

EARTH OBSERVATION SYMPOSIUM (B1)
Earth Observation Applications and Economic Benefits (5)

Author: Ms. Natalia Indira Vargas-Cuentas
Beihang University (BUAA), China, natalia.i.vargascuentas@ieee.org

Dr. Avid Roman-Gonzalez

Image Processing Research Laboratory (INTI-Lab). Universidad de Ciencias y Humanidades - UCH, Peru,
avid.roman-gonzalez@ieee.org

Mrs. Alicia Katherine Alva Mantari

Image Processing Research Laboratory (INTI-Lab). Universidad de Ciencias y Humanidades - UCH, Peru,
aalva@uch.edu.pe

Mr. Luis Aucapuma

Image Processing Research Laboratory (INTI-Lab). Universidad de Ciencias y Humanidades - UCH, Peru,
aucapuma.luis@gmail.com

EPIDEMIOLOGY STUDY OF THE CHAGAS DISEASE IN BOLIVIA USING REMOTE SENSING
DATA**Abstract**

Remote sensing is the technology that has enabled us to obtain information about the Earth's surface without directly contacting it. For this reason, currently, the Bolivian state has considered a list of interesting applications of remote sensing in the country, including the following: biodiversity and environment monitoring, mining and geology, epidemiology, agriculture, water resources and land use planning. The use of satellite images has become a great tool for epidemiology because with this technological advance we can determine the environment in which transmission occurs, the distribution of the disease and its evolution over time. In that context, one of the important diseases related to public health in Bolivia is Chagas disease, also known as South American Trypanosomiasis. Chagas is caused by a blood-sucking bug or Vinchuca, which causes serious intestinal and heart long term problems and affects 33.4% of the Bolivian population. This disease affects mostly humble people, so the Bolivian state invests millions of dollars to acquire medicine and distribute it for free. Due to the above reasons, the present research aims to analyze some areas of Bolivia using satellite images for developing an epidemiology study. The primary objective is to understand the environment in which the transmission of the disease happens, and the climatic conditions under which occurs, observe the behavior of the mosquito, identify in which months occur higher outbreaks, in which months the mosquito leaves its eggs, and under which weather conditions this happens. All this information would be contrasted with satellite images and data from the Ministry of Health, and the Institute of Meteorology in Bolivia. All this data will allow us to have a more integrated understanding of this disease and promote new possibilities to prevent and control it.