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## New technologies applied to environmental remote sensing

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**B** oth climatic factors and the dynamics of pollutants in the atmosphere are two important factors in studying the possible causes of increased rates of atmospheric pollutants in relation to the moisture of the canopy, as well as with the industrial activities existing in the study area. The city of Almadén (Ciudad Real, Spain) declared a world heritage site on June 30, 2012, is a good example of mutual relationship of sustainability existing between the eco-design of its urban design and its historical and industrial heritage, giving rise to a very peculiar landscape evolution. In this city, historical mining activity has caused a strong impact on the environment. With the development of image processing techniques, and use of a new procedure patented by the author, applied to the high resolution aerial images of the National Geographic Institute of Spain from 2004 to 2013, it is possible to obtain different results that show how the environmental sustainability of the city allows recognizing and evaluating the phenomena responsible for the increase or decrease of the atmospheric mercury concentration in Almadén. In conclusion, it can be considered that although atmospheric mercury rates are low throughout the Almadén district, it is necessary to consider the cumulative effect of both temperature and precipitation in the system since, through the relative humidity; they are responsible for the increase or decrease in atmospheric mercury concentration.



Figure 1: Prediction of atmospheric mercury concentration using the new procedure patented by the author.

## Biography

Emilio Ramírez-Juidías completed his Graduation in Agricultural Engineering in 1998. He is tenured Lecturer in Graphic Engineering department at University of Seville. He completed his MSc in Water Engineering; MSc in Astronomy & Astrophysics and; PhD in Engineering in 2010. The main subject of his investigations is "Remote sensing applied to environmental sciences and solar physics". He is an Author of more than 40 books, more than 30 articles and holds six patents in different topics (Remote Sensing and Engineering). He is member of Spanish Royal Physics Society and member of editorial board of several indexed journals

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