

ARSET

Applied Remote Sensing Training

<http://arset.gsfc.nasa.gov>

 @NASAARSET

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# NASA Remote Sensing Applications for Flood Monitoring and Management

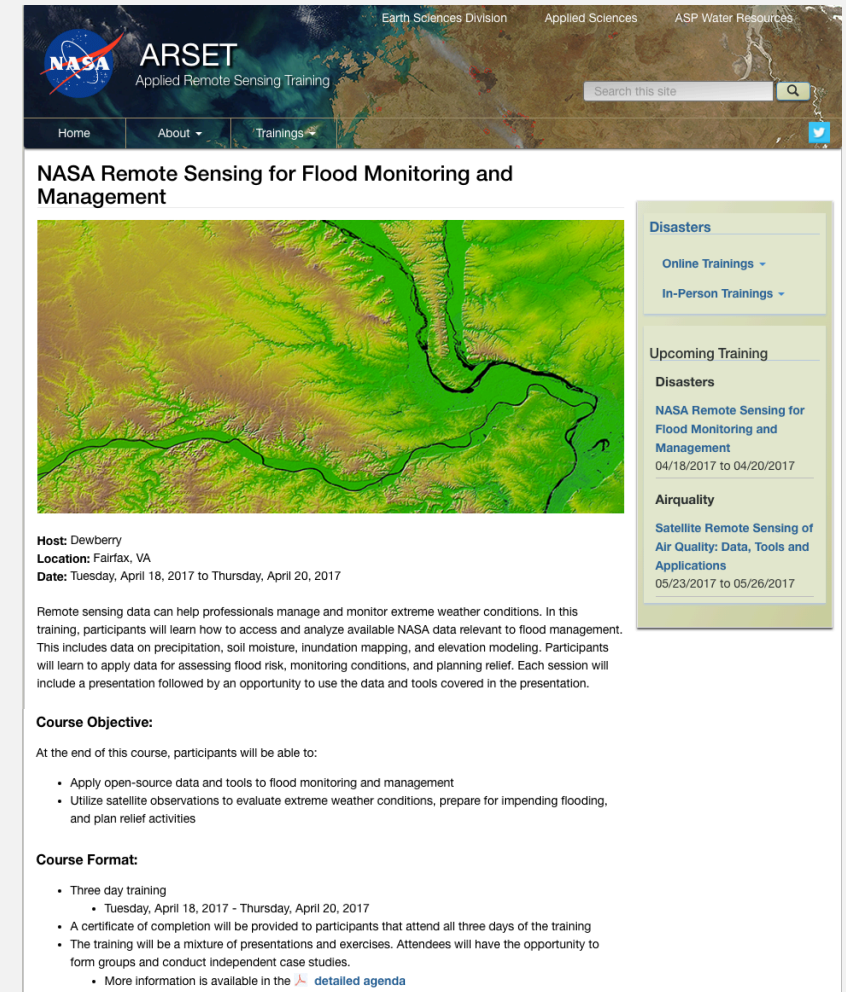
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April 18-20, 2017

# Training Summary

<http://arset.gsfc.nasa.gov/disasters/workshops/flood-17>

- To facilitate flood management and risk reduction activities:
- Analyzed remote sensing data
  - GPM-IMERG: precipitation
  - SMAP: soil moisture
  - Sentinel: SAR
  - SRTM: terrain data
  - SEDAC: socio-economic data
- Accessed data using:
  - Giovanni, PPS, NSIDC, ASF
- Used flood mapping web tools:
  - GFMS, MODIS-NRT, ERDS2, DFO, GDACS



The screenshot shows the NASA ARSET website. The header includes the NASA logo, 'ARSET Applied Remote Sensing Training', and navigation links for 'Home', 'About', and 'Trainings'. A search bar is present. The main content area features a satellite image of a river basin with the title 'NASA Remote Sensing for Flood Monitoring and Management'. Below the image, it lists the host (Dewberry), location (Fairfax, VA), and date (Tuesday, April 18, 2017 to Thursday, April 20, 2017). A description explains that remote sensing data helps manage extreme weather conditions. The 'Course Objective' section states that participants will learn to apply open-source data and satellite observations for flood monitoring. The 'Course Format' section details a three-day training on April 18-20, 2017, including a certificate of completion and independent case studies. A sidebar on the right contains links for 'Disasters', 'Online Trainings', 'In-Person Trainings', and 'Upcoming Training', with a specific entry for the current training.

## Concluding Remarks

- NASA has multiple data products and web tools, each with strengths and weaknesses
- Which data and tools you select depends on the application
- Multiple datasets and flooding tools used together will likely be the best option for flood management activities

# Review of Advantages and Limitations

## Advantages

- open-source, near real-time images and data products available to assess flooding conditions
- provides large, spatial scale view of a region affected by flooding and storms
- past data is available to understand flood impacts and develop strategies for coping with future flood events

## Limitations

- varying spatial and temporal resolution and coverage
- different file formats, sizes, naming conventions, and locations for data access
- lack of surface observations in the presence of clouds
- some data require preprocessing and technical understanding before use
- regional validation is highly recommended

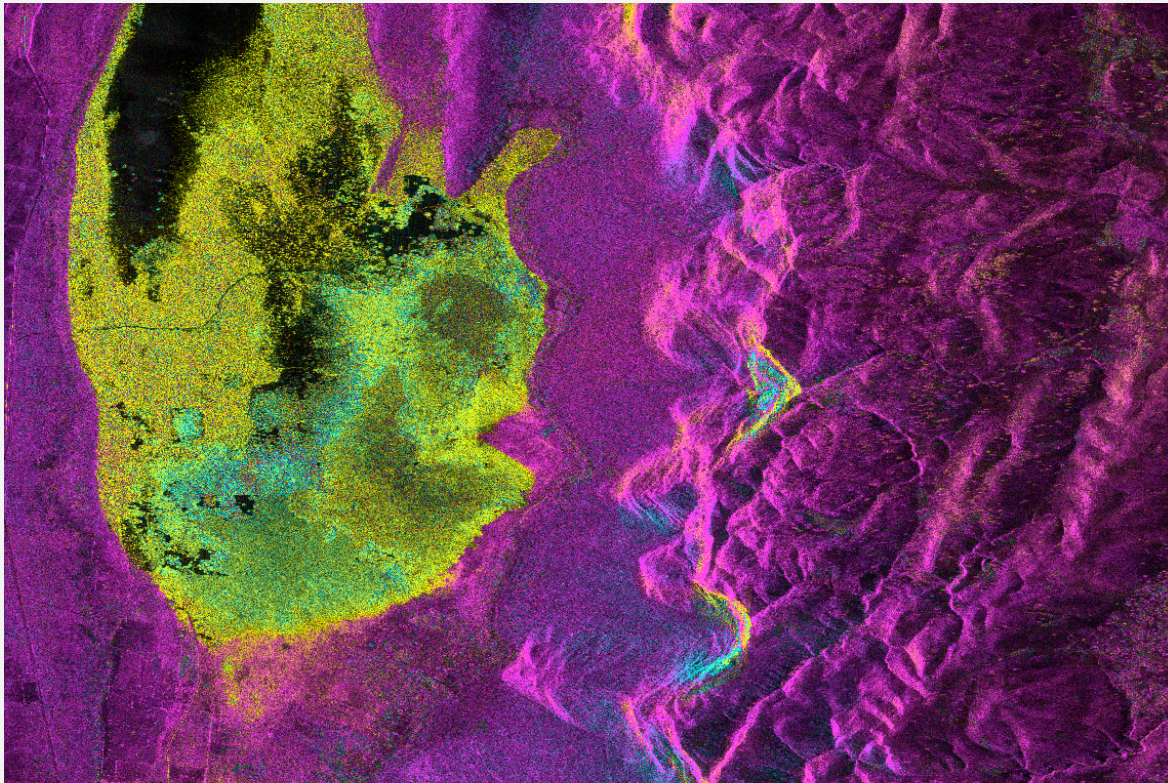
## Concluding Remarks

- NASA's Applied Sciences Program (ASP) (<https://appliedsciences.nasa.gov/>)
  - offers periodic funding opportunities through competitive proposal submission to develop data products and/or tools for specific decision-support or management activities
- NASA DEVELOP ( <https://develop.larc.nasa.gov/>)
  - provides short-term assistance from graduate students to facilitate NASA data applications
- NASA ARSET (<https://arset.gsfc.nasa.gov/webinars>)
  - provides training and helps connect end-user communities to NASA scientists and data product developers

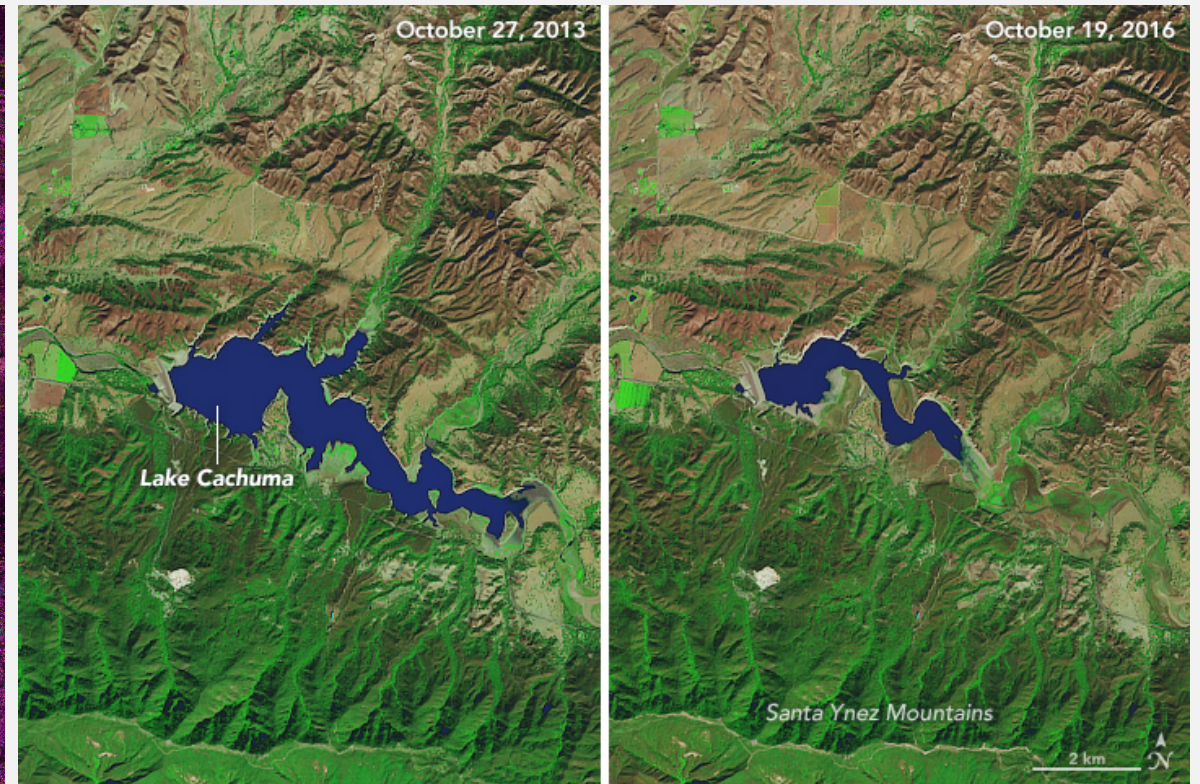


# Upcoming Online ARSET Trainings

Using Synthetic Aperture Radar for Disasters Management, June 2017



Monitoring Drought Using NASA Remote Sensing, July 2017

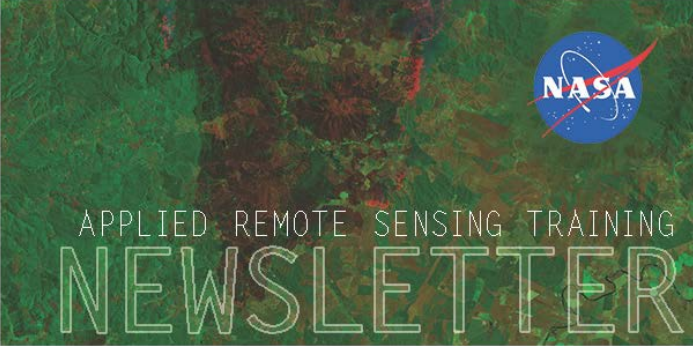




ARSET Website: <http://arset.gsfc.nasa.gov/>

- Keep up-to-date by signing up for the ARSET Listserv: [go.nasa.gov/2ndcKGv](http://go.nasa.gov/2ndcKGv)  
– receive the quarterly ARSET Newsletter
- Get information about ongoing and upcoming training
- View training material and watch recordings of online trainings

If you would like to receive the ARSET newsletter, sign up for the [ARSET Listserv](#).



APPLIED REMOTE SENSING TRAINING  
NEWSLETTER

The false-color satellite image above shows destruction left in the wake of Chile's massive wildfires. [Learn to forecast, monitor, and manage wildfires using satellite observations.](#)

**2016** by the Numbers

Last year, ARSET hit a record in annual participation with 3,277 attendees from 140 countries. In addition to the program's first Train the Trainers webinar, ARSET also hosted the largest webinar in the program's history with 768 participants, and the largest advanced webinar with 344 participants. Read more about ARSET's accomplishments in the 2016 Annual Report.

[Learn More](#)

Notice anything new in Giovanni? Last October, the website added new data variables and additional features. New features include a time averaged map with overlap, land sea masking, and Web Coverage Service support. [Learn More >](#)

# Thank You

- Special thanks to Dewberry for hosting the training
- Thank you to you all for participating in the training!