

Zonas tranquilas en Europa

Propuesta de índice y resultados

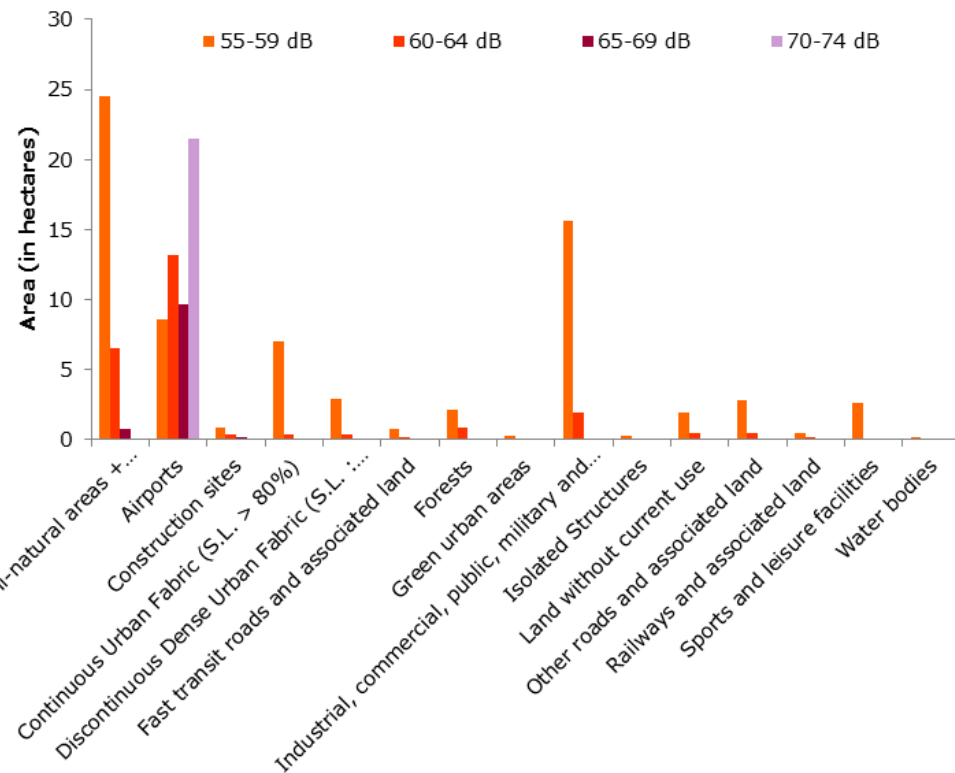
SGR Interfase – Departamento de Geografía

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José Ramos, Miquel Sáinz de la Maza

El ruido como concepto espacial

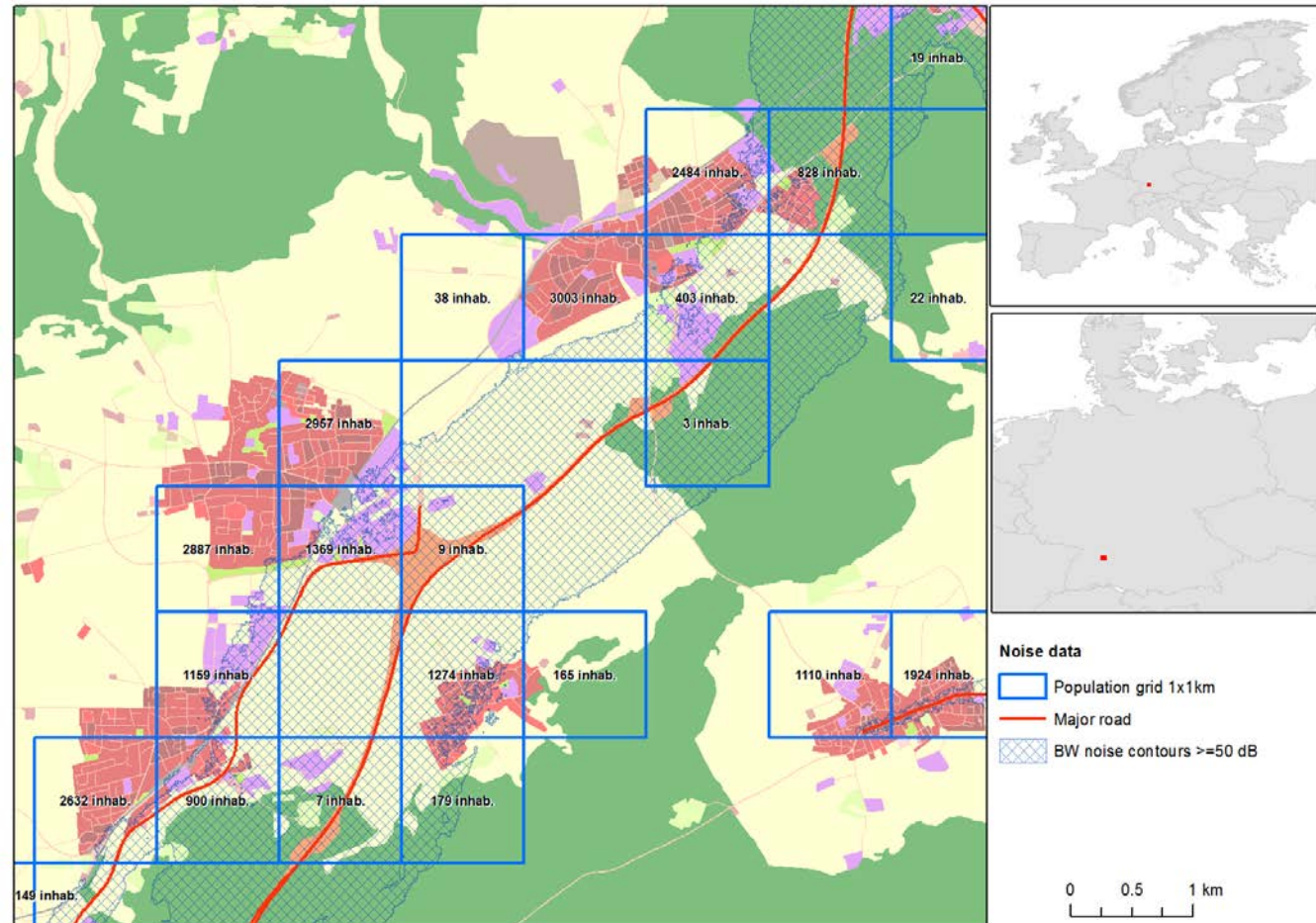
- Análisis SIG desarrollados
- Indicadores
 - Índice potencial de áreas tranquilas

Usos del suelo e isófonas



Fuente: Noise in Europe, EEA 2014

Población residencial e isófonas



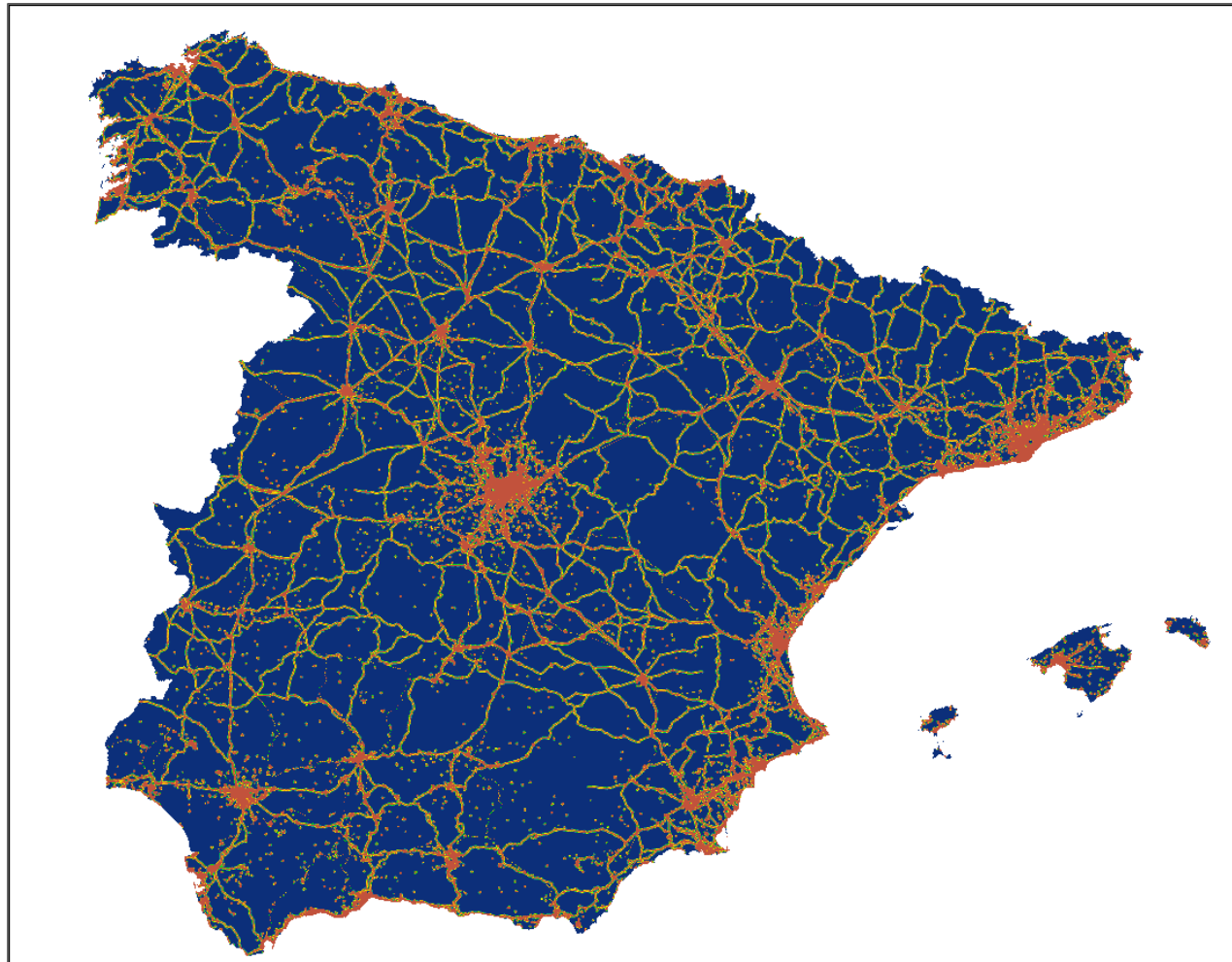
Fuente: UAB, 2015

Análisis de distancias

COUNTRY	Major road distances		Major rail distances	
	<i>Maximum</i>	<i>Mean</i>	<i>Maximum</i>	<i>Mean</i>
Switzerland	1310	140	1000	262
Germany	1082	459	447	103
Spain	1400	290	200	59
Ireland	1005	386	632	59
Lithuania	1393	269	876	115
Luxembourg	1105	347	361	87
Malta	640	132	No major railways > 30000 train passages	
Norway	728	107	707	254
Poland	1487	171	539	107
Sweden	1044	272	1200	312
EEA mean	1119	257	662	151

Noise source	Suitable values	Not suitable values
<i>Major roads</i>	> 1119	< 257
<i>Major railways</i>	> 662	< 151
<i>Major airports</i>	1) Area outside 55dB L _{den} contours 2) > 1500 m for major airports > 900 m for the rest of airports	1) Areas inside 55 dB L _{den} contours 2) < 1500 m for major airports < 900 m for the rest of airports
<i>Industrial sites</i>	> 1100 m	< 500 m
<i>Urban areas</i>	> 1500 m	< 1000 m

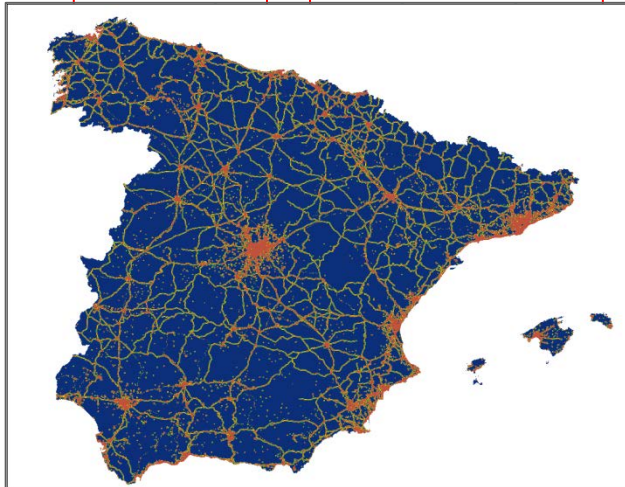
Análisis de distancias - España



Fuente: UAB, 2015

Indicadores: esquema metodológico QSI

Análisis cuantitativo



Combined threshold
distances for
potential quietness
(0-1)

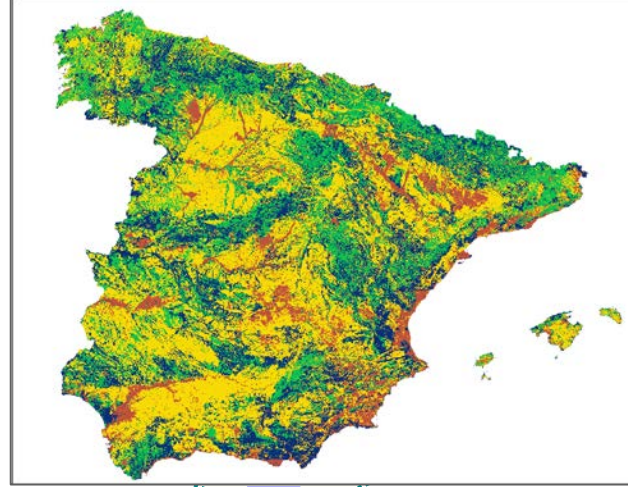
X

Degree of
naturalness
(0-1)



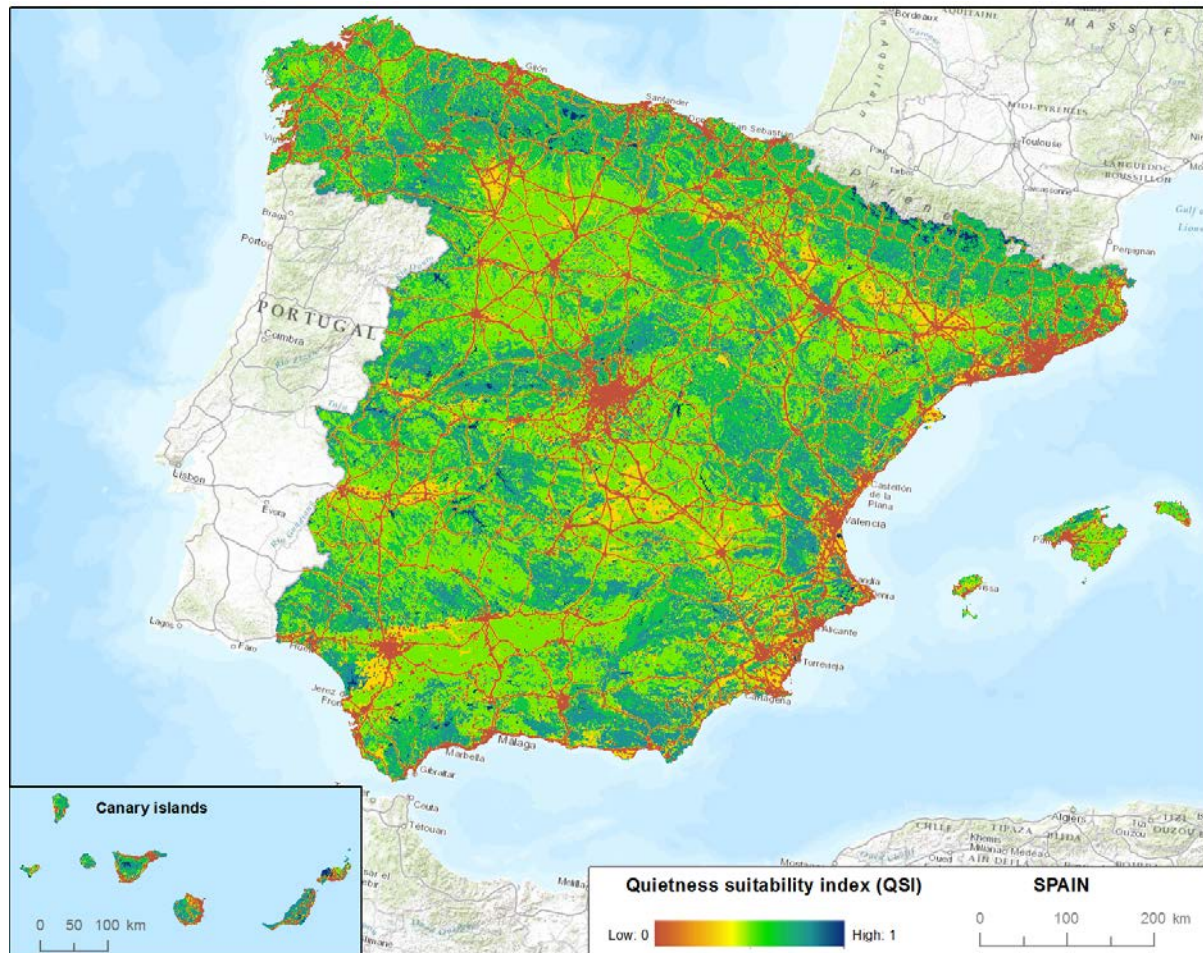
Fuente: ETC/SIA, 2013 & ETC/ACM, 2015

Análisis cualitativo



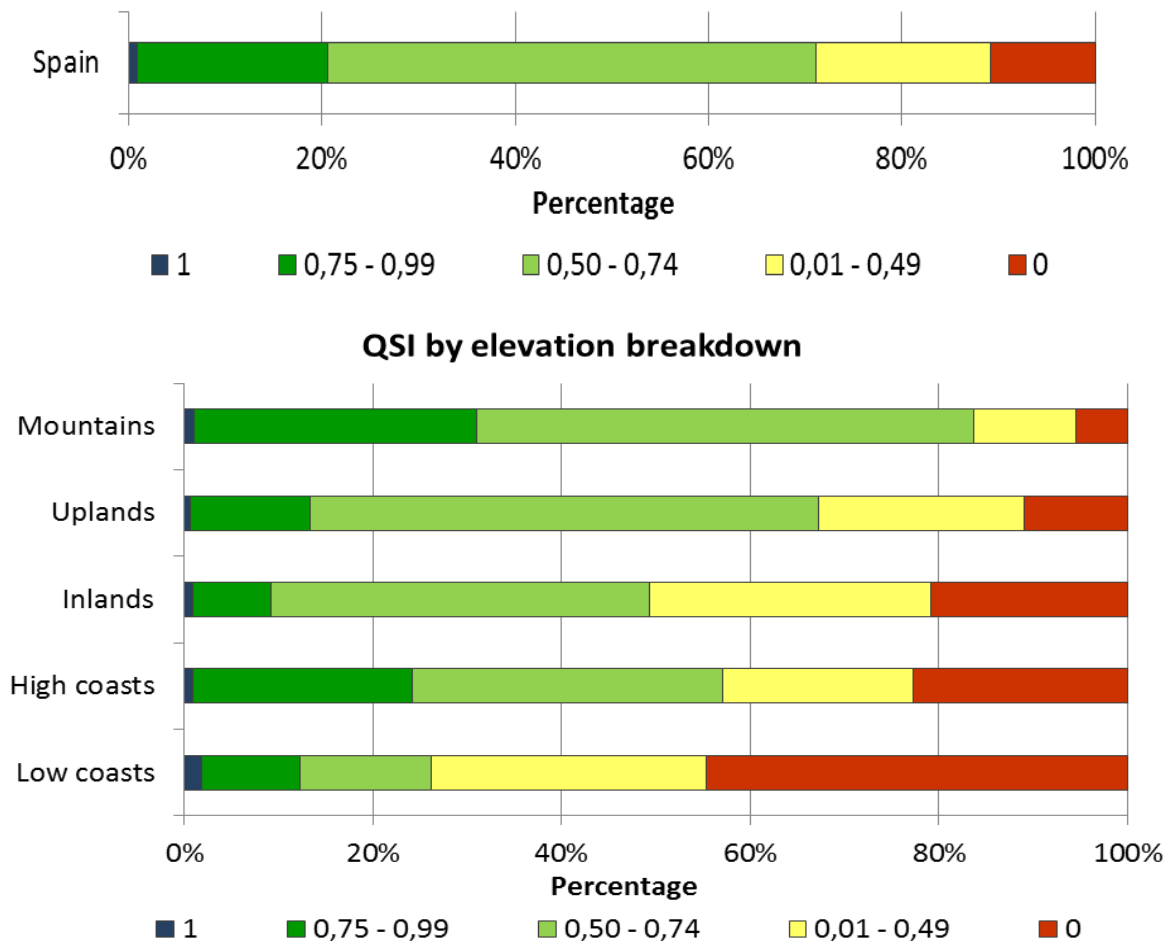
**QUIETNESS
SUITABILITY INDEX
(0 - 1)**

Índice potencial de áreas tranquilas

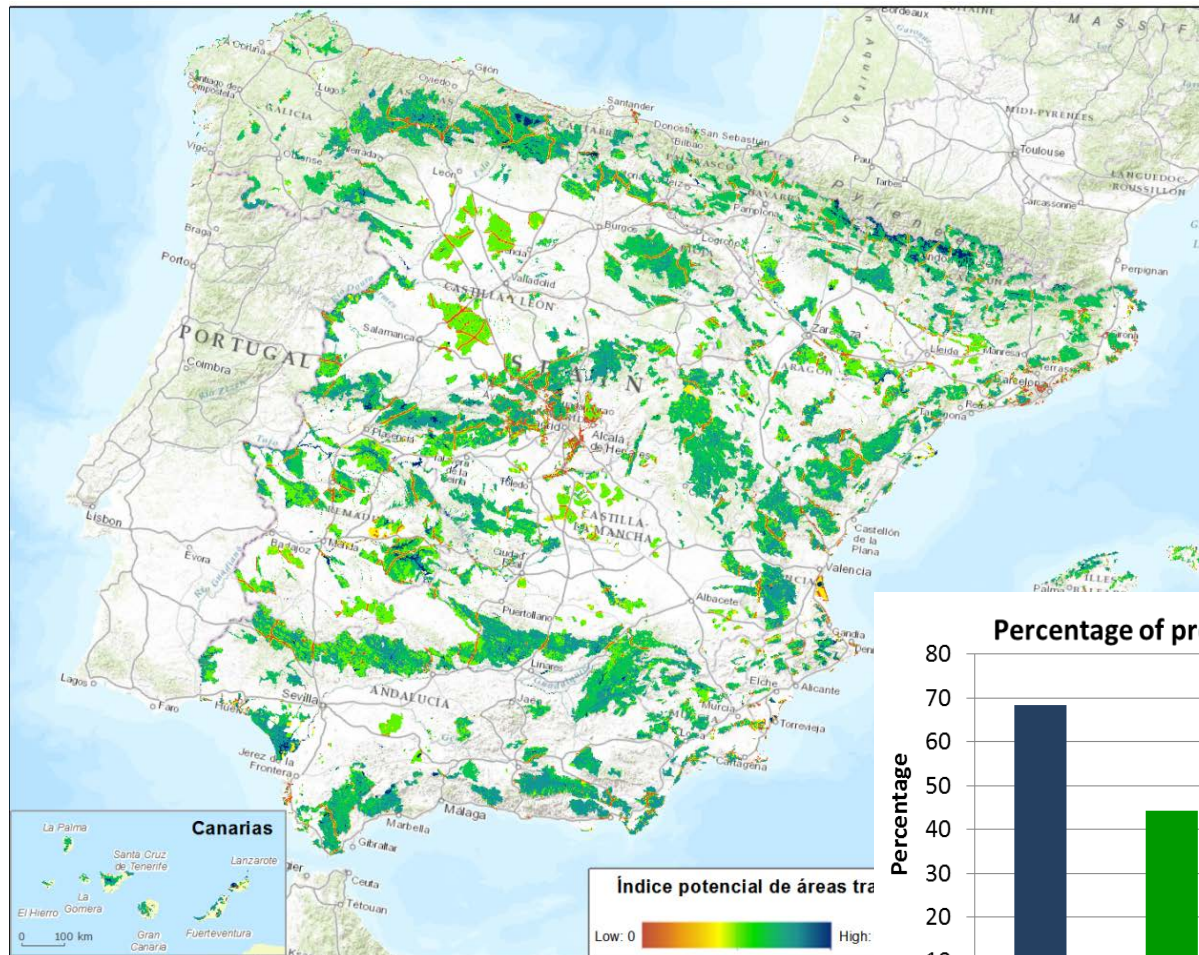


Fuente: UAB, 2015

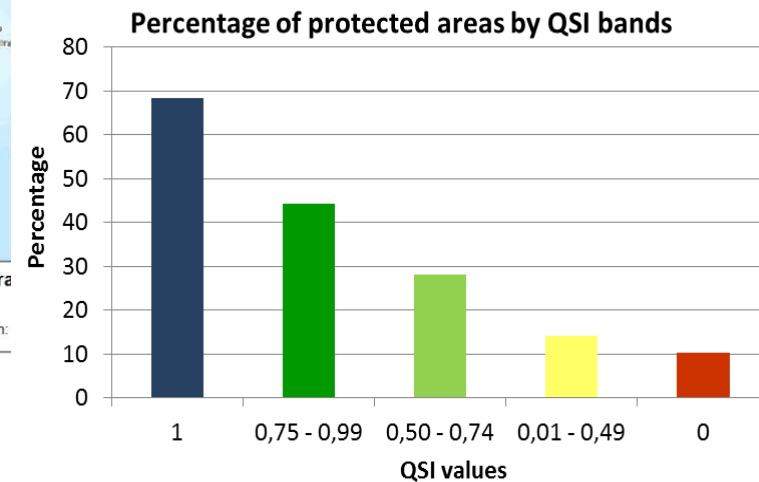
Resultados principales - España



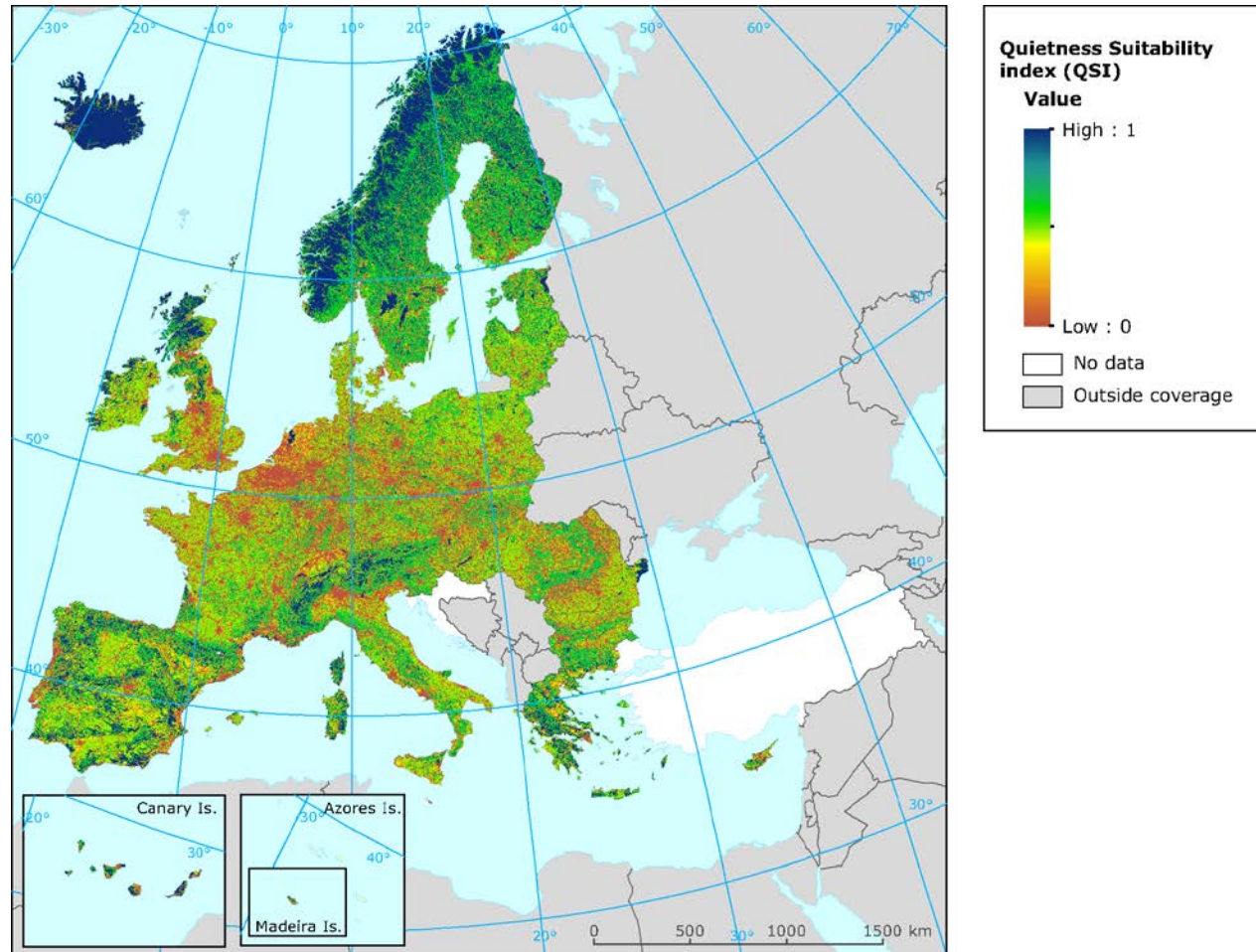
Áreas Natura 2000 y QSI



Fuente: UAB, 2015

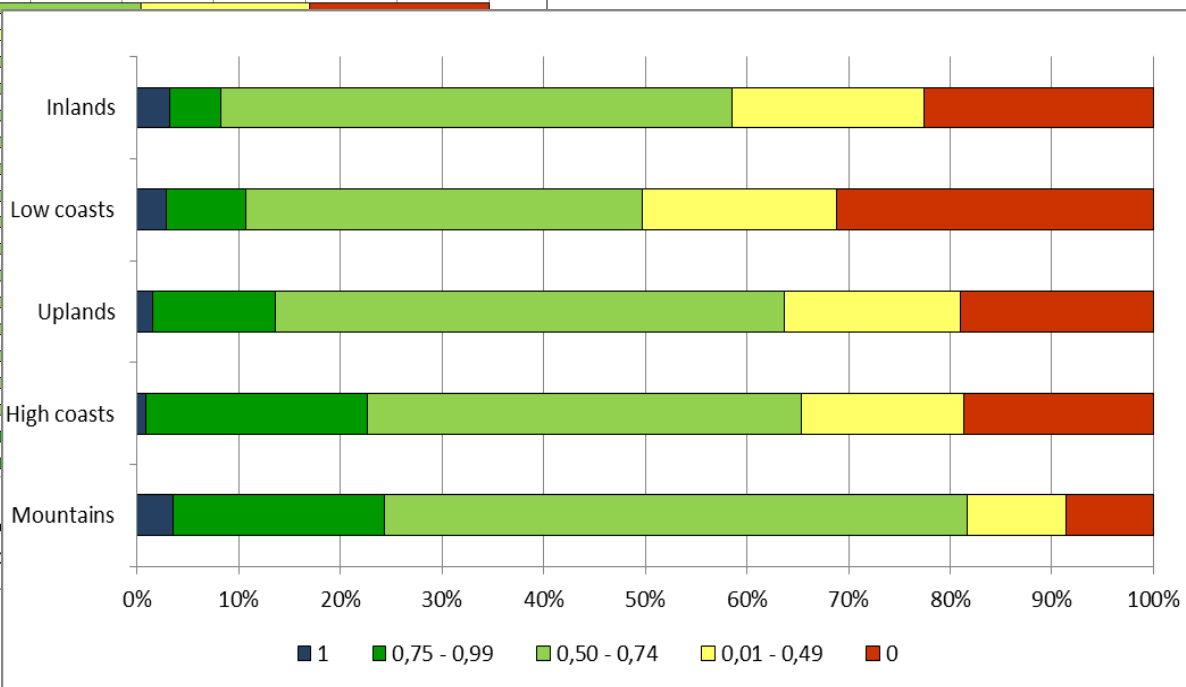
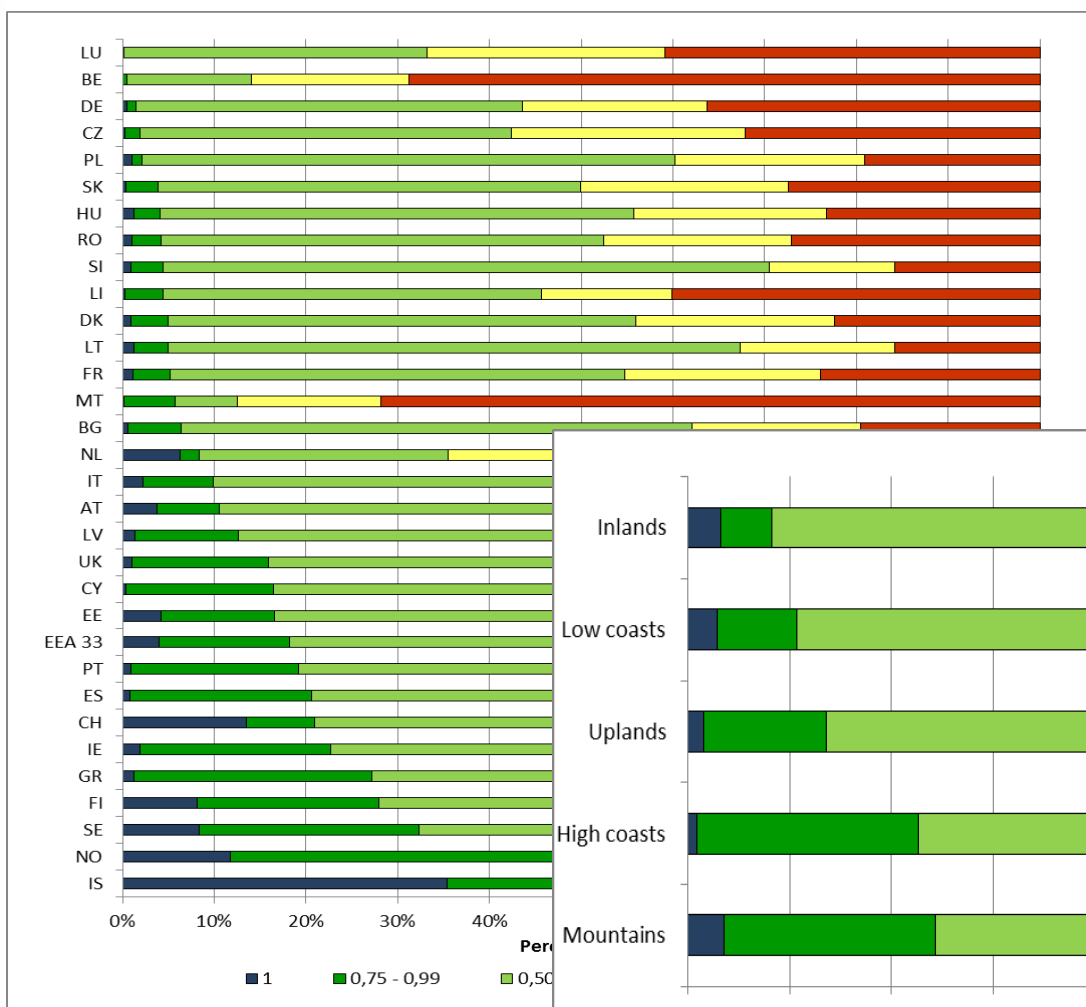


A nivel Europeo (EEA 33)



Fuente: UAB, 2015

Resultados principales – EEA 33



Cálculo de accesibilidad

Problem definition: accessibility to quiet areas around urban agglomerations UMZ
> = 50.000 inhabitants

Data preparation for accessibility calculation

Building road network in ArcGIS

Assigning attributes by road type

Road type	Speed (km/h)
Motorway	120
Primary Route	100
Secondary Route	80
Local Road	50

Selection of urban agglomerations > 50 000 inhabit.

Analysis of accessibility areas

Creation of a service area analysis layer at country level from the road network with the following analysis parameters:

- Impedance (Cost attribute in minutes).
- Default Breaks (15, 30, 45, 60 minutes).
- Generate polygons.

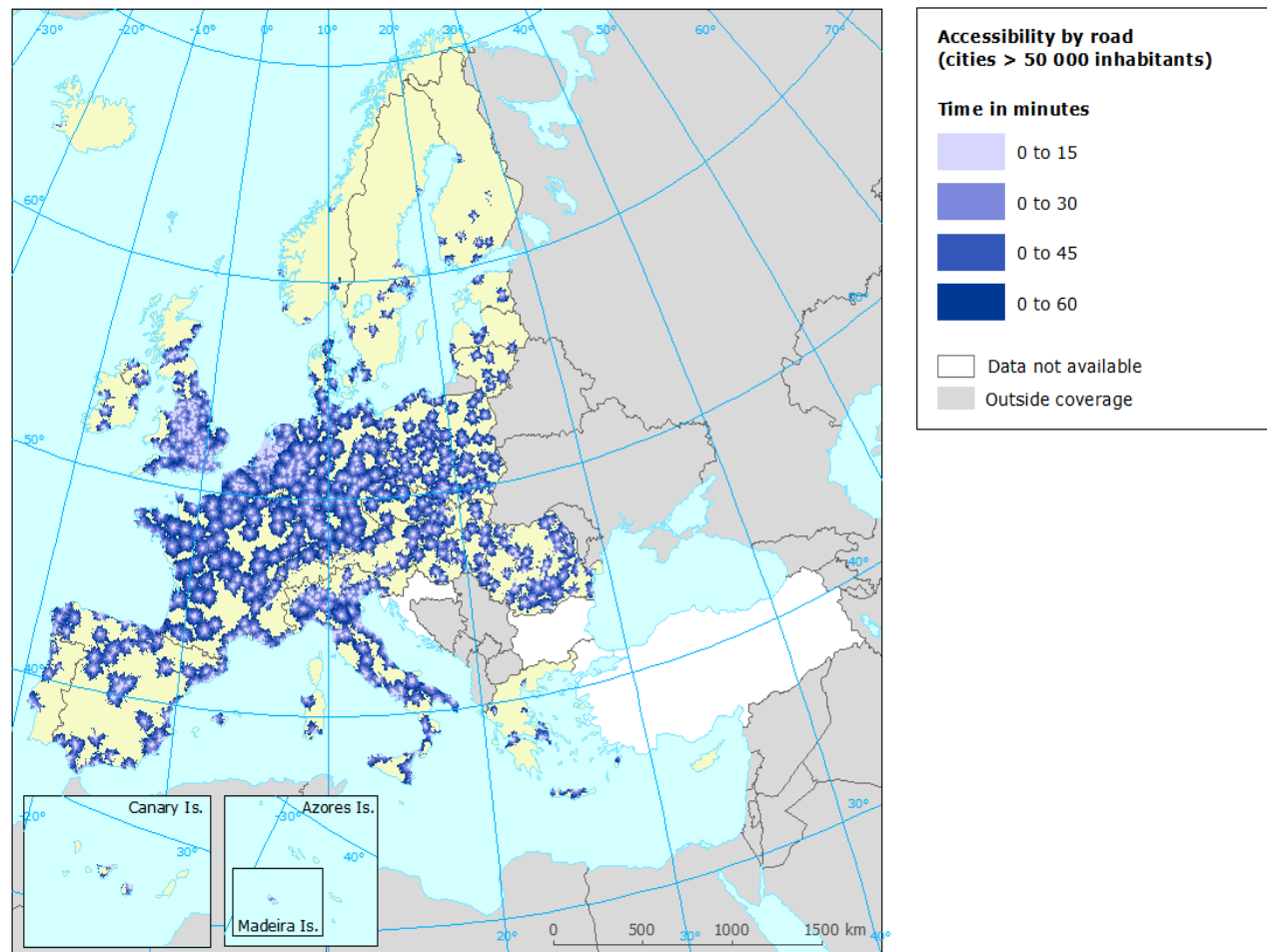
Dissolve polygons by service area

Aggregation of all the accessibility polygons by country

Spatial analysis with QSI index layer

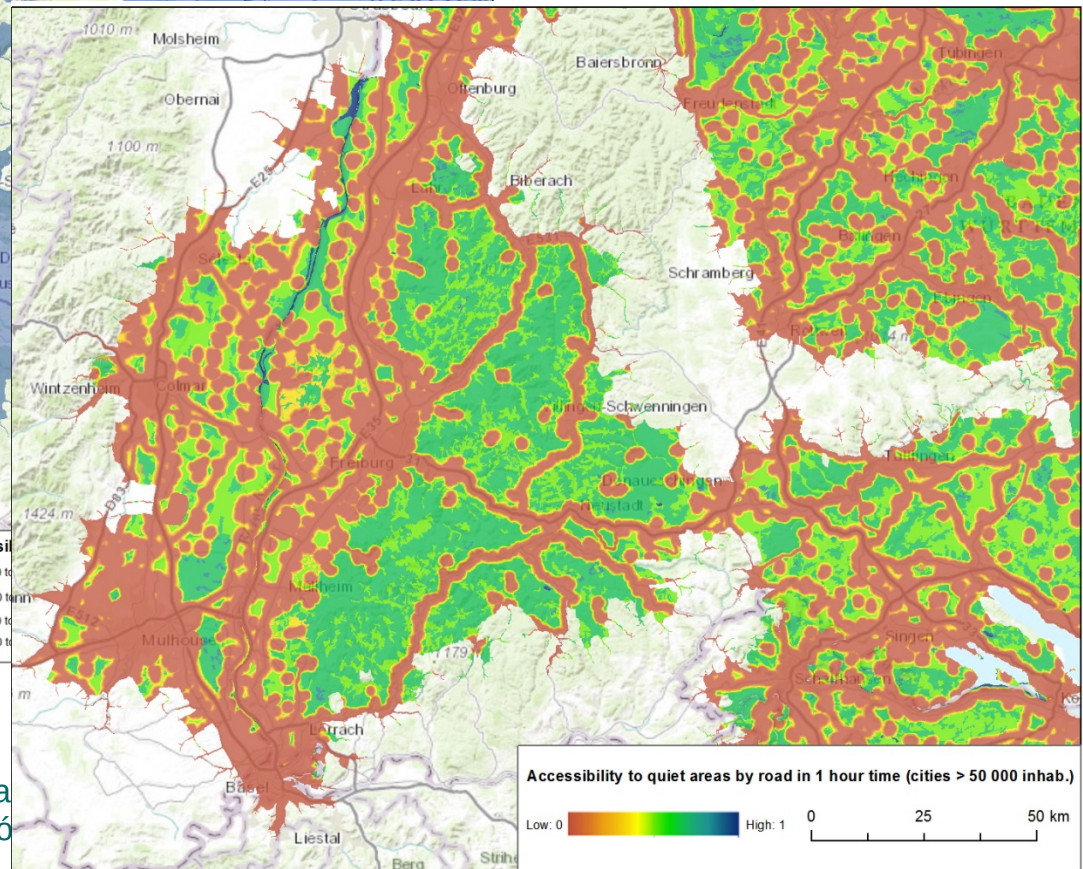
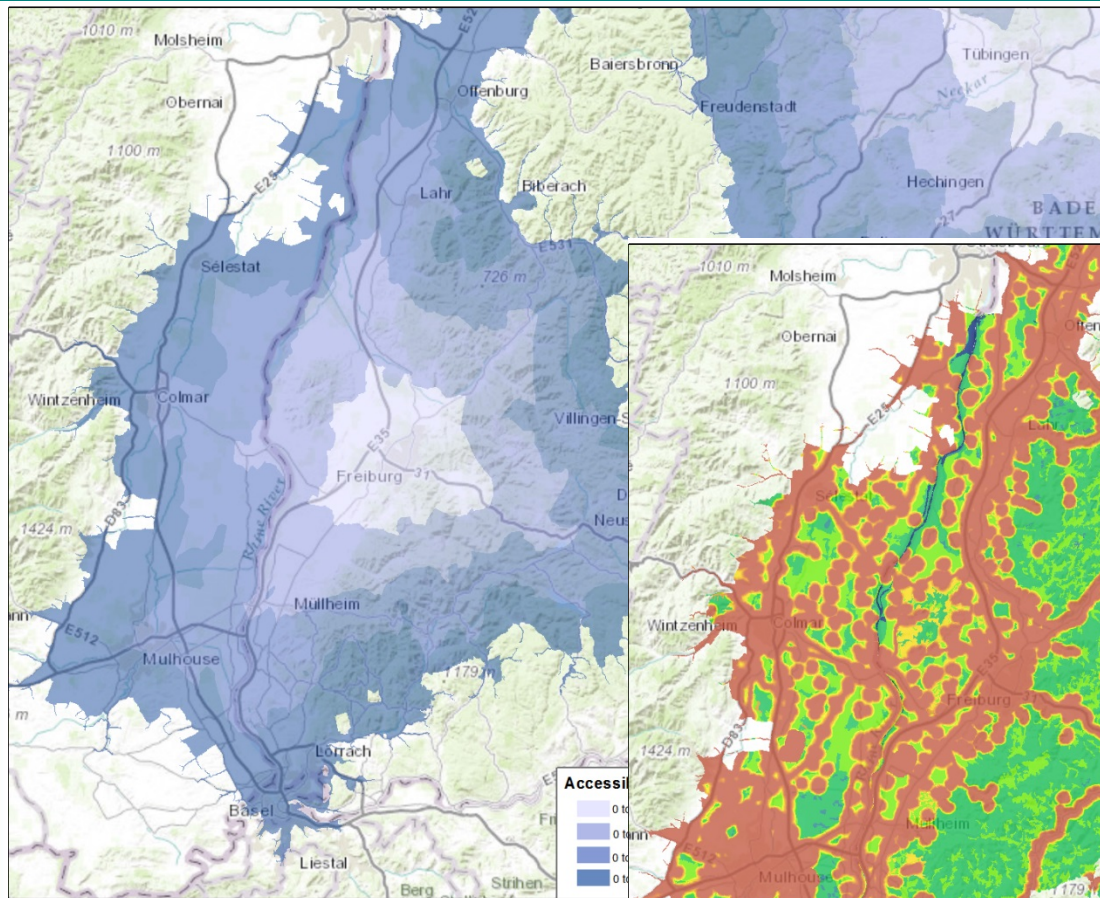
Statistics of accessibility index by country

Resultados

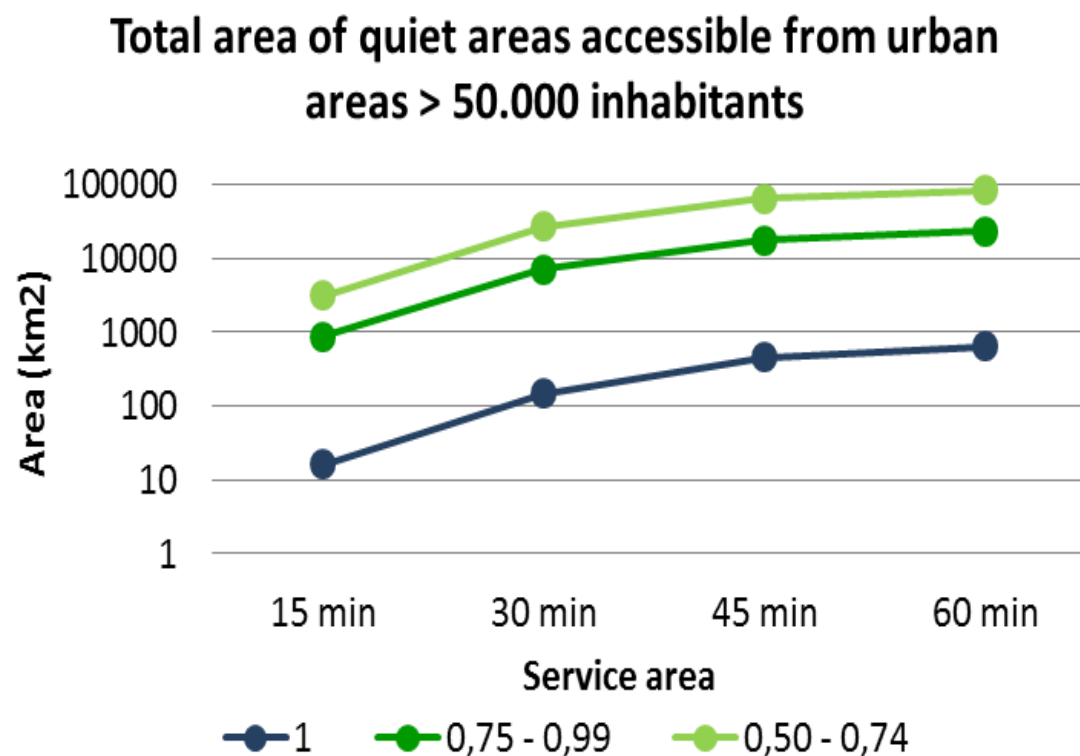


Fuente: UAB, 2015

Índice QSI en las áreas accesibles



Resultados de accesibilidad y QSI



En un futuro...

- **QSI**
 - Utilización de un índice de paisaje a nivel de Europa para mejorar la reclasificación Hemeroby
 - Utilización de una capa de carreteras con datos reales de tráfico
- **Análisis espacial con isófonas**
 - Utilización de las isófonas para estimar la exposición al ruido en todo el territorio europeo (no solamente las áreas END)



Preguntas? Comentarios? Ideas de mejora?

**MUCHAS GRACIAS POR
VUESTRA ATENCIÓN**

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