NOAA GOES Data Collection System - Standards and Certification Workshop

Spring Technical Working Group 2023

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Welcome to Day 2!

- Purpose
  - Discuss NOAA's proposed implementation of system improvements
  - Conduct a robust discussion to inform NOAA on impacts & benefits
  - Present timelines
- Today's Topics:
  - Lat/Long + additional information
  - Communication Protocols
  - DCP Commanding
- Topic Materials
  - All materials can be viewed via this webpage:
    https://www.noaasis.noaa.gov/GOES/GOES_DCS/gdcs_pf.html

Lat/Long/TxID +

- What is the concept?
  - DCPs with onboard GPS (used for timing now) would also send position data on a GOES random channel that would update the DCP Platform Description Table (PDT).
  - Implementation would be optional, require no hardware change, and would integrate without negatively impact existing distribution systems.
- What problem is this solving?
  - Providing DCP position data for DCPs a condition of use of GOES DCS (it's part of the System Use Agreement)
  - Knowing where DCPs are helps…
    - Troubleshooting RFI
    - Sharing potential data sources with others (avoiding redundancy)
    - Show the widespread use of DCS
    - Provides the option for unexpected movement (theft, buoys, etc.)
    - Provides the option to include other DCP system information
- How would it work exactly? Glad you asked….

Lat/Long/TxID +

- How it **could** work
  - When to send?
    - Recommendation: on deployment and semiannually. Control for low voltage. Use system memory to prevent multiple resends if cycling or troubleshooting (see power up note below)
  - How many repeated messages to send?
    - Recommendations: three (3) targeting a 95% success rate
  - What interval should be used (for a 3 message burst)?
    - Recommendation: 5 minutes with a +/- 1 minute interval
  - What channels would be used?
    - Recommendation: The assigned Random Channel and two newly identified Random Channels available for all DCPs.
  - How would power up and initialization issues be addressed?
    - Recommendation: include onboard logic that compares last message send time, battery status or other variables to avoid over communicating/negative impact.
  - How would DCPC (Two-way) work with Lat/Long/TxID?
    - Recommendation: DCPC could complement Lat/Long/TxID by having an on-demand option.

Lat/Long/TxID +

- Certification Standard
  - Portions of the previous discussion will inform the standard
  - Uses a binary protocol but extends the current CS2 Standard
- Binary Message Structure
  - Please refer to the draft specification
- Implementation Timeline