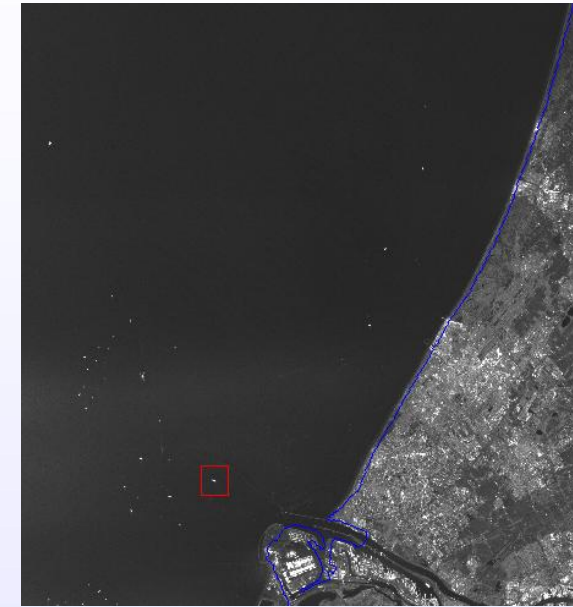
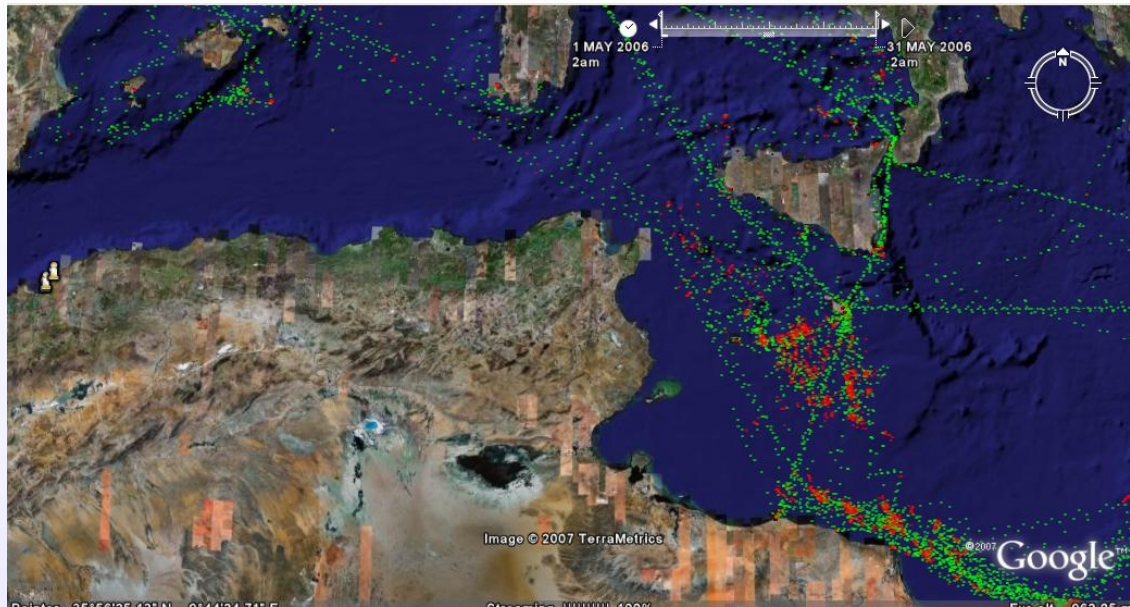
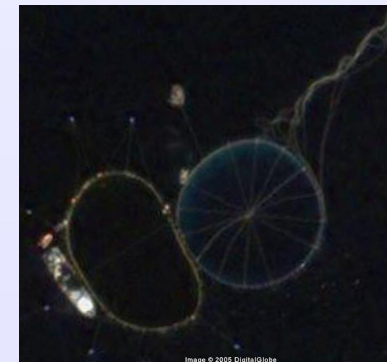


# The Vessel Detection System (VDS)



*Jacques Delincé*  
*14 June 2007*

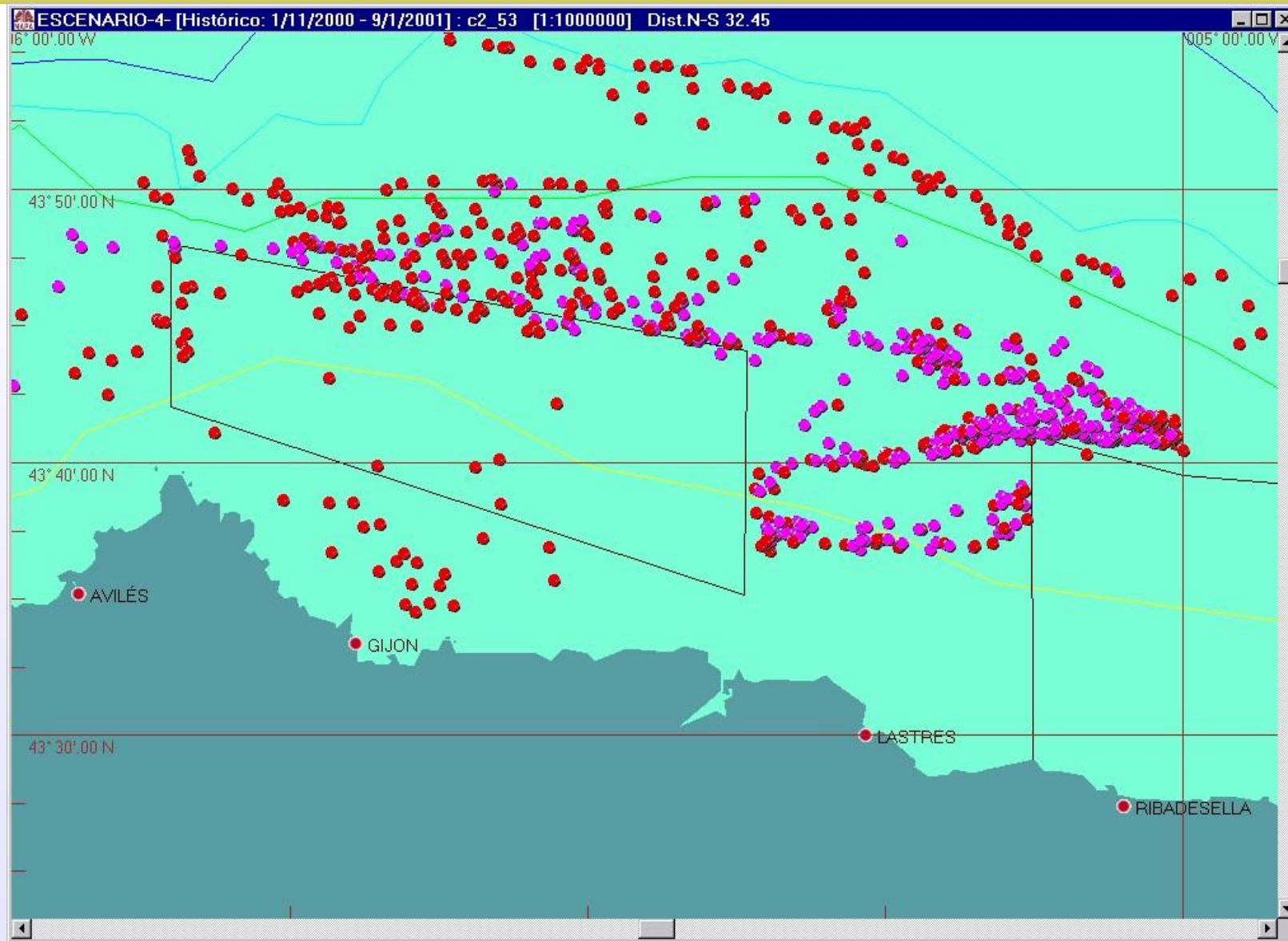


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# Fisheries Policy enforcement

- WHY
- Risks: fish stocks collapse, ruin of fishing industry
- Regulations -limit of fishing effort and catches- to avoid over fishing and illegal fishing
- → Need to enforce the common rules and check for non-compliance
- HOW
  - Monitoring tools:
    - automated systems to detect fishing vessel activity
    - inspections (vessel/aircraft patrols)
    - control of landings

# The Vessel Monitoring System (VMS)



Monitoring of a restricted area (closed box) using VMS

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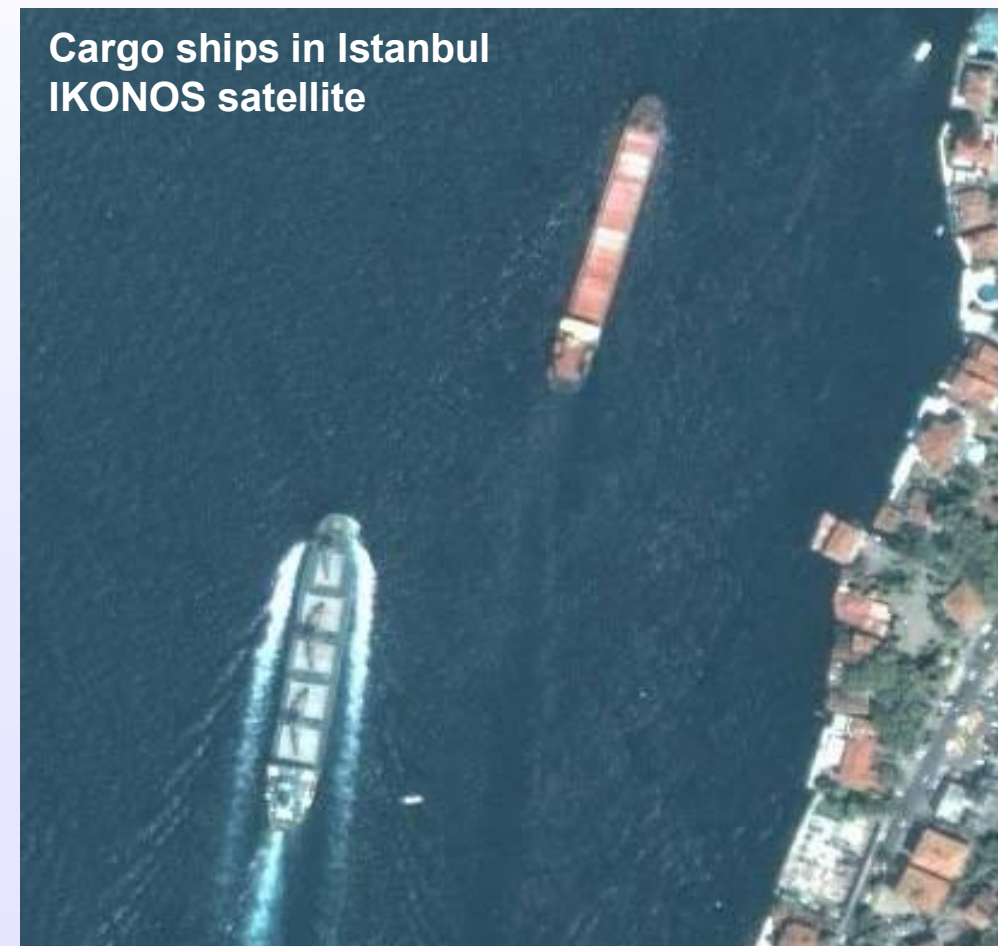
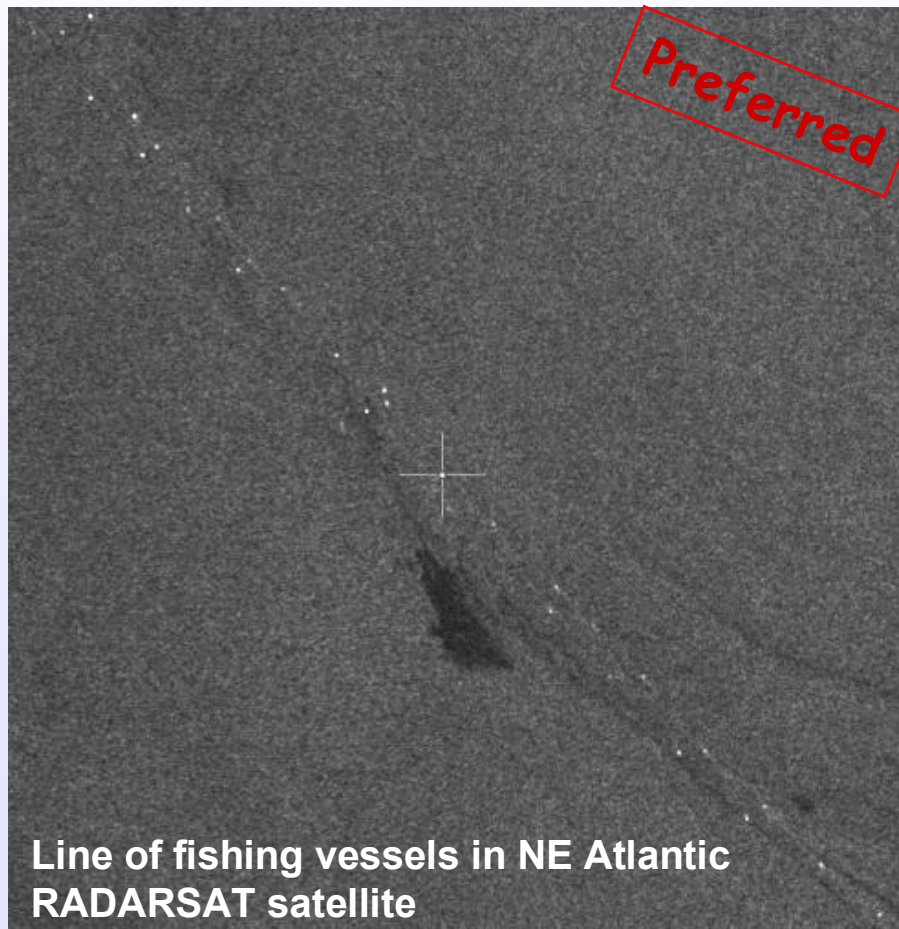
# Using satellite images

## Radar satellite images

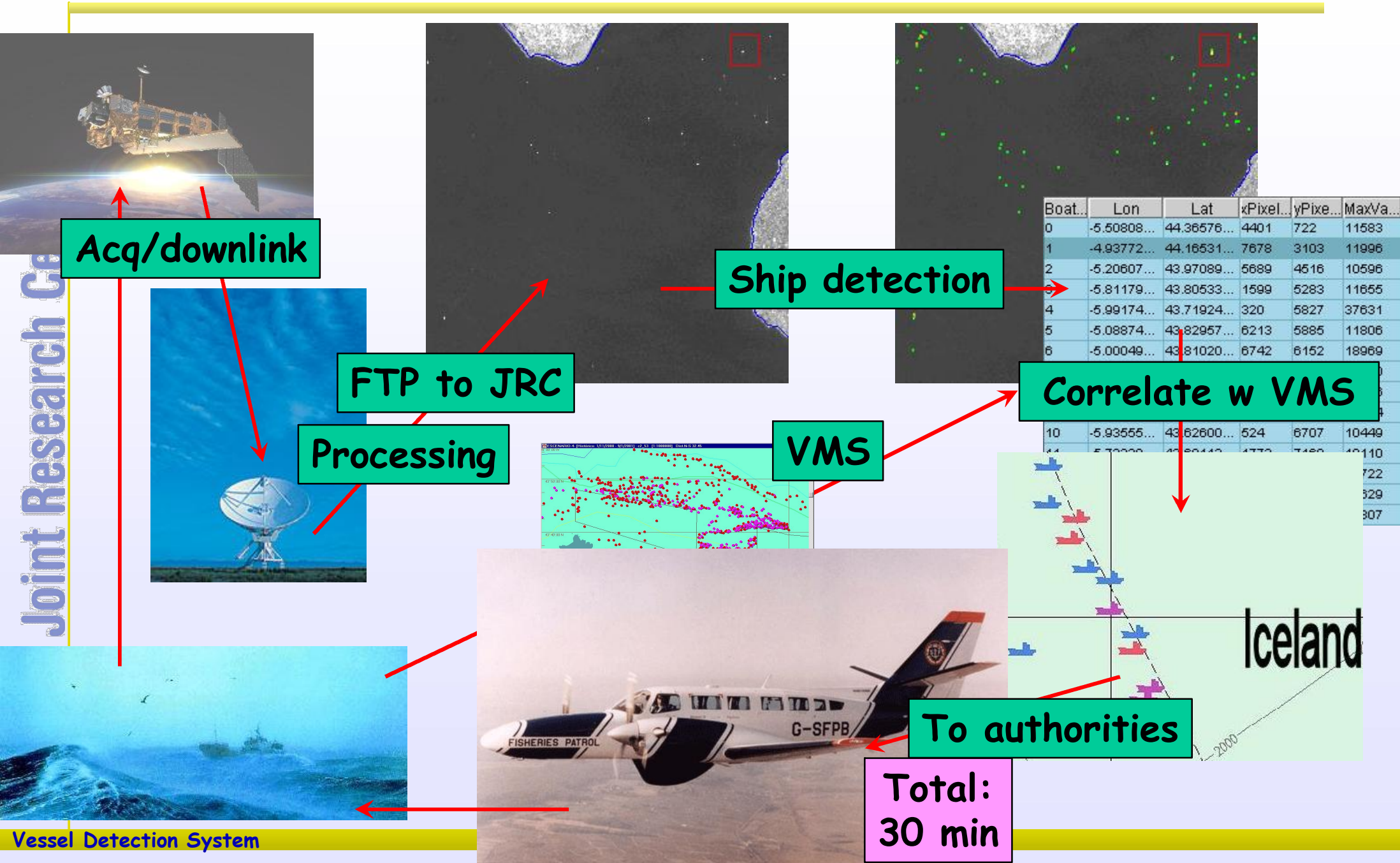
- Low resolution (8-50 m)
- Wide area (up to 400 km)
- through clouds, at night
- → Used for **detection**

## Optical satellite images

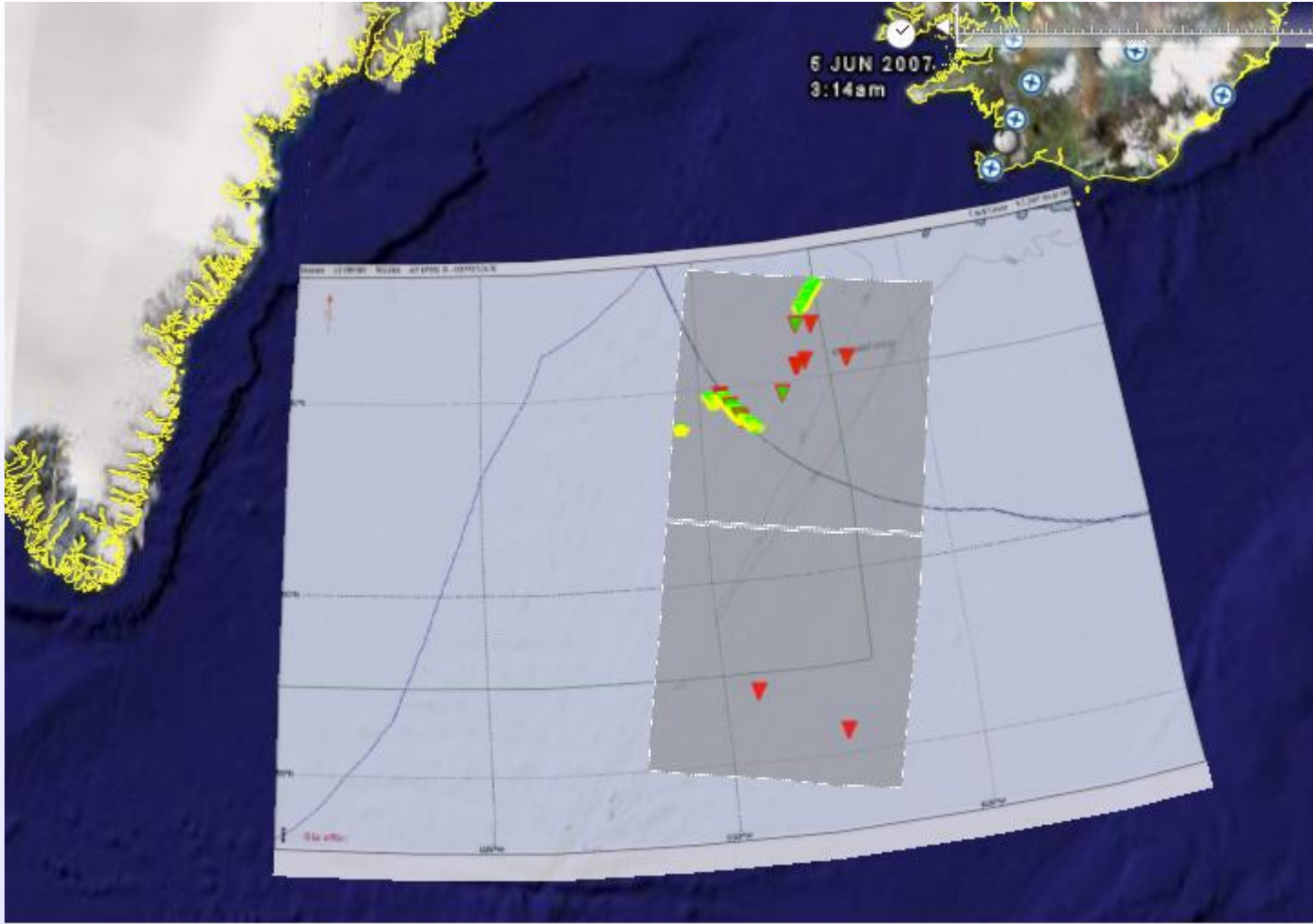
- High resolution (<1-10 m)
- Small area (10-60 km)
- daytime only, clear skies
- → Used for **recognition**



# JRC's Vessel Detection System

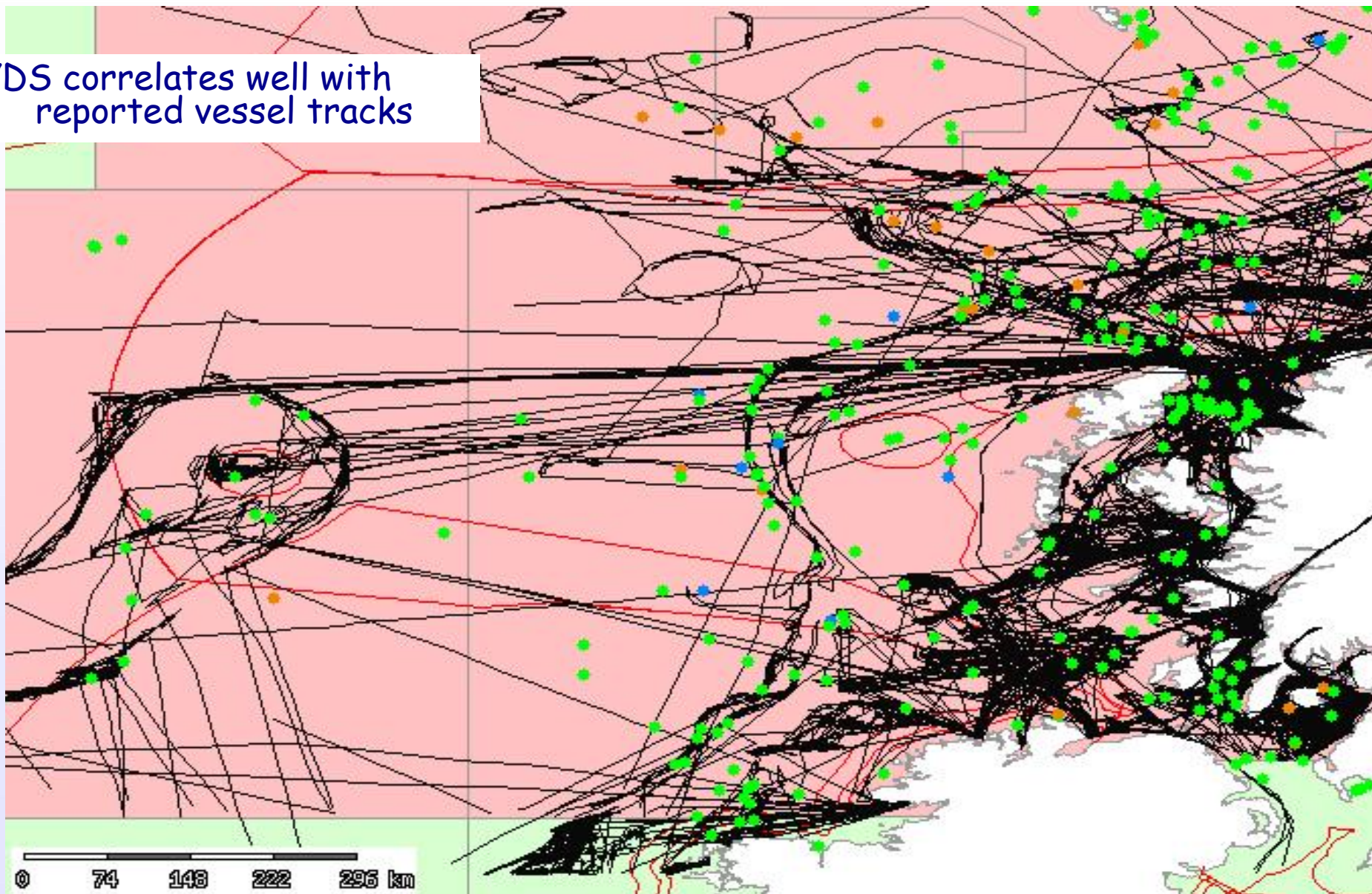


# Checking for illegal fishing in the NE Atlantic



# Effort control in Western Waters

VDS correlates well with reported vessel tracks



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# Conclusions

- Vessels Detection is a mature pre-operational technology and tested successfully in many campaigns
- New EU regulation foresees operational use of satellites where cost/benefit can be proven (e.g. high seas) from 1 January 2009
- Vessels Detection is being expanded to other sectors besides fisheries (e.g. maritime security, illegal immigration etc.)