

# Status of deep-water red shrimp fisheries resources and updates on GFCM latest management decisions and recommendations in the eastern Med.



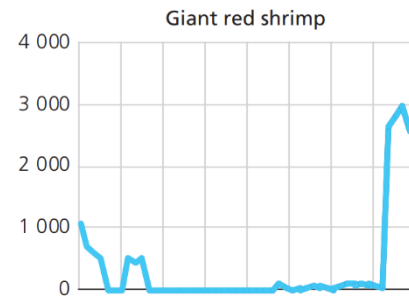
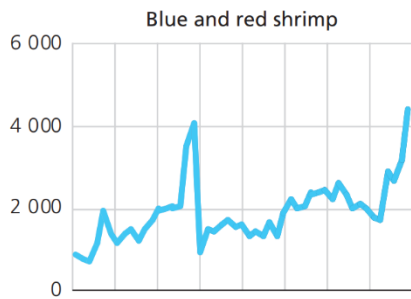
**Prof. Christos Maravelias**  
(University of Thessaly, Greece; [cmaravel@uth.gr](mailto:cmaravel@uth.gr)) 



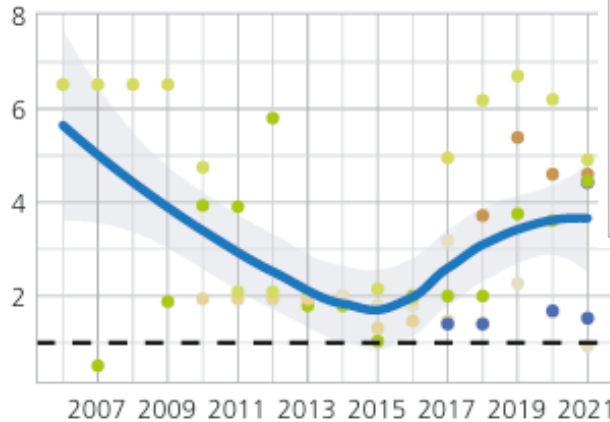
# Status of Deepwater red shrimps in the eastern-central Mediterranean



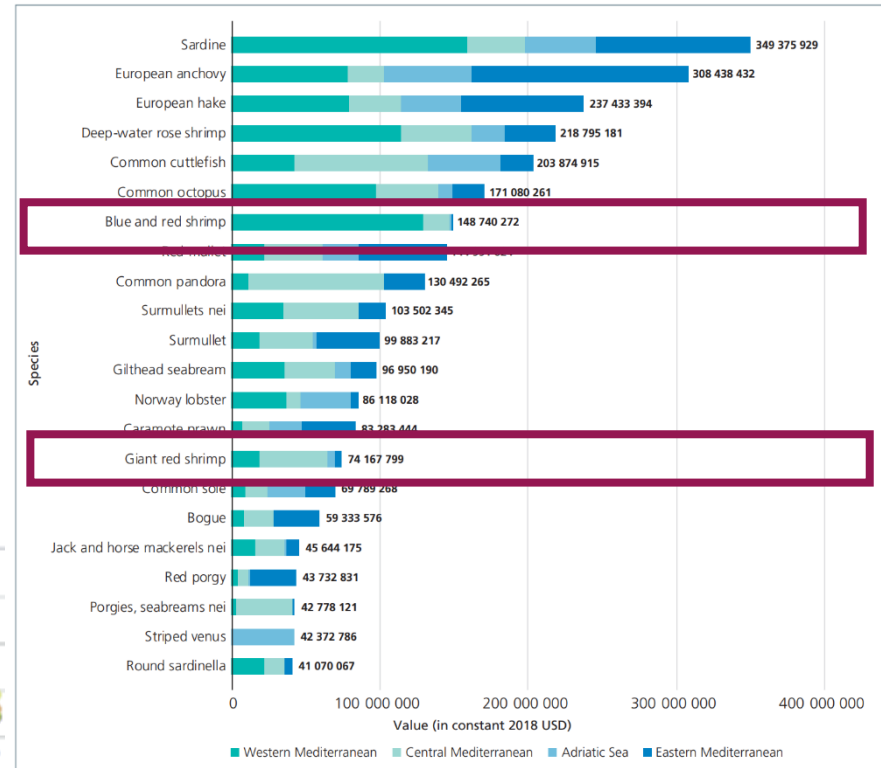
*Increasing trend in landings of both species in the Med*



Blue and red shrimp



*Increasing exploitation ratio for blue and red shrimp at Med level*



*High value of giant red shrimp fishery particularly in the central Med*

# Status of DWRS in the eastern Med following Dec 2023 GFCM stock assessments

GSA	Species	Validation Status	Reference year	Method	Current Levels	Reference Points	Quantitative Status	Stock Status	Scientific Advice	WG Comments
18, 19, 20	<i>Aristaeomorpha foliacea</i> (ARS)	Quantitative	2022	a4a	Fc = 0.56, Bc = 563	F0.1 = 0.37	F/Fref = 1.51	In overexploitation	Reduce fishing mortality	Align the assessment with the management plan expectations
18, 19, 20	<i>Aristeus antennatus</i> (ARA)	Quantitative	2022	a4a	Fc = 1.09, Bc = 167	F0.1 = 0.206	F/Fref = 5.28	In overexploitation	Reduce fishing mortality	Partial updated advice with 1-year projection using total catch in weight, due to the lack of MEDITS survey data in 2022.. Need to have a benchmark to address instability of the model and address MAP needs liaising with ARS 18-19-20 stock coordinator.
24	<i>Aristaeomorpha foliacea</i> (ARS)	Qualitative	2022	LBB in addition to LB-SPR				Possibly overexploited.	Reduce fishing mortality	New assessment
24	<i>Aristeus antennatus</i> (ARA)	Qualitative	2022	LB-SPR				Possibly sustainable exploited	Do not increase fishing mortality	New assessment

# Status of DWRS in the eastern Med following Dec 2023 GFCM stock assessments

## Summary of GFCM multiannual management plans and deadline requirements

Fishery	Key species	GSA	Recommendation	Basis for management	Transitional period	Long-term period	Benchmark	Important requirements
Deepwater red shrimp fishery in the Levant Sea	<i>Aristaeomorpha foliacea</i> (ARS) <i>Aristeus antennatus</i> (ARA)	24-25-26-27	<a href="#">GFCM/45/2022/7</a>	Single species catch limits	2023 – 2025	2026 – 2030	No, to be planned before SAC 2025	<ul style="list-style-type: none"> <li>MSE to propose HCRs by the SAC in 2025</li> <li>Need for quantitative assessments in all GSAs and both species</li> <li>Need for biomass RPs</li> </ul>
Deepwater red shrimp fishery in the Ionian Sea	<i>Aristaeomorpha foliacea</i> (ARS) <i>Aristeus antennatus</i> (ARA)	19-20-21	<a href="#">GFCM/45/2022/6</a>	Single species catch limits	2023 – 2025	2026 – 2030	No, to be planned before SAC 2025	<ul style="list-style-type: none"> <li>MSE to propose HCRs by the SAC in 2025</li> <li>Need for quantitative assessments in all GSA and both species</li> <li>Need for biomass RPs</li> </ul>

The **transitional period 2023-25** foresees:

- a freeze in fishing capacity/effort,
- **transitional catch limits** and
- a 30-day temporal closure between March-September, accompanied by a permanent inspection scheme,

while working towards the determination of the fishing footprint, new spatial measures and minimum conservation reference sizes for the two species.

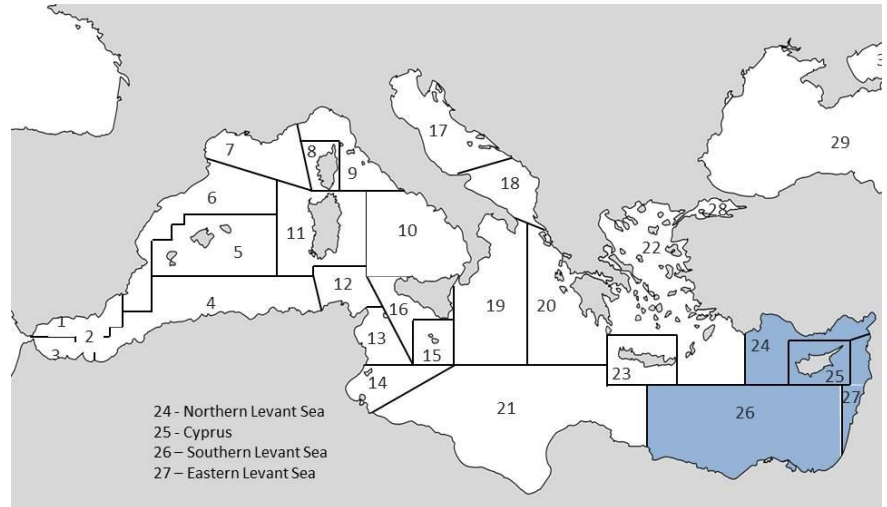
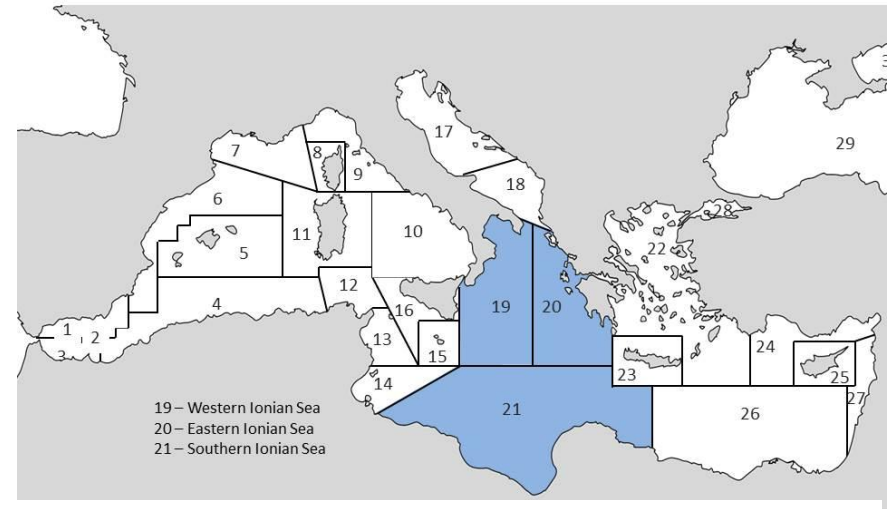
### Annex 1

Fishing opportunities for deep-water red shrimp fisheries in the Ionian Sea (GSAs 19 to 21) over the transitional period 2023–2025. In line with paragraphs 10 and 11, catch limits are reported for each CPC with an active fleet fishing for the key stocks.

	European Union 2023	European Union 2024	European Union 2025	Tunisia 2023	Tunisia 2024	Tunisia 2025
Catch limit (tonnes) for giant red shrimp	393	381	370	5.8	5.6	5.5
Catch limit (tonnes) for blue and red shrimp	265	257	250	5.8	5.6	5.5

# Decisions adopted in the 46<sup>th</sup> session of the GFCM relevant to the eastern Med DWRS

- Recommendation GFCM/46/2023/3 on the definition of a minimum conservation reference size for giant red shrimp and blue and red shrimp in the **Ionian Sea** (geographical subareas 19 to 21)
- Recommendation GFCM/46/2023/4 on the definition of a minimum conservation reference size for giant red shrimp and blue and red shrimp in the **Levant Sea** (geographical subareas 24, 25, 26 and 27)



# Decisions adopted in the 46<sup>th</sup> session of the GFCM relevant to the eastern Med DWRS

## Recommendation GFCM/46/2023/3 and Rec GFCM/46/2023/4

### PART I

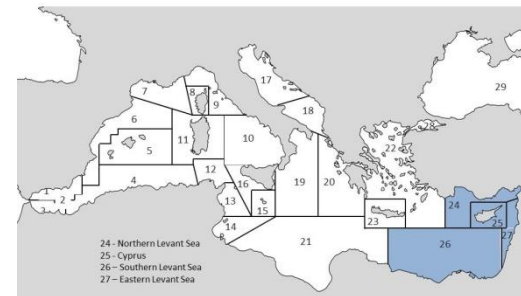
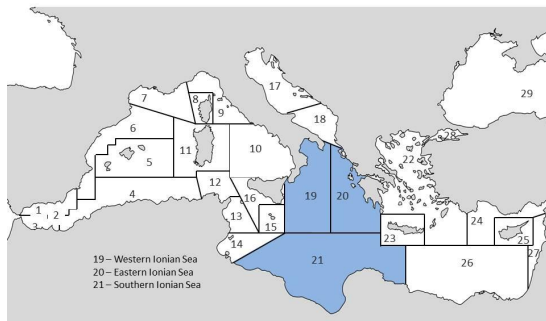
#### General objective, geographical scope and definitions

1. The general objective of the present recommendation is to protect giant red shrimp (*Aristaeomorpha foliacea*) and blue and red shrimp (*Aristeus antennatus*) in the Ionian Sea by strengthening the conservation measures of the multiannual management plan by ensuring that the minimum conservation reference size (MCRS) is applied by all contracting parties and cooperating non-contracting parties (CPCs).
2. This recommendation applies to all commercial fishing activities in geographical subareas 19-21.

### PART II

#### Minimum conservation reference size

3. Based on the precautionary approach, the minimum conservation reference size for giant red shrimp and for blue and red shrimp in the whole area covered by this recommendation is set at 25 mm carapace length (CL).





## Eastern-central Mediterranean Deep-water red shrimp fisheries\*

**Three Recommendations** GFCM/46/2023/2 (GSAs 12 to 16), GFCM/46/2023/3 (GSAs 19 to 21); GFCM/46/2023/4 (GSAs 24 to 27) established **a MCRS of 25 mm CL for the two key deep-water red shrimp species**, covering central-eastern Mediterranean and Levant Sea.

In 2024, the **CPCs may grant tolerance to vessels** which have incidentally captured giant red shrimp and blue and red shrimp below the minimum size, with the condition that this incidental catch shall not exceed **5% by weight per landing of the total giant red shrimp and blue and red shrimp catch of the said vessels**. In 2024, the SAC shall reevaluate this tolerance threshold.

MCRS is **applied by all contracting parties** and cooperating non-contracting parties. The Work Programme 2023-2025 foresees the implementation of the roadmap to guide the work needed to analyse the overlap between VMEs and deep-water red shrimp fishing grounds.

\* 2023 46<sup>th</sup> GFCM Annual draft report



### ***Spatial management: regional issues***

1. To ensure the protection of VMEs and the mapping of essential fish habitats of priority species, make **survey-at-sea data** from the entire Mediterranean region **available** for further analysis.
2. Defining **terms of reference for subregional pilot studies** towards identifying the boundaries of known VMEs, the potential overlap between VMEs and deep-water red shrimp fisheries (*Aristaeomorpha foliacea* and *Aristeus antennatus*), engaging fishers where needed, and stressed the need to apply VME encounter protocols.
3. Recalling that the 800–1000 m depth stratum potentially hosted vulnerable marine ecosystems while supporting relatively limited fishing activities from some vessels targeting specific stocks (i.e. deep-water red shrimps), the Commission, based on a proposal by the European Union, adopted *Resolution GFCM/46/2023/1 on the launch of pilot projects for the revision of the deep-water fisheries restricted area in the Mediterranean Sea towards the adoption of adequate protection and management measures*. Commission agreed to proceed with the implementation of **four subregional pilot studies**, one per subregion, towards **evaluating the environmental and socioeconomic impacts of the potential extension of the limits of the current bottom trawling ban from 1 000 m to 800 m**, including at the subregional level.





## Eastern-central Mediterranean Deep-water red shrimp fisheries\*

Work in progress:

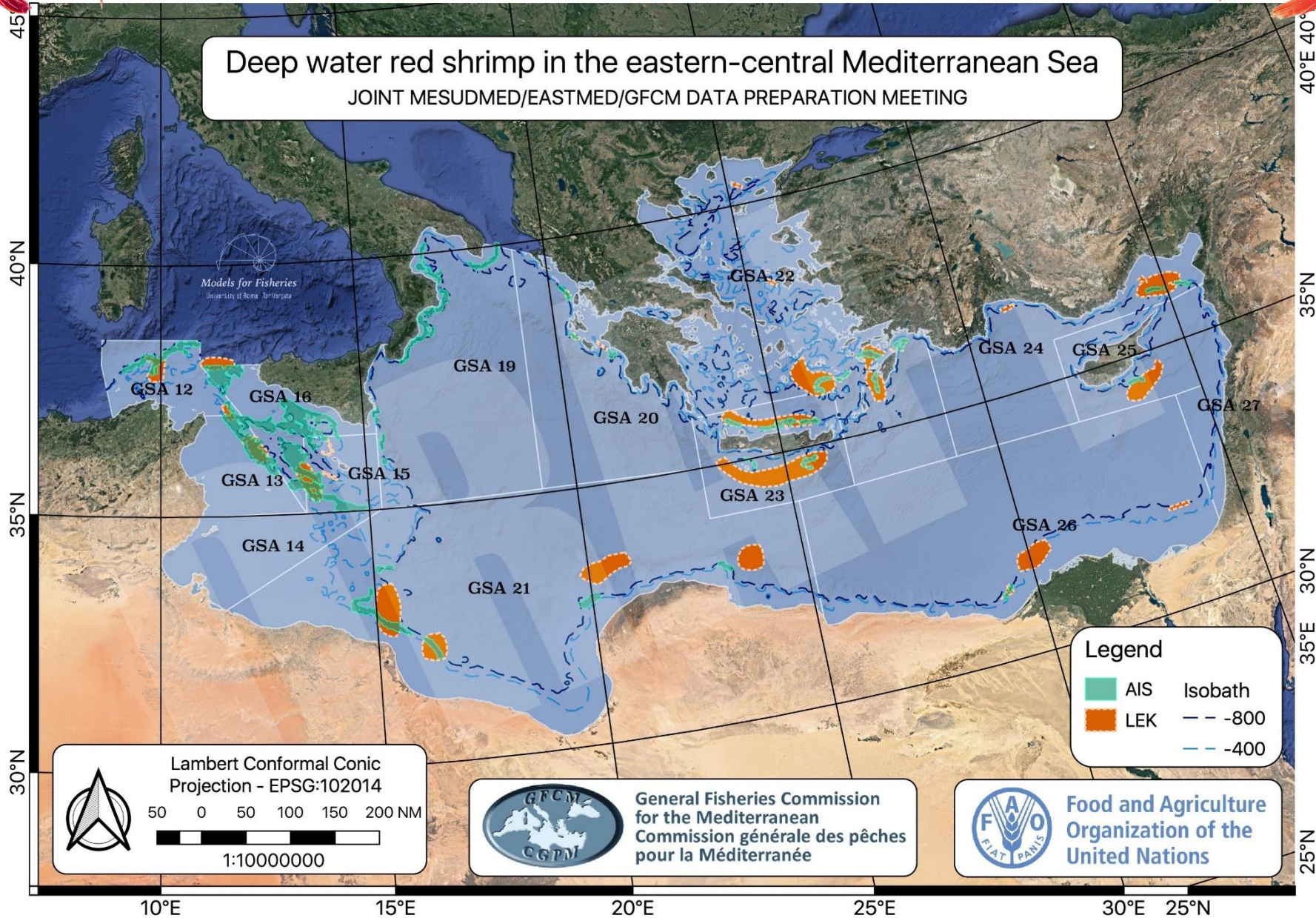
- ✓ **Annually assess the status** of deep-water red shrimp stocks towards the provision of quantitative advice and initiate management strategy evaluation work.
- ✓ Finalize the workplan for the **determination of fishing grounds** using all data available and perform an **overlap analysis** with the distribution of the two species.
- ✓ Implement the roadmap to guide the work needed to analyse the overlap between VMEs – DWR Shrimp fishing grounds – **PILOT PROJECTS**.
- ✓ Perform a **socioeconomic analysis** of the deep-water red shrimp fleet (1000 to 800 m).
- ✓ **Reevaluate** the tolerance threshold referred to catches of individuals under the **MCRS of 25 mm CL**.

\* 2023 GFCM Annual draft report

# Determination of fishing footprint

Deep water red shrimp in the eastern-central Mediterranean Sea

JOINT MESUDMED/EASTMED/GFCM DATA PREPARATION MEETING



Models for Fisheries  
University of Rome - Tor Vergata

Legend

- AIS
- LEK
- Isobath
- - -800
- - -400



Lambert Conformal Conic  
Projection - EPSG:102014

50 0 50 100 150 200 NM

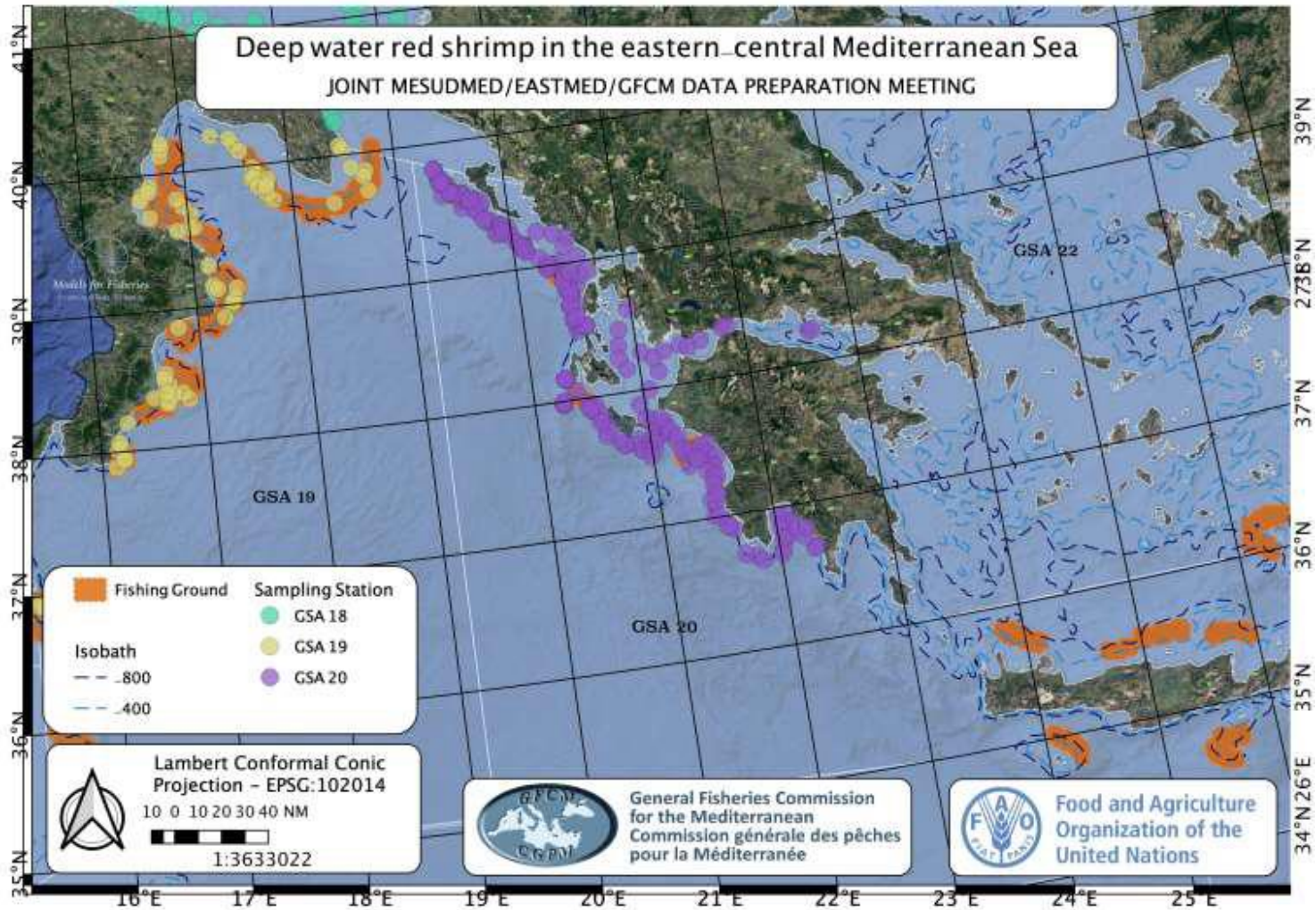
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General Fisheries Commission  
for the Mediterranean  
Commission générale des pêches  
pour la Méditerranée



Food and Agriculture  
Organization of the  
United Nations



Maps of survey trawl positions of most recent survey overlaid on fishing grounds produced by GFCM WGs

**Thank you for your attention**



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