



Hosted Payloads: Thinking Outside the Box

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Satellite-Based Observations of the Oceans and Atmosphere

NOAA uses satellite-based observations for:

- Routine weather forecasting
- Watches and warnings of severe weather events
- Space weather
- Climate monitoring
- Ocean and coastal observations

NOAA obtains these observations through:

- Satellites owned by NOAA (GOES, POES)
- Satellites owned by NOAA's international partners (METOP)
- NASA and Air Force Satellites (DMSP, EOS, ACE)
- Commercial satellites (RADARSAT)



National Space Policy: PPD-4

Commercial Space Guidelines

- Encourages the use of:
 - Innovative, non-traditional arrangements such as public-private partnerships, commercially hosted USG capabilities, and commercial data providers.
- Encourages pursuing opportunities to transfer routine operational space functions to the commercial space sector.
- Encourages the use of commercial space services and capabilities within international cooperative arrangements.



Potential NOAA Hosted Payloads

Potential NOAA Hosted Payloads:

- Total Solar Irradiance
- GPS Radio Occultation
- Coronal Mass Ejection
- Ocean Color (low earth orbit)
- Atmospheric Soundings (geostationary)



Challenges for Hosted Payloads

NOAA-Unique Challenges:

- NOAA prefers unrestricted data redistribution rights
 - Not a problem for government-owned hosted payloads
 - Affects the business case for privately-owned hosted payloads in which data would be sold to the government
- NOAA prohibited by law from commercializing weather satellites (Land Remote Sensing Act of 1992)
- Strict NOAA requirements for data continuity would drive satellite replacement based on status of the NOAA payload irrespective of the status of the primary mission
- For some observations, the exact orbit or orbital slot is critical to the accuracy of the long term data record



Challenges for Hosted Payloads

The Most Important Issue:

- Civil agency budgets are much tighter than Defense budgets
- NOAA has been unable to gain funding for most new satellite observations (especially in light of the high cost of JPSS and GOES-R)
- In the Defense Department, hosted payload concepts can sometimes lower program costs sufficiently to squeeze a program into the budget
- At NOAA, hosted payload concepts do not lower program costs sufficiently to “shoehorn” new programs into the budget