**Land Cover Analysis of Bengaluru District,**

**Karnataka Using Awifs Data**

**Introduction:**

Land Use and Land Cover Land—cover has become crucial basis work to carry the prediction to carry the dynamical changes of the land use, prevention of natural disaster, environment protection, land management and planning

With rapid development of remote sensing technology, land cover / land use classification has become the most credible, rapid, and effective measure to monitor the condition and changing of land cover/ land use in the global surface.

**Study Area:**

Bengaluru, formerly Bangalore, city capital of Karnataka state, southern India. Bengaluru is the third India’s largest city. It is located at 12.97°N 77.56°E and covers an area of 741 km2 .It lies 3,113 feet above sea level.  Bangalore is known for its pleasant climate throughout the year. Its elevation is the highest among the major cities of India.

**Data used**

Resourcesat-2 Awifs data acquired on 16th Feb 2009 and 02nd May 2018

**Steps in SAGA GIS**

* Awifs raw data (DN pixels) > Radiance > Reflectance > FCC >Shapefile delineation > SMA classification.

**Results & Application**

* Spectral mixture analysis (SMA) determines the component parts of mixed pixels by predicting the proportion of a pixel that belongs to a particular class or feature based on the spectral characteristics of its endmembers. Four training inputs to classify Water bodies, buildings, Vegetation and Bare land.
* Land cover refers to the material such as vegetation, rocks or water bodies that are present on the earth surface. The water bodies include river, canal, tank, pond and reservoir etc. GIS and remote sensing techniques are effective tool in land use and land cover mapping. Proper planning of the land resource is required to meet the needs of the ever increasing population.
* The comparative study between two data's over a period of 10 years shows the variations in the considered classes. The thick green vegetation which is prominently visible in the year 2009 is declined in the year 2018. This is because of various reasons such as increase in residential area for the increase in population, expansion of roads, and many more developments favoring urbanization.