Visual Impact Assessment of windfarms over large offshore areas

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MOTIVATION

1- The opportunity to work in an interesting project inside the research group EgiCAD and funded by SODERCAN. (The project, called AMBEMAR, also involves IH Cantabria and EcoHydros company).

2- Future career opportunities in research and innovation (both inside and outside the University)

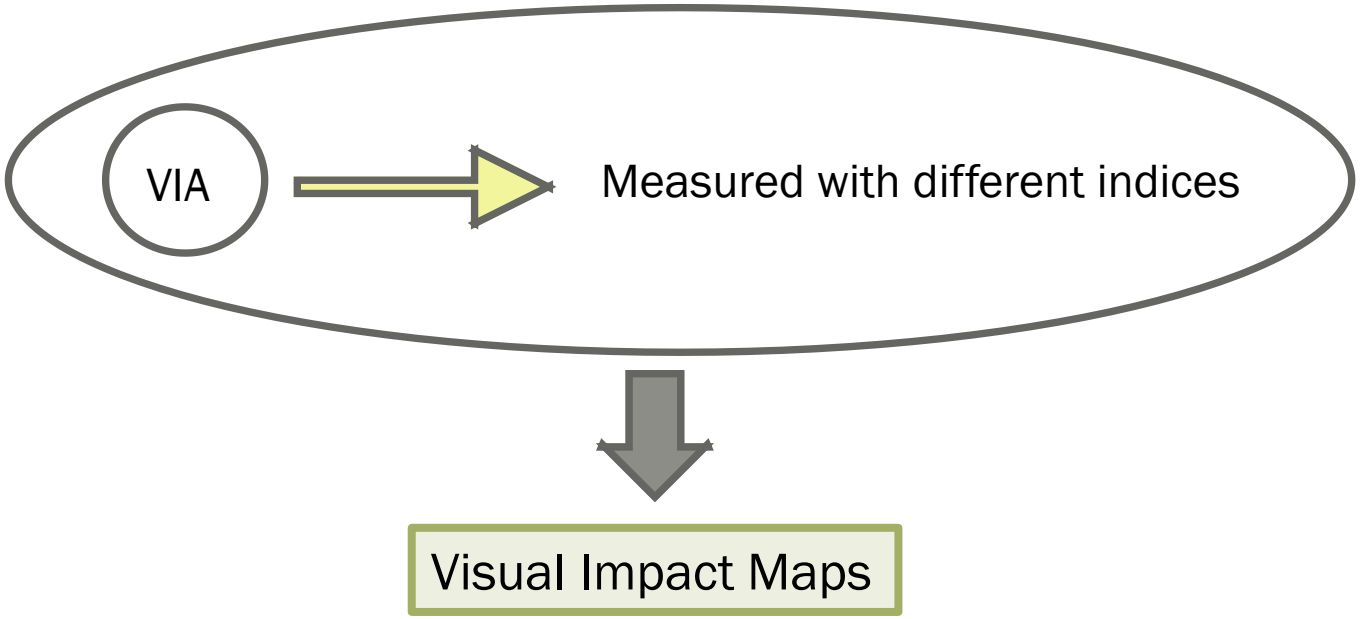
3- To get personal capabilities that a PHD offers (critical analysis, develop new knowledge)

4- Personal interest in deeper analysis of my current research field.

VISUAL IMPACT ASSESMENT (VIA)

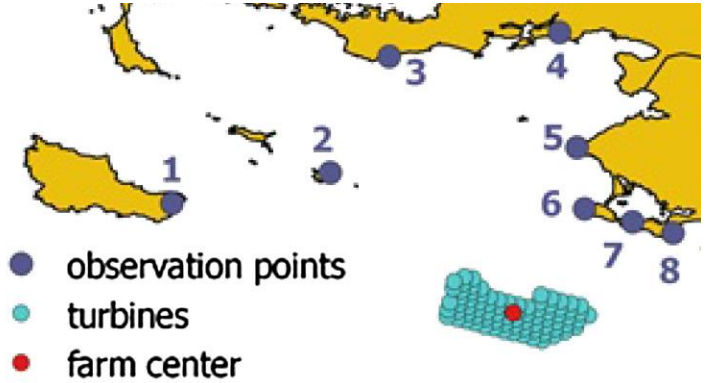
Applied to Offshore windfarms

- VIA: considers potential changes that arise to available views in a landscape from a development proposal, the resultant effects on visual amenity and people's responses to the changes.



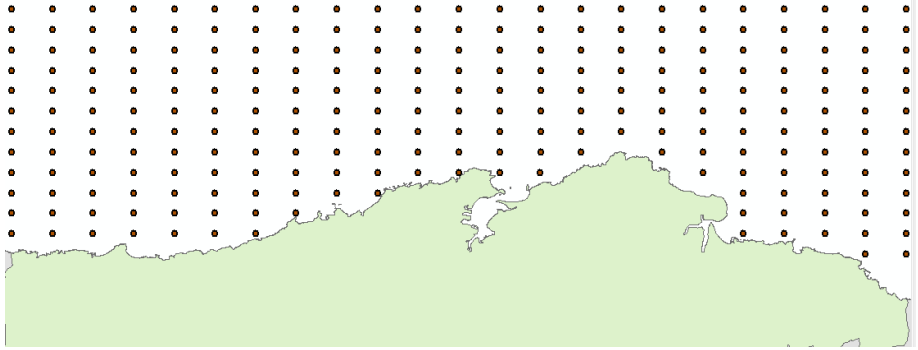
VISUAL IMPACT ASSESMENT (VIA)

Typical analysis → - Impact value in a set of selected points onshore for a fixed windfarm.



Ref: Maslov, N. et al. Method to estimate the visual impact of an offshore wind farm (2017)

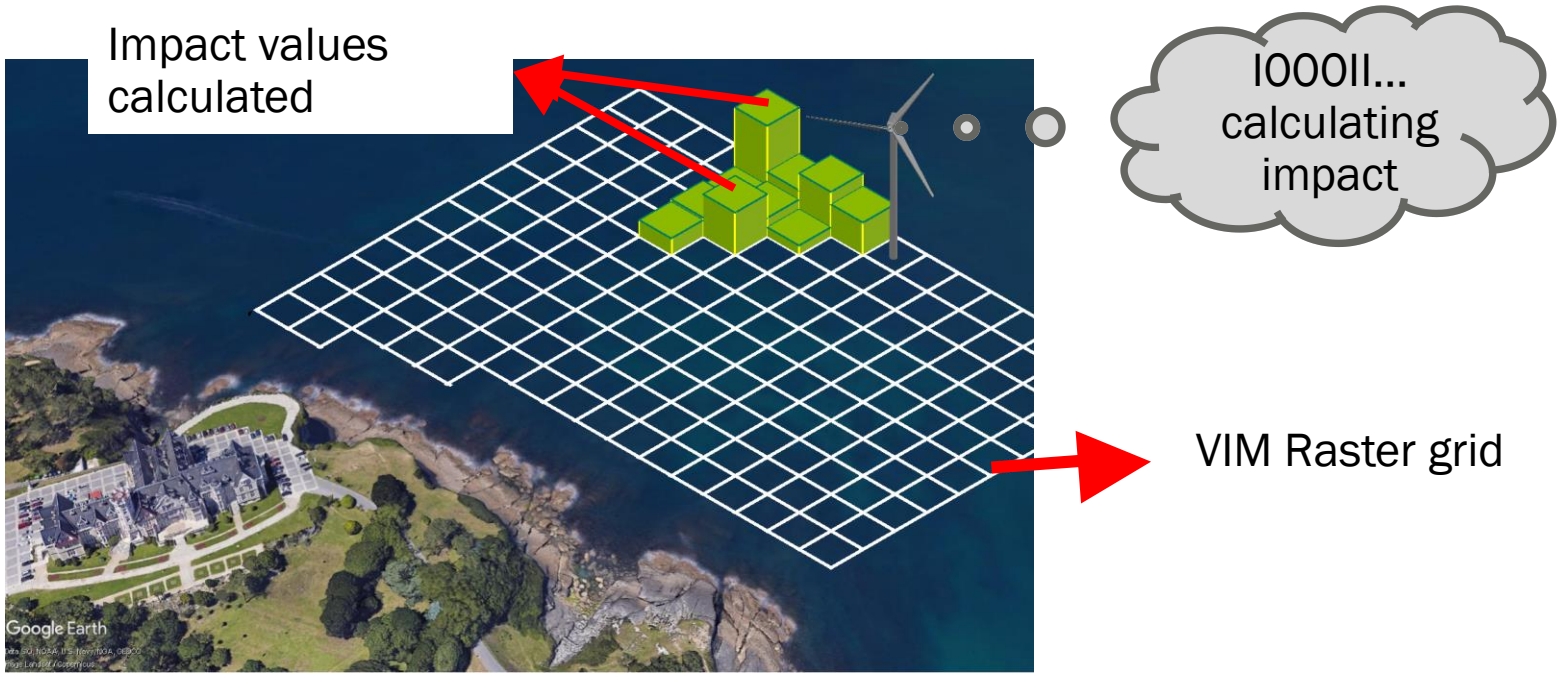
Methodology proposed → - Impact value in the coast for all possible offshore locations of a windfarm.



Visual Impact Maps (VIMs)

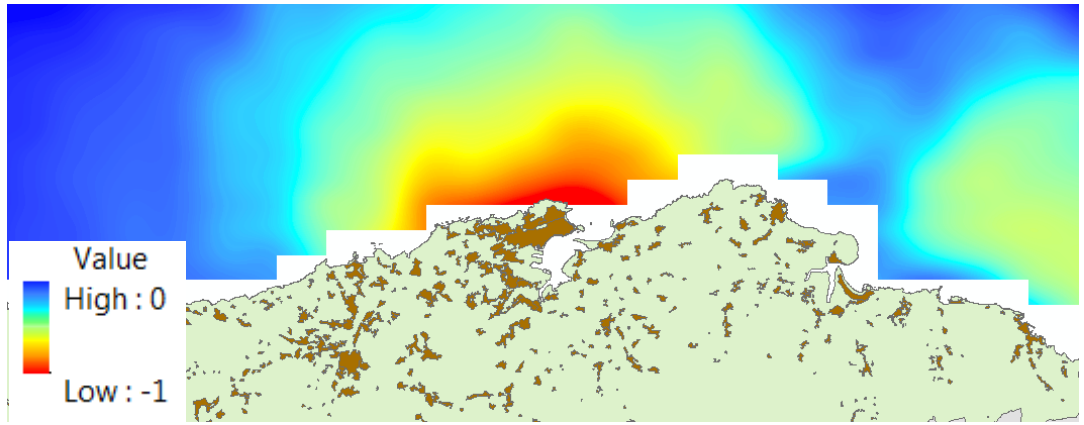
What are they?

They provide the impact value for every position in the study area and therefore they give the optimal place for locating a facility from the point of view of visibility

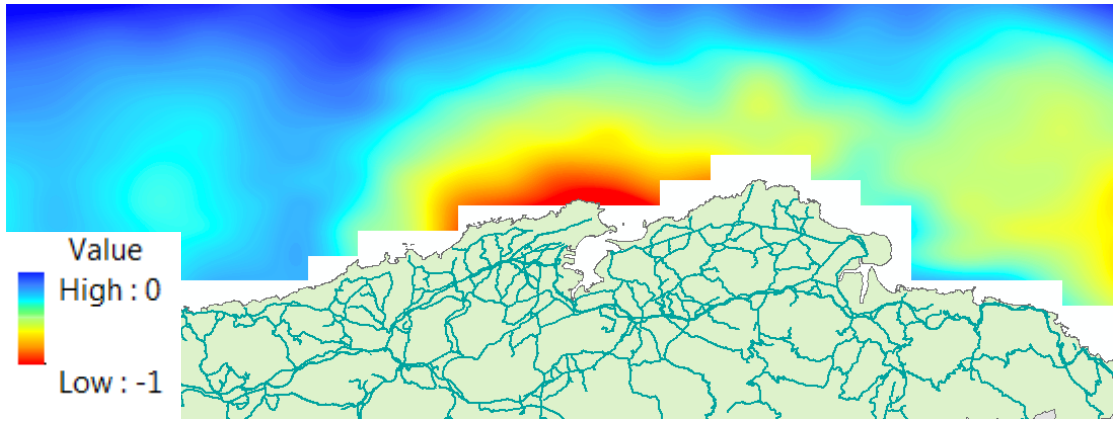


Some VIMs

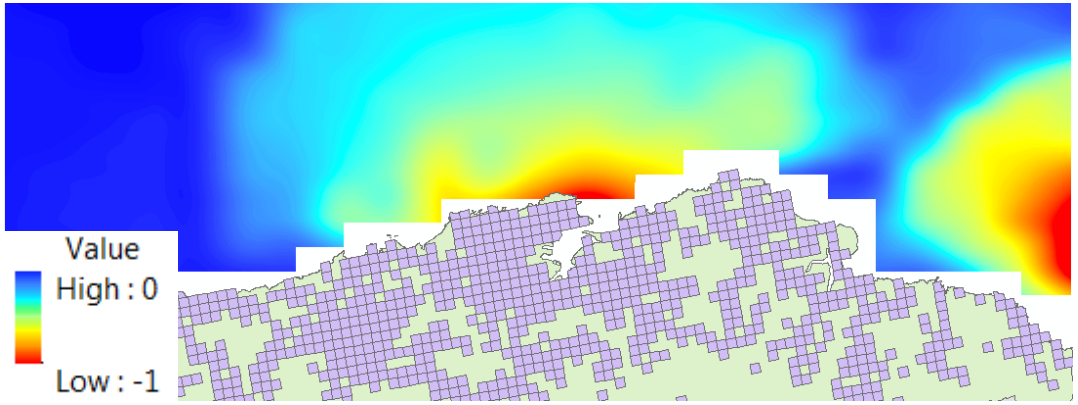
Area of Nuclei affected



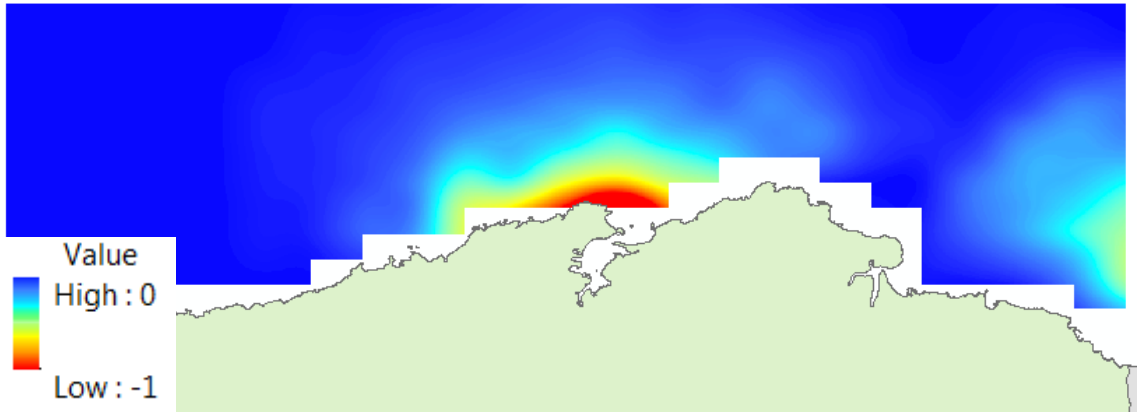
Length of roads with visibility



Population affected



MVE index (Population * Area Nuclei * Length of road)



FIRST RESEARCH PLAN

1.- Science: State of art.

2.- Technology: Study of different software and programming languages (ArcGis, Civil 3D, GIMP, Revit -- Python, Visual Basic, SQL)

3.- Activities: Basic multidisciplinary training by EDUC, some activites for the advance course and English classes.

4- Results: A paper is being written to send it to a JCR Q1 journal.
Attendance to International Conference (JCM2018 peer reviewed).

<u>Research progress:</u>

- Analysis of the indices used and how to apply them to offshore windfarms.
- To develop a new application for calculation of VIMs.
- Verification of Interpolation method for every index
- Representation of VIMs

THANKS YOU FOR YOUR ATTENTION