Paper ID: 42370
oral

29th IAA SYMPOSIUM ON SPACE AND SOCIETY (E5)
Is Space R&D Truly Fostering A Better World For Our Future? (2)

Author: Mr. Victor Romero-Alva
Image Processing Research Laboratory (INTI-Lab). Universidad de Ciencias y Humanidades - UCH, Peru

Dr. Avid Roman-Gonzalez
Image Processing Research Laboratory (INTI-Lab). Universidad de Ciencias y Humanidades - UCH, Peru

URBAN PLANNING USING SATELLITE IMAGE ANALYSIS: A PERUVIAN CASE

Abstract

At present, the cities we live in are certainly affected by the higher population demand that has been occurring exponentially during the last decades. This situation year after year represents a very significant urban and territorial disorder which generates excessive population growth uncontrollably. A real example of uncontrolled urban growth is the city of Lima, the capital of Peru, which has 49 districts and some of which are already affected by overpopulation. The exceeded population, establishment presented outside the habitable territorial limits, produce consequences that often end in disasters, as, in times of rain the floods of the rivers cause overflows in populated lands that should not have been inhabited. Or when there is an avalanche in the presence of a natural phenomenon many urban centers are affected by establishing themselves in the foothills of the hills. The contrary is what is seen in other cities such as Cancun in Mexico, where there is evidence of order and control in the urban establishment in its entire extent, thus preventing consequences that end in human and economic losses. To this situation arises the proposal to help the country to have a population settlement order in the cities in a safe way. For this, we will focus on the department of Cusco as it turns out to be one of the most important cities in Peru. We will direct our objective towards the district of Chinchero since in this place it is proposed the construction of the International Airport of Chinchero with estimated date of culmination in the year 2020. Consequently, will be in need of host much more population, either for a better job opportunity in the town or the tourist aspect that this will have to receive a high number of foreign visitors. The most efficient way of doing this project is to make use of satellite images, as it would serve to have urban growth and orderly and secure territory throughout the town. The process to develop the present project is to apply methods of image processing of the region obtained by the Sentinel-2 remote sensing satellite and establish the habitable territories for future settlers. In this way, planned growth can be achieved, which in turn is linked to sustainable social development.