



## Student Scholarship Internship Opportunity (SSIO) Online System

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### SSIO 2012 Internship Opportunity Position

#### Internship Information

Project title: **Comparison Of Severe Storm (Hail/Wind) Damage Detected By Satellite, Radar, And Ground-Based Observers.**

NOAA mission goal: **Weather-Ready Nation**

Hypothesis or objectives: **To assist with evaluation and validation of satellite and radar products to detect areas of hail/wind damage.**

**The activities of the scholar would be in support of a collaborative activity between the National Weather Service (NWS) and National Environmental Satellite, Data, and Information Service (NESDIS) of NOAA to evaluate and validate experimental satellite and radar products for assessment of hail and wind damage.**

Academic status: **Undergraduate**

Area(s) of discipline: **Atmospheric Science, Environmental Science Studies, Geography, Information Systems, Meteorology, Physical Sciences, Remote Sensing Technology, Spatial Analysis**

Internship location: **Sioux Falls, SD**

Duties and responsibilities: **1. Assist the NWS and NESDIS investigators identify severe storm events that included hail and wind damage.  
2. Assist with selection of satellite data prior to and after the storm event that will be used in the storm analysis.  
3. Download satellite and radar data for analysis.  
4. Obtain surface observations of storm damage from NWS or Storm Prediction Center or NOAA's National Climatic Data Center Storm event database.  
5. Accompany investigators on field observation/assessment of storm damage if local event.  
6. Assist with phone survey of storm event damage.  
7. Prepare satellite and radar data for analysis and assist with analysis.  
8. Prepare images and slides (e.g., powerpoint presentation) related to storm events.**

9. Assist with web page development related to storm event and assessment (e.g., GoogleEarth/KMZ).
10. Assist with preparation of summary documents of storm event.
11. Assist with development of new methods for documentation of hail swaths in publications of severe storm events (e.g., Storm Data publication).

Special skills/training required:

This opportunity is ideally suited for a student who wishes to gain experience in integration of data related to severe storms, analyzing data, applications of geographic information systems (GIS), assessing results, and documentation/display of results.

The successful applicant should have the following skills and experience:

1. Basic statistics (e.g., descriptive statistics).
2. Undergraduate level understanding of meteorology/geography.
3. Familiarity with geographic information systems (GIS) and/or image processing/visualization software (e.g., any of following ArcGIS, Imagine, ENVI), and knowledge of GoogleEarth. Knowledge of MS office software (word, powerpoint, excel).

Expected outcomes:

The student will have assisted with documentation of at least one (possibly additional) hail/wind event that will include acquisition and summarization of several types of data and merging data into single data base.

Additional benefits to student:

1. Student will have an opportunity to interact with NOAA scientists and managers across several NOAA line offices (NWS and NESDIS).
2. Student will learn benefits and challenges of integration of multiple sources of data (in situ, radar, and satellite).
3. Student will observe and learn field survey techniques (if local storm event observed).
4. Student contributions within this activity will be included and recognized in future professional presentations at scientific meetings/conferences.

Guidance and supervision:

Day-to-day supervision and guidance will be provided by NWS-Sioux Falls Science and Operations Officer with additional guidance provided by NESDIS Physical Scientist.

Posted or modified date/time:

Friday, September 30, 2011 - 9:56:00 AM

## Internship Travel Information

Purpose (student's role): ---  
Mode of transportation: ---  
Date(s): ---  
Destination: ---  
Estimated cost: ---  
Source of funding: ---

## Mentors Contact Information

Name: **Kevin Gallo**  
Organization: **National Environmental Satellite,  
Data, and Information Service  
(NESDIS)**  
Program office: **STAR**  
Mailing address: **Usgs/Eros, 47914 252Nd Street  
Sioux Falls, SD 57198**  
Fax number: **605-594-6529**  
Phone number: **605-594-2748**  
Email: **kevin.p.gallo@noaa.gov**  
Co-Mentor name: **Phil Schumacher**  
Co-Mentor email: **phil.schumacher@noaa.gov**  
Agency or organization: **NOAA/NWS**



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