Date:- 02-JULY-2020 Sindhu.S
Course:- (6) Satellite photogrammetry and it's application. 4AL18EC049
4th sem. 'A' Sec

- History of Mapping and Surveying
  - First Maps were mental maps used for navigation.
  - Jan. 1958: Launch of explore-1:
- Brief history:- of Navigation.
  - 13th Century: Magnetic Compass
  - 1907: gyrocompass.
  - 2013-16: IRNSS
  - 2019-20: Beidou
  - Land Mark based navigation.
- Early space-Based Radio Navigation System.
  - Radio Navigation system: assisted in crustal deformation studies globally.

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* 1912: Radio direction finding

• Satellite Navigation:-

→ Global:-

1. NAUSTAR GPS
2. GLONASS
3. BEIDOU
4. GALILEO

* Regional:-

1. IRNSS
2. QZSS

→ It provide autonomous geo-spatial positioning.

• NAUSTAR GPS:-

Space-Vs. ground-based Nav. systems

* • GPS | GLONASS:-

→ Developed by US DoD | USSR/EU

→ WGS84:- parametry Zemli 1990 (PZ-90.11)

Designed to replace existing navigation systems Accessible by Civil & Military.

- GPS signal structure:-
→ Each GPS satellite transmits a number of signals.
→ Bandwidth allocated for $L_1 = 24$ MHz, $L_2 - 22$ MHz. & $L_5 - 28$ MHz.
- GLONASS fundamental frequency is 5.0 MHz.
- Receivers:-
3-class of GPS receivers
1. Geodetic class
2. Mapping grade
3. Navigation.
- GPS Surveying Techniques:
1. Static.
2. Rapid Static / Fast Static
3. Stop and go.
4. Kinematic.
- Precise point positioning:
Automatic precise positioning Service (APPS).
- Open sources of DEM's
→ Fused / Assimilated DEM's
1. MERIT
2. Earth Env 90m

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National / Regional

1. Cartosat - 1 (30m)
2. EU - DEM (30m)

global :-

1. ETOPO - 1/2
2. SRTM (90/30 m)
3. ALOS PRISM (30m)
4. ALOS PALSAR (12.5 m)
5. ASTER DEM (30m)