

**Conclusions from the**



**The 5<sup>th</sup> Mediterranean Conference on Marine  
Turtles**

**Dalaman (Turkey), April 2015**

**Filling the gaps for basin-integrated management**

**Luis Cardona**

**University of Barcelona (Spain)**

# Sea turtle species nesting in the Mediterranean

*Caretta caretta*



*Chelonia mydas*

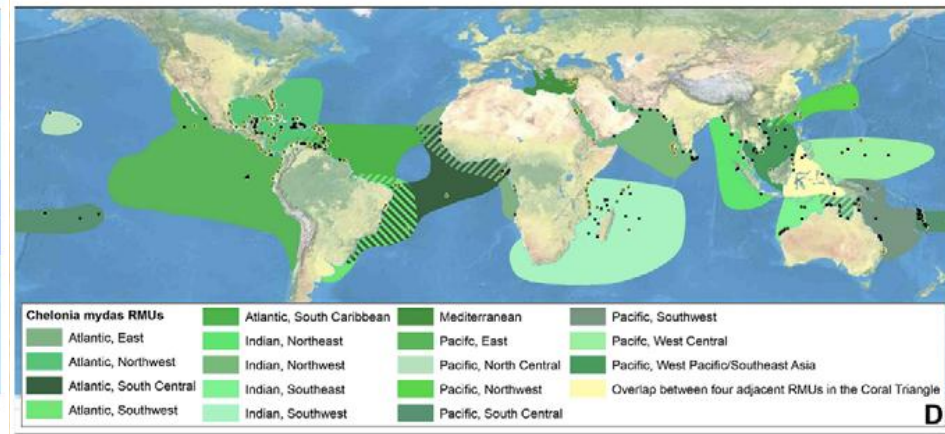
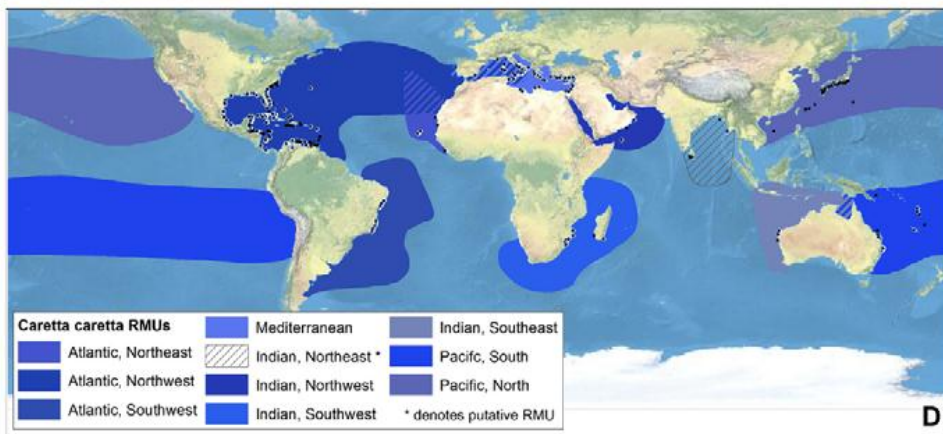
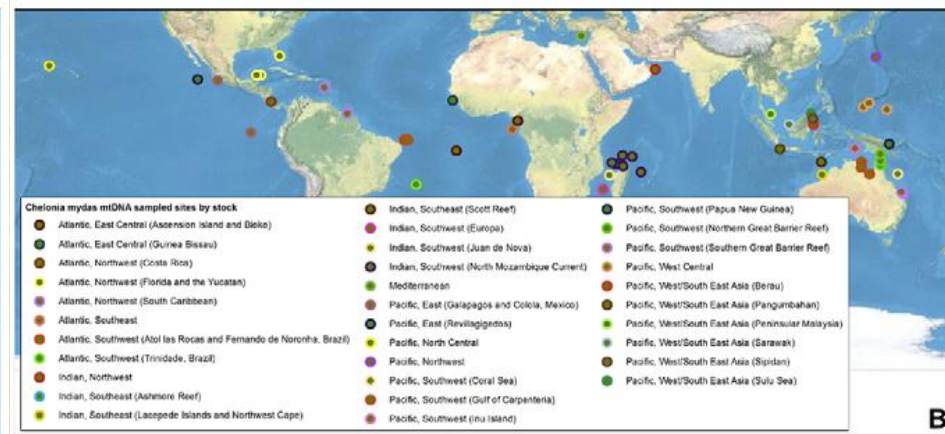
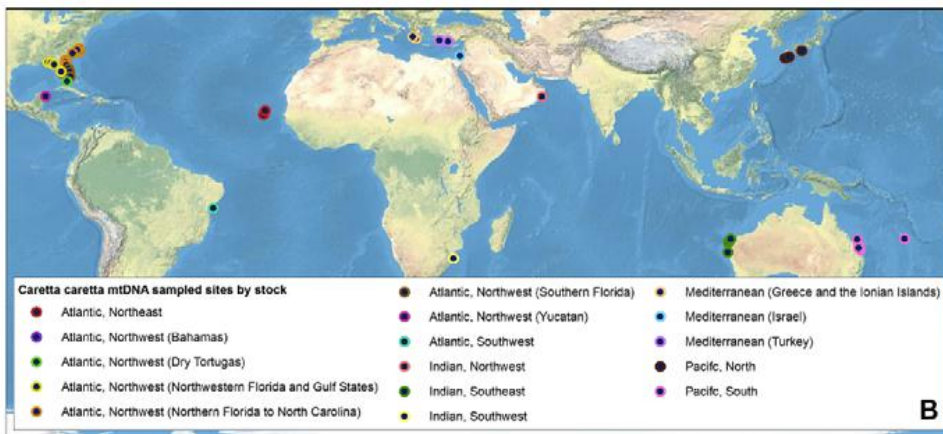




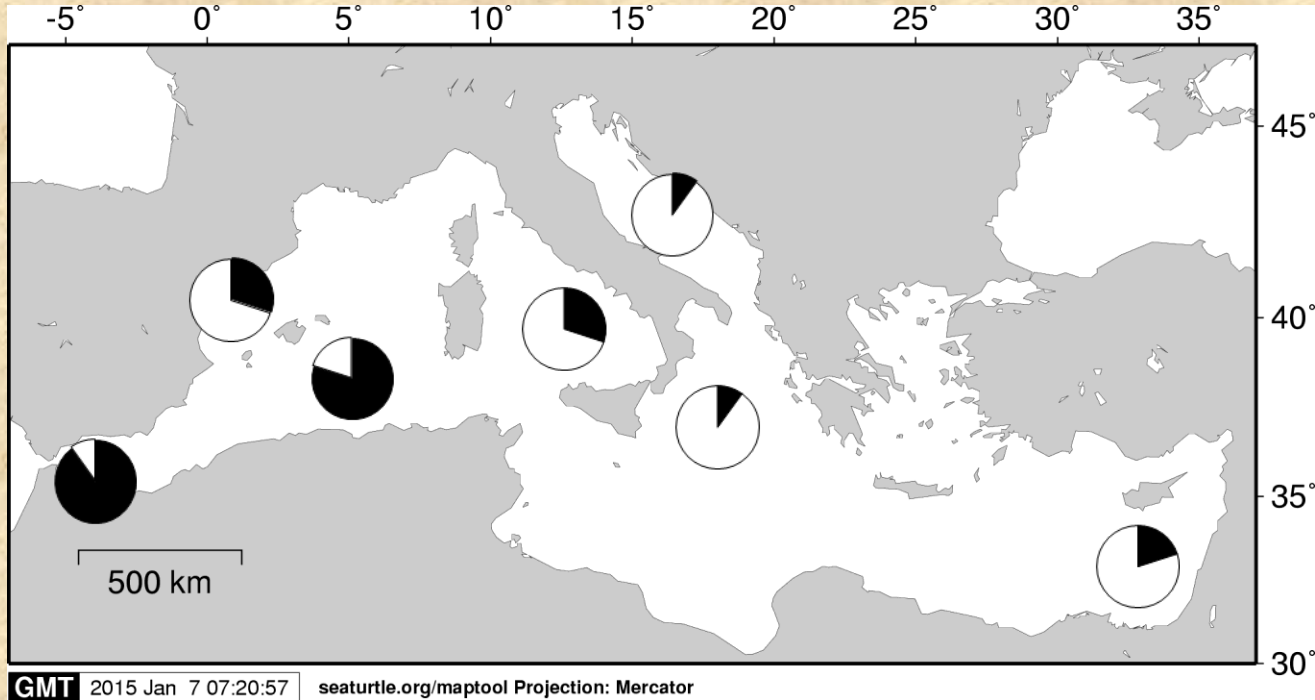
# Regional management units

## *Caretta caretta*

## *Chelonia mydas*



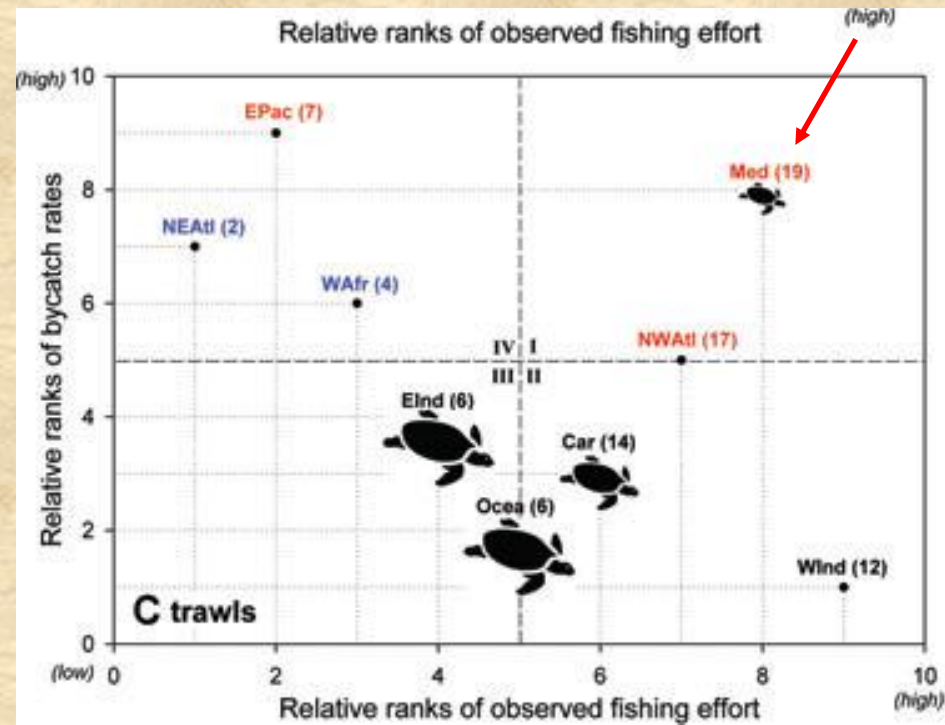
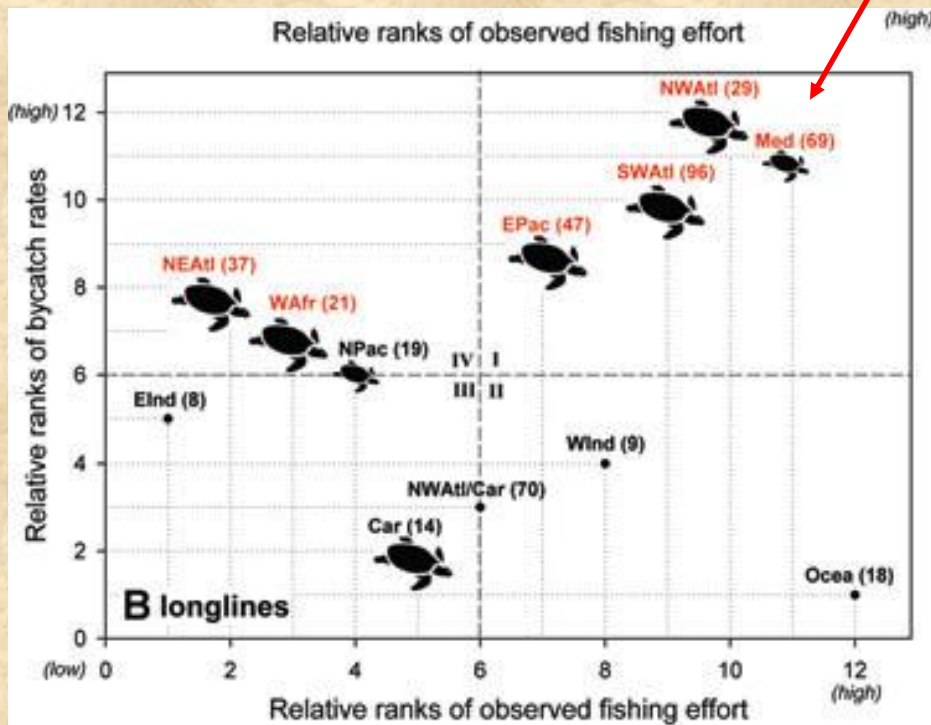
# Mixed foraging grounds of *Caretta caretta*



- Atlantic origin
- Mediterranean origin



# High levels of sea turtle bycatch



Wallace et al. 2010

# The need for regional management

- First Mediterranean Conference on Sea Turtles (Rome, 2001)
  - Bonn Convention
  - Bern Convention
  - RAC/SPA
  - IUCN's Marine Turtle Specialist Group
- Mediterranean meeting at the Annual Symposium on Sea Turtle Biology and Conservation since 2002: informal meeting
- Mediterranean Conferences in 2005 (Kemer, Turkey), 2008 (Hammamet, Tunisia) and 2011 (Naples, Italy): formal meeting with invited talks, oral communications and poster sessions.
- 5th Mediterranean Conference scheduled for October 2014 in Spain

# The 5th Mediterranean Conference

- Originally scheduled for October 2014 in Spain
- Announcement in February 2013 that the 35th ISTS will be held in April 2015 in Turkey.



Combine both to avoid optimize funding and travel time



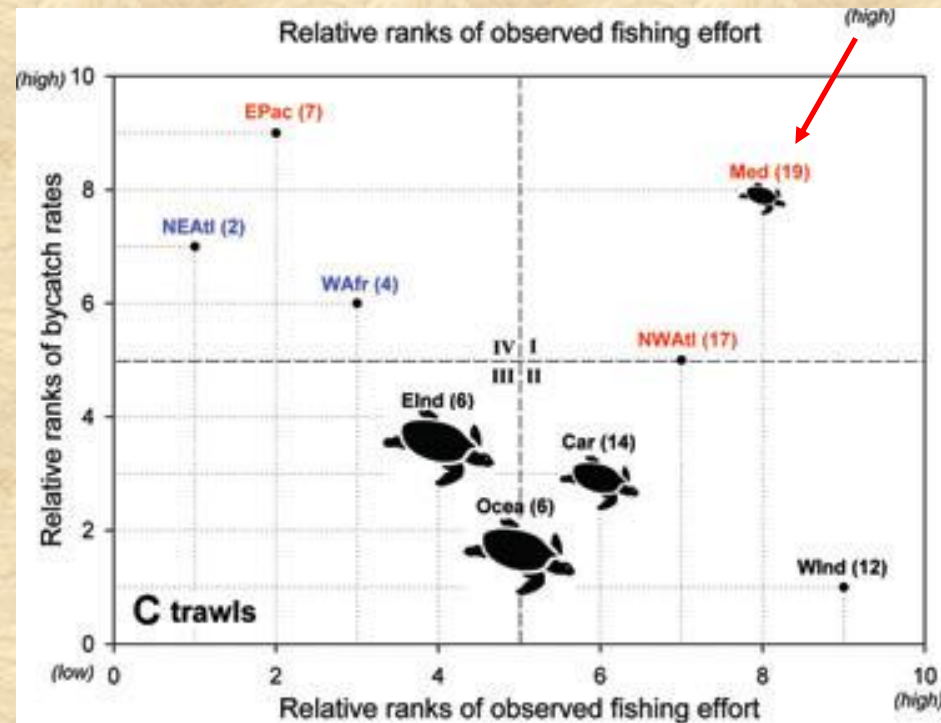
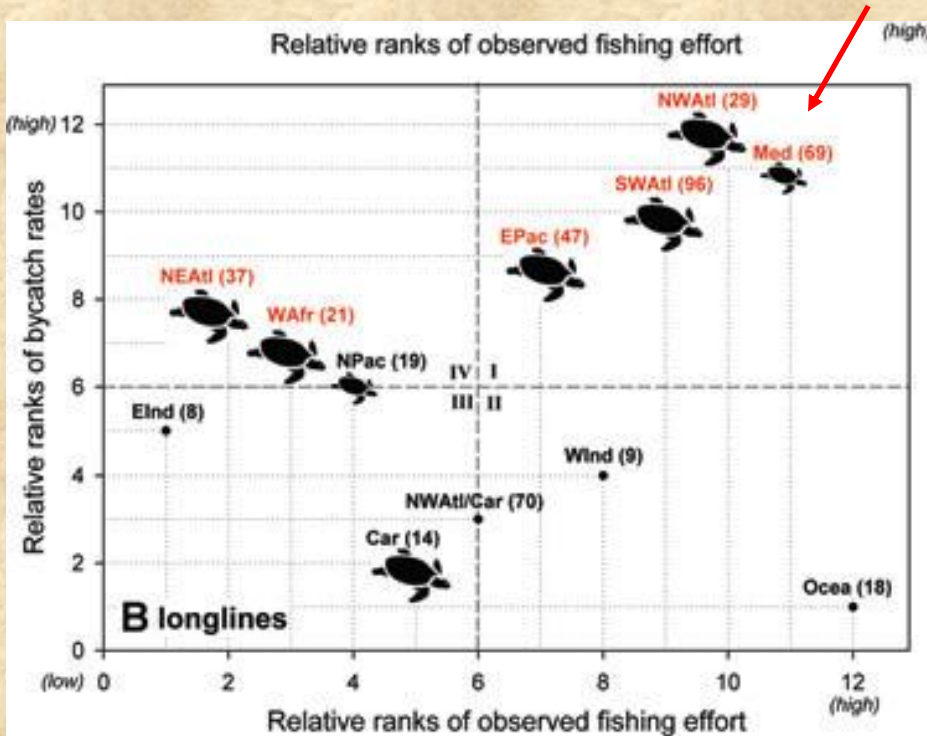
Aim: Research agenda to fill major gaps in our knowledge about bycatch and demography

Change in structure: from open to focused meeting

Three invited talks, nine short presentations and two calls for collaborative projects



# Why a research agenda?



Is bycatch sustainable?

Wallace et al. 2010

Bycatch figures are not enough

We need an accurate demographic model



# Why a research agenda?

- Create a demography working group in charge of
  - Review available information
  - Identify major knowledge gaps and how to fill them
  - Identify funding sources

# Demography working group

Chair: Luis Cardona (UB, Spain)

Nesting parameters: Annette Broderick and Wyne Fuller (UX, UK)

Primary sex ratio: Yakup Kaska (PU, Turkey)

Isoscape: Brendan Godley (UX, UK) and Luis Cardona (UB, Spain)

Bycatch and post-release mortality: Juan Antonio Camiñas (IEO, Spain)

Sex ratio at foraging grounds: Paolo Casale (Sapienza, Italy)

Juvenile satellite tracking: Sandra Hochscheid (SZN, Italy) and Bojan Lazar (UPR, Eslovenia)

Size of stranded turtles: Yaniv Levy (NPA, Israel) and Carmen Mifsud (MEPA, Malta)

Aerial surveys: Jesus Tomás (UV, Spain)

# Recommendations

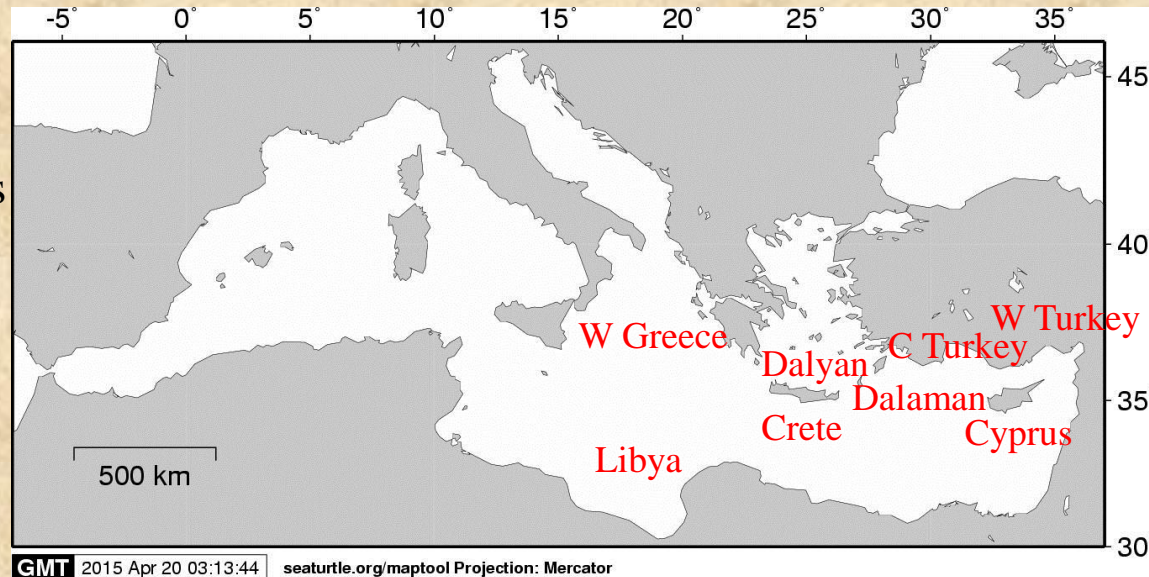
Information to be collected on a regular basis at **major nesting beaches**

- a. Nest counts
- b. Clutch size
- c. Emergency rate
- d. Primary sex ratio\*
- e. Clutch frequency\*
- f. Remigration interval\*
- g. Size of nesting females
- h. Proportion of neophytes



Additional research on

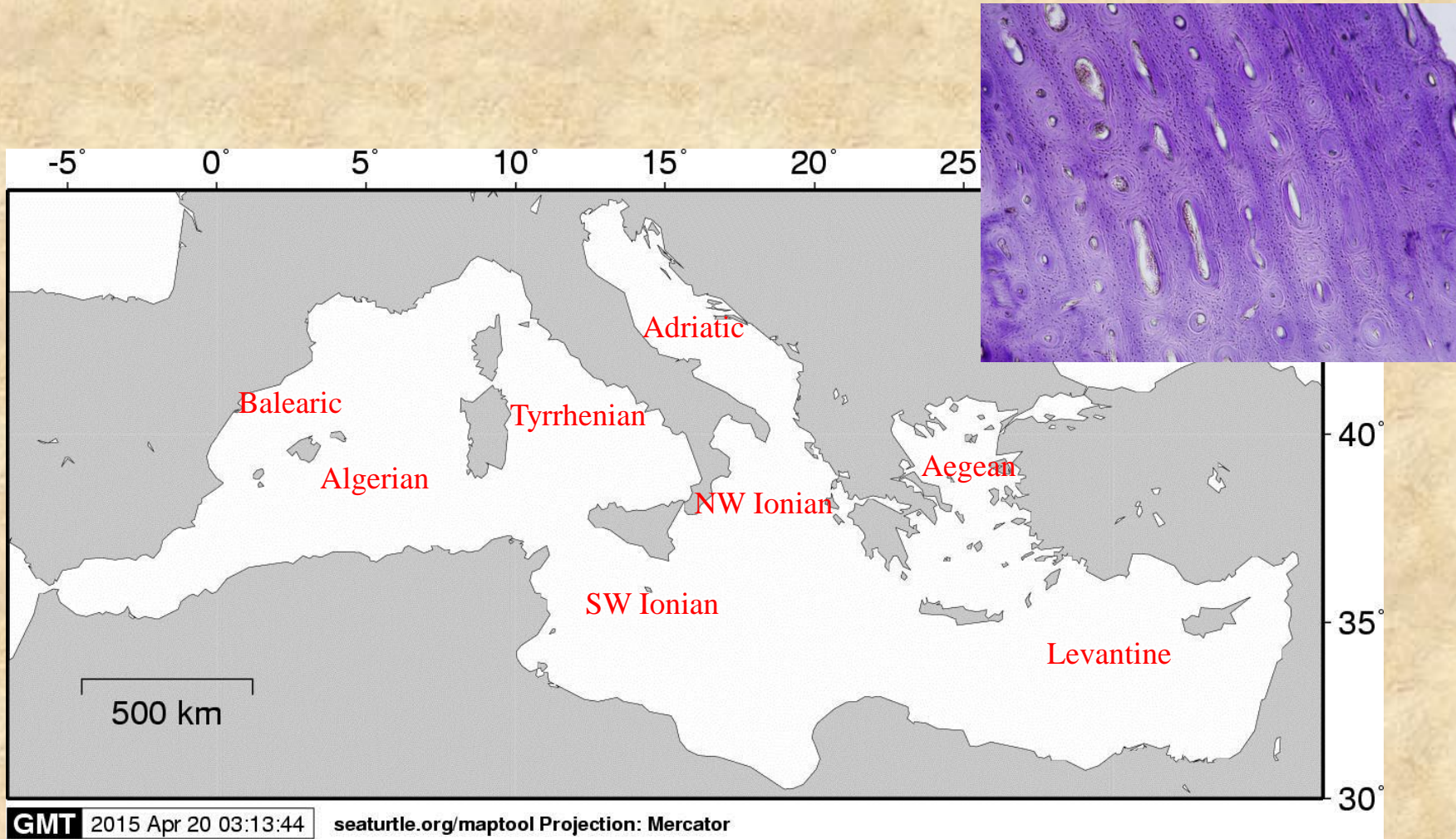
- a. Female fidelity
- b. Primary sex ratio (methods)
- c. Annual survival rate of females





# Recommendations

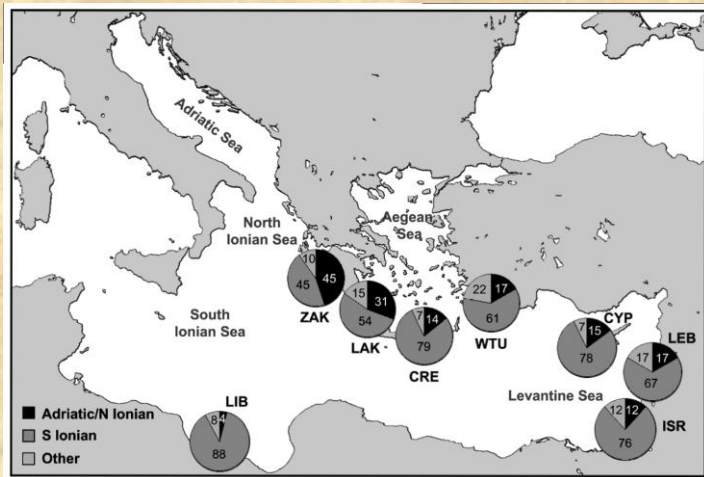
Additional research to assess **age at first maturity** at different foraging grounds



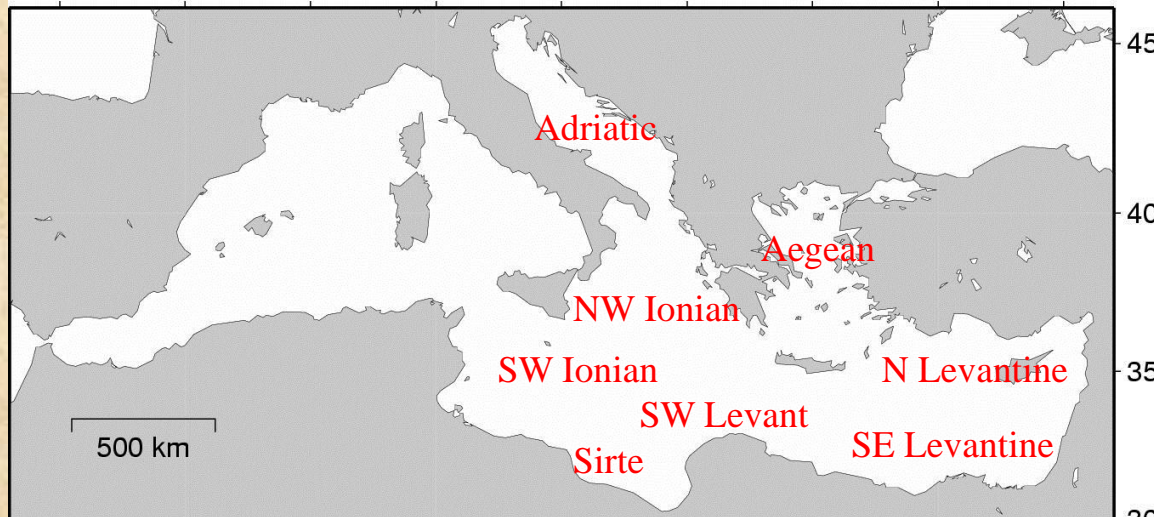
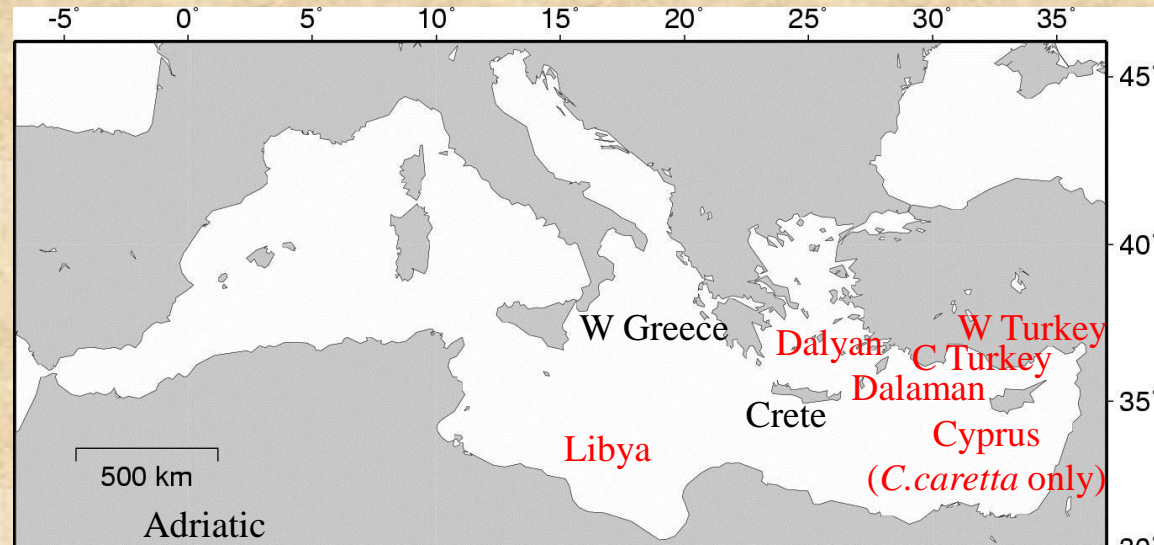
# Recommendations

Additional research on **selected nesting beaches** to identify adult foraging grounds

- a. Satellite tracking of females
- b. Stable isotope analysis
  - b.1. Nesting females
  - b.2. Foraging females
  - b.3. Juveniles



Cardona et al. 2014



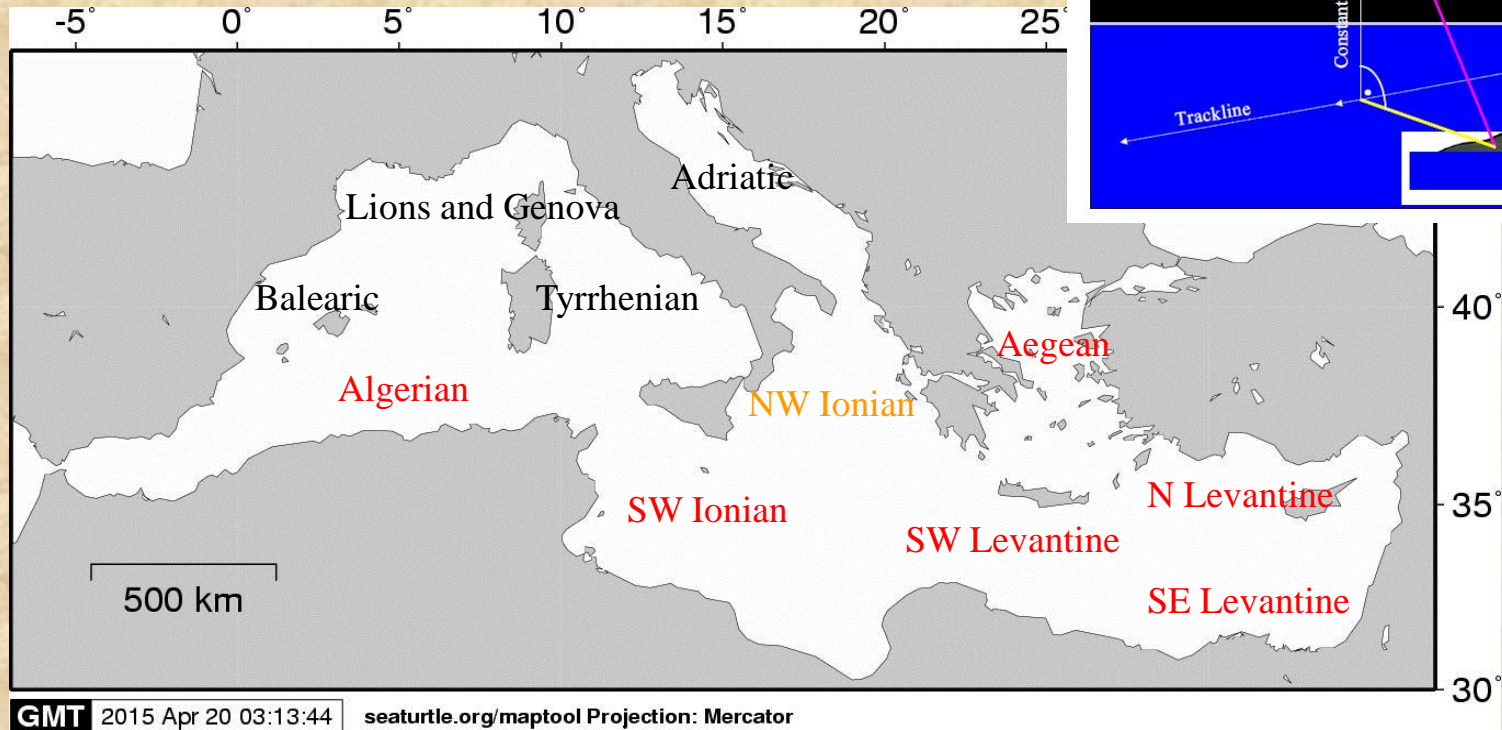


# Recommendations

Information to be collected on a regular basis at **foraging grounds**

- Turtle abundance at foraging grounds through aerial surveys\*.
- Size of stranded turtles
- Sex ratio

\*Contact ACCOBAMS to explore synergies.



In black: recent surveys (2010-2015)



# Recommendations

Update **bycatch figures** and assess the **post-release mortality rate**

- Drifting longline (post-release mortality recently assessed in the Algerian Basin)
- Bottom trawling
- Set nets

