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## Tourist Geoportal of a Rural Region as a Means of Disseminating its offer and Resources. Case Study: Extremadura


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In recent years, the tourism sector has become a source of income in Extremadura (area of study of this work), being, in 2018, the economic sector that grew the most in the region with 27,000 jobs and 922 new jobs generated, contributing 5% of regional GDP (Nieto *et al.*, 2020a). However, despite the effort to bring tourism to a relevant position in the regional economy through various policies and public aid and interesting private initiatives, especially in rural areas, its starting situation is difficult due not only to the weight of the agriculture, which dominates in much of the region, or accessibility problems, especially notable in areas with complicated orography or border areas, but also because tourism is still highly seasonal and mainly linked to weekends and summer holidays with an average stay of 1.84 days, which is much lower than the national average (3.23 days). For this reason, the contribution to Extremadura's GDP is considerably lower when compared to the national average, which is 11,7% (Nieto *et al.*, 2020a). However, the positive effect of rural tourism in a region such as Extremadura is irrefutable, both from a socio-economic perspective (since it is an alternative and complementary to agricultural production in order to contribute as a new source of income and employment), as well as a socio-cultural one, for the maintenance of the population in rural areas and its contribution to the conservation and protection of resources and natural space (Nieto *et al.*, 2020b).

To the above, we must add the profound changes that tourism demand is experiencing, which is increasingly stringent and sophisticated and is imposing the development of a new supply system coherent with the new expectations of so-called *tourists 3.0*. This new typology of tourists is demanding the introduction of new technologies in the planning and development of their trips, so that they can know their destination



even before their arrival. In this way, the new Information and Communication Technologies (ICT) have become a factor of competition and diversification for tourism actors, both public and private, thanks to the competitive advantages they offer.

The present work aims to make the tourist offer and heritage and natural resources known to potential tourists in a rural region like Extremadura in a geo-portal that serves as a meeting point for direct, intuitive and updated information created by means of free software and tools. The tool used is ArcGIS Online (from ESRI), which presents great versatility and is one of the most powerful and complete tools that currently exist in terms of collaborative map platforms in the cloud, allowing the user to create maps, share them and cooperate with others. ArcGIS Online is a new resource with great potential and possibilities in the dissemination of geographic information.

Regarding the methodological process, the following figure shows how this has consisted in the creation of cartographic databases in vector and raster formats with general information about Extremadura, its cultural and natural resources, the accommodation offered and various tourist routes, as well as a Digital Terrain Model and orthophotos. These have been published on the web through ArcGIS Online and the construction of various Web Mapping Applications.

The final result has been published in the following link: <https://arcg.is/0LPuzL>

The geo-portal is made up of twelve tabs. The first two present general information on the region, such as the limit of the Autonomous Community of Extremadura and data on population, in order to put users in context. These two tabs include brief historical information on the region, location and road access to municipalities, as well as current demographics. Next, there are four tabs dedicated to cultural and heritage resources, differentiating between Places of Cultural Interest, Museums and Interpretation Centers, UNESCO heritage resources and Treasures. These four tabs contain detailed information on all existing resources, including: name of the resource, municipality in which it is located, year of declaration in the case of protected resources, historical information and images that allow travelers to easily recognize the resource during the trip. In the seventh tab, the cartography of the protected natural areas has been included with basic information on each of them.

The next tab is dedicated to tourist territories (delimitation established by the Government of Extremadura) with data on travelers and overnight stays received in 2018. The ninth, called "Accommodation Offer", collects information about them, such as the postal address and the telephone numbers, so that the tourist has this information without having to consult other web platforms. Finally, there are three more instructive tabs called "Traveling through time", "Tourist Routes" and "Extremadura Resources". In the first, a comparison of the population centers of Extremadura in the 1960s and today (with a search engine for the name of the municipalities added) can be viewed. The second contains information on one of the most important routes in the history of the region: "Ruta de la Plata"; and in the last one, intended for more advanced users in the use of GIS, a viewer has been added to that appear all the layers and a series of basic tools such as: print, measure, location or query.

The diversity of heritage resources that Extremadura has served as an attraction for a new demand, mainly from people from large cities who seek to disconnect from urban stress and opt for the tranquility and variety offered by tourism related to culture or nature, as well as the activities that can be developed in it compared to the classic sun and beach tourism, which is increasingly crowded, which dominates the offer and volume of tourists that Spain receives. This boom has favored the Extremadura community, where the number of travelers and overnight stays has increased in recent decades. On the other hand, the evolution of Geographic Information Systems has allowed the improvement of applications that open the way to working with geographic (GIS) information and make it more accessible for those who do not master the subject. Thus, the use of new technologies has become indispensable in the promotion and differentiation of any tourist destination, and they are currently vital tools for the dissemination of cultural, natural and intangible heritage.

In this project, the great potential of ArcGIS Online is taken advantage of, which is presented as a web GIS collaboration platform that allows operating with data, geographic content, maps or applications without having advanced knowledge in GIS. In this way, an average user can create their own geo-portal or geo-web



with an attractive interface for the dissemination of a product and completely free of charge. Therefore, and in the absence of a web portal adapted to the demand of 3.0 tourists, this project has made it possible to create a geo-portal that brings together the offer of accommodation and resources in Extremadura, serving as a means of dissemination that can be continuously updated. The idea of this geo-portal was born from the need to promote the Autonomous Community of Extremadura. And the fact is that, although in Extremadura the number of travelers increases every year, the number of overnight stays is still much lower than the national average, except of some territories such as the north of the region, which do not reach two nights per traveler. Thus, the increase in overnight stays is one of the objectives of the Strategic Tourism Plan 2017-2020 of the Government of Extremadura, whose idea is to increase them through the diversification of activities and tourist destinations, for which a greater promotion of the region and the existence of web GIS platforms such as the one created in this work that can be accessed virtually at any time and from anywhere in the world are necessary, something essential today in the face of the “new normal” that emerged after the Covid pandemic -19.

In short, this work reveals how the insertion of new technologies into the tourism industry can produce important benefits, especially when the economic cost is really low, enabling the differentiation and diversification of tourist destinations. In addition, with the geo-portal created, a joint vision of the tourist wealth of Extremadura is offered in order to spread it more on the national scene and to be able to increase both the number of travelers and overnight stays in the coming years and its consequent positive effect on the GDP and in employment.