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SDQ 2018: INTERNATIONAL WORKSHOP ON SPATIAL DATA QUALITY.

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“Quality of spatial data in court proceedings”

I. Introduction

II. Environmental Issues

III. Internal procedural Laws. Spanish Example.

IV. The “ECJ Case C-390/07”.

V. the International Criminal Court

VI. Conclusions



I. Introduction

Data accuracy: latest technological trends. Importance to assure best technical method. Satellite imagery as court evidence.

Cases: Human rights. Current situation. Lack of international control. Defenseless civil population. Inaccessible areas from a geographic perspective

Environment. International Union for the Conservation of Nature. 25% Marine Mammals Risk of Extinction. 40% marine mammal species still UNKNOWN due to lack of satellite data. Effects of Ocean Acidification on Marine Ecosystems.



II. Environmental Issues. Marine Strategy Framework Directive. 2008/56/EC

Obliges Member States to reach a **Good Environmental Status** (GES) of the EU's marine waters by 2020 at the latest (Article 1).

protect and preserve the marine environment,
prevent its deterioration or restore marine ecosystems
prevent and reduce inputs in the marine environment to ensure that there are no significant impacts on or risks to marine biodiversity, marine ecosystems, human health or legitimate uses of the sea.

Affects all marine waters and coastal waters, the seabed and subsoil on the seaward side of the baseline from which the extent of territorial waters is measured extending to the outmost reach of the area where a Member State has and/or exercises jurisdictional rights,



II. Marine Strategy Framework Directive. Annex III example

Physical and chemical features	<ul style="list-style-type: none">— Topography and bathymetry of the seabed,— annual and seasonal temperature regime and ice cover, current velocity, upwelling, wave exposure, mixing characteristics, turbidity, residence time,— spatial and temporal distribution of salinity,— spatial and temporal distribution of nutrients (DIN, TN, DIP, TP, TOC) and oxygen,— pH, pCO₂ profiles or equivalent information used to measure marine acidification.
Systematic and/or intentional release of substances	<ul style="list-style-type: none">— Introduction of other substances, whether solid, liquid or gas, in marine waters, resulting from their systematic and/or intentional release into the marine environment, as permitted in accordance with other Community legislation and/or international conventions.
Nutrient and organic matter enrichment	<ul style="list-style-type: none">— Inputs of fertilisers and other nitrogen — and phosphorus-rich substances (e.g. from point and diffuse sources, including agriculture, aquaculture, atmospheric deposition),— inputs of organic matter (e.g. sewers, mariculture, riverine inputs).
Biological disturbance	<ul style="list-style-type: none">— Introduction of microbial pathogens,— introduction of non-indigenous species and translocations,— selective extraction of species, including incidental non-target catches (e.g. by commercial and recreational fishing).



II. Environment Spatial Data. Maritime Spatial Planning Directive *Directive 2014/89/EU establishing a framework for maritime spatial planning*

Definition: “Process of allocating or developing a public allocation plan to distribute, spatially or temporally human activities in marine areas”.

*More Facts: Ocean Life Every DAY 23 million tons of cargo and 55,000 cruise passengers are traveling by ship every day (IMO, 2015)
90% world's trade is carried by sea average yearly growth over 8.5%
UNESCO public plan for allocating the spatial and temporal distribution of human activities in marine areas*

Moral issues: Preference shall be provided to: permanent marine nature reserves switching to renewable energy collected in power plants located offshore



II. Environment. Maritime Spatial Planning Directive (cont)

Allocation of activities involving the Seas of Europe. 2021: Deadline for the establishment of maritime spatial plans

Advantages: Reduce conflicts between sectors / Encourage investment

- Increase cross-border cooperation – between EU countries to develop energy grids, shipping lanes, pipelines, submarine cables and other activities, but also to develop coherent networks of protected areas.*
- Protect the environment – through early identification of impact and opportunities for multiple use of space.*
 - Article 4 - 2. Member States shall take into account land-sea interactions “problems like discontinuity between land and marine cadastre, standards, technical and legal institutional aspects”.*



II. Maritime Spatial Planning Directive (cont)

MSP: Marine Spatial Plans. Activities, Uses and Interests. Article 8.

- aquaculture areas,
- fishing areas,
- installations and infrastructures for the exploration, exploitation and extraction of oil, of gas and other energy resources, of minerals and aggregates, and for the production of energy from renewable sources,
 - maritime transport routes and traffic flows,
 - military training areas,
- nature and species conservation sites and protected areas,
 - raw material extraction areas,
 - scientific research,
- submarine cable and pipeline routes,
 - tourism,
- underwater cultural heritage

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III. Internal Procedure Laws. Example of Spain's Procedure Law

Article 299 Civil Law 1/2000. Procedure. Evidence may consist of:
public documents, private documents and experts' opinion

Satellite imagery / Spatial Data: if embedded into a public
document. Example. Catalonia Cartographic Institute

Featured in a private document. Provided by a litigating party

Expert's opinion. Example. Marine Biologist



III. Internal Procedure Laws. Example of Spain's Procedure Law

Article 299 paragraph 2 of the Spanish Law on Civil Procedure,

“images shall also be admitted as shall any instruments that allow words, data and mathematical operations carried out for accounting purposes or any other purposes, which are relevant to the proceedings, to be saved, known or reproduced”.



III. Internal Procedure Laws. Example of Spain's Procedure Law

ADMINISTRATIVE JURISPRUDENCE

Court Decision of November 2, 2004 rendered by the Third Chamber (Administrative) of the Spanish Supreme Court, Appeal Number 3085/2002. Landsat Imagery. “remote sensing imagery shall be harmonized and studied jointly with the rest of the evidence in order to render the most accurate decision”.



III. Internal Procedure Laws. Example of Spain's Procedure Law

ADMINISTRATIVE JURISPRUDENCE II

Decision rendered by the Third Chamber (Administrative) of the Spanish Supreme Court of May 30, 2012. Appeal Number 6539/2008. “Landsat imagery as evidences. The value of the expert's opinion, as far as satellite imagery as evidence related to the proceedings. The Spanish Supreme Court stated in this judgment that remote sensing should be understood as the possibility to recognize, identify and study all terrestrial objects throughout the analysis of the reflected energy or waves emitted by such objects”.



IV. European Court of Justice. Case C-390/07. European Commission v United Kingdom of Great Britain and Northern Ireland

European Commission delivered remote sensing data following “Compact Aerial Spectrographic Image protocols” was aimed to reveal the whether macroalgae growth was conditioned by Ulva and Enteromorpha biodiversity. Such protocols were carried by the Environment Agency, and disclosed an excessive presence of algae in the Humber Estuary. The ECJ referred to the reliability of remote sensing imagery in its Decision.

Reasons of opposition were based on the lack of probatory value, not from the authenticity, but from the resolution as far as other type of living organisms is concerned, such as benthic diatoms, as stated by paragraph 91 of the ECJ Decision in Case C-390/07.



V. International Criminal Court

Rules of procedure regarding satellite imagery and data.

Chapter 4 Section I, Rule 63. “a Chamber shall have the authority... to assess freely all evidence submitted in order to determine its relevance or admissibility”

Cases (war crimes) where satellite imagery has been used as evidence:

Case 1. Abyei region also might have helped to prove the deaths of 211 civilians in South Sudan at the hands of paramilitary groups from North Sudan. Hussain is wanted by the ICCt for alleged crimes committed in Darfur from August 2003 to March 2004.

Case 2. Case No.: ICC-01/11 Date: 16 May 2011. Situation in the Libyan Arab Jamahiriya. The cover up has also included dozens of attacks on the press since the start of the popular demonstrations with at least four casualties, 49 journalists detained and assaulted. In addition there have been two attacks on news facilities



VI. Conclusions

Marine environment. Copernicus Program. Parameters. Biochemistry Salinity. Temperature. Current tide. Ice sheet. Admissibility encouraged. Internal Procedure Rules.

More “accurate” equals more effectiveness as evidence if accompanied with a solid report. Authenticity is not questioned. Only lack of probatory effect

National Courts / ECJ / ICC widely accepted

Cases: Environment, Insurance, Human Rights, EU Compliance, Waters, Land

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Thank you!

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