New research has examined three different categories of Ecological Risk Assessment (ERA), each with different goals. The researchers find that overlaps between the three assessments could be combined to create a more comprehensive form of ERA, usable by regulators and environmental decision makers.

Satellite images could be used as evidence in environmental crime cases in the future, a Belgian judge and researcher predicts. However, there are several obstacles to their use at present. Notably, they do not provide sufficiently detailed evidence for the courtroom.

The author discusses the use of satellite images as evidence for environmental crime in Europe in a 2012 book. She draws on Belgian experiences, but suggests that these have wider relevance, partly because the European Convention on Human Rights standardises certain aspects of evidence across Europe, but also due to a common denominator in EU and Belgian law, namely the use of a ‘two-track model’ of criminal and administrative sanctions to penalise environmental offences.

Satellite images already play an important role in monitoring compliance with some environmental laws, and provide alerts for regulators to investigate potential breaches further. However, to the researcher’s knowledge, not one sentence has been passed in Belgium where satellite images provided proof of an environmental crime.

This is partly due to technological reasons. For example, in Belgium satellite images are used to detect pollution spills from ships. However, they do not show which vessel is responsible for a spill (ships appear as white dots), nor do they clearly distinguish between natural phenomena and pollution discharges, and so often raise false alarms. The images alone are therefore not enough to prosecute. Instead, they prompt investigators to verify a spill by conducting aerial surveillance flights or inspections of the suspected vessel (identified by cross-referencing the images with data on known movements of ships).

Nonetheless, thanks to technological improvements, satellite images may well be used as criminal evidence in environmental cases in the medium term, the researcher posits. However, the standards and procedures of law enforcement currently present ‘major obstacles’ to their use in court.

To determine whether air, water or soil emission standards have been breached, for instance, precise details are needed. These may include specific chemicals, units (e.g. micrograms of a pollutant per litre) and levels (e.g. calculated average levels of emissions). Satellite images cannot give these details and so will never make it to the courtroom as evidence that such standards have been violated, the researcher writes.
Satellite images as evidence in court: legal obstacles to their use in environmental investigations

(continued)

Furthermore, satellite images may not comply with regulations governing ‘proactive investigations’. These are investigations which gather data on crimes that are yet to be committed, or which may have been committed but not yet detected. They are generally prohibited in Belgium, but can be used in some exceptions, for example, if a criminal organisation commits the act, or in the case of specific offences that are legally permitted to be investigated this way.

As an example, Belgium’s Privacy Commission decided that the use of satellite images to detect potential breaches of planning law counts as proactive investigation, and is therefore prohibited in principle.

Satellite images must comply with privacy law (Belgium’s is implemented under the EU Data Protection Directive) if used in non-proactive investigation. For example, their detail must be no greater than needed for the specific objective of the case, they should not be kept longer than necessary and they must be destroyed once they have no further use. However, they pose no legal problem if they are used to deter crimes or to trigger remedial administrative sanctions. Satellite images would also be permissible in proactive investigations into environmental crimes conducted by criminal organisations, such as illegal waste trafficking.