

PERIVALLON 

Push and pull factors of climate change linked to organised crime: The PERIVALLON project

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PERIVALLON Pilot Use Cases



PUC1: Illegal waste disposal detection
(IT, EL, SE, RO)



**PUC2: Intentional dumping of
polluting substances in land and water**
(IT, BE)



**PUC3: Transnational illegal trafficking
of waste electronic and electrical
equipment (Europe towards Sub-
Saharan countries)**



**PUC4: Illegal trade in ozone-depleting
substances & HFCs** (RO)



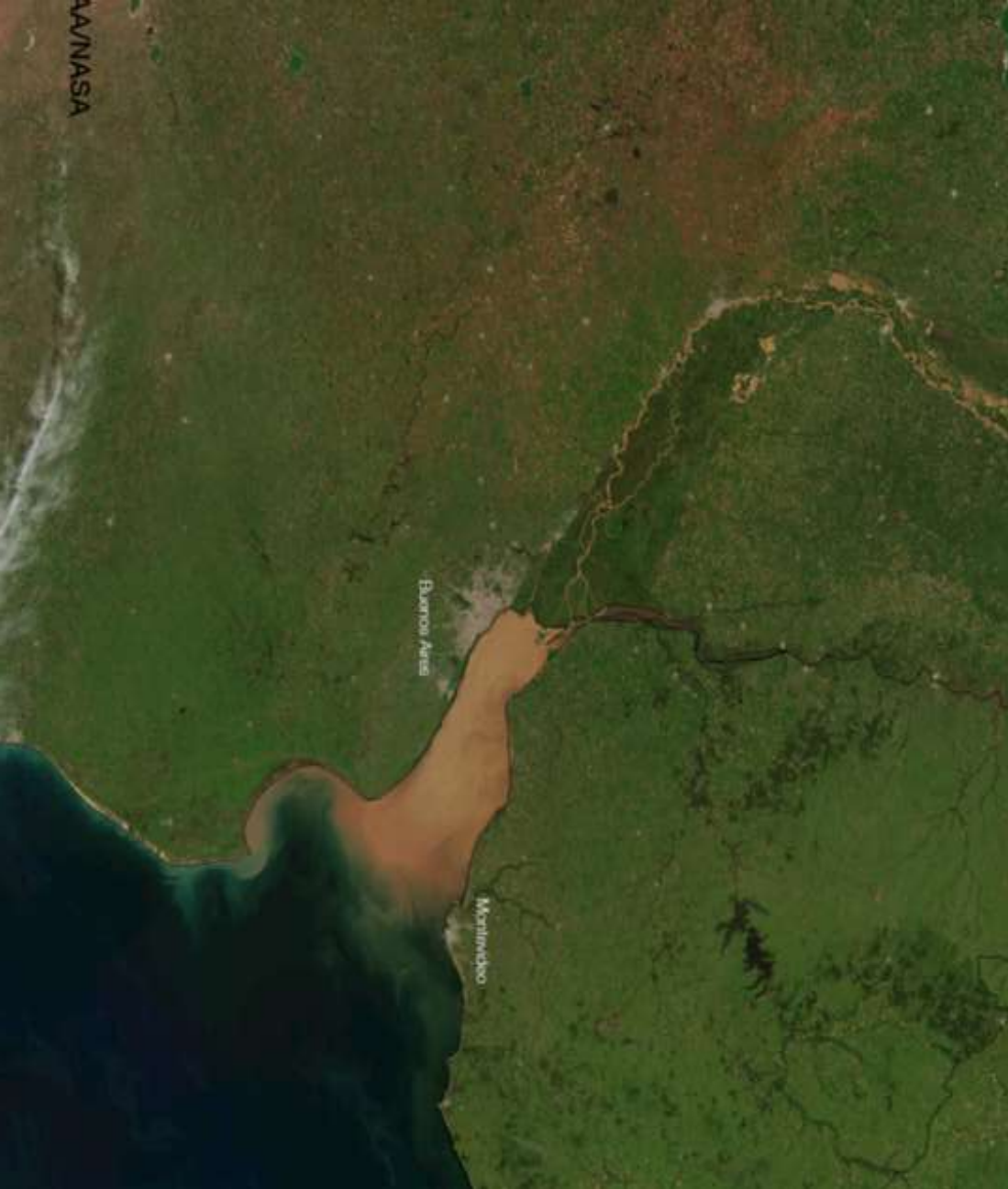


PUC1: Illegal waste disposal detection

In Europe 5.2 tonnes of waste were generated **per inhabitant** in 2018, 38% were landfilled. In 2017-2019, only Lombardy (Italy) **paid €26M to recover illegal waste dumps**.

- Networks voluntarily distribute the different stages of the waste cycle in multiple jurisdictions
- Waste management companies serve as 'front' and 'shell' companies to deal with the transactions.
- Falsification of documents in classifying waste

Increased availability of high-resolution satellite data supports early detection. PERIVALLON **first public dataset and tools** on remote waste detection: <https://zenodo.org/records/7991872> (Politecnico di Milano).

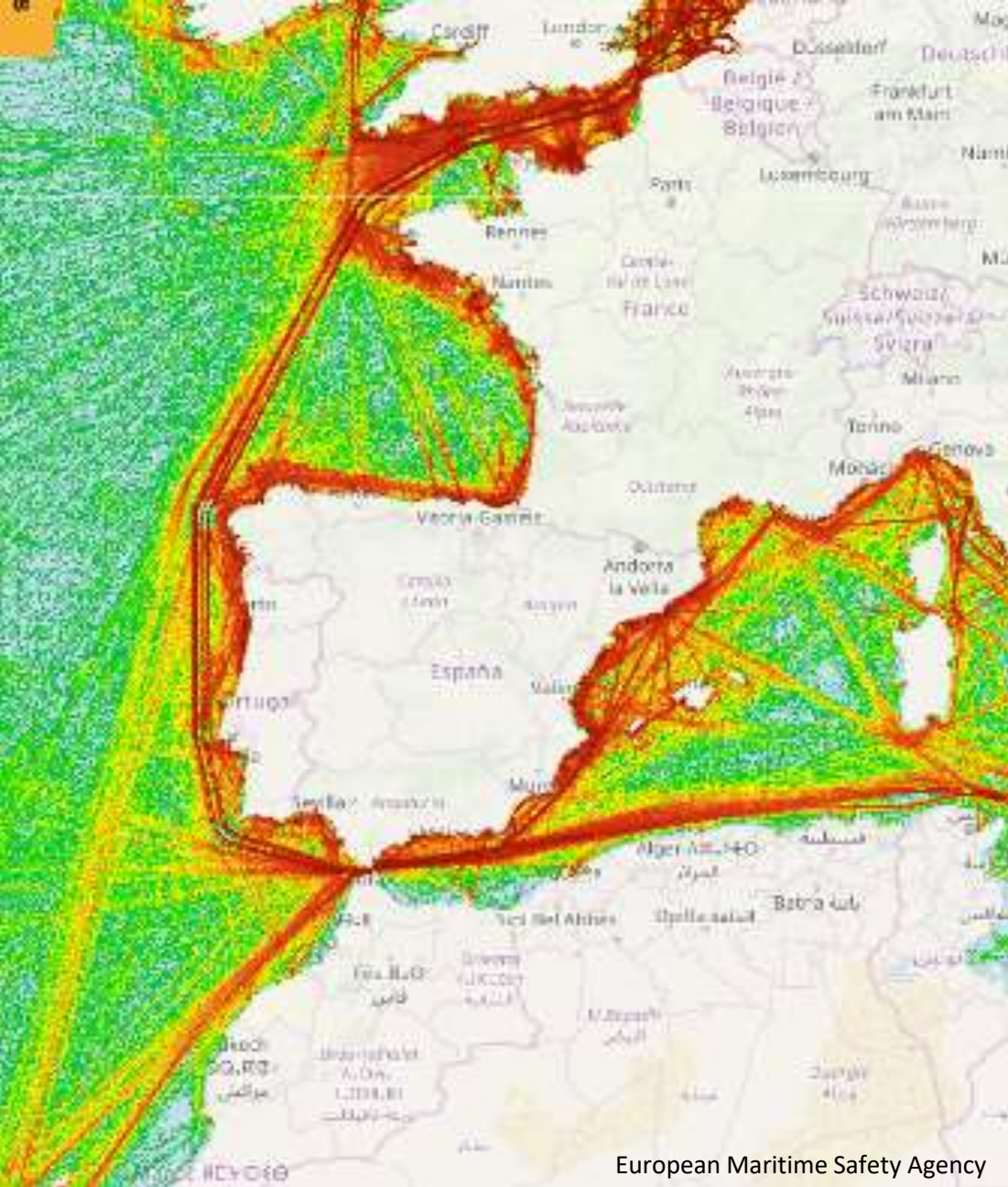


PUC2: Intentional dumping of polluting substances on land and water

Industrial releases alongside discharges of animal waste, silo juices and oil spills exerts pressure on EU water, with **only 40% of surface water bodies** remain in good ecological status.

Drinking water scarcity can be leveraged by organised crime groups to **set instability within an entire region** by polluting the same water.

Early detection to prevent intake of contaminated water by citizens, by means of **satellite imagery**. Hotspots or zones could be identified then to set more intense monitoring by **UAVs**.



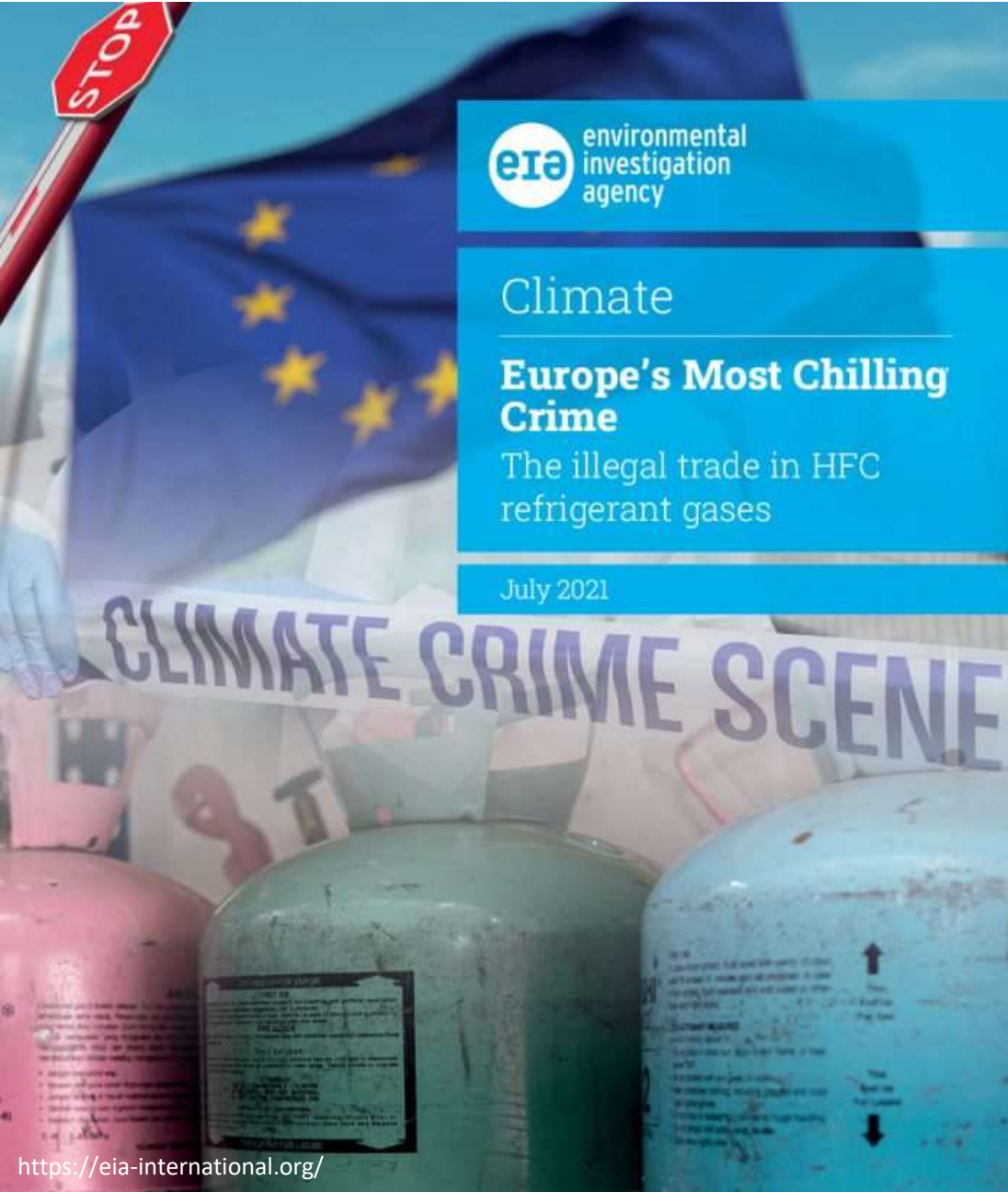
European Maritime Safety Agency

PUC3: Transnational illegal trafficking of waste electronic and electrical equipment

Illegal shipment of e-waste from **EU to 3rd-countries** is a complex and serious concern. Part of e-waste is shipped towards Sub-Sahara due to the lack of specific policies, legislation, and appropriate infrastructure, being handled by illegal recyclers.

- No systematic routes can be determined, as they frequently change (plus **AIS-off**).
- **Declassification** of hazardous waste as non-hazardous is the main modus operandi used to traffic dangerous substances.

Monitoring and analysis of online and AIS data improves **identification of smuggling routes** and investigation of illegal actors.



PUC4: Illegal trade in ozone-depleting substances & HFCs

The illegal trade of ozone-depleting substances (ODS) and hydrofluorocarbons (HFCs) is a **serious environmental concern**.

Despite regulations, recent seizures across Europe **highlight a growing problem**.

In a specific case, an intelligence team **detected a suspicious online advertisement for refrigerant cylinders**

Through advanced analytics and collaboration with maritime authorities, a vessel was identified, and a **concealed shipment of HFCs was discovered** at the port.

The **successful interception underscores the importance of vigilant monitoring and coordination among authorities** in combating the illegal trade of substances that contribute to climate change.

<https://eia-international.org/>