



SEMAFOR

Observation and prediction of bird migration from weather radars

ADEME



AGENCE DE LA
TRANSITION
ÉCOLOGIQUE



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Duration : 3 years (2022-2025)
Total budget : €840K

CONTEXT

Every year, considerable flows of birds migrate and cross the national territory, flying over sea and land. However, knowledge on the migratory routes of birds is still incomplete. In parallel, the airspace is increasingly used through the development of wind power on land and now at sea.

CONCERNED TECHNOLOGIES



Onshore
wind power



Offshore
wind power

OBJECTIVE



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SEMAFOR's objective is to develop a real-time monitoring tool for bird flights and migration via the Météo-France weather radar network

Map of the Météo-France weather radar network

SCIENTIFIC CONTENT

- **Analysis** of the state of the art, **feedback** and **framing** of the study
- Development and validation of an **algorithm** for the **detection** of bird echoes on radar echoes
- Field calibration/validation protocol
- Construction of a **predictive model** of **bird flows** on the maritime facades

WHAT'S AT STAKE?

- To acquire knowledge on the migratory routes of birds, essential for both basic research and planning aspects of wind farm projects
- To acquire a capacity to detect migratory peaks at sea, in order to alert the operators of offshore wind farms of an increased risk of collision

EXPECTED RESULTS

- Bird detection algorithm, script of the predictive model of bird flows at sea and user guide
- Real time bird monitoring platform and associated database

PARTNERS



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