Recommendations for GNSS Data Collection, Planning, and Implementation

The Atmosphere and its Effect on GNSS Systems

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CAASD

MITRE

Future Potential

- **Although there are many benefits from GPS available now, future benefits will increase when dual frequency services become available**
  - **Especially APV in equatorial regions**
- **Planning and data collection can prepare the region for new services**
- **Regional planning offers benefits for all states**

NPA/baro VNAV and RNP

- **NPA/baro VNAV approaches**
  - **NPA approaches with vertical guidance from barometric VNAV are available today in many classes of air transport aircraft and are approved by ICAO**
  - **These can provide a stabilized approach to runways without an ILS**
    - **Clear safety benefits (e.g., during night and bad weather)**
  - **Can provide a backup approach in case of an ILS outage**
- **RNP can provide similar benefits as NPA/baro VNAV**
  - **With additional capabilities**

Data Collection

- **Collection of dual frequency data will help further characterize the atmospheric effects in South America**
  - **Failure to collect data may delay implementation efforts in South America**
- **A coordinated *regional* data collection effort could improve the overall characterization of the atmospheric effects**
  - **Uncoordinated efforts by individual countries may be less effective in characterizing the atmospheric effects**
- **Special emphasis on data collection for GBAS would also be useful in order to identify possible threats to integrity**

Participation in International Forums

- **Participation in various international forums on GPS and applications can provide benefits, e.g.,**
  - **Navigation Systems Panel**
  - **Ionospheric Working Group**
  - **Interoperability Working Group**

- **Regional coordination of meetings to be attended and distribution of information from meetings could improve continuity and availability of important material**