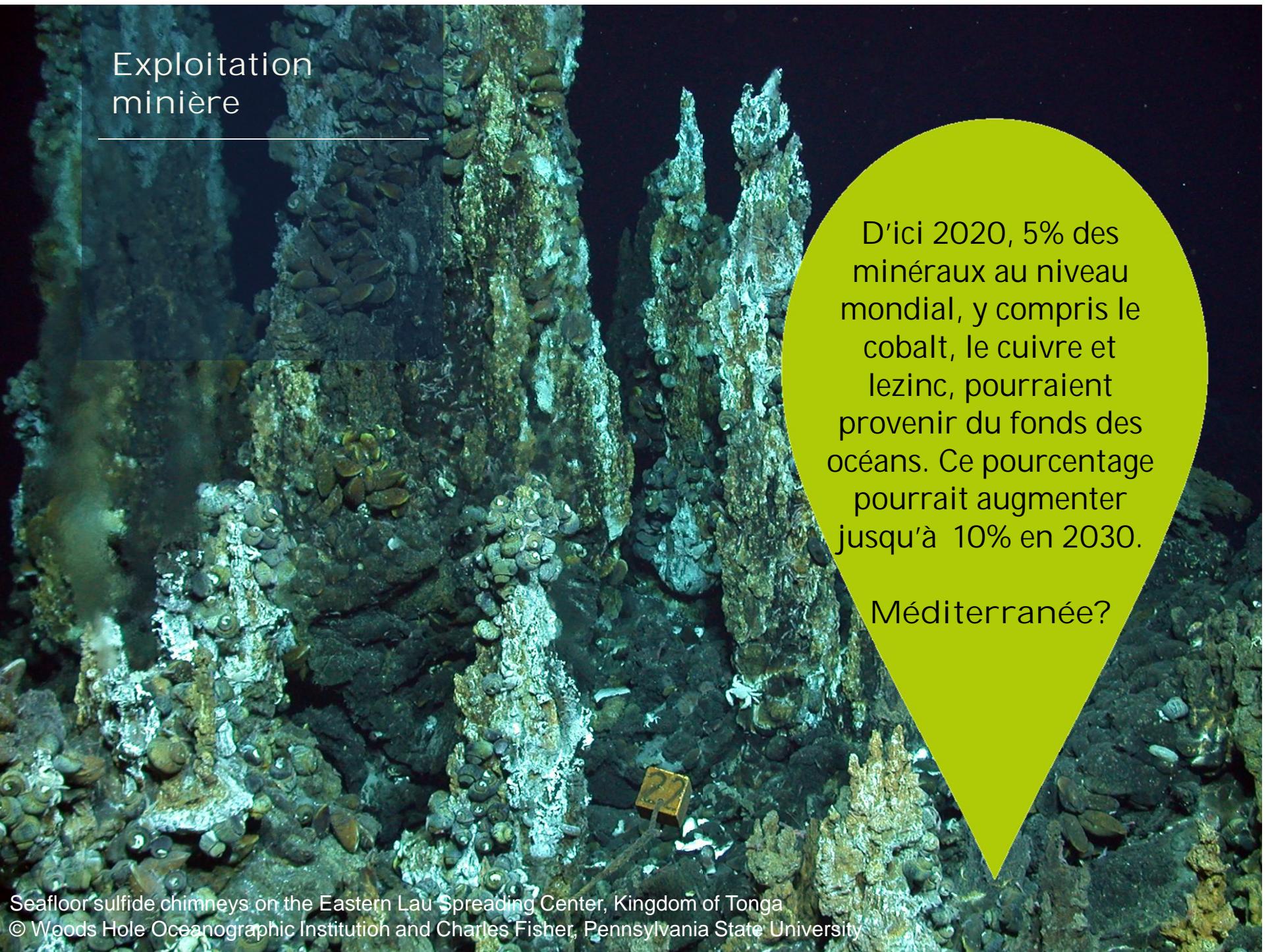
- CONCEPT/EARLY PLANNING
- CONSENT APPLICATION SUBMITTED
- CONSENT AUTHORISED
- PARTIAL GENERATION/UNDER CONSTRUCTION

Source: Offshore4C (2014)

Exploitation minière

D'ici 2020, 5% des minéraux au niveau mondial, y compris le cobalt, le cuivre et le zinc, pourraient provenir du fonds des océans. Ce pourcentage pourrait augmenter jusqu'à 10% en 2030.

Méditerranée?

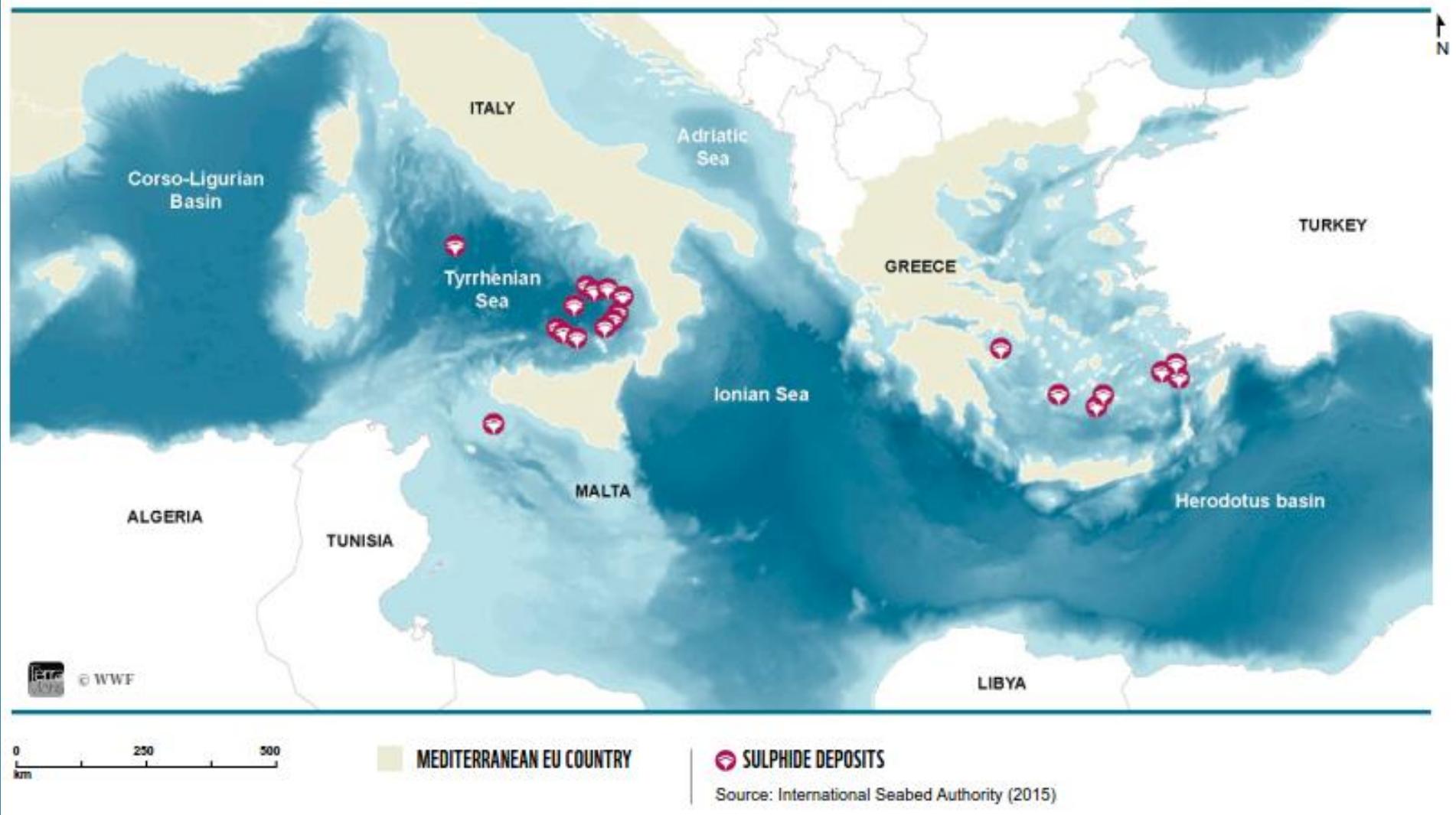


Seafloor sulfide chimneys on the Eastern Lau Spreading Center, Kingdom of Tonga
© Woods Hole Oceanographic Institution and Charles Fisher, Pennsylvania State University



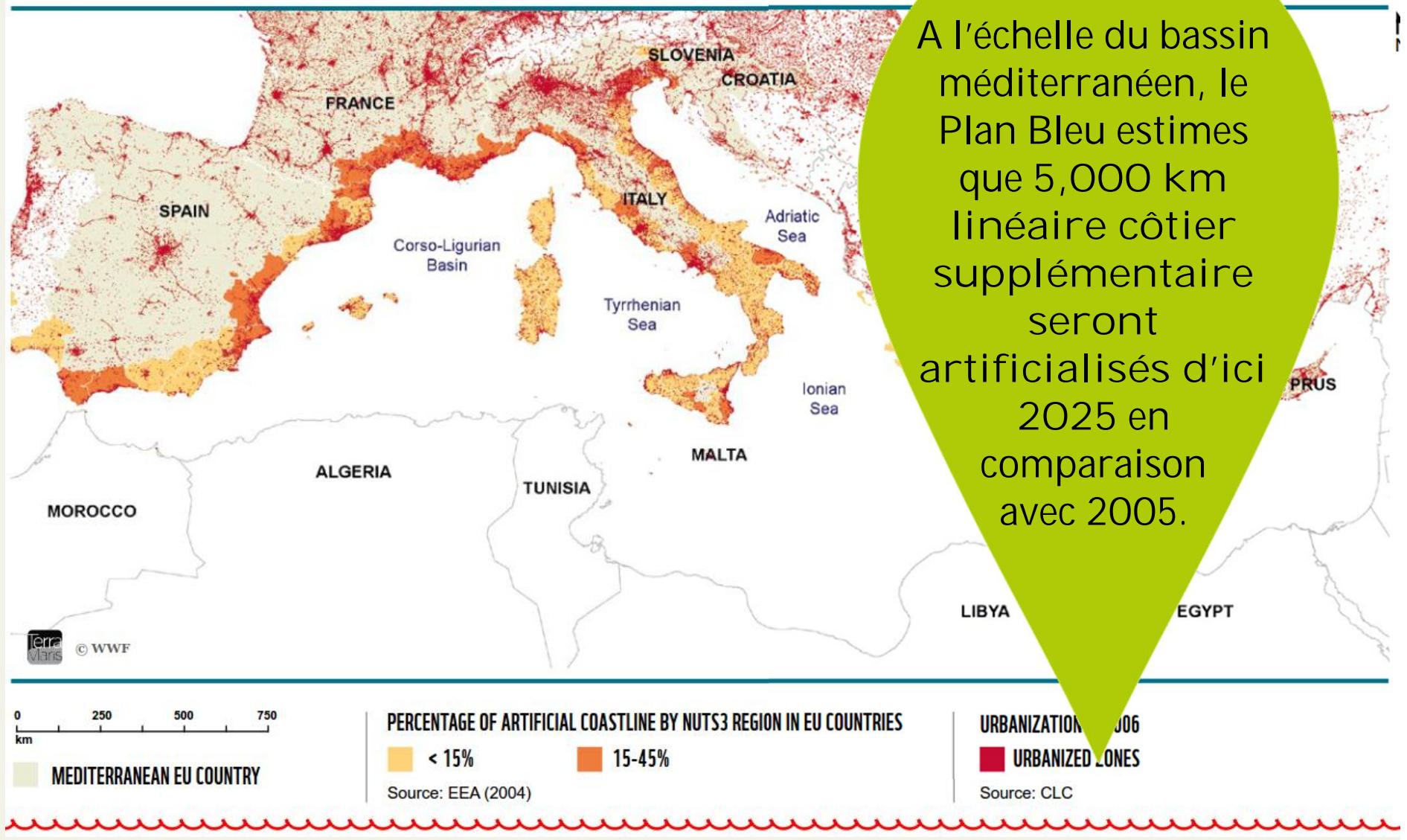
Exploitation minière offshore

L'une des 5 priorités de la stratégie "Croissance Bleue" de l'UE



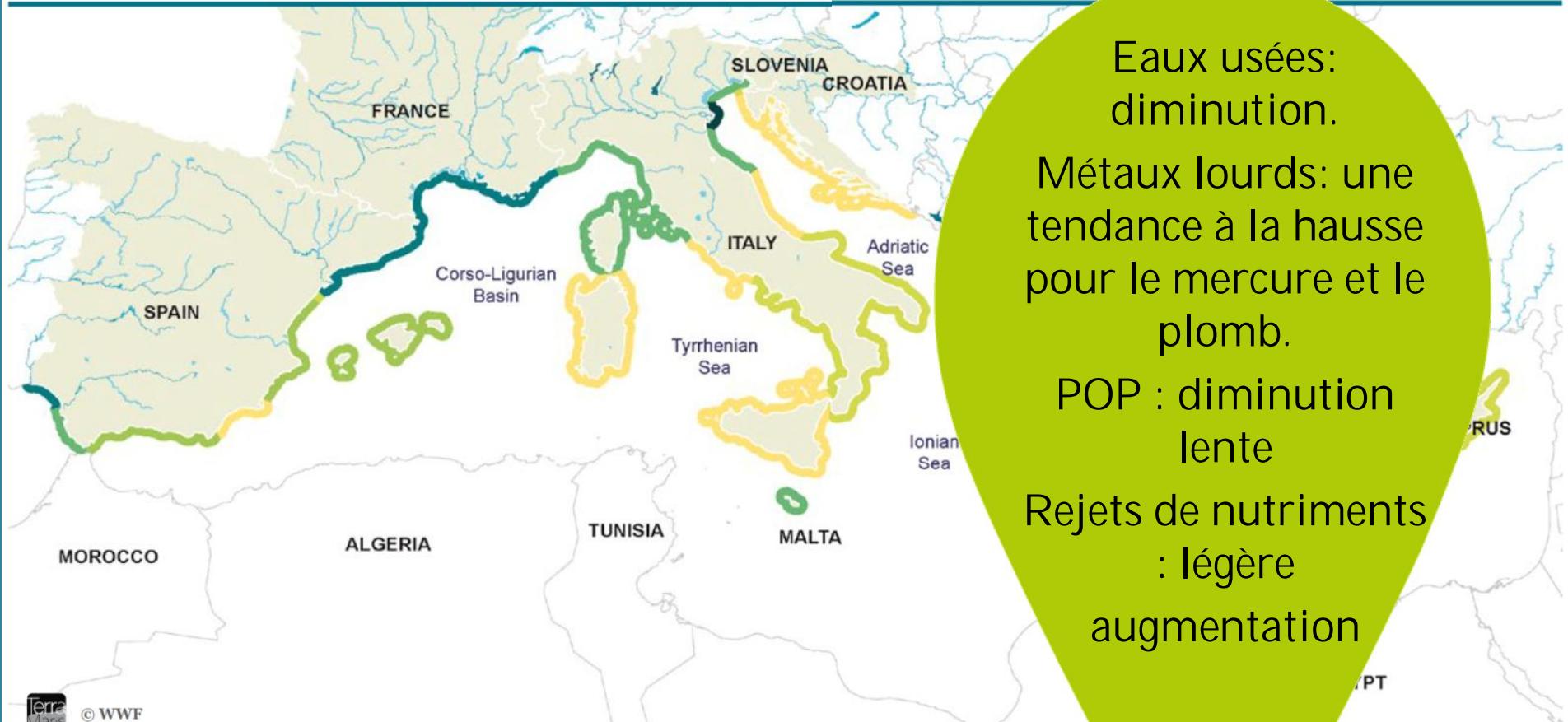


Développement côtier





Pollution d'origine terrestre: bilan contrasté



0 250 500 750
km

MEDITERRANEAN EU COUNTRY

PERCENTAGE OF CLASSIFIED WATER BODIES IN LESS THAN GOOD ECOLOGICAL STATUS OR POTENTIAL IN EU MEDITERRANEAN COASTAL AND TRANSITIONAL WATERS

- NO DATA
- < 10%
- 10 - 30%
- 30 - 50%
- 50 - 70%
- 70 - 90%

Source: EEA figure (2014 / Temporal coverage: 2005-2010)

Eaux usées:
diminution.

Métaux lourds: une
tendance à la hausse
pour le mercure et le
plomb.

POP : diminution
lente

Rejets de nutriments
: légère
augmentation

WATER BODY
LARGE WATER BODY
OR COUNTRY SEPARATOR
WATER BODY (PROVINCE LEVEL SEPARATOR)

Source: EC-JRC 2008



Synthèse des tendances

Secteur	Tendance	Secteur	Tendance
Hydrocarbures		Tourisme	
Transport maritime		Energies renouvelables	
Pêche professionnelle		Exploitation minière	
Pêche de loisir		Développement côtier	
Acquaculture marine		Pollution d'origine terrestre	



Changement climatique et acidification

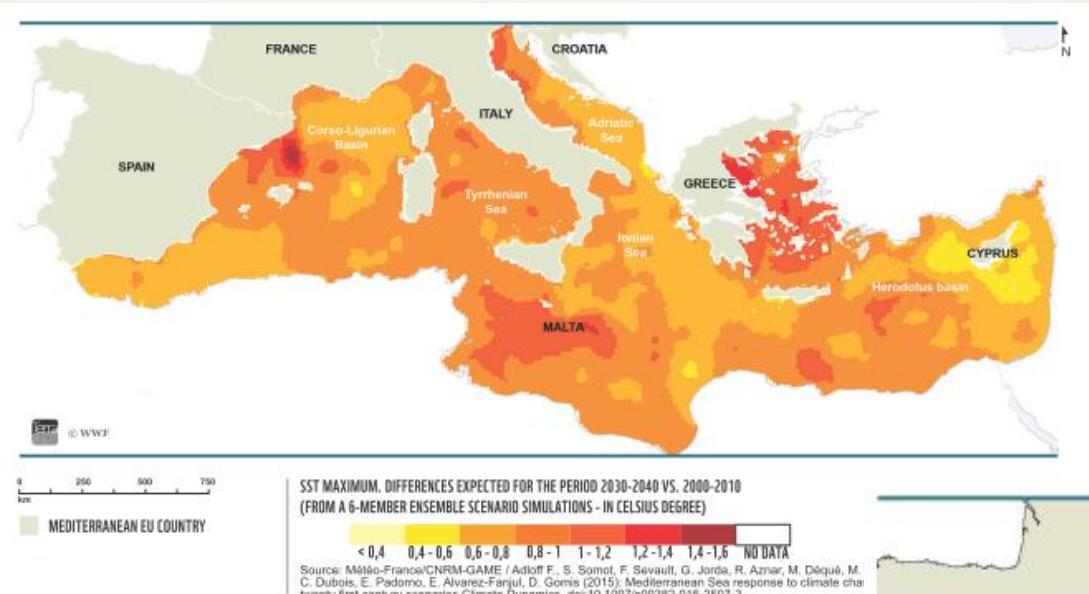


Figure 1. Maximum differences of sea surface temperature between 2030-2040.

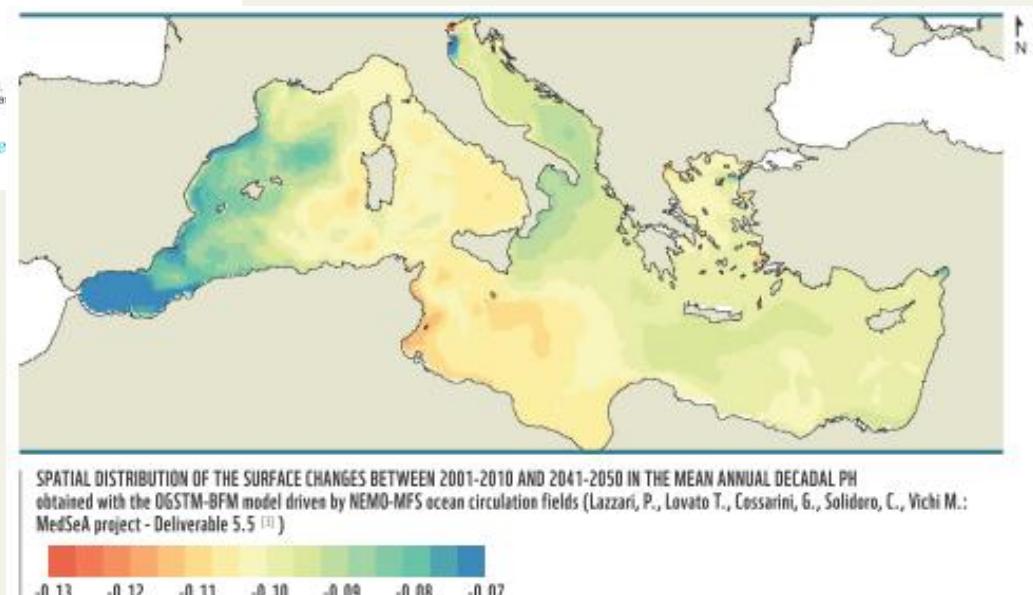


Figure 2. Spatial distribution of the surface changes between 2001-2010 and 2041-2050 in the mean annual decadal PH



Zones d'intérêt pour la conservation de la Méditerranée

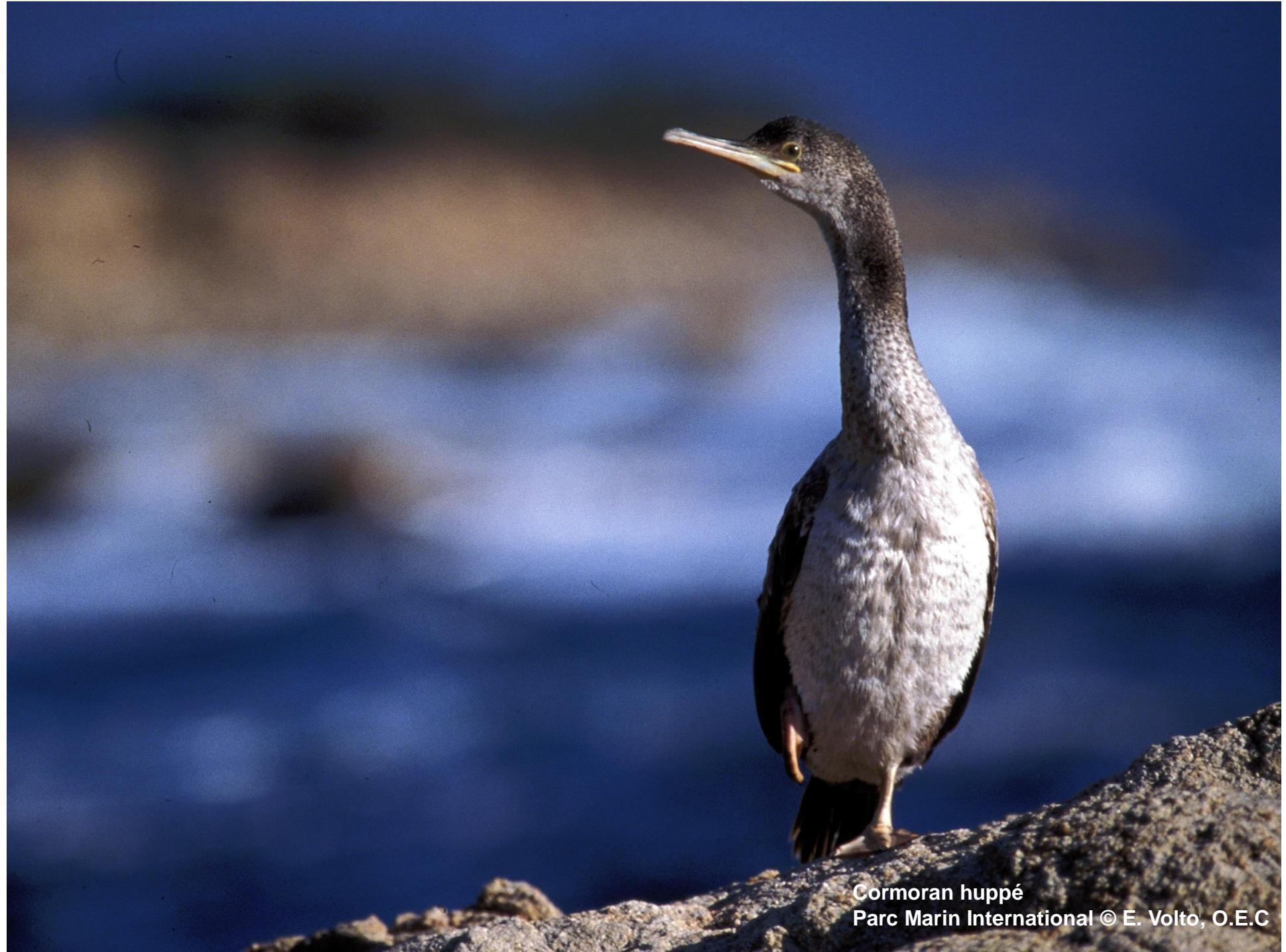
Cachalots
© F. Basmayousse



Assemblage coralligène
© Aldo Ferrucci



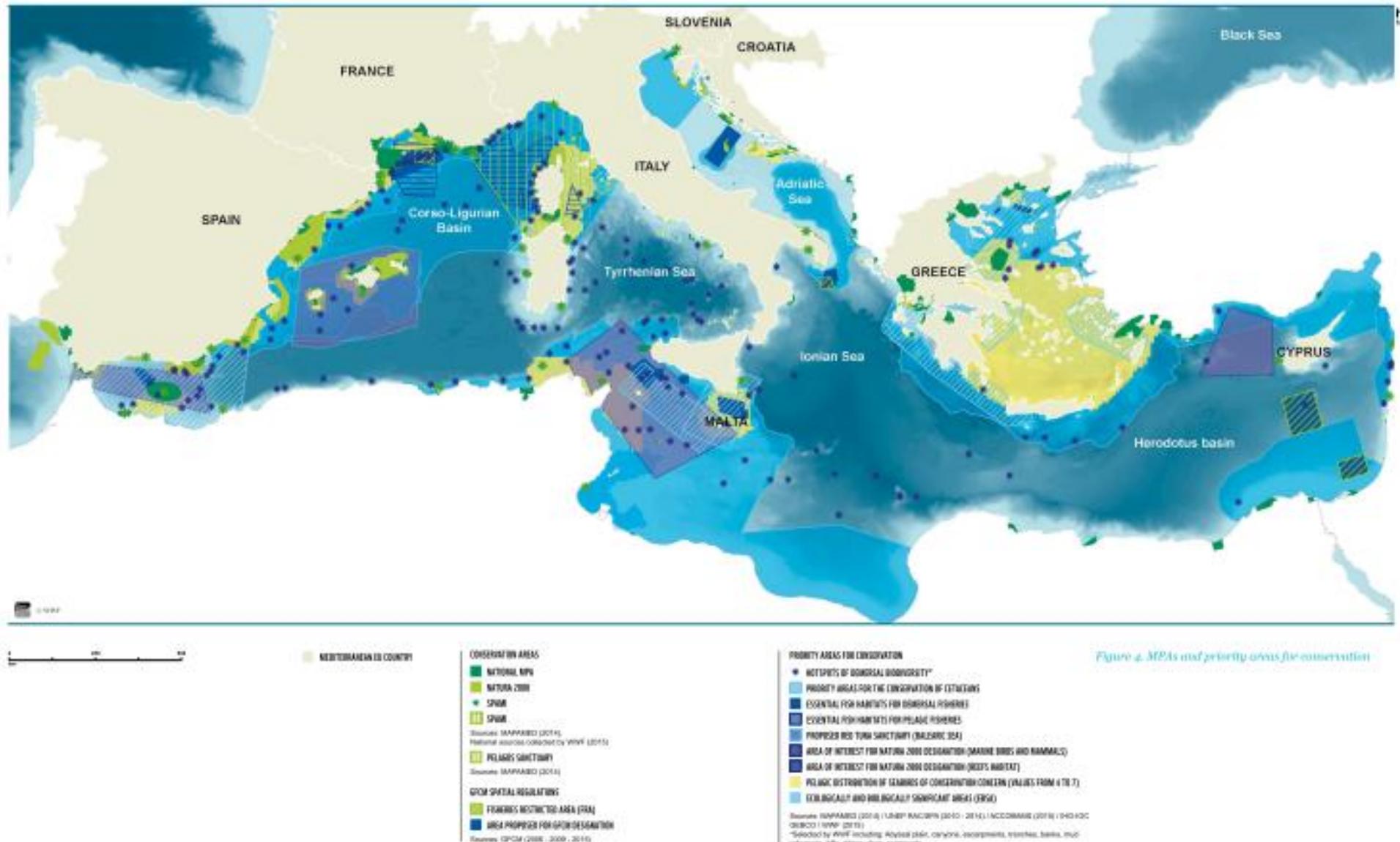
Sar à tête noire
© D. Fioramonti



Cormoran huppé
Parc Marin International © E. Volto, O.E.C³¹



Zones d'intérêt pour la conservation



Status of Mediterranean assets

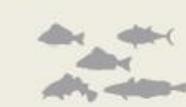
MARINE MAMMALS AND FISH IN DECLINE

Over the past 50 years,



the Mediterranean has lost 41% of marine mammal populations -

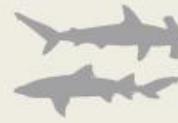
41%



- and 34% of the total fish population.¹

34%

SHARKS UNDER THREAT



53% of Mediterranean sharks at risk of EXTINCTION.²



TURTLES AT RISK

The green turtle population in the Mediterranean is ENDANGERED.³



SEAGRASS IN DECLINE



Posidonia seagrass has suffered a 34% decline in distribution areas or degradation in the last 50 years.⁴

34%

ANTHOZOANS UNDER THREAT



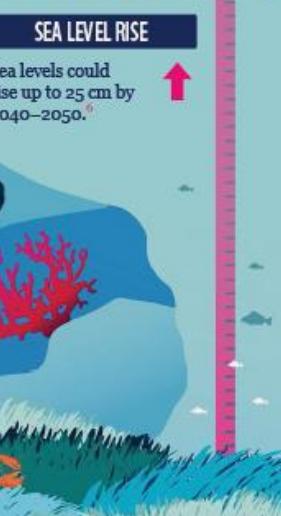
More than 13% of anthozoan species in the Mediterranean Sea – which include corals and related species – are threatened with EXTINCTION.⁵

13%



SEA LEVEL RISE

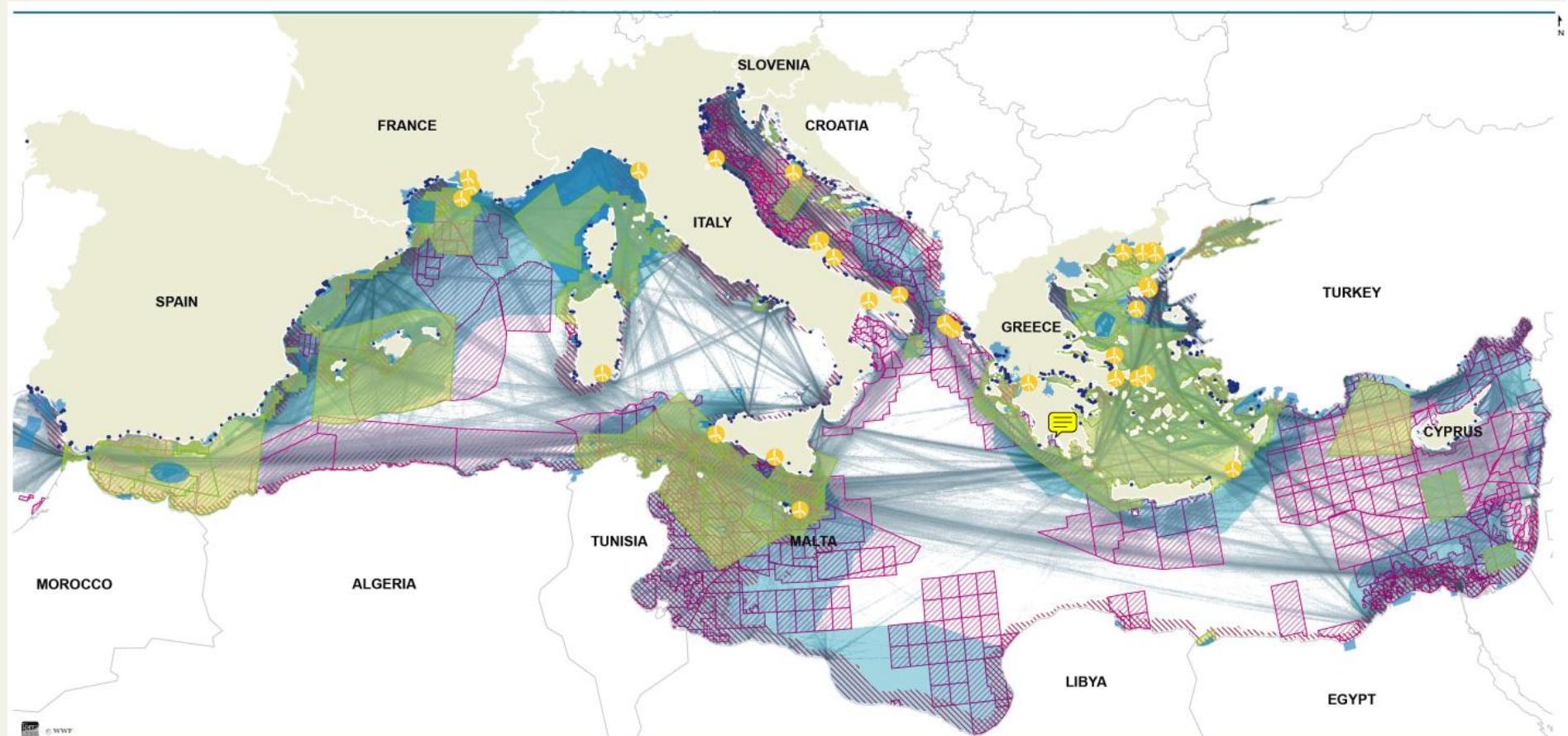
Sea levels could rise up to 25 cm by 2040–2050.⁶



SOURCES: 1. Proddi et al., 2017. 2. Dulvy et al., 2016. 3. IUCN Red List, 2017. 4. Telesh et al., 2015. 5. Otero et al., 2017. 6. Galassi et al., 2014.



Des interactions fortes entre secteurs et zones d'intérêt pour la conservation



0 200 500
km
MEDITERRANEAN EU COUNTRY

TRANSPORT - DENSITY OF VESSELS TRACKS
TOTAL OF DIFFERENT VESSELS INVOLVED: 38 897
Interpolation / Log scaling / Year 2014
HIGH LOW
MAX = 166 966* MEDIAN = 418* MIN = 1*
*In 1 pixel of 1x1 km / Source: **navama** technology for nature

ENERGY SECTORS
CONCEPT/EARLY PLANNING
OIL AND GAS CONTRACT
Sources: DrillingInfo (2015) / Offshore4C (2014)
National sources collected by WWF (2015)

EXPLOITATION OF LIVING RESOURCES
• AQUACULTURE FARM LOCATION*
• POTENTIAL EU RECREATIONAL FISHING ZONE**
Sources: WWF (2015) JRC-ISPRRA (2012)
*Data available only for EU countries / **Created from continental plateau up to the 200m isobath and AIS density map by Navama (2014)

SITES OF CONSERVATION INTEREST
DESIGNATED CONSERVATION AREA
PRIORITY AREA FOR CONSERVATION
ECOLOGICALLY AND BIOLOGICALLY SIGNIFICANT AREAS (EBSA)
Sources: MAPAMED (2014) / UNEP RAC/ISPA (2010 - 2014) / ACCOBAMS (2010) / IHO-IOC GEBCO / GFCM (2006 - 2015)

Figure 12. Map overlapping maritime sectors and sites of conservation interest



Des zones à enjeux clairement identifiées

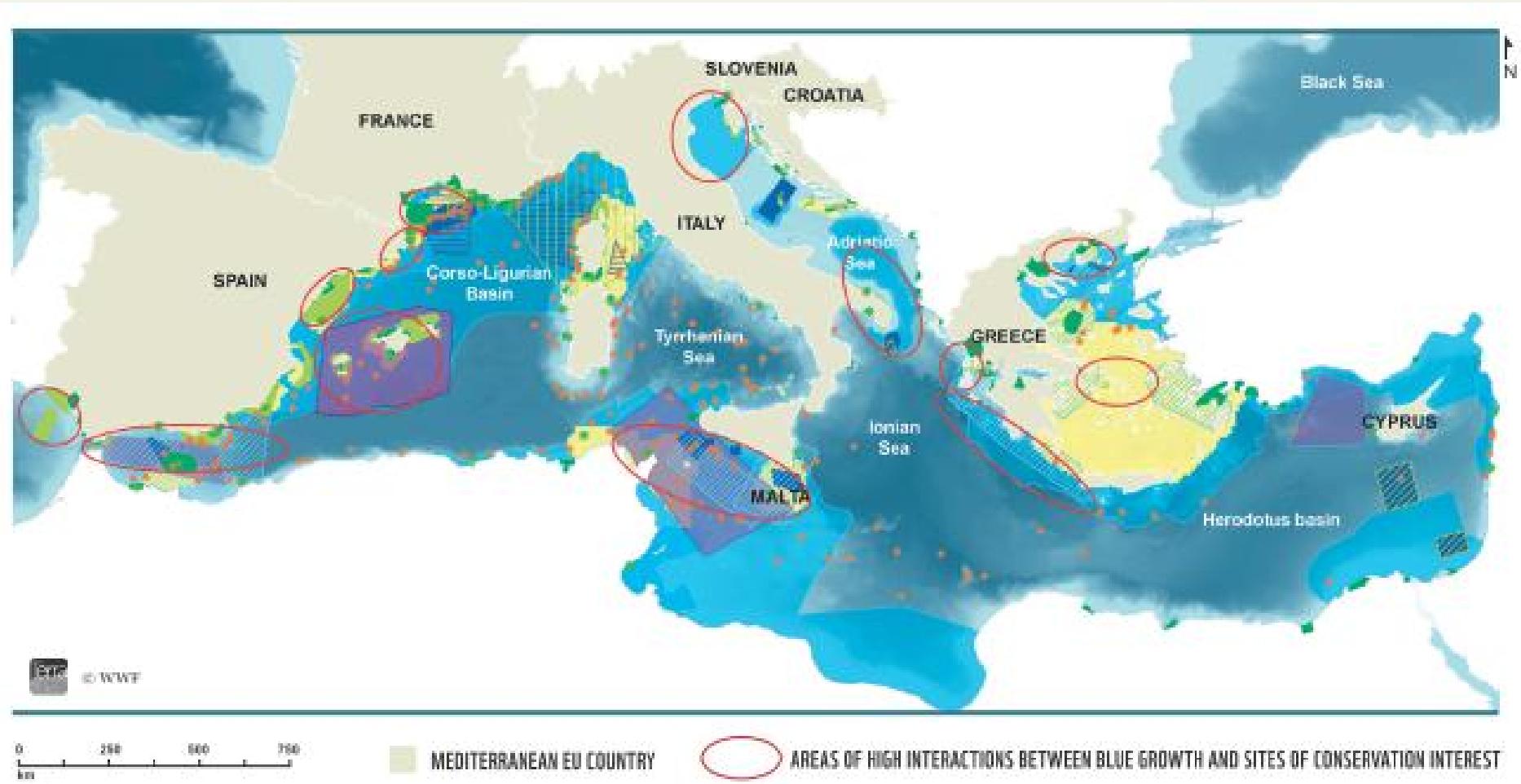


Figure 13. Areas of high interactions between Blue Growth and sites of conservation interest

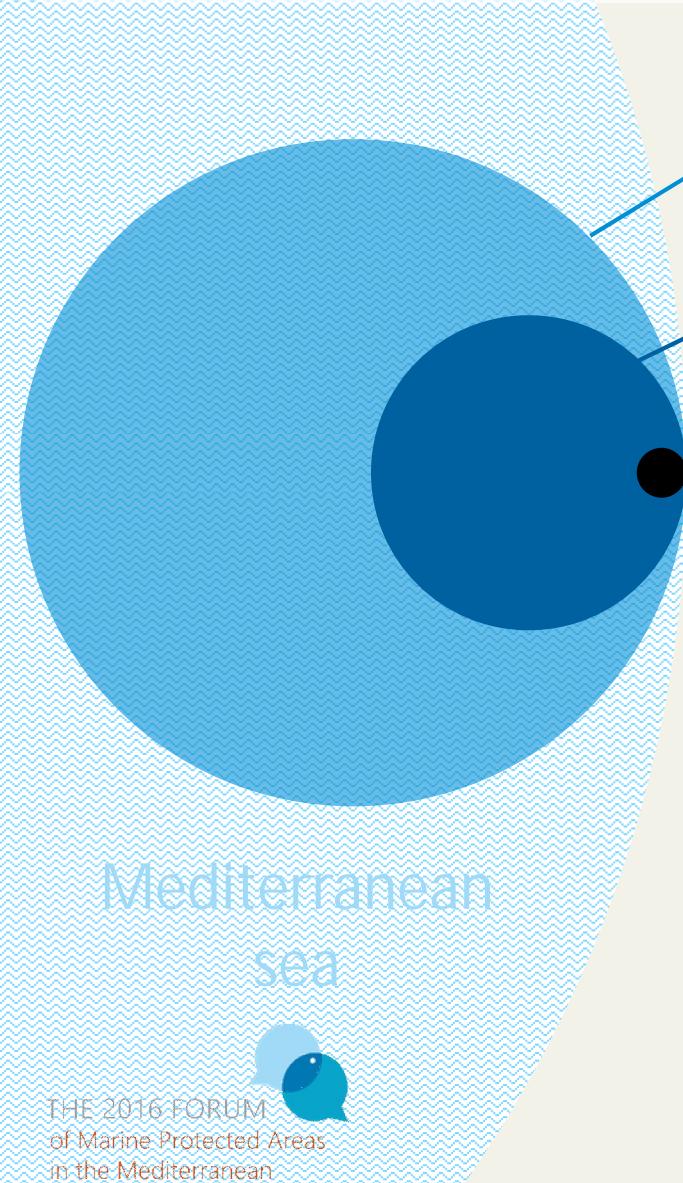


Ordre du jour

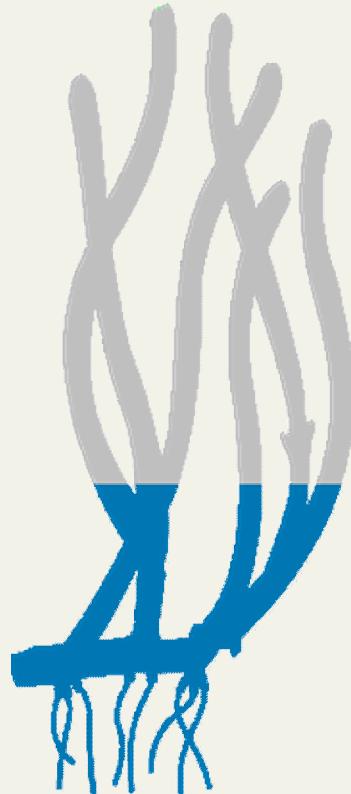
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MPA coverage



“Ecological coherence”



MPAs (all designations) cover:

- 40% of posidonia beds*
- 33% of coralligenous communities*
- 17% of the 0 to 50 m depth zone
- 13% of the 50 to 200 m depth zone
- 5% of areas deeper than 200 m

Uneven distribution

Encouraging but:

- Not true ecological coherence
- Results highly dependent on input data
- What about management?

* Using EMODnet habitat maps



Les principes d'une Economie Bleue Durable





PHAROS4MPAs PROJECT

The PHAROS4MPAs project will deliver an integrated framework for recommendations on the necessary practical collaboration between Mediterranean MPAs and 9 maritime sectors.



Project co-financed by the European Regional Development Fund



The Ecosystem Approach

“The Ecosystem Approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.”
CONVENTION ON BIOLOGICAL DIVERSITY



Ecosystems Knowledge Network

KEY ELEMENTS OF THE ECOSYSTEM APPROACH

Mitigation measures

Subsidiarity and coherence

Adaptive planning

Participation/stakeholder engagement

Best knowledge

Ecosystem services

Precautionary approach

Which way forward?

The practical implementation of the Ecosystem Approach in MSP still needs to be better understood

- Create a **regional Working Group** under the Barcelona Convention
- Produce **guidelines and check lists** for regional planners
- Develop **capacity on EcAp** implementation at regional level with a particular focus on the Southern Mediterranean region
- Harmonize different **policy frameworks** (MSP, MSFD, ICZM and SPA-BIODIVERSITY PROTOCOLs)
- Strengthen the **network of Mediterranean MPAs** and their connectivity



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www.medtrends.org