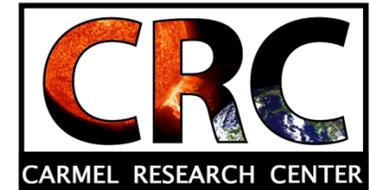


**ACSWA**  
American Commercial Space Weather Association



# American Commercial Space Weather Association (ACSWA) and Public-Private Partnerships

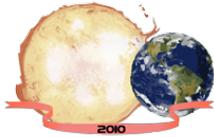
**Devrie Intriligator**

**Carmel Research Center, Inc. (CRC)**

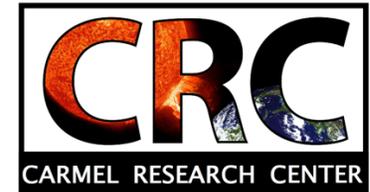
**[devriei@aol.com](mailto:devriei@aol.com)**

**American Commercial Space Weather Association (ACSWA)**





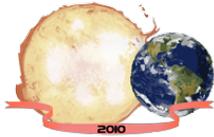
**ACSWA**  
American Commercial Space Weather Association



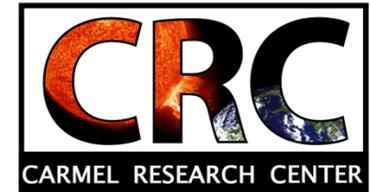
**ACSWA [www.acswa.us](http://www.acswa.us)**

- **Formed in 2010;**
- **2013 Members: 15 commercial companies**  
**AER, ASTRA, CPI, CRC, EXPI, FF, PIQ, PSI,**  
**Q-up, SAC, SEC, SET, SSH, SSI, SWFTT**
- **Executive Committee:**  
**G. Crowley (ASTRA), D. Intriligator (CRC),**  
**R. Schunk (SEC), K. Tobiska (SET)**





**ACSWA**  
American Commercial Space Weather Association



**ACSWA [www.acswa.us](http://www.acswa.us)**

- Formed in 2010 with 5 members;
- 2013: 15 members - commercial companies:

**AER: Atmospheric and Environmental Research,**

**ASTRA: Atmosph. & Space Tech Research Associates;**

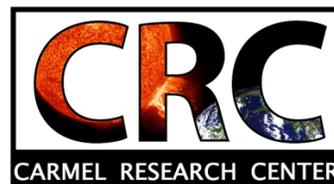
**CRC: Carmel Research Center;**

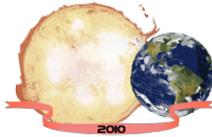
**CPI: Computational Physics, Inc.;**

**EXPI: Exploration Physics International;**

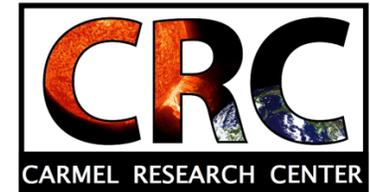
**FF: Flare Forecast;**

**(continued)**





**ACSWA**  
American Commercial Space Weather Association



**ACSWA [www.acswa.us](http://www.acswa.us)**

**PIQ: PlanetIQ, LLC;**

**PSI: Predictive Science, Inc.;**

**QupNow: QupNow, LLC;**

**SEC: Space Environment Corporation;**

**SET: Science Environment Technologies;**

**SSI: Science Solutions Inc.;**

**SSH: Space Service Holdings, Inc.;**

**SAC: Storm Analysis Consultants;**

**SWFTT: Space Weather for Today & Tomorrow.**

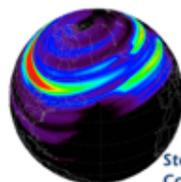
**PLANETIQ**



Predictive Science, Inc.

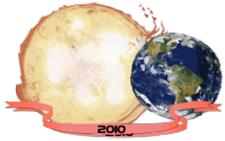


SPACE  
SERVICES  
HOLDINGS

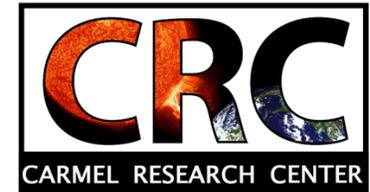


Storm Analysis  
Consultants





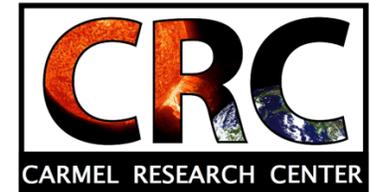
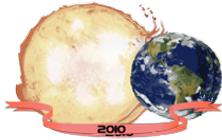
**ACSWA**  
Aerospace Commerce & Space Weather Association



## ACSWA Mission Summary

- Provide space weather (SW) data/ services
- Supply advisory services to government
- Provide guidance to government on tasks better provided by SW industry
- Represent commercial providers' interests
- Represent commercial SW capabilities nationally & internationally
- Develop operational SW best-practices

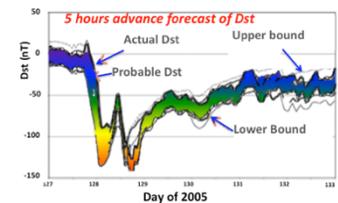
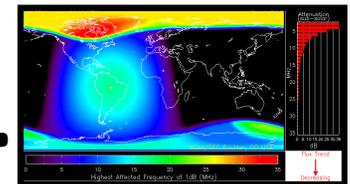


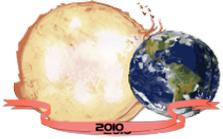


# Government and Industry

## Learning from the Weather & Climate Enterprise

- **Products:** Tailored, “smart”.
- **Partnerships:** Successes.
- **Lines-in-sand:** Products, services.
- **Roles & missions:** Common goals.
- **Inter-agency:** Support, agreements.
- **Public Policy:** National programs.
- **Mutual support:** Congress, funding.
- **Communication:** Plans, execution.





**ACSWA**  
Astronautics & Space & Defense Association



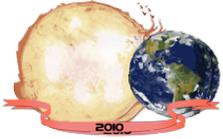
# Public-Private Partnerships Government & Industry

- **Win-Win:** Don't need to re-invent the wheel
- ## Weather & Climate Partnership Examples

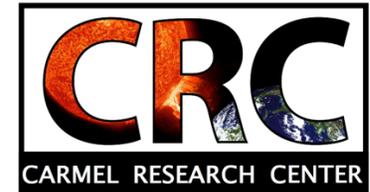
### 1. Lightning:

- US government does not have its own lightning network
- Instead it purchases lightning data from 3 commercial companies.





**ACSWA**  
Aerospace Commerce & Weather Association



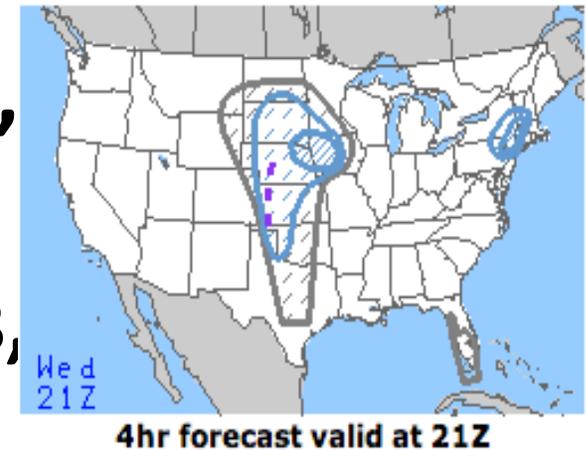
## Public-Private Partnerships

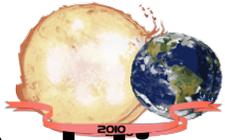
## Government & Industry

## Weather & Climate Partnership Examples

### 2. Collaborative Convective Forecast Product

- NWS works with airlines, commercial weather providers, Met Services of Canada, etc.
- Aids FAA, private dispatchers, and commercial airlines in reduction of air traffic delays, reroutes, and cancellations.





**ACSWA**  
Astronomical Council of Science & Technology

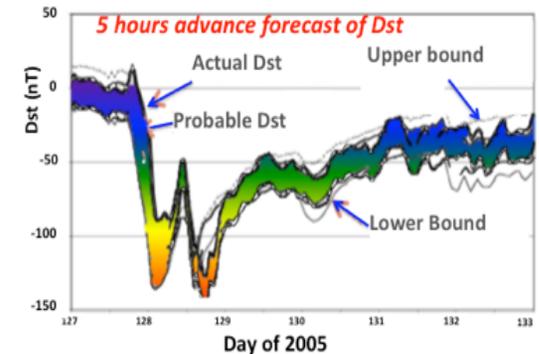
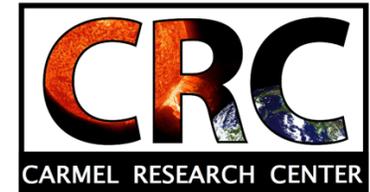
# Public-Private Partnerships

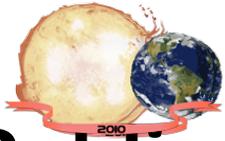
## Government & Industry

### SW Partnership Examples

#### 1. Data buys:

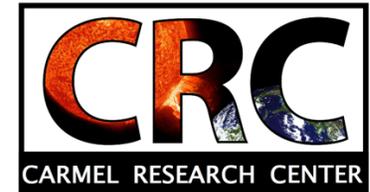
- Solar: far-side of Sun, Solar orbiters, other space-based, ground-based
- Interplanetary: L1 (ACE, STEREO A & B, DSCOVR), L5, closer to Sun (Sunjammer), NM
- Ionospheric: RO, GPS, TEC, scintillations
- Magnetospheric: GEO, LEO, Polar, CubeSats
- Geomagnetic: radars, other ground-based





**ACSWA**  
Astronomical and Space Weather Association

# Public-Private Partnerships

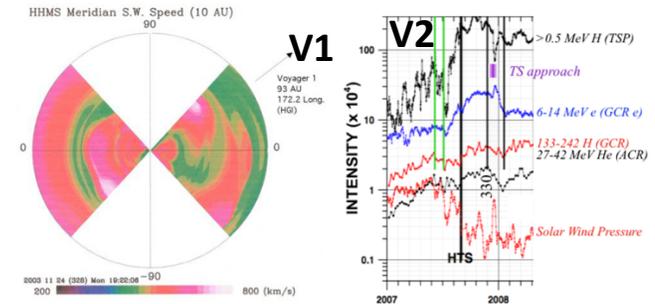


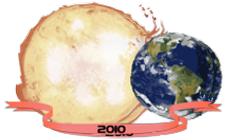
## Government & Industry

### SW Partnership Examples

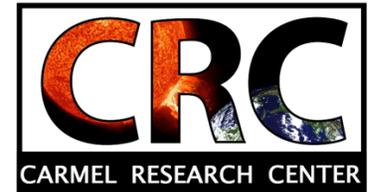
#### 2. Service buys:

- Processed data (solar, L1, RO, gps, mag, etc.)
- Analyzed data (solar, L1, RO, gps, mag, etc.)
- Modeling and simulations (inputs, outputs)
- Regional, global, heliospheric forecasts
- Value-added industry forecasts (aviation)
- Tailored impacts (s/c, power grid, military)
- Events, all-clears (infrastructure, astronauts)





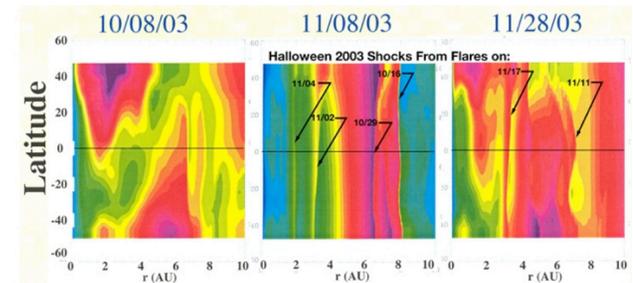
**ACSWA**  
Astronomical Sciences & Space Physics Association

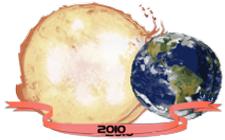


# Public-Private Partnerships Government & Industry

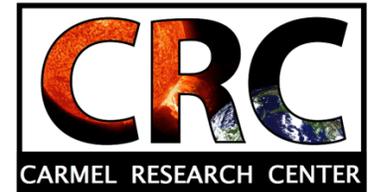
## Benefits of SW Partnering

- Leverages core expertise
- Stimulates economy
- Allows all to focus on future growth
- Fosters innovative approaches
- Allows “parts” to be nimble, yet whole to be resilient





**ACSWA**  
Aerospace Commercial Space & Defense Association



## Public-Private Partnerships Government & Industry

### **Future Directions of SW Partnering**

- **Greater SW visibility**
- **Increased funding for SW**
- **More and more SW capabilities**
- **Overall more resilient infrastructure**
- **Ability to support future space-based and ground-based projects and SW growth**