



American Commercial Space Weather Association

**Dr. Devrie S. Intriligator
Carmel Research Center, Inc.
Director, Space Plasma Laboratory**

Member, ACSWA Executive Committee



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American Commercial Space Weather Association

Formed in 2010: 5 Members

2015: 19 Members:

AER, ASTRA, CPI, CRC, FF, GO, IS,
PiQ, PRA, PSI, Q-up, SAC, SEC,
SET, SSI, SSH, SA, SWFTT, WA



www.acswa.us

Executive Committee:

G. Crowley (ASTRA)

D. Intriligator (CRC)

R. Schunk (SEC)

K. Tobiska (SET)



www.CarmelResearchCenter.com



American Commercial Space Weather Association

- **ACSWA protects America's economic strength and national security.**
- **ACSWA companies supply important products and services.**
- **ACSWA serves as the collective voice for the commercial space weather industry.**

ACSWA – Building a strong space weather enterprise

<http://www.acswa.us/>



American Commercial Space Weather Association

ACSWA protects America's economic strength and national security.

Our technologically-dependent world is reliant on systems that are at-risk from space weather events.

Including:

- **GPS signals**
- **Electricity**
- **Telecommunications (civilian and military)**

US National Research Council (2008) estimated a major space weather event could cost the US economy trillions of dollars



American Commercial Space Weather Association

ACSWA companies supply important products and services.

ACSWA & member companies identify important data & technology gaps that can be filled by commercial or government actions, including

- **buying observational data (ground- or space-based) from commercially owned & operated assets**
- **developing value-added products and services**
- **supplying risk and threat analyses**
- **building small satellites and instrumentation**
- **performing data analysis, product development, simulations, modeling, and data assimilation**



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Capabilities*

- Algorithm development
 - Automatic event detections (flares, solar energetic particles, geoeffective CMEs)
- Calibration/validation
- Data assimilation
- GPS modeling and services
- HF propagation
- Numerical modeling and simulation
 - Sun, interplanetary medium
 - magnetosphere, ionosphere
 - thermosphere, lower atmosphere
- Operational implementations / Research to Operations (R2O)
- Risk and threat analyses for infrastructure and space resources
- Satellite data analysis & data product development
- Sensor hardware & modeling
- Software tools
 - Application development (web-based and smart phone)
 - Data hosting / data product delivery
 - Data / model visualization
- Space Situational Awareness (SSA)
- Spacecraft anomaly prediction and assessment
- Space weather data product and service distribution
- Space weather now-casting/forecasting

*<http://www.acswa.us/capabilities.html>



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ACSWA serves as the collective voice for the commercial space weather industry.

ACSWA can:

- Serve as a conduit between organizations and the commercial space weather industry
- Lobby & negotiate with government and other organizations as a collective whole
- Be an advocate for space weather (activities, partnerships, and initiatives)
 - **Launch of DSCOVR (NOAA, NASA, USAF)**
 - **NOAA SWPC funding**
 - **USAF/NSF ground-based solar observatories**
 - **USGS ground-based magnetic observatories**
 - **NSF and other neutron monitors and radars**



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Thank you!



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ACSWA (SWEF Session 3) agenda:

3:00 pm Introduction Dr. Intriligator;

3:15 pm Dr. Volz;

3:30 pm Dr. Berger;

3:45 pm Mr. Rayder;

**4:00 pm Rep. Bridenstine presented by
Mr. Christopher Ingraham, Senior
Legislative Assistant, Rep. Bridenstine**

4:15 pm Q & A.

4:30 pm Adjourn.

