

24/04/2023

From the Copernicus satellite data to an environmentally aware field decision

Emma Rizzi, Fabien Castel, Tarek Habib





#1 MURMURATION

Introduction



Start up founded in 2019



Based in Toulouse, France



20 employees

Introduction



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MURMURATION uses **satellite data** and **artificial intelligence** to calculate environmental indicators dedicated to monitor sustainable tourism development.

Introduction



Start up founded in 2019



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AIR



WATER



BIODIVERSITY



LAND



CLIMATE



HUMAN
ACTIVITIES

MURMURATION uses **satellite data** and **artificial intelligence** to calculate environmental indicators dedicated to monitor sustainable tourism development.

Environmental indicators



AIR



WATER



BIODIVERSITY



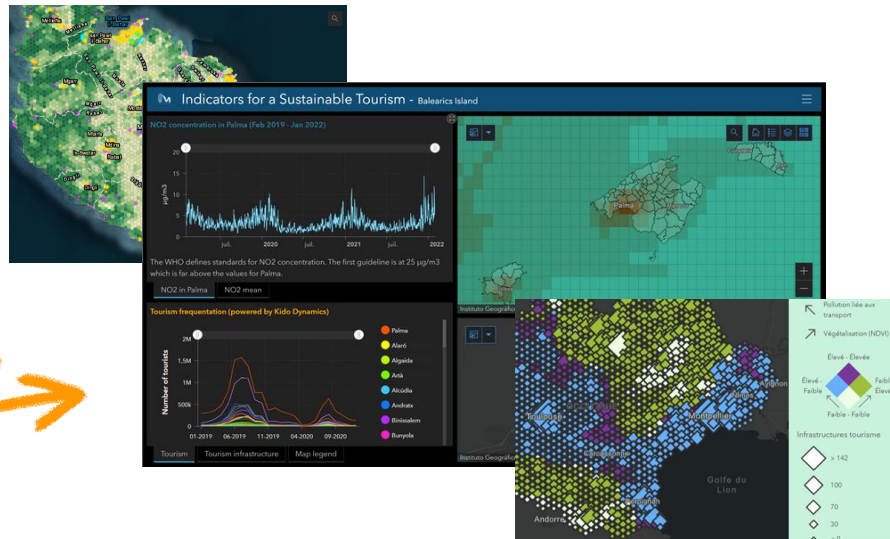
LAND



CLIMATE



HUMAN
ACTIVITIES



MURMURATION uses **satellite data** and **artificial intelligence** to calculate environmental indicators dedicated to monitor sustainable tourism development.



#2

Cloud Infrastructure

Cloud-agnostic & automated data processing pipelines

Cloud-agnostic & automated data processing pipelines



Cloud environment



Cloud-agnostic & automated data processing pipelines

Data sources



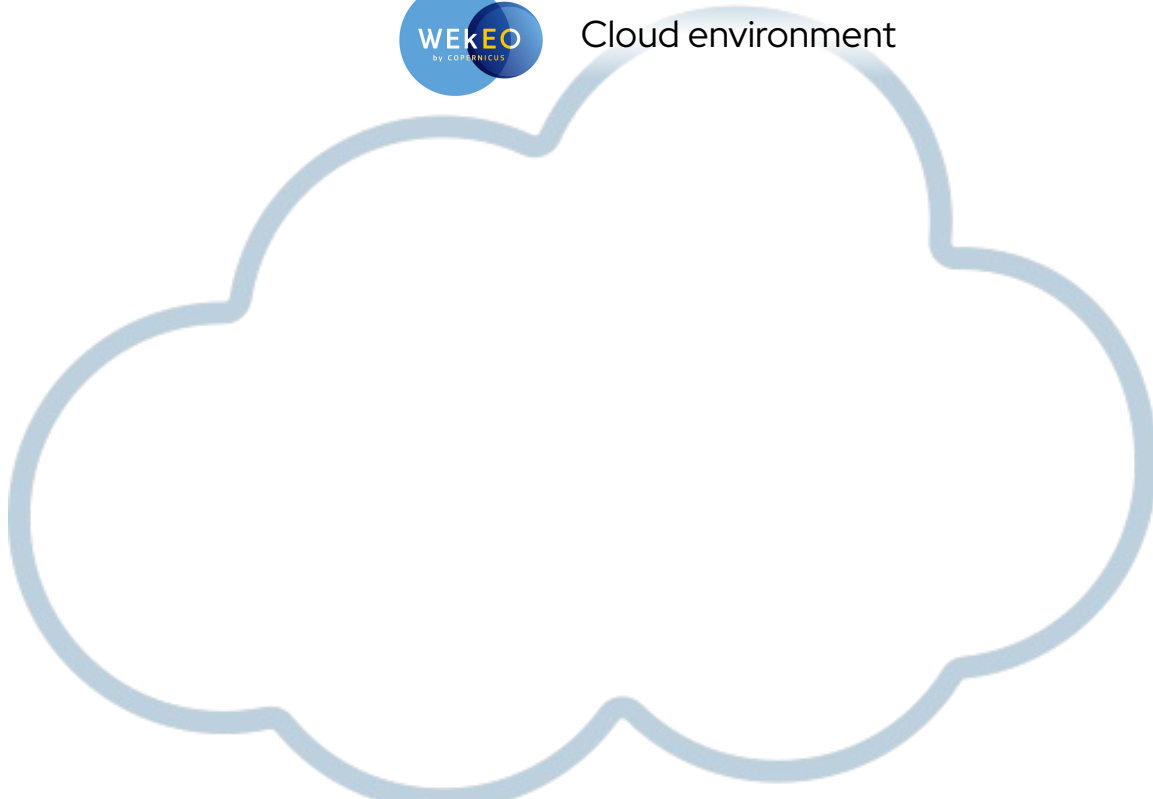
Copernicus



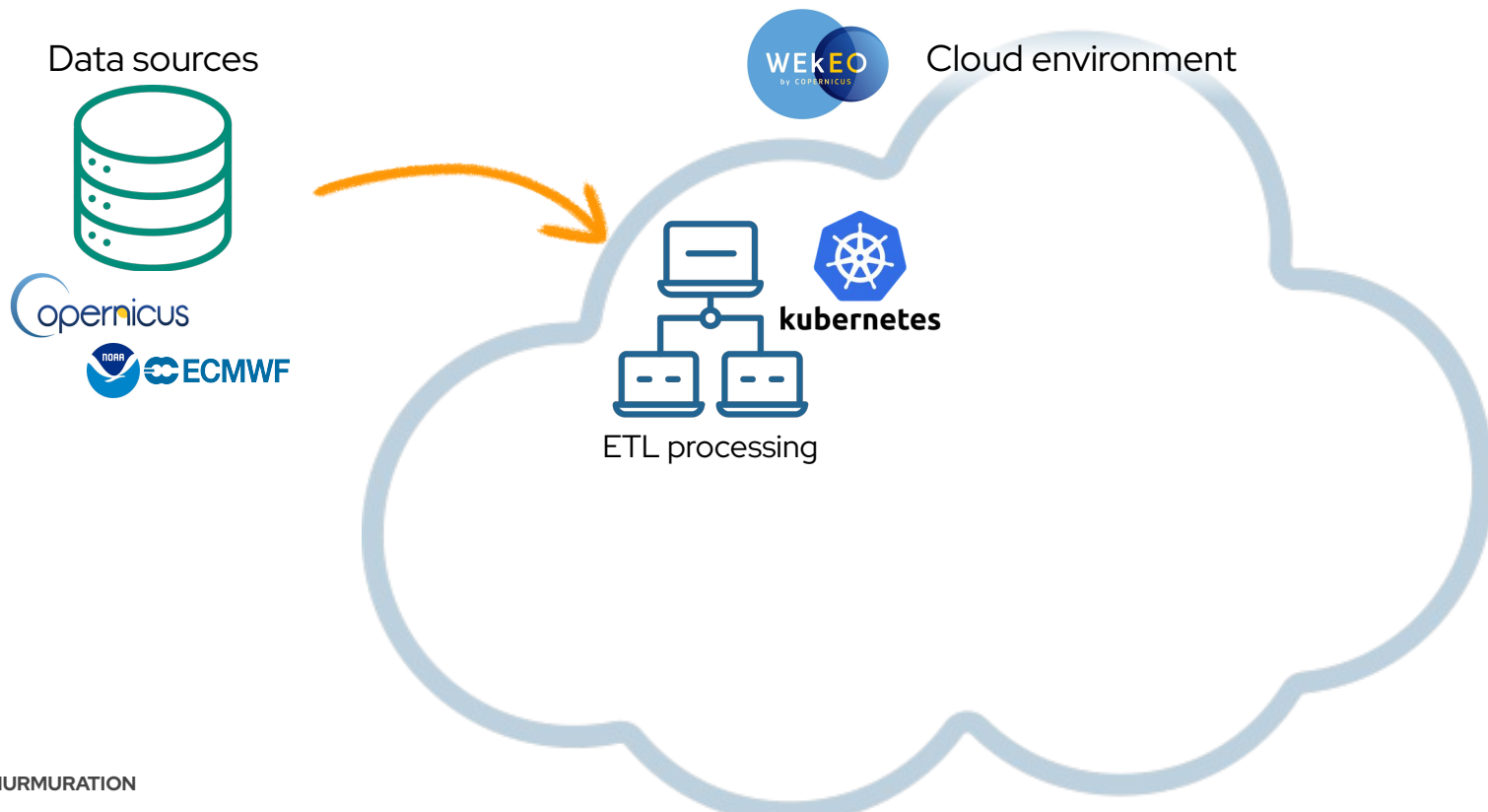
ECMWF



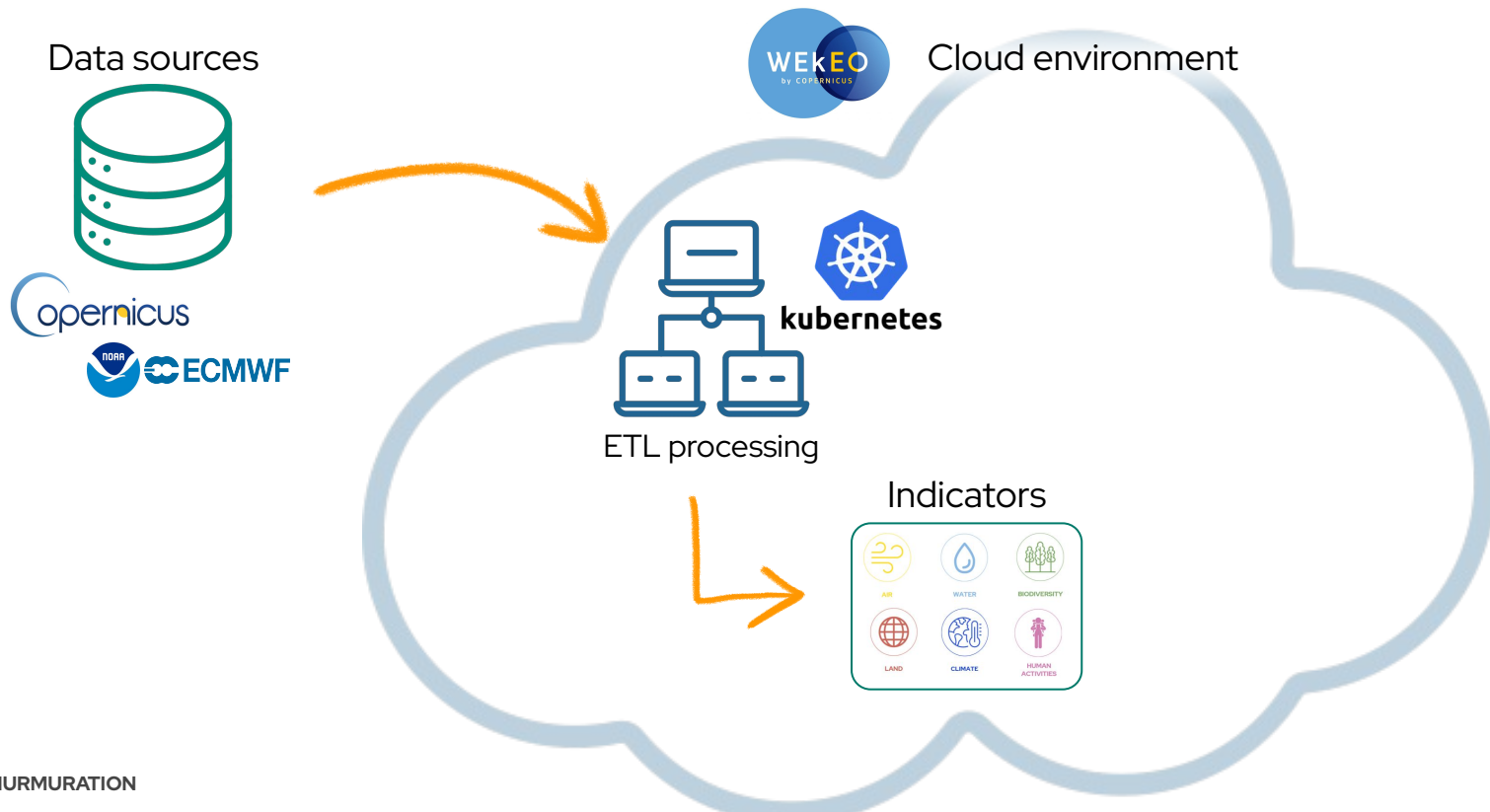
Cloud environment



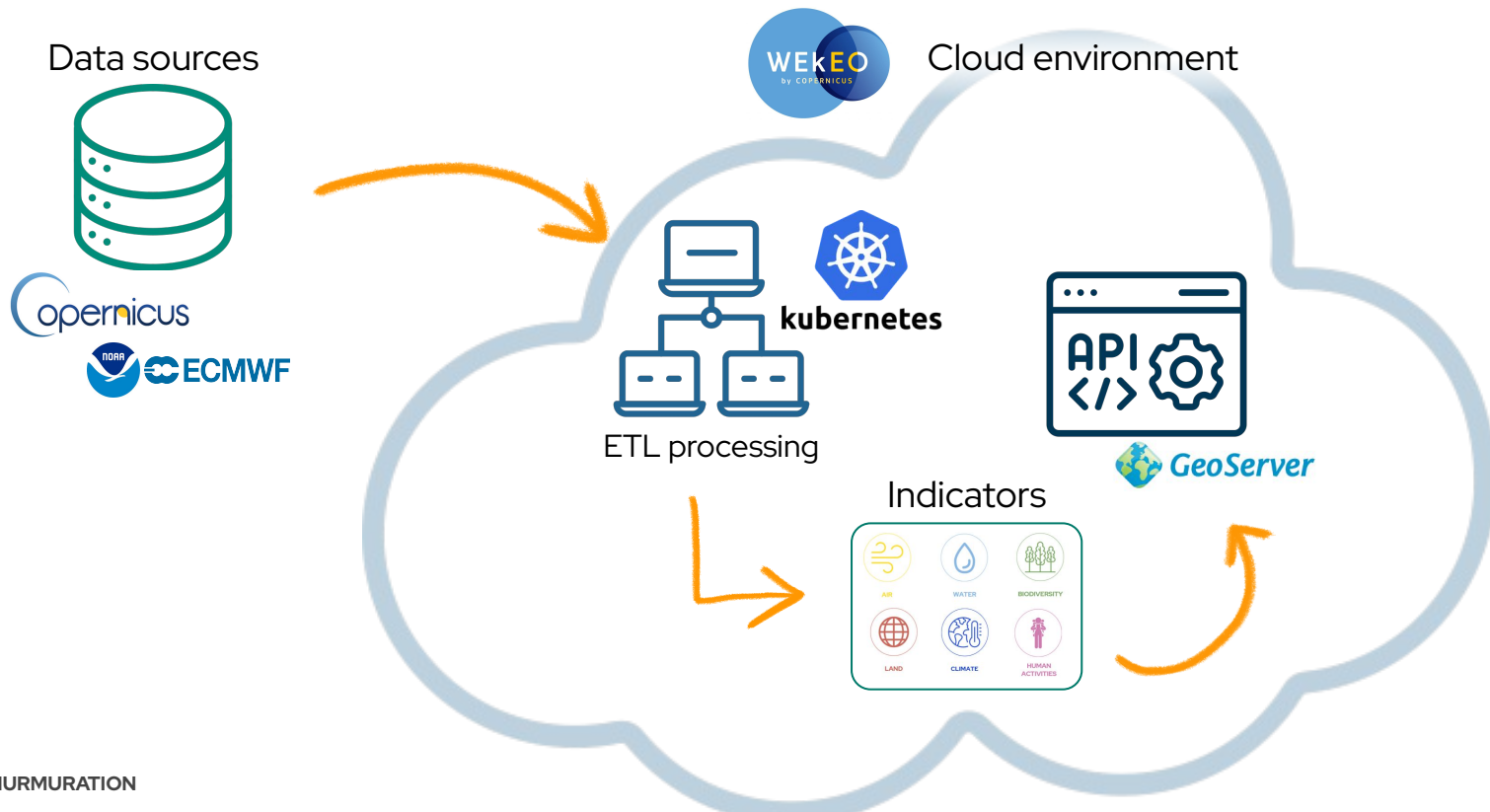
Cloud-agnostic & automated data processing pipelines



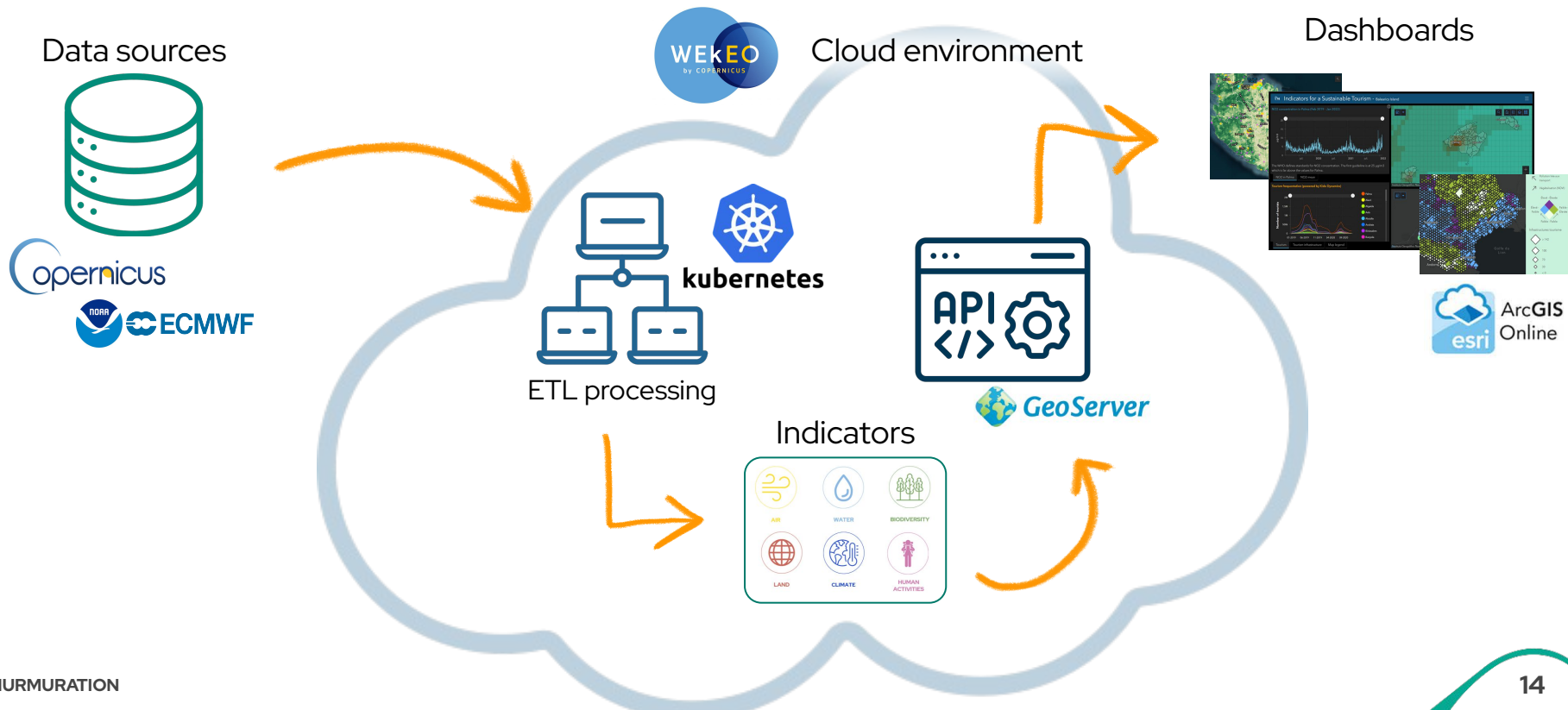
Cloud-agnostic & automated data processing pipelines



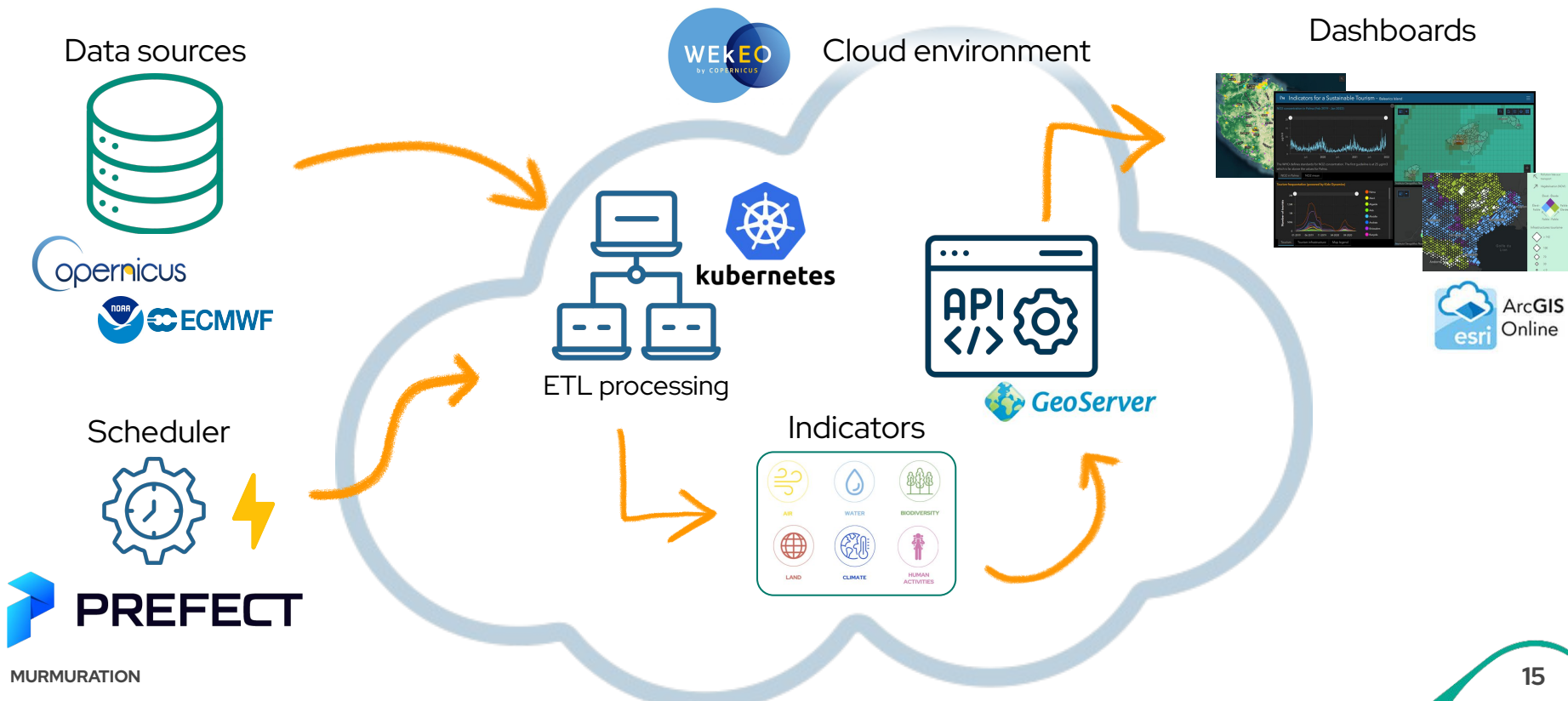
Cloud-agnostic & automated data processing pipelines



Cloud-agnostic & automated data processing pipelines



Cloud-agnostic & automated data processing pipelines

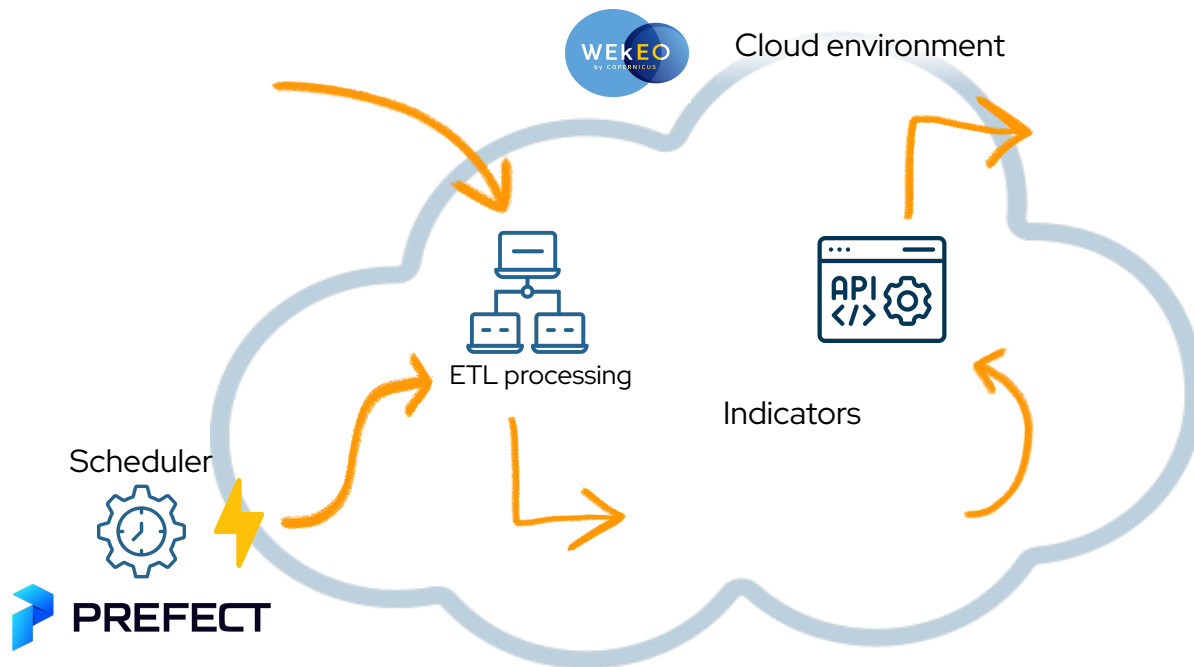




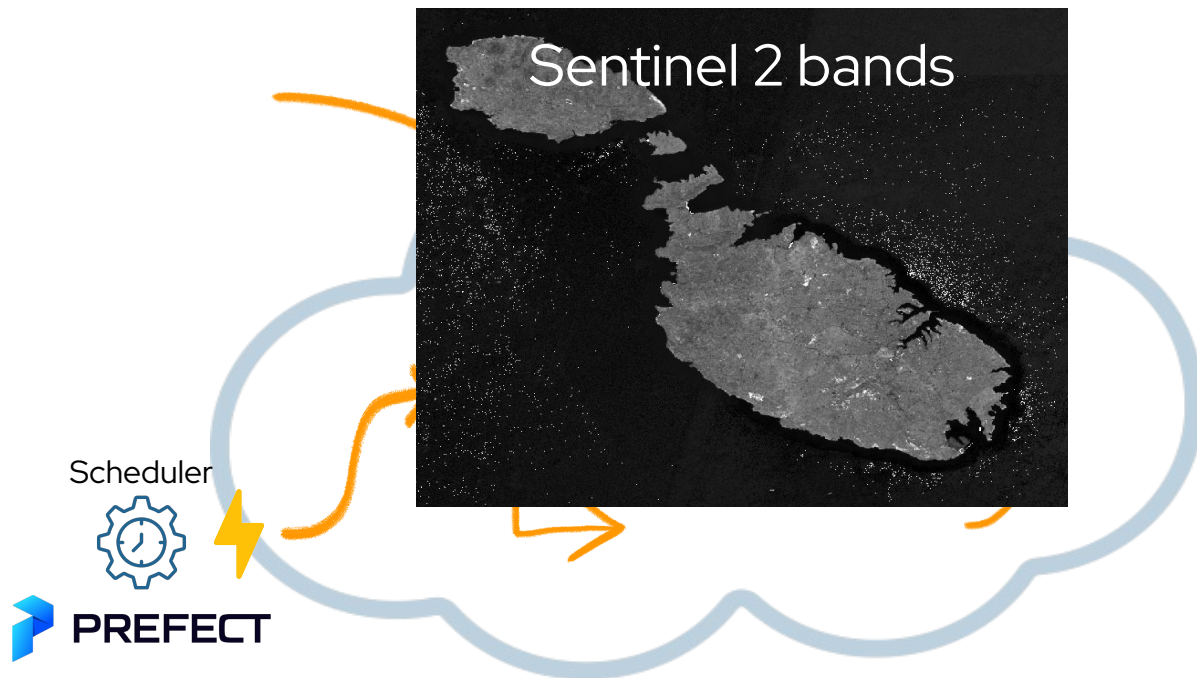
#3

Use cases

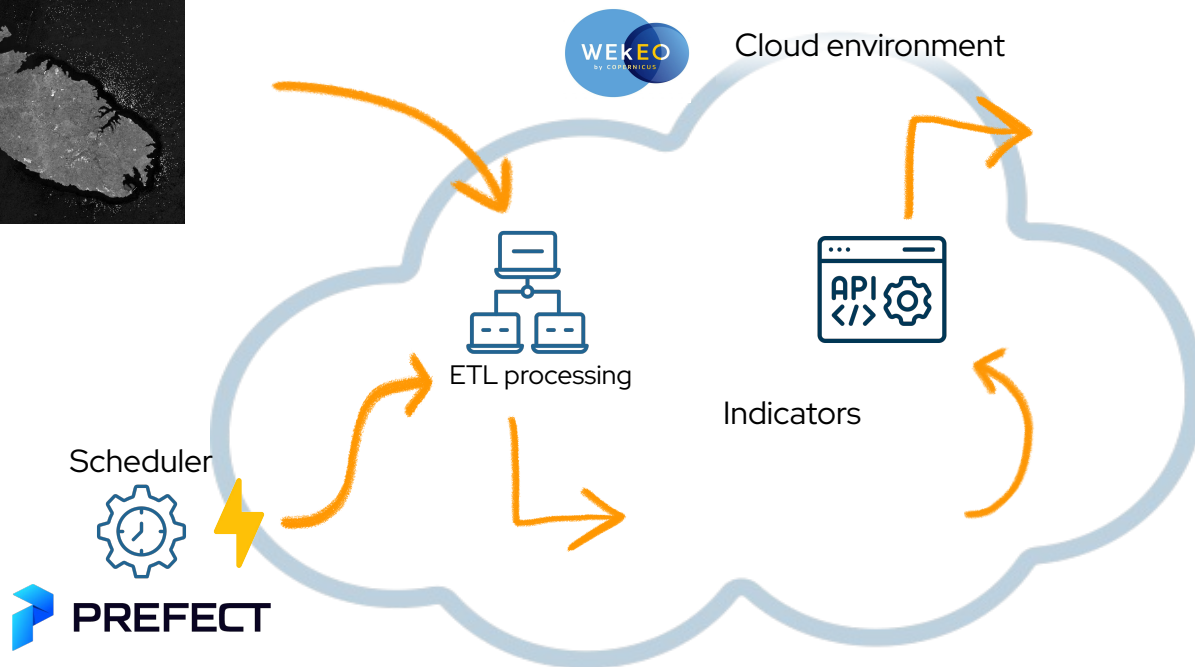
On-demand vegetation health indicator



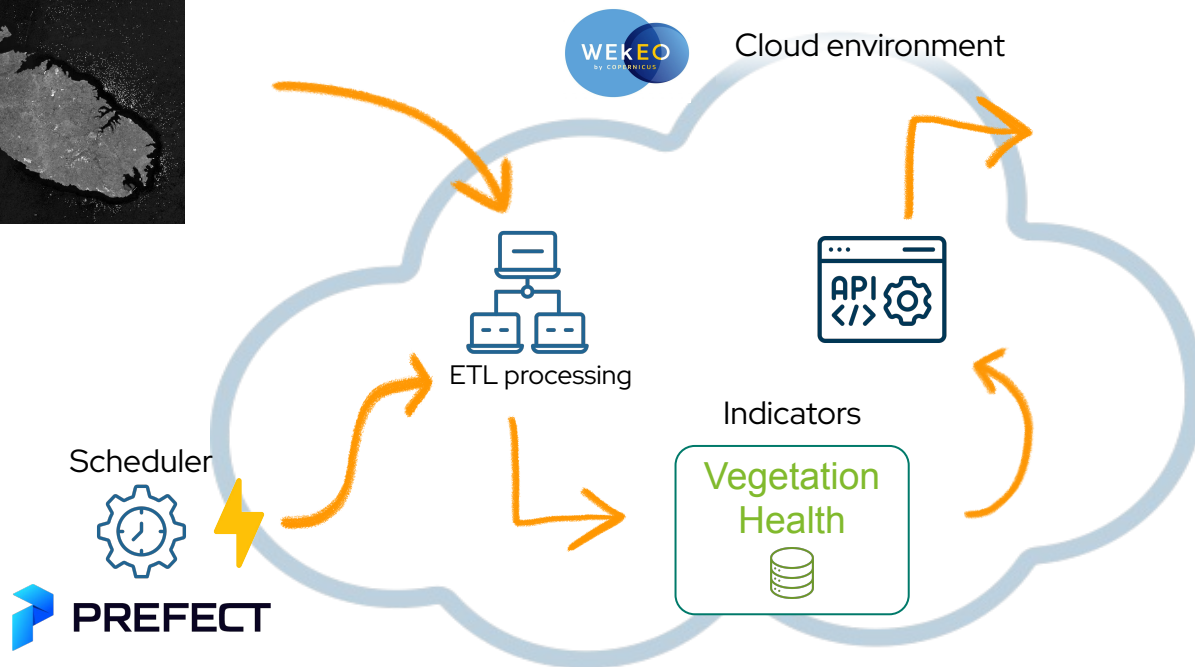
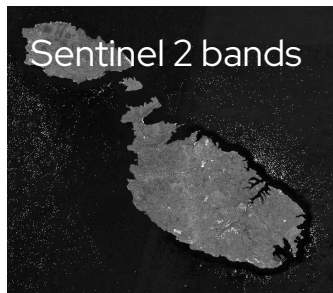
On-demand vegetation health indicator



On-demand vegetation health indicator

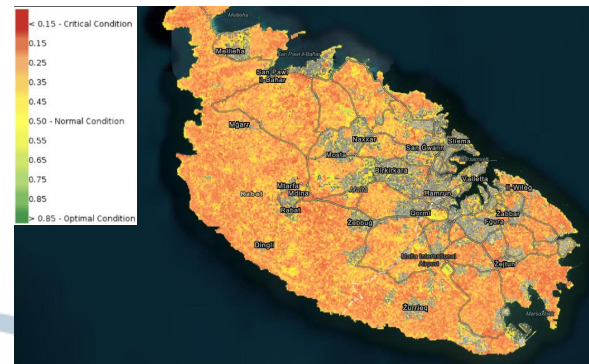
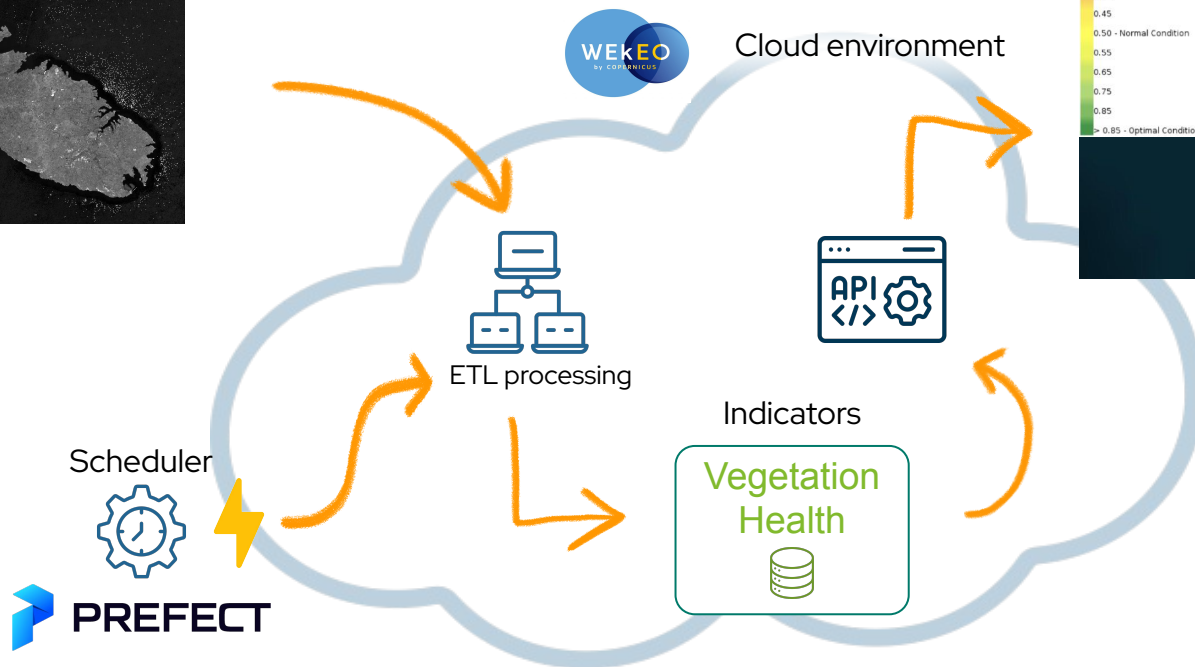


On-demand vegetation health indicator

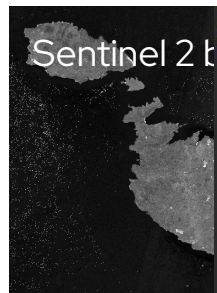




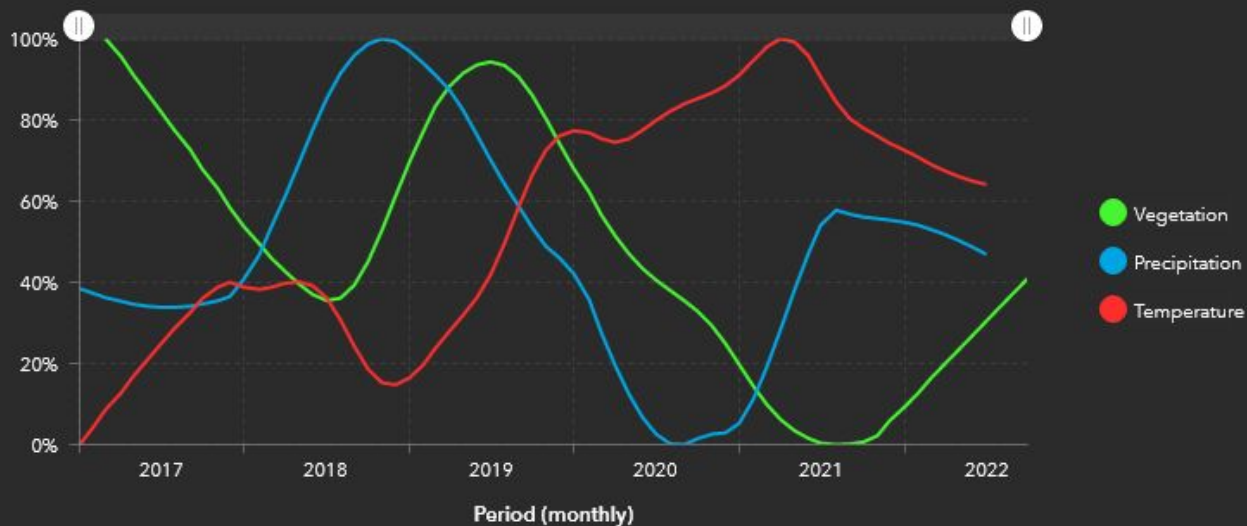
On-demand vegetation health indicator



On-demand vegetation health indicator



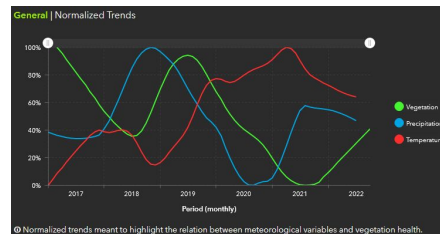
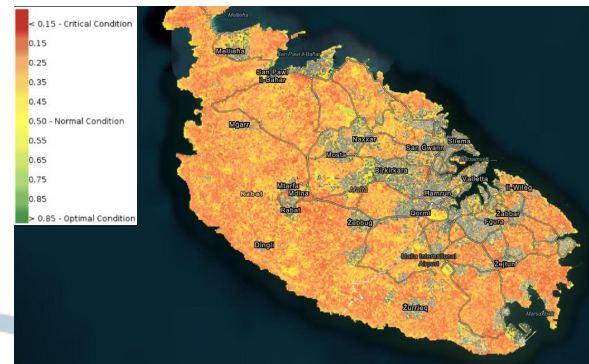
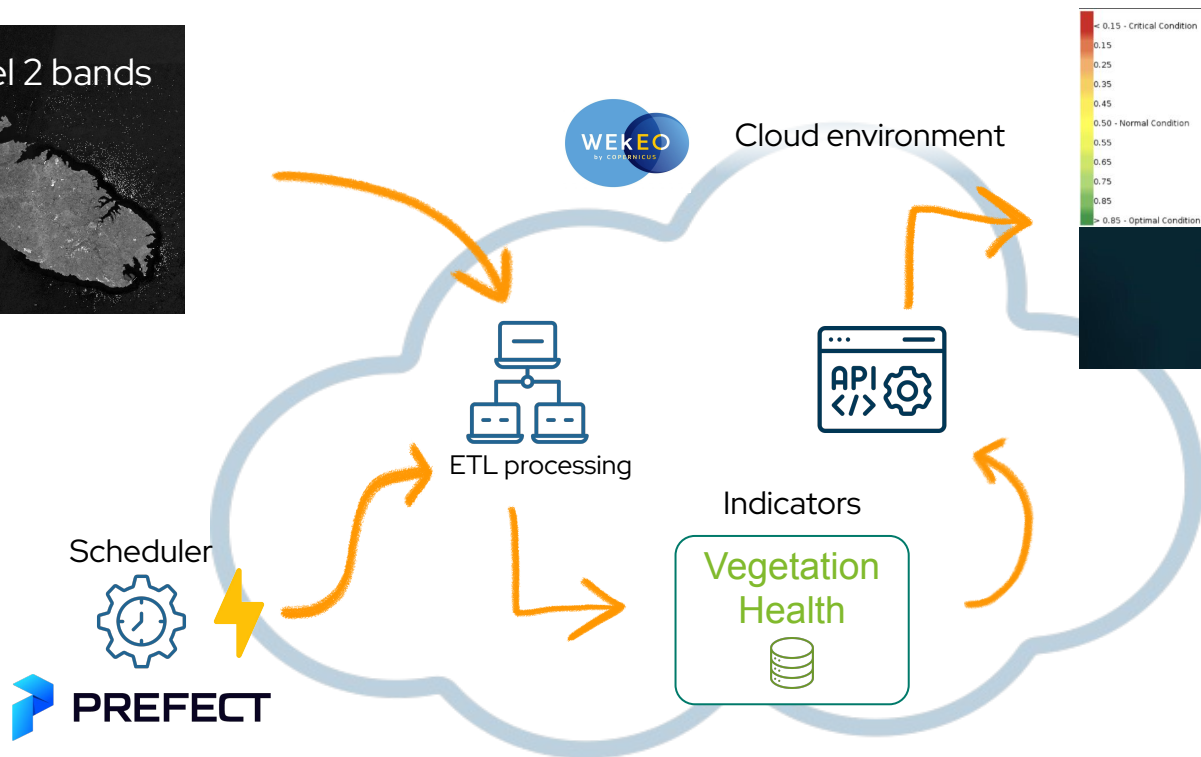
General | Normalized Trends



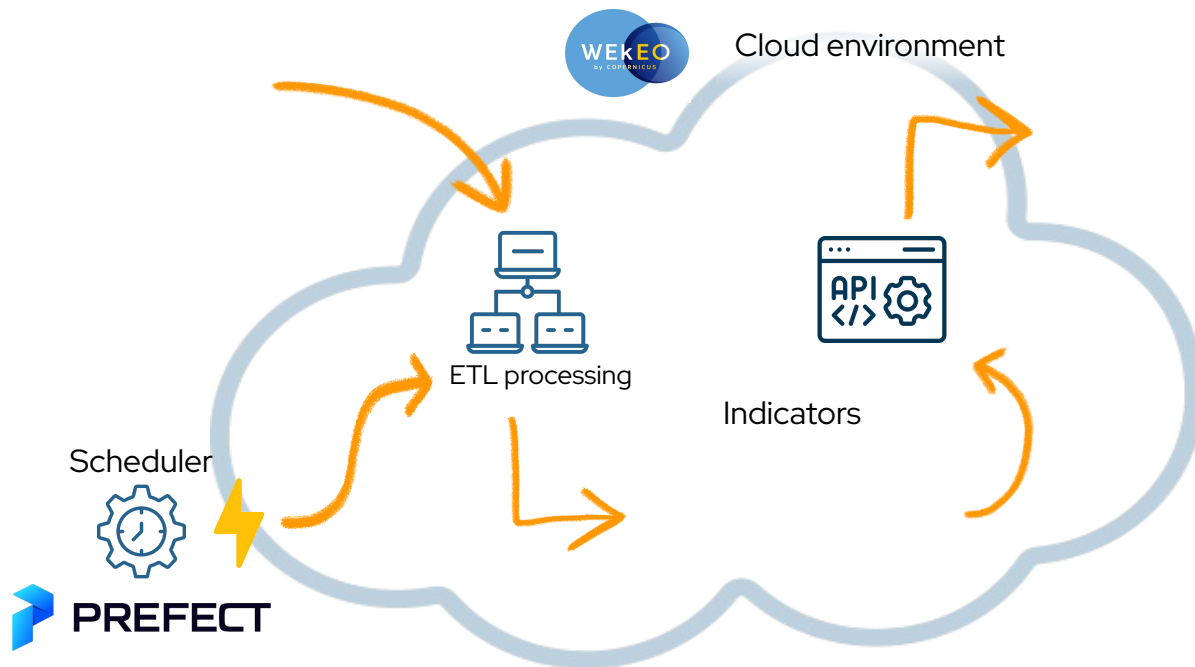
Normalized trends meant to highlight the relation between meteorological variables and vegetation health.

PREFECT

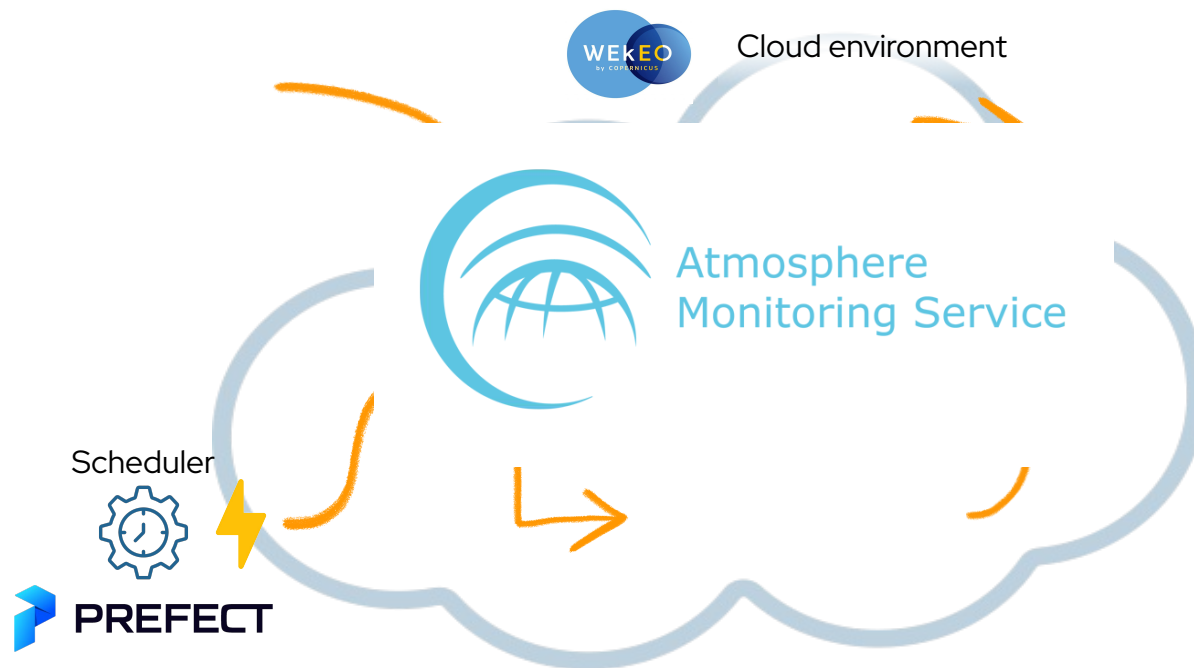
On-demand vegetation health indicator



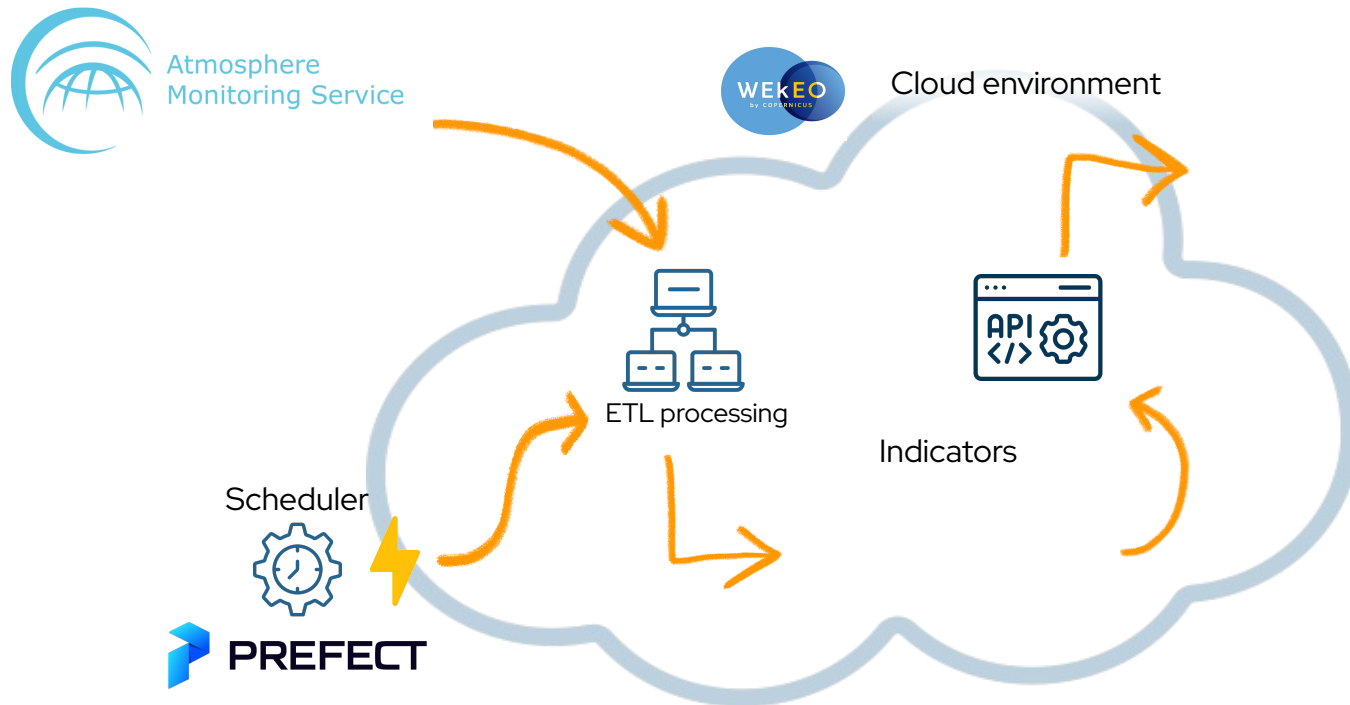
Scheduled air quality indicator



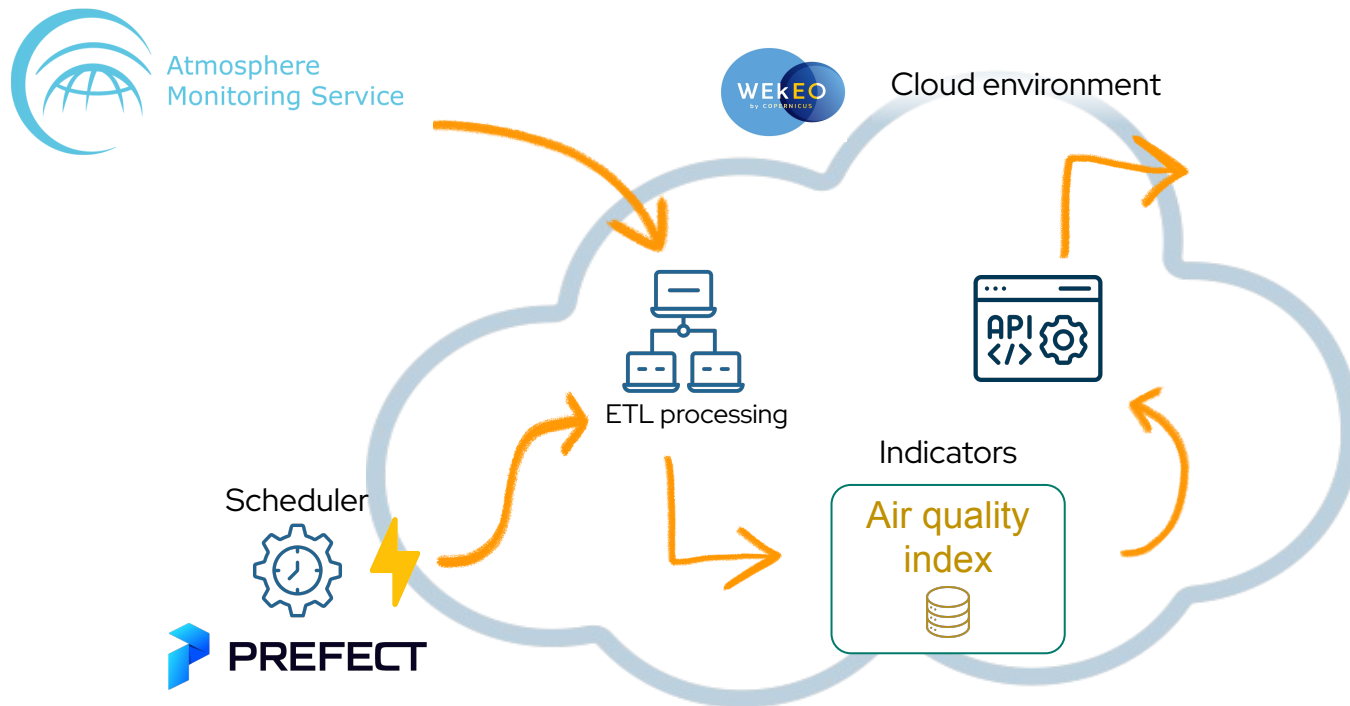
Scheduled air quality indicator



Scheduled air quality indicator



Scheduled air quality indicator

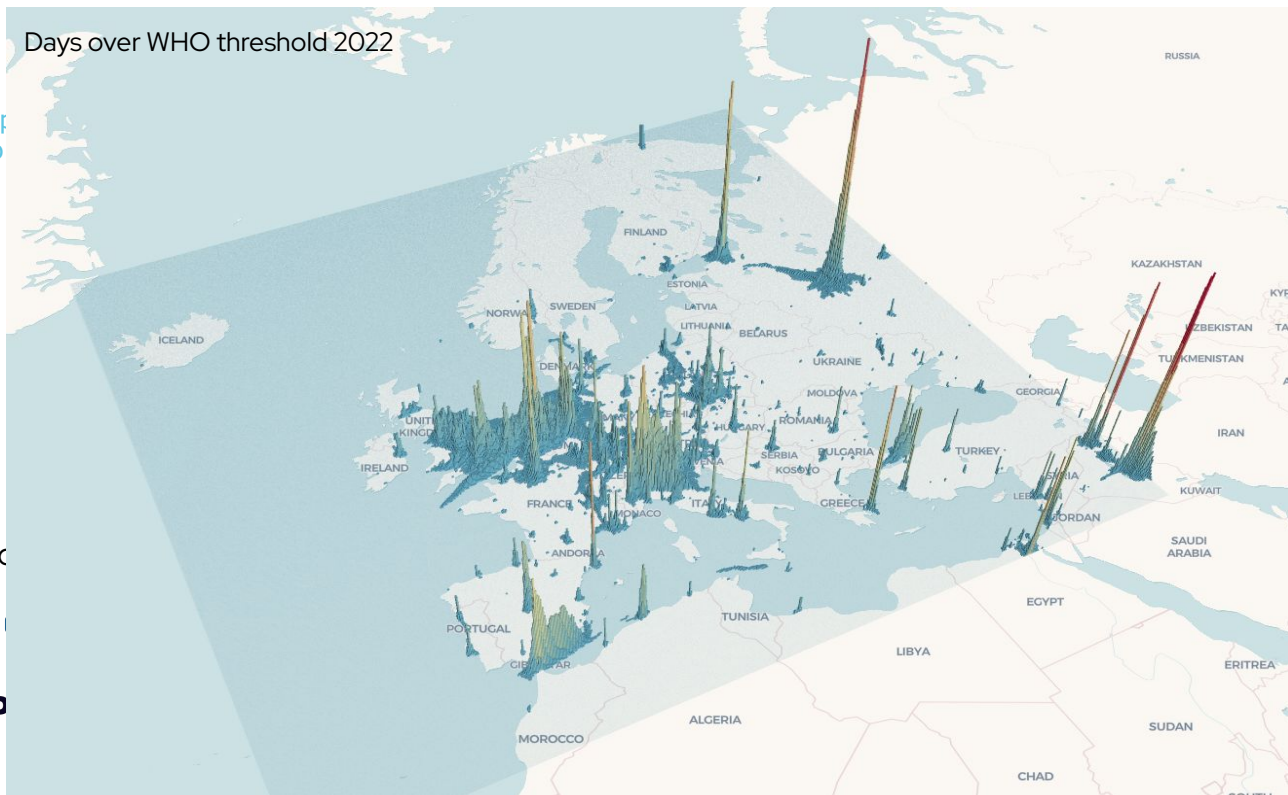


Scheduled air quality indicator



Atmospheric
Monitoring

Days over WHO threshold 2022



Scheduled air quality indicator



Atmosphere
Monitoring Service



Cloud environment



ETL processing

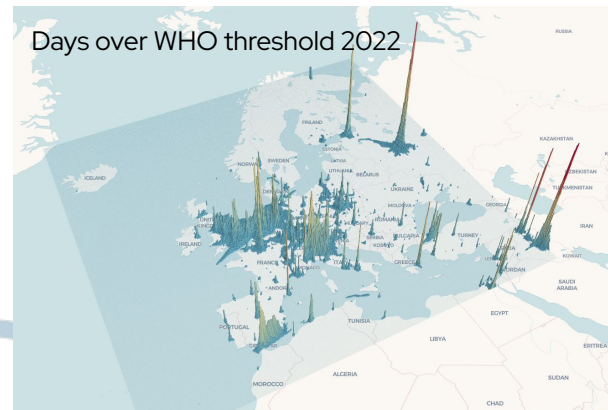


Indicators

Air quality
index



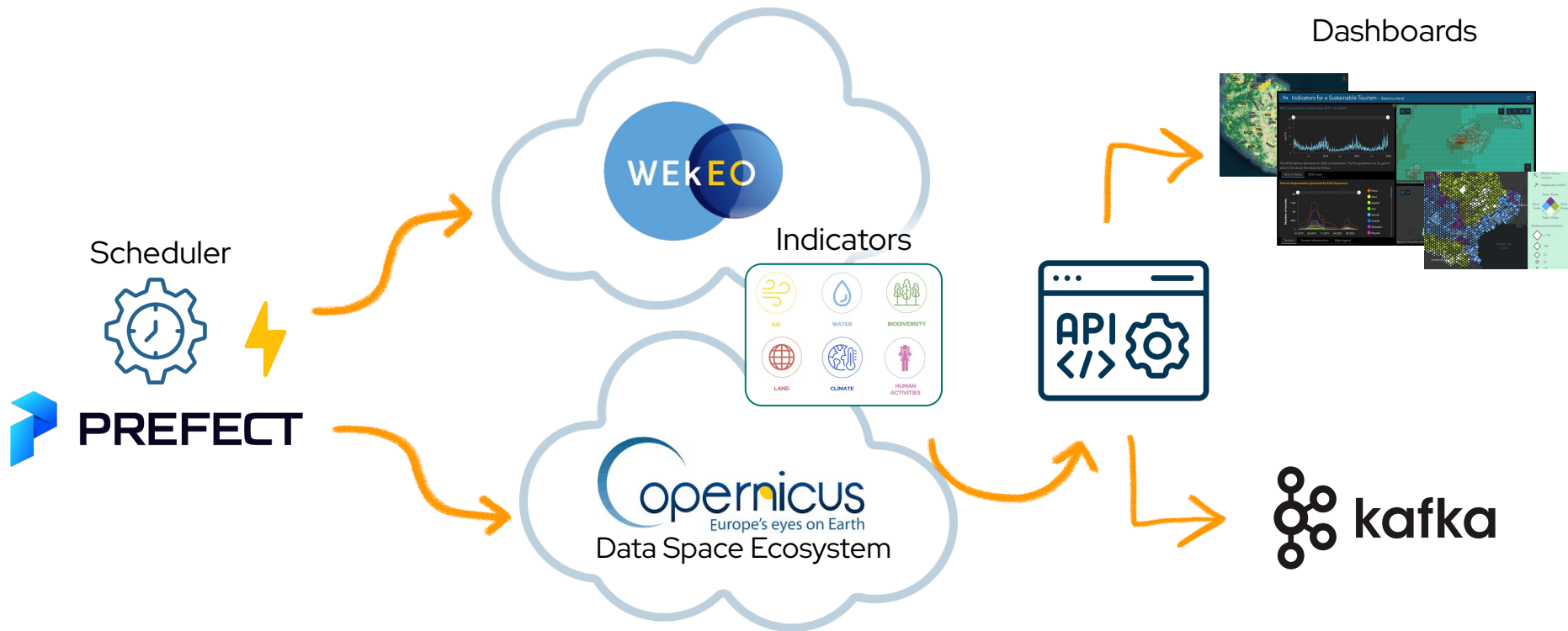
Scheduler





#4 Conclusion

Perspectives

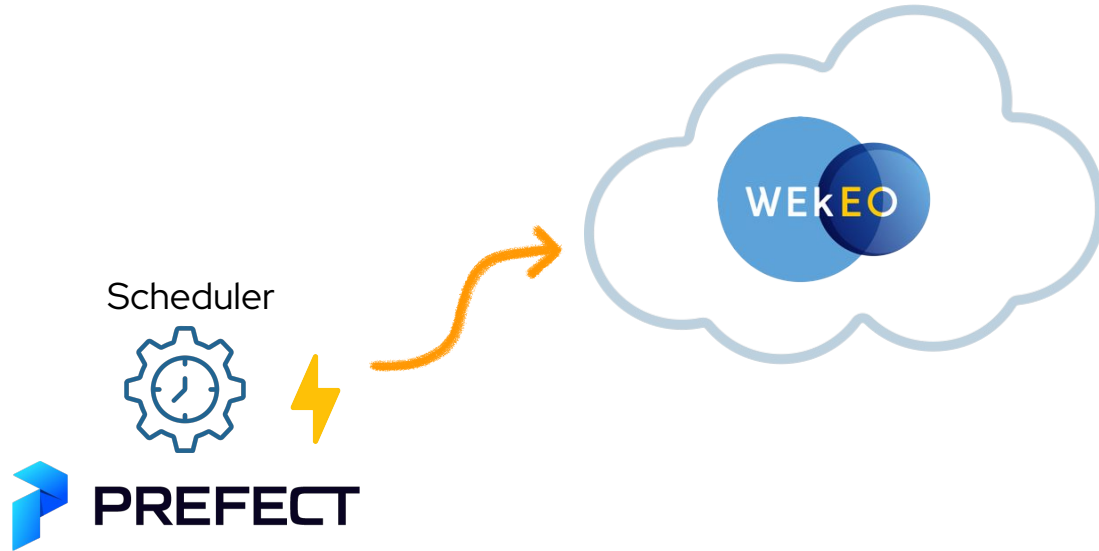


Perspectives

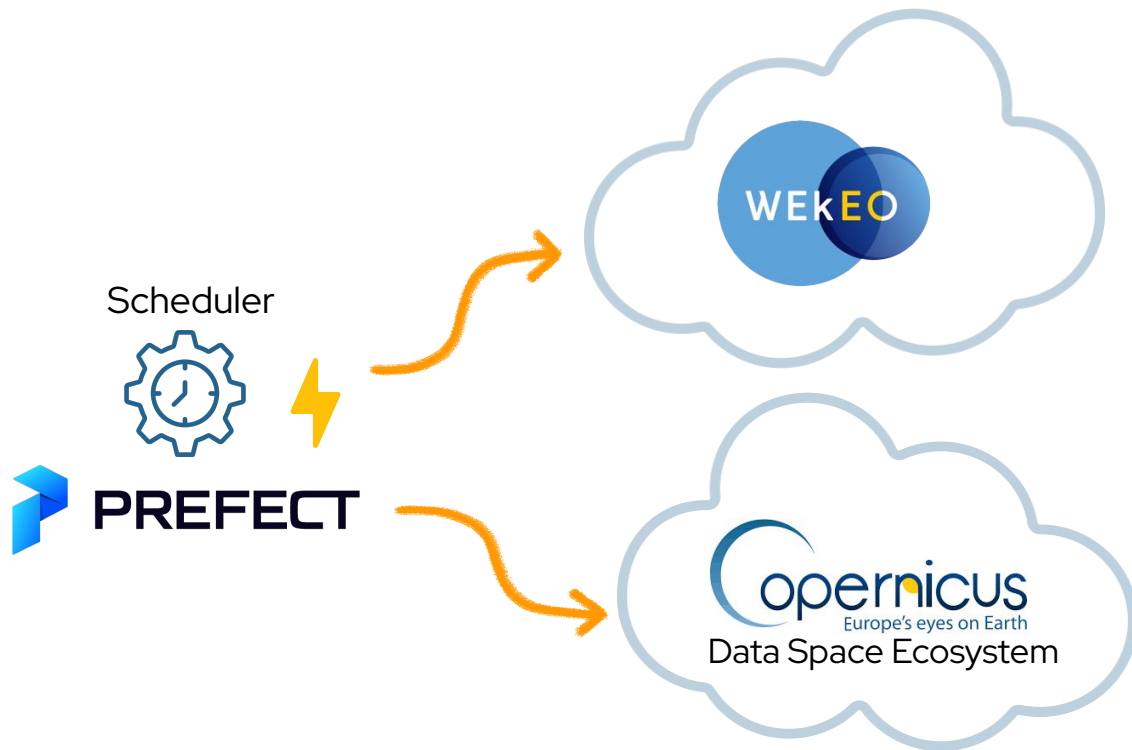
Scheduler



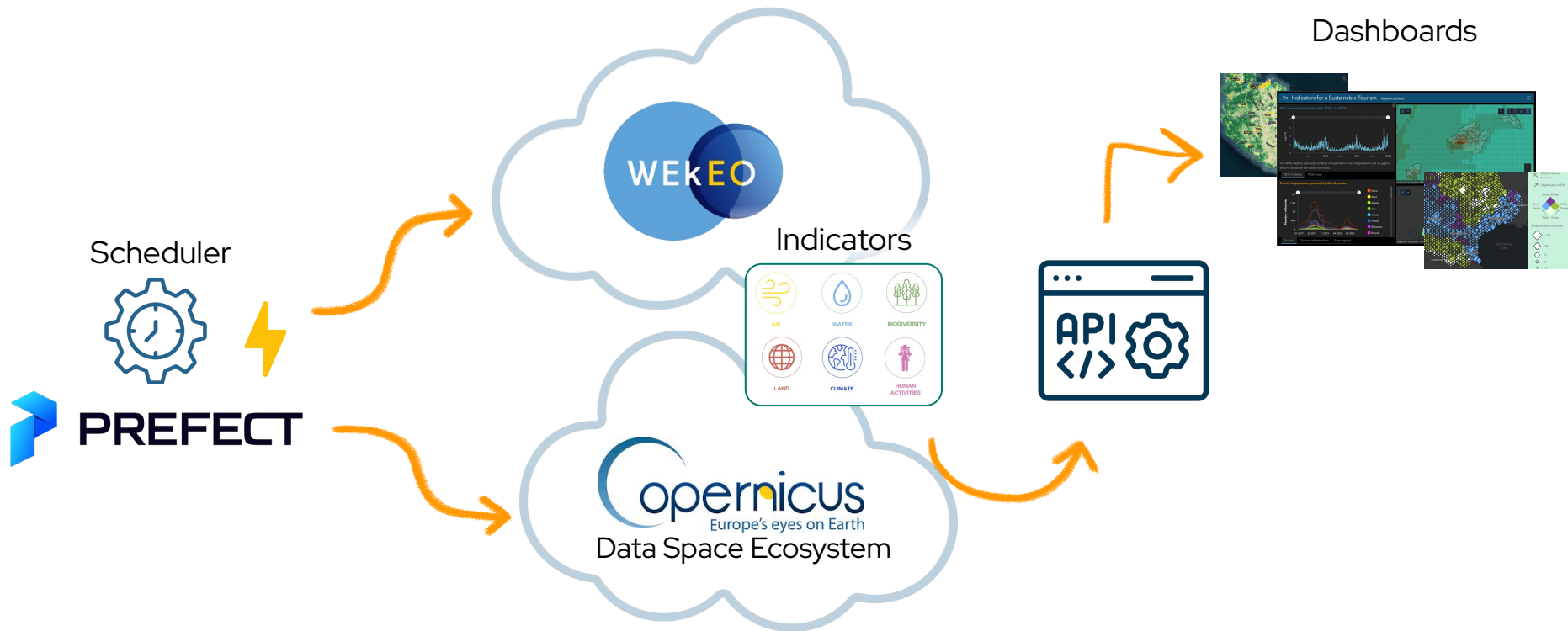
Perspectives



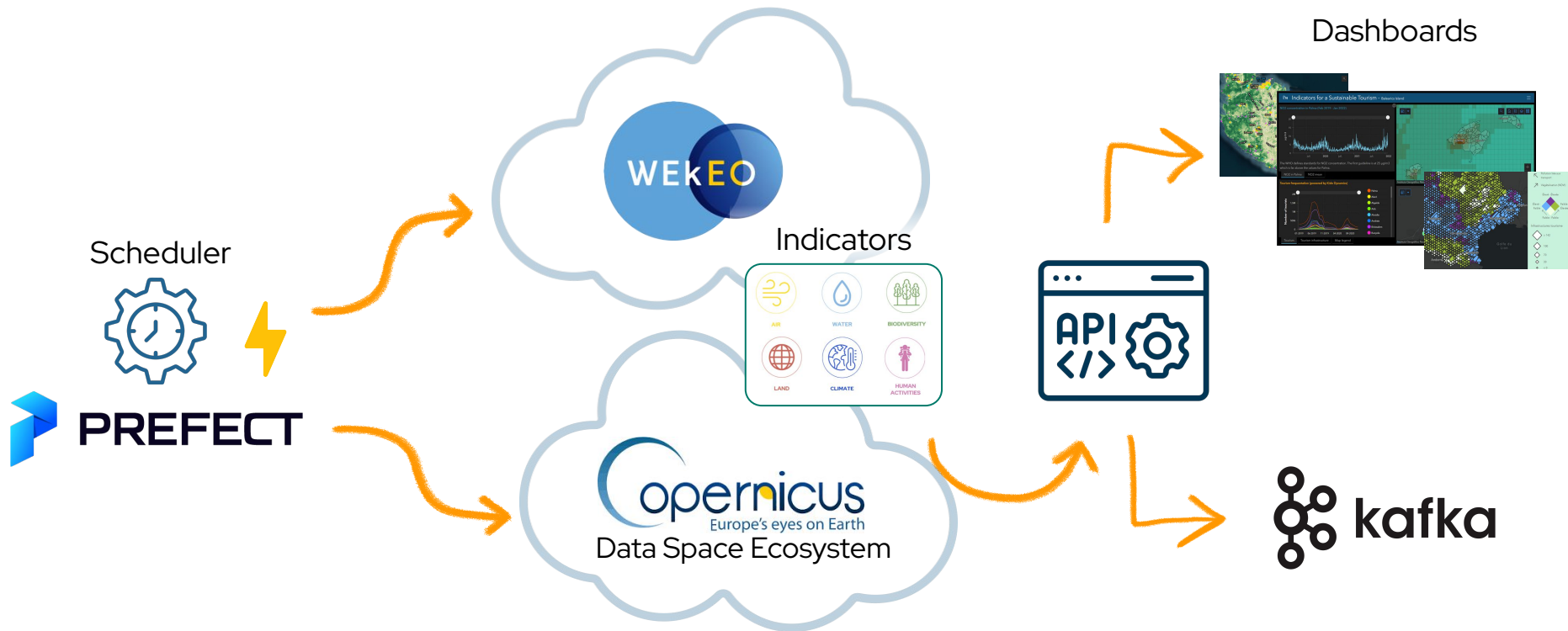
Perspectives



Perspectives



Perspectives



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