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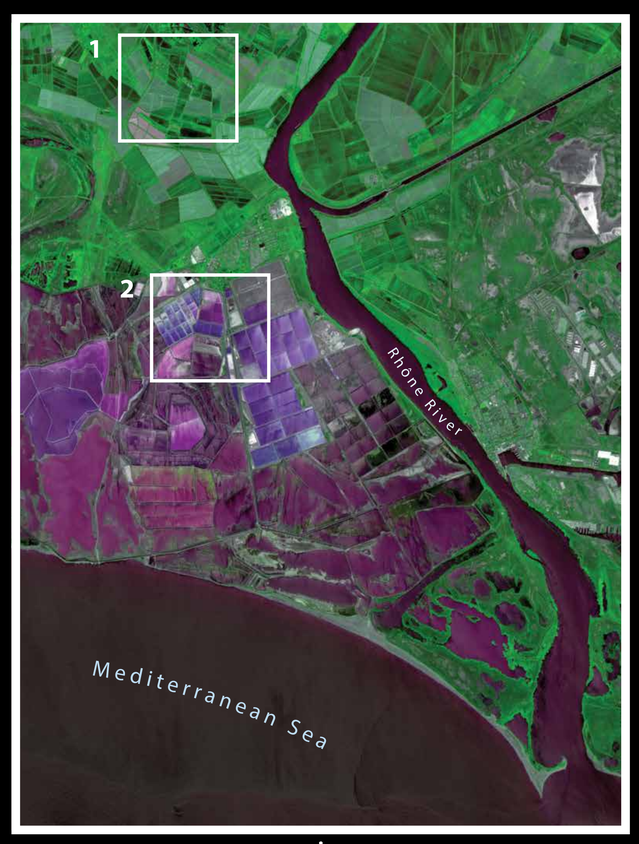
The Camargue has the only nesting colony of greater flamingos (Phoenicopterus roseus) in France. This species nests on islands within lagoons, including those exploited for salt production.

The Camargue

FRANCE

The Camargue is a delta formed by the Rhône River in southern France. This UNESCO Man and the Biosphere Reserve covers 1,450 km² inland and 480 km² in the Mediterranean Sea. It contains many emblematic wetlands, including freshwater ponds, wet grasslands, reed beds, semi-permanent brackish marshes, temporary pools, salt marshes and lagoons. These wetlands are interspersed with agro-ecosystems dominated by rice paddy fields and saltworks.

A complex network of irrigation and drainage channels pumps about 730 million cubic metres of fresh water each year from the Rhône into the Camargue, to compensate for river embankments and avoid soil salinization. This water is mainly used in rice production but also helps maintain or increase wetland-related ecosystem services such as ecotourism, nature conservation, wildfowl hunting, fishing, reed harvesting and cattle grazing. In the south, 100 million cubic metres of seawater is pumped into lagoons each year for salt production.



The challenge lies in maintaining the Camargue's diverse wetlands and services, while preserving its typical Mediterranean flora and fauna. The fragile balance between wet or dry, and fresh- or saltwater ecosystems is threatened by climate change, which affects rainfall, river flow and sea level. Global market forces can also modify resource exploitation and have an impact on territorial planning and water allocation.

Monitoring the short- and long-term dynamics within the Camargue is necessary to guide wetland management to ensure that wetlands' integrity and the services they provide are well preserved. ECOPOTENTIAL is providing Earth Observation tools to routinely monitor the seasonal water dynamic of wetlands and changes in land cover, land use and crop types. Looking to the future, climate projections for 2050 and 2100 will be analysed to assess the potential impact of climate change on wetland hydrology. This information will be used to propose management and adaptation measures to the various wetland users.

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Grazing by Camargue bulls and horses increases the ability of Mediterranean marshes to host migrating waders and wintering ducks.

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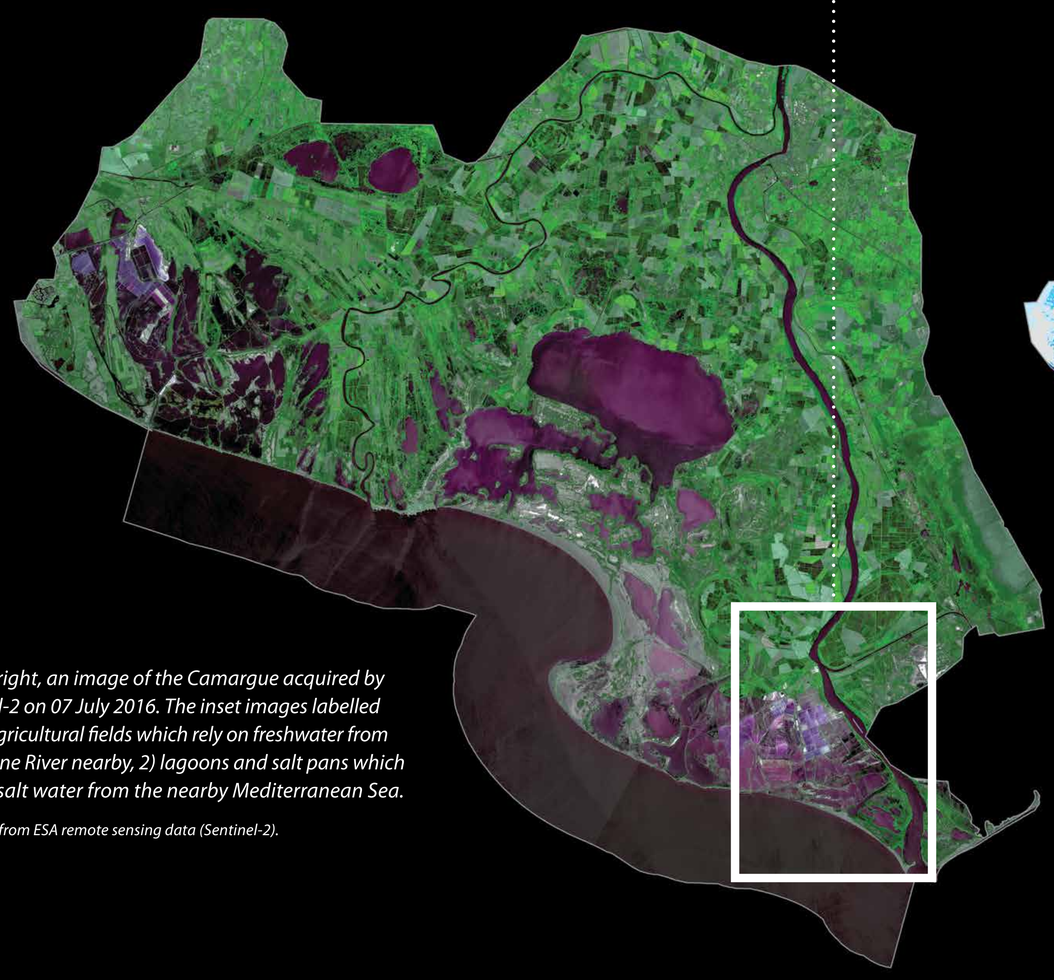
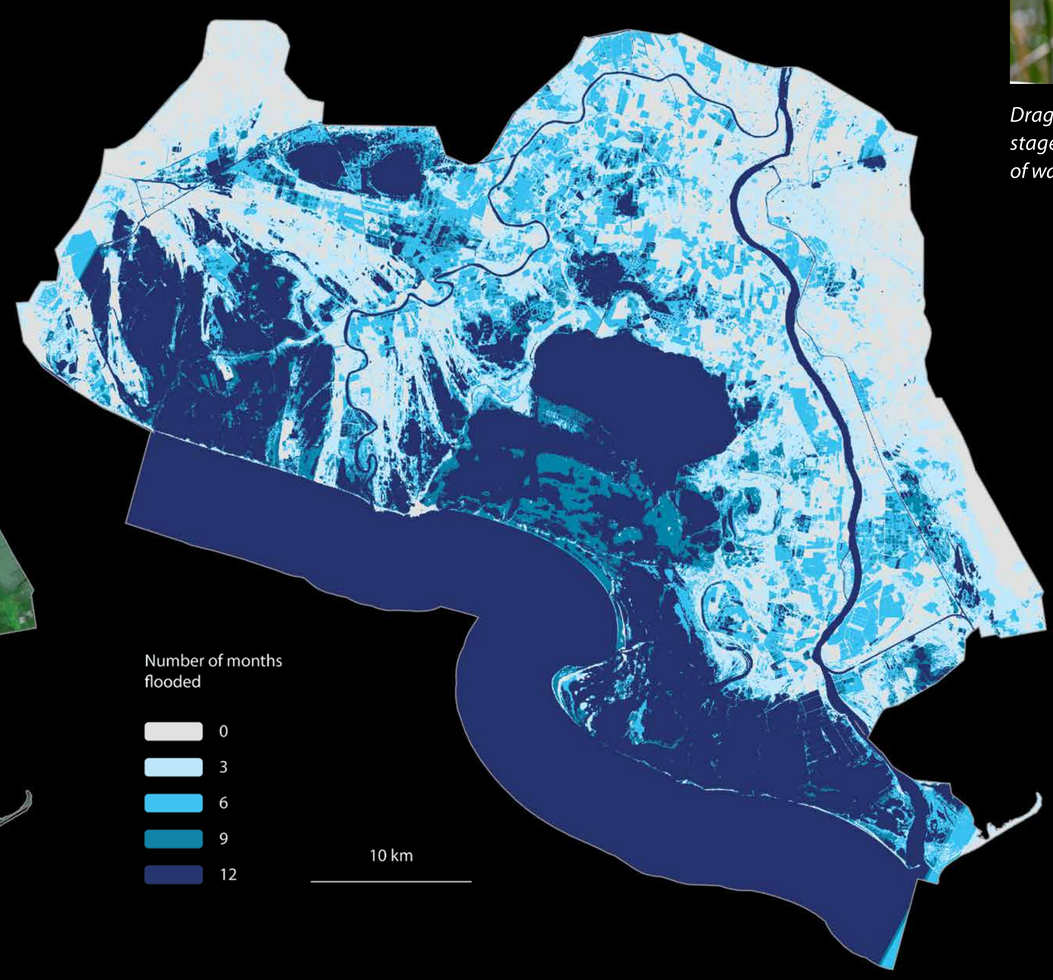
Dragonflies have an aquatic larval stage and serve as good indicators of water quality within the marshes.



On the right, an image of the Camargue acquired by Sentinel-2 on 07 July 2016. The inset images labelled are 1) agricultural fields which rely on freshwater from the Rhone River nearby, 2) lagoons and salt pans which rely on salt water from the nearby Mediterranean Sea.

Produced from ESA remote sensing data (Sentinel-2).



This image shows the number of months of the year during which parts of the Camargue are flooded.

Credit: Tour du Valat.

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