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ETC UMA

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12.07.2023

Multi-stakeholder Platform for Protecting Biodiversity Meeting

Session 2: Enhancing Biodiversity Conservation and Climate Resilience with Nature-Based Solutions

Main messages

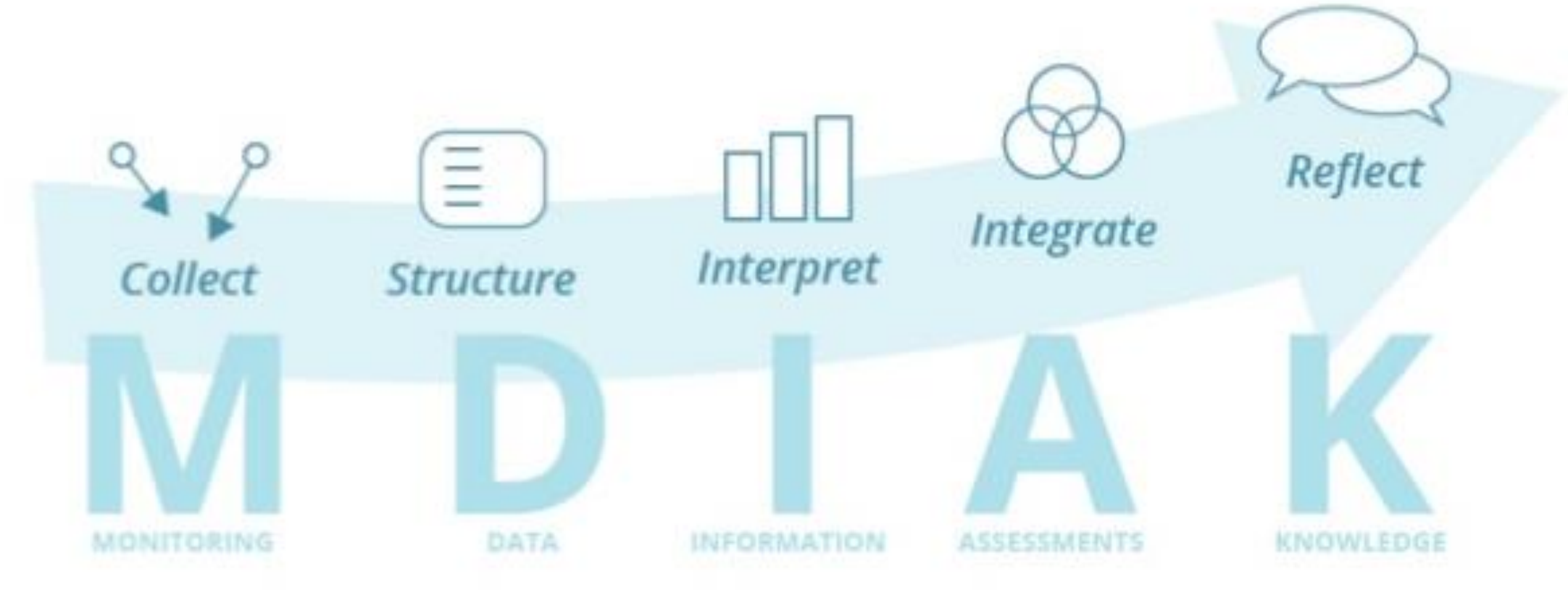
I. **Nature conservation and restoration efforts should guide management and decision-making processes across sectors. Such Ecosystem based management efforts rely on using site level data and Earth Observation tools to geolocate sensitive habitat / critical ecosystem services.**

II. Scaling up Nature-based solutions as area-based instruments which implementation goes beyond protected areas ensures essential foundations to maintain ecosystems healthy while ensuring co-benefits to people.

III. Nature based solutions: ensure that socio-ecological resilience and uncertainties (the future) are addressed while user conflict (the present) is reduced thus allowing for a balance between immediate and long-term needs.

Providing information on ecosystem status & trends in time

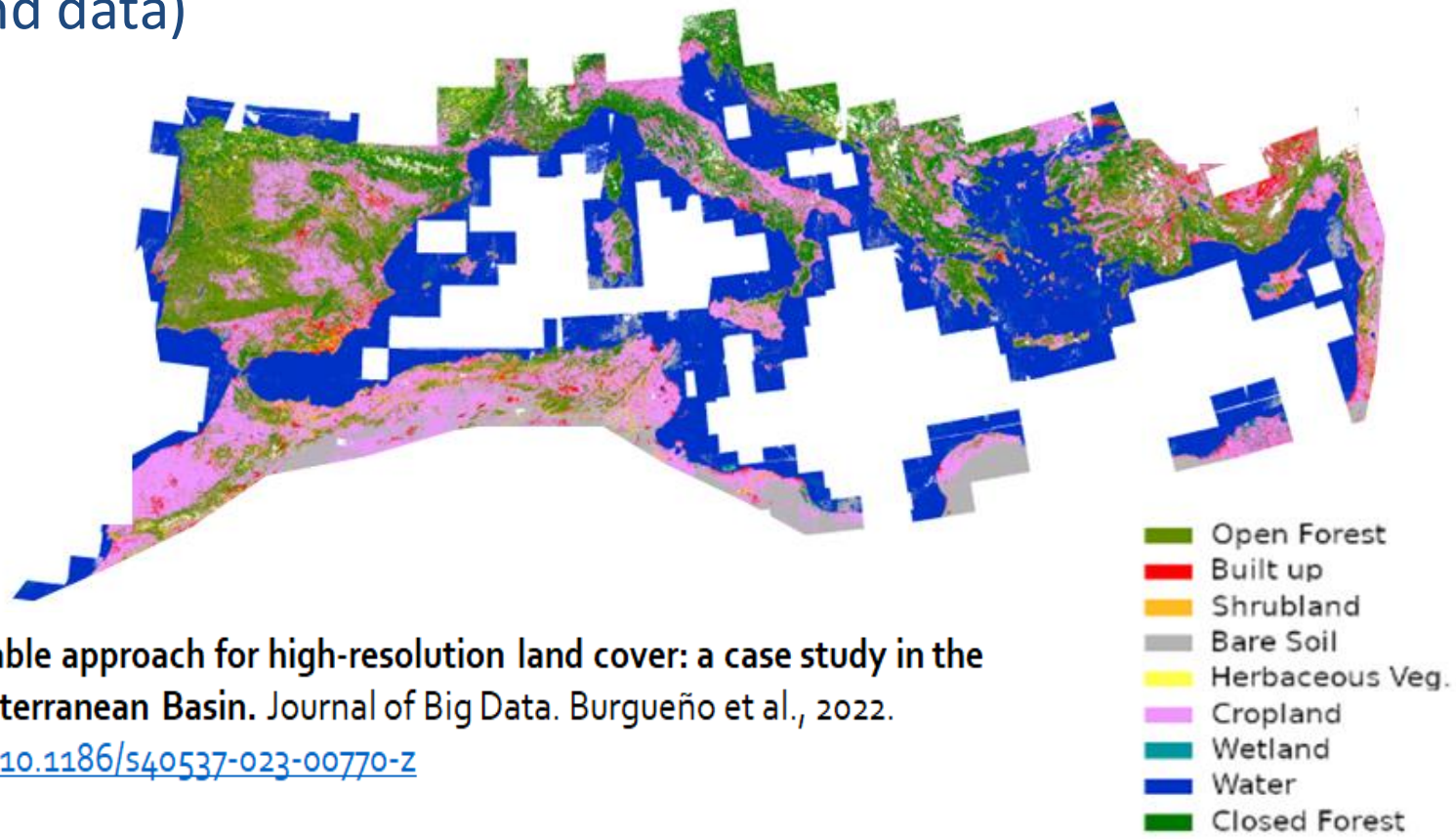
Mapping – distribution, extent and condition of ecosystems
Monitoring – change in distribution, extent and condition of ecosystems
Assessment – state and trends of ecosystems and pressures affecting them



Ecosystem extent – habitat mapping

The Mediterranean Forest Type map

- Working area: Mediterranean basin at a 10m spatial resolution
- Use of Artificial Intelligence, Big data and Satellite imagery
- +32 000 forest samples (ground data)
- +1000 satellite images
- + 100 forest types identified



Scalable approach for high-resolution land cover: a case study in the Mediterranean Basin. Journal of Big Data. Burgueño et al., 2022.
DOI: 10.1186/s40537-023-00770-z

Monitoring – change in ecosystem extent & condition

Wetland monitoring system

Key elements to study the dynamics of the wetland

- Hydrodynamics → Seasonality and how it affects the wetland.
- Pressures → human activities in the area and trends.

- Where the water comes from.
- Flood periods.
- Average, maximum and minimum levels.
- Changes in vegetation and soil moisture.
- Changes in human uses/activities according to the time of year.

Ecosystem Assessment – Pressures & impacts on ecosystems

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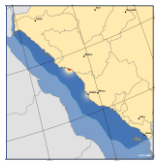
Assessment of pressures on marine and coastal ecosystems

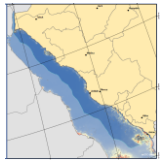
- Working area: Mediterranean Sea, Red Sea, Arabian Gulf
- Modelling of human activities and its potential impact on marine and coastal ecosystems → Detection of hotspots

Individual Pressures

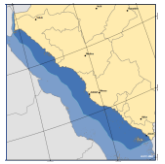
Commercial Port



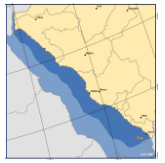
Aquaculture



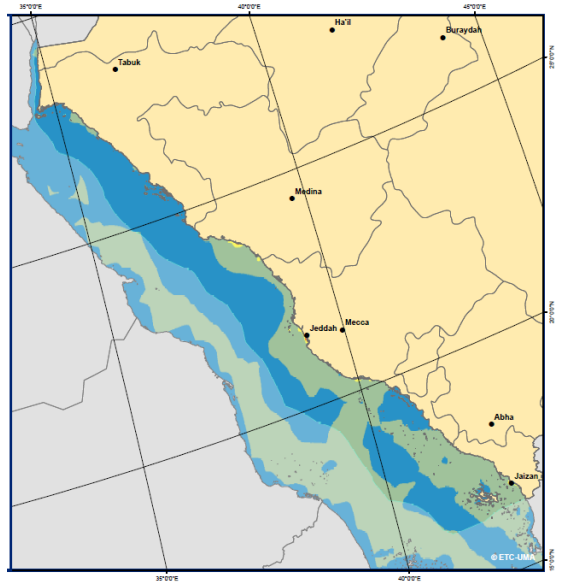
Land-based effluents



Marina ports and berth site

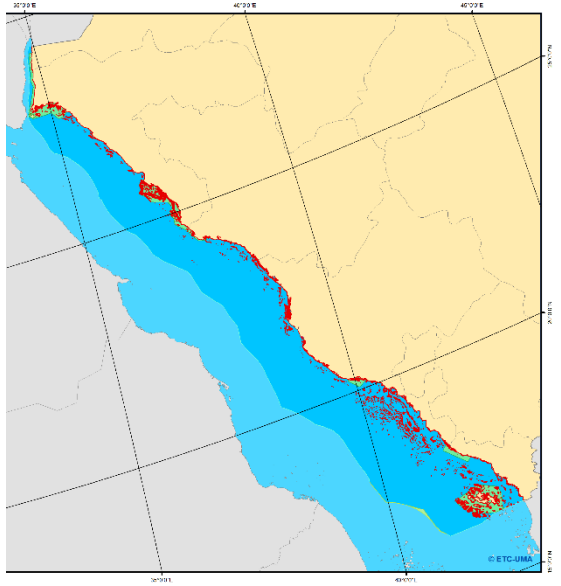


Cumulative Pressure Map

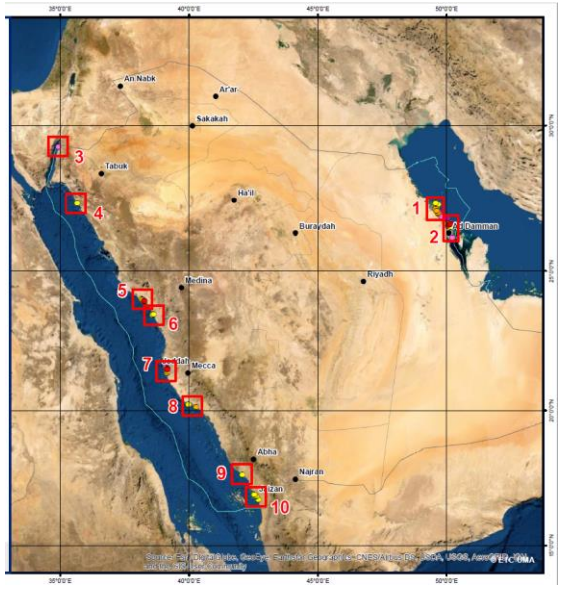


Biodiversity Layer

(KBA, MPA, Habitat layer)



Critical hotspots



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Ecosystem restoration – co-benefits for nature and societies

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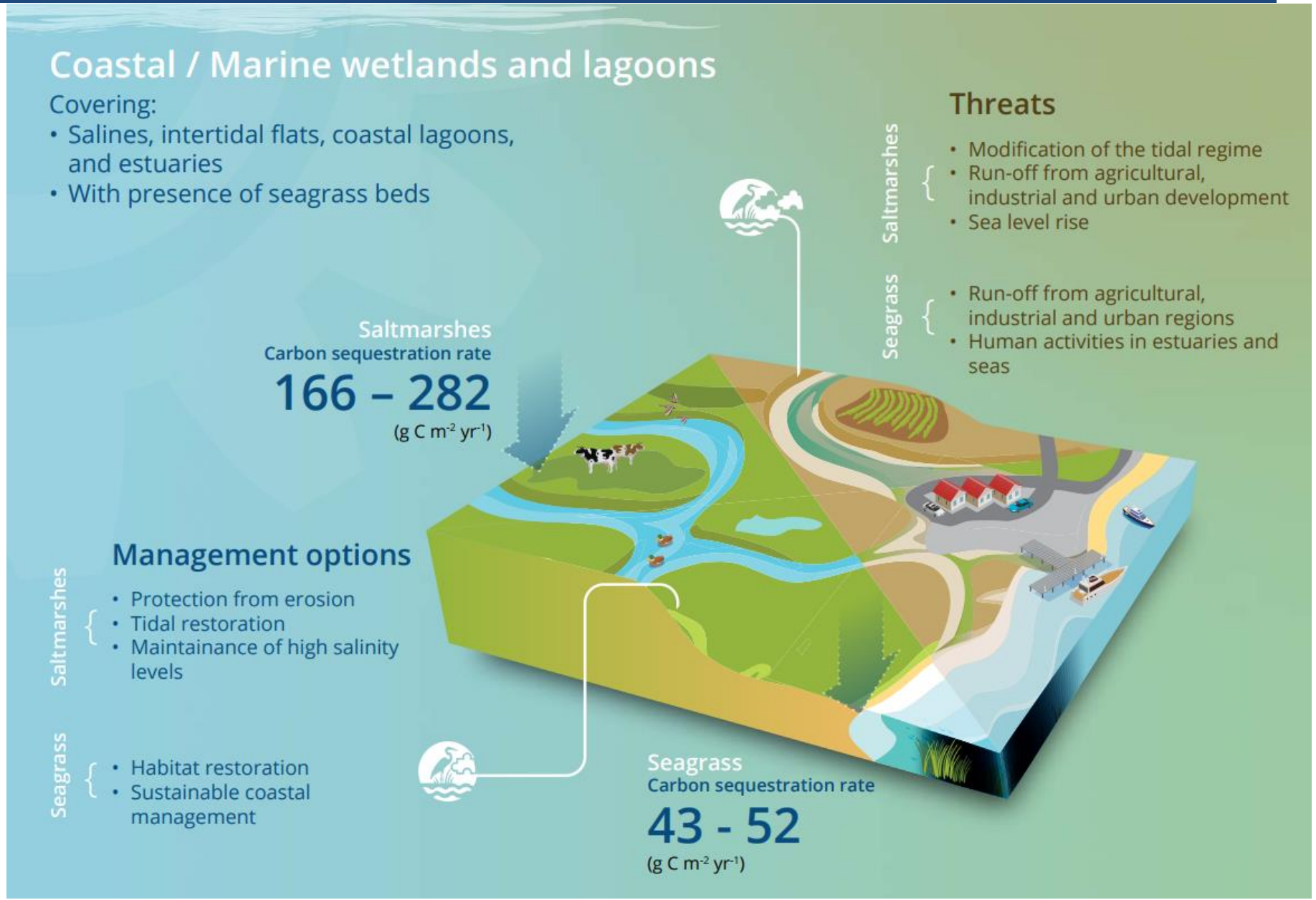

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Decision support tools

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Search places

Earth Engine Apps

GreenEye

Bienvenido al sistema de seguimiento y monitorización de humedales para Andalucía basado en datos de teledetección, desarrollado como parte del proyecto LifeWatch INDALO. Obtén información actualizada sobre el estado de los humedales utilizando nuestras herramientas especializadas a partir de los datos más actualizados de Sentinel-2.

Herramienta de monitorización y seguimiento general

Selecciona una fecha de inicio y una de final y obtén datos agregados mensualmente, las tendencias y la cartografía asociada a ese periodo temporal.

Abrir herramienta general

Herramienta de monitorización en tiempo casi real

Obtén datos actualizados de los últimos 90 días para seguir de cerca los cambios producidos. Obtén información detallada sobre índices, datos y cartografía para una monitorización en tiempo casi real.

Abrir monitor trimestral

Herramienta de evaluación del último año

Compara el año en curso o el último año completo con los valores típicos de los años previos.

Abrir evaluación del último año

¿Tienes alguna duda o sugerencia? Ponte en contacto con nosotros: etc-uma@uma.es

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Thank you for your attention

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