Remote Sensing & Image processing

Lab: Matlab online, Friday Lecture
google Earth platform

individual
50
student

Stage 1: Project Topic → Feb first week [eof]
↳ abstract,
↳ why, how

Stage 2: Methodology

Stage 3 & 4: Preliminary & Final submission

Project details contd.

- Individual Project or maximum of two members per group
- Any image processing component involving topic of your own interest
- Any convenient platform, MATLAB, Python, OpenCV, Google Earth Engine…
- All projects follow the IEEE template in overleaf

→ mainly Satellite Remote sensing techniques

CS → Image classification

Color image processing → How to fuse images

Applications

→ Lab exercise: Counting blood cells [Friday]

→ Disaster / crowd management

↳ routes/masks/ kumbh mela

Satellite → geostationary → 36000 km (KALPANA) (IN-SAT)

Earth Observation (EO) { Polar orbital satellite } 400–1000 km (
Sun synchronous satellites

Photogrammetric drone → Campus.

↳ height info

↳ surface model

↳ photogrammetry

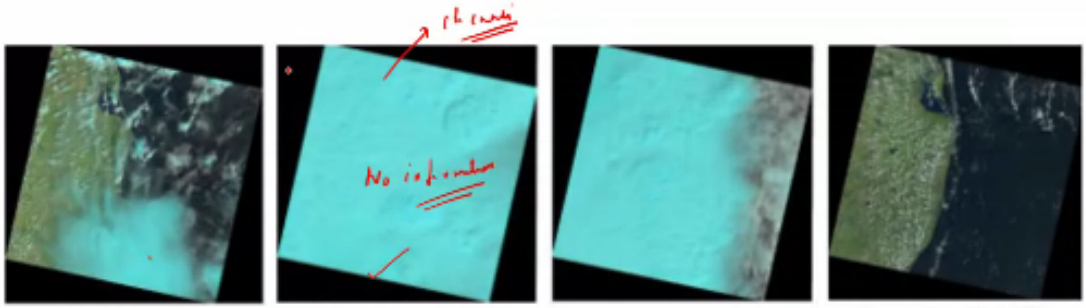
Landsat 5 optical Image

https://www.usgs.gov/media/images/landsat-chernobyl

Flood monitoring

(We can't use all satellites throughout the year)

Optical image



October 30,2015 | November 15,2015 | December 1,2015 | December 17,2015

Figure(1). Landsat 8 images obscured by clouds during different dates during south Indian floods in 2015

31 October,2015 | 12 November,2015 | 24 December,2015 | 6 December,2015 | 18 December,2015

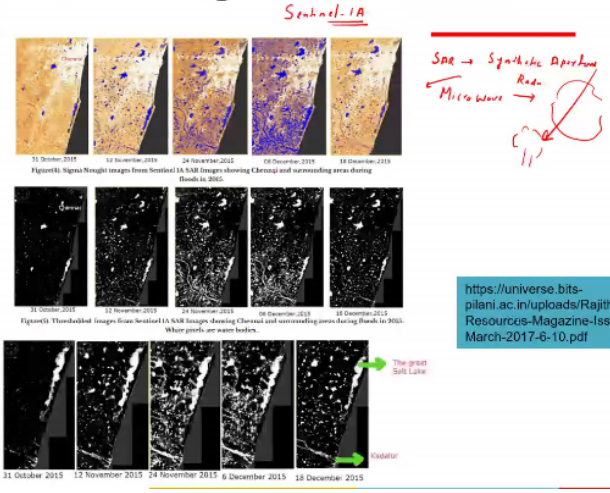
https://universe.bits-pilani.ac.in/uploads/RajithaK/GIS-Resources-Magazine-Issue-1-March-2017-6-10.pdf

Synthetic Aperture Radar

Sentinel Imaging

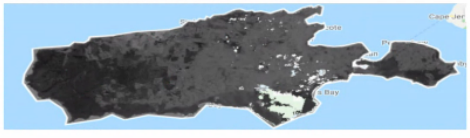
Flood monitoring

Sentinel-1A



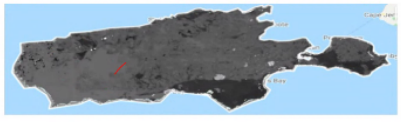
https://universe.bits-pilani.ac.in/uploads/RajithaK/GIS-Resources-Magazine-Issue-1-March-2017-6-10.pdf

Fire detection



Pre-fire event

Land SAT(TIRS)



Post-fire event