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THE USE OF DATA FROM EARTH OBSERVATION SATELLITES IN CRIMINAL PROCEEDINGS:  
CASE STUDY ILLEGAL OIL DISCHARGES AT SEA

**Abstract**

Operational oil pollution at sea is not easily detected and proofed, unless the violation has been discovered on the spot by vessels in the neighbourhood or by airplanes, either by coincidence or as result of co-ordinated airborne surveillance. The current legal limit for this oil discharge is 15 parts of oil to one million parts of water (International Convention for the Prevention of Pollution From Ships, 1973). Those violations are mainly detected when the vessels are in the costal waters of states. However, the majority of these violations take place in the exclusive economic zones and on the high seas. Most states cannot continuously provide airborne surveillance and there are not that many successful litigations. Besides the detection of illegal behaviour, the proof of this before courts is a challenging exercise. The use of satellite data as evidence of facts in legal disputes is already accepted. Most of the cases brought before international and national courts deal with static disputes: land claims, boundary disputes, . . . delivering supporting information (Qatar v. Bahrain (1994 ICJ 112) and Benin v. Nigeria (2005 ICJ 50)). From a temporal and geographical perspective satellite images can provide evidence that cannot be delivered by aerial surveillance. Concerning oil pollution from ships, Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements tasks the European Maritime Safety Agency to work with Member States in developing technical solutions and providing technical assistance in actions such as tracing illegal oil discharges by satellite monitoring and surveillance. Therefore CleanSeaNet was established. This is an EU wide operational system for oil slick detection based on Synthetic Aperture Radar images from satellites. CleanSeaNet services detect over 2,100 possible oil spills a year in the areas under jurisdiction of the Member States. In 2013, Sentinel-1 will be launched. It will be the first mission dedicated to provide earth observation data for the Global Monitoring for Environment and Security. GMES is an initiative of the European Commission and includes a marine project that deals with oil spill prevention. So far there are no international rules on the use and acceptability of remote sensing data as sole or supporting evidence in criminal proceedings. This is all decided at national level. This paper aims at examining the nature of available earth observation data and their characteristics as evidence in legal proceedings. The research will focus on the case of illegal oil discharge at sea.