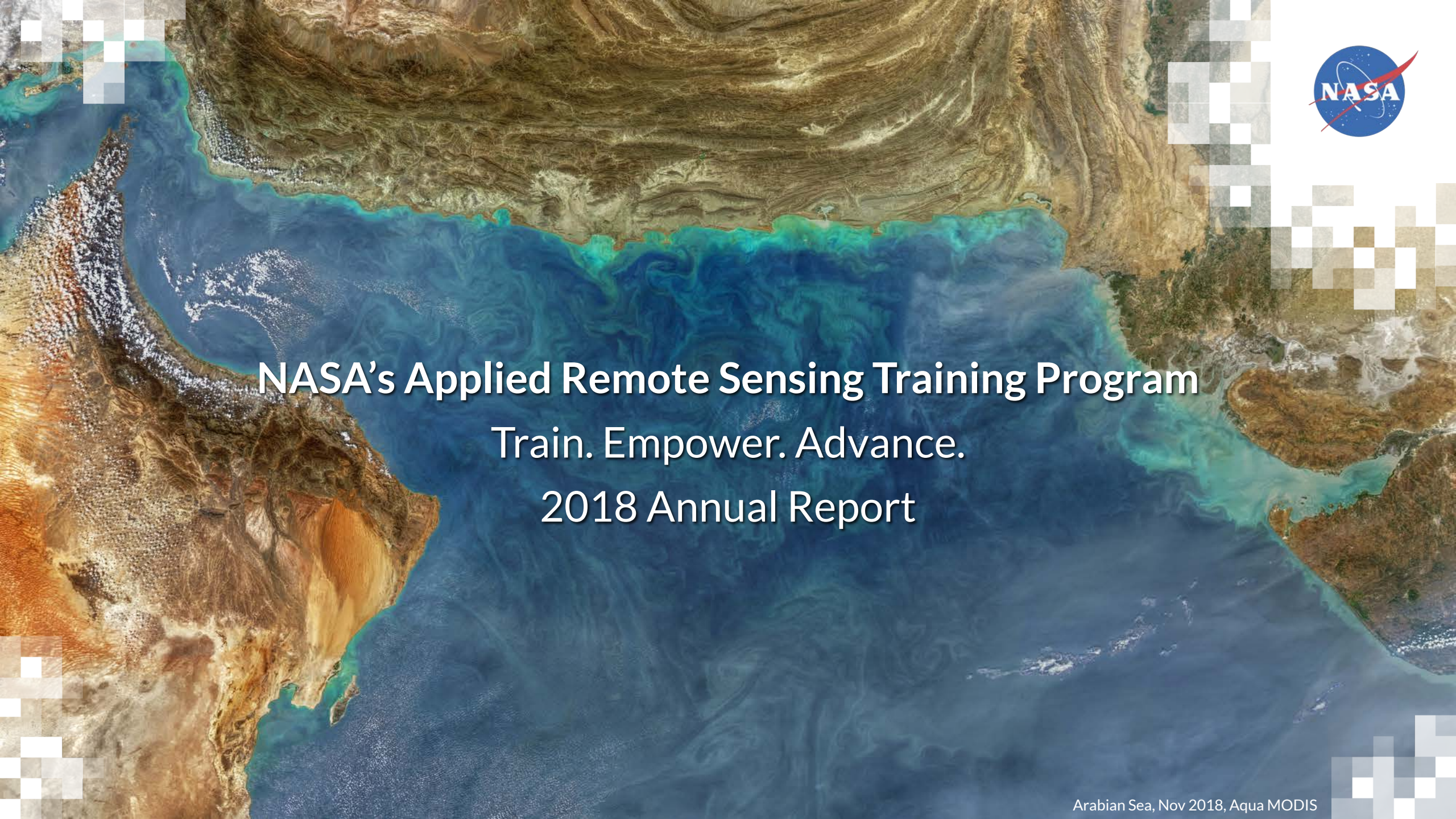
NASA's Applied Remote Sensing Training Program

Train. Empower. Advance.

2018 Annual Report



Arabian Sea, Nov 2018, Aqua MODIS

What is ARSET?

Grasberg Mine, New Guinea, Dec 2017, Landsat 8 OLI

NASA's Applied Remote Sensing Training Program

ARSET empowers the global community through online and in-person remote sensing trainings

These trainings help professionals incorporate Earth observations into their work

ARSET trainings focus on applied users of data, including: policy makers, environmental managers, and other professionals in the private and public sectors

Ga'ara Depression, Iraq, Aug 2017, Landsat 8 OLI

NASA's Applied Remote Sensing Training Program

Trainings are available online or in-person

Online Trainings:

- 2-5 hours long, held over 2-5 sessions
- Available at all levels
- Live or recorded
- Materials available in English and Spanish

In-Person Trainings

- Hosted by a partner
- 2-7 days long, 16-50 hours long
- Use locally relevant case studies

Volcán de Fuego, Guatemala, Feb 2018, Landsat 8 OLI

ARSET trainings are built to meet participants' needs regardless of their background in remote sensing

Trainings are offered at three levels:

Fundamentals: Assumes no prior knowledge of remote sensing

- *What is a satellite?*

Introductory: Requires a fundamentals-level understanding and covers specific applications

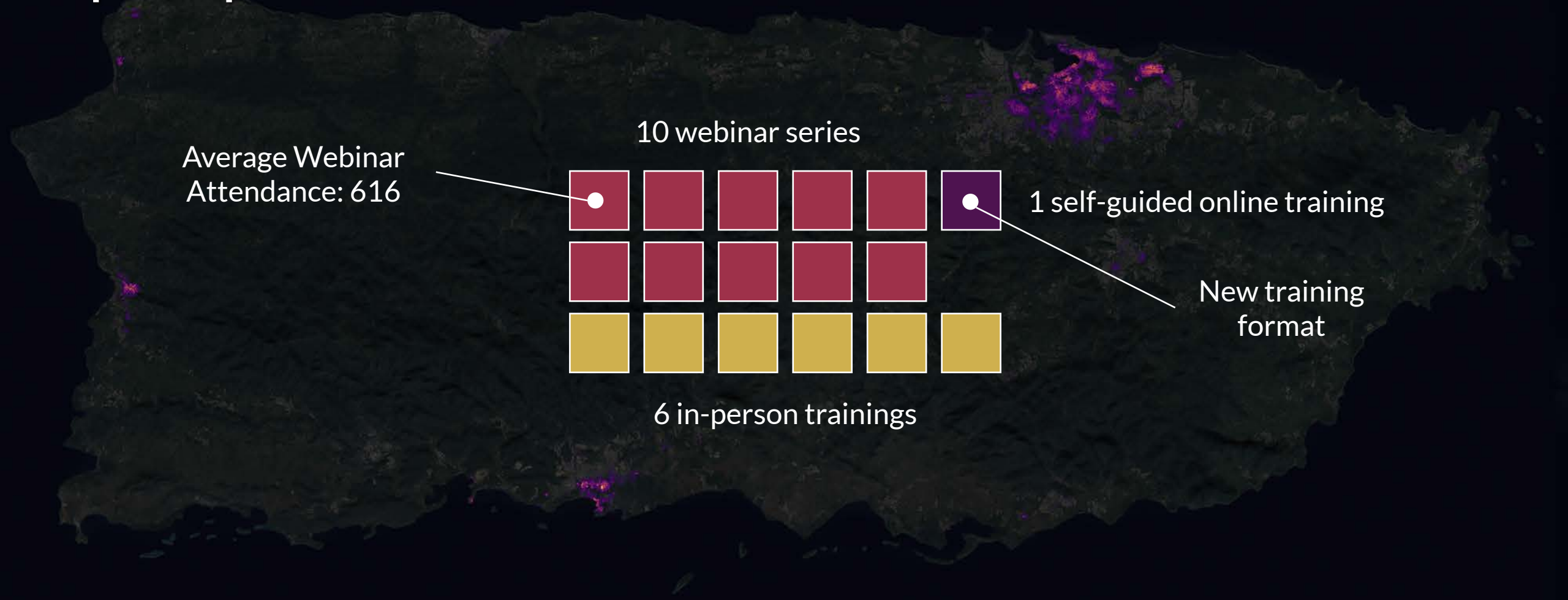
- *What can I do with satellite data?*

Advanced: Requires an introductory-level understanding and covers in-depth and highly focused topics

- *How do I use satellite data to make a flood map?*

Lake Balkhash, Kazakhstan , Oct 2017, Landsat 8 OLI

In 2018 ARSET provided 17 trainings with 6,362 instances of participation



Night lights, Puerto Rico, Sep-Nov 2017, S-NPP VIIRS

Training Topics Included…

- Hydrological Modeling
- Monitoring Tropical Storms
- Wildfires
- Urban Flooding
- Synthetic Aperture Radar
- Geostationary Observations for Air Quality
- Processing Satellite Imagery for Water Quality
- Change Detection

webinar series

self-guided online training

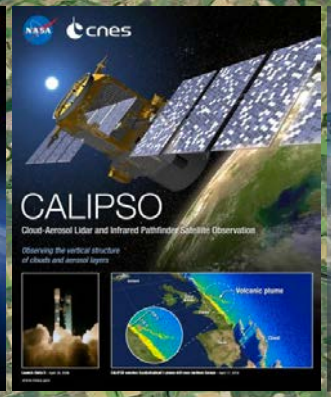
- Fundamentals of Remote Sensing

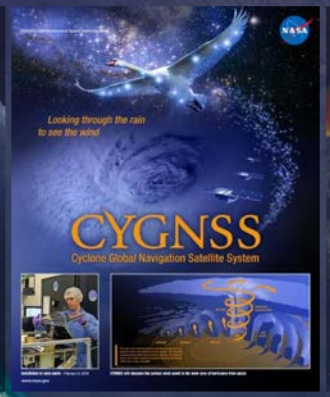
in-person trainings

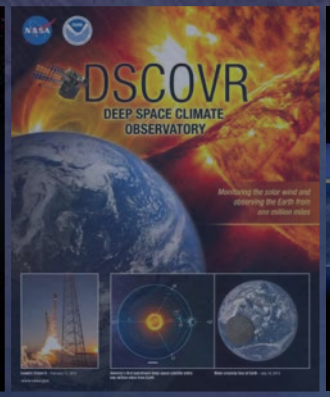
- Ecoforecasting
- Air Quality
- Detecting Dust, Fires, and Smoke
- UN Sustainable Development Goals
- Flood Monitoring

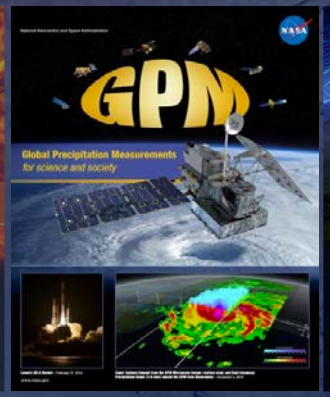
Night lights, Puerto Rico, Mar 2018, S-NPP VIIRS

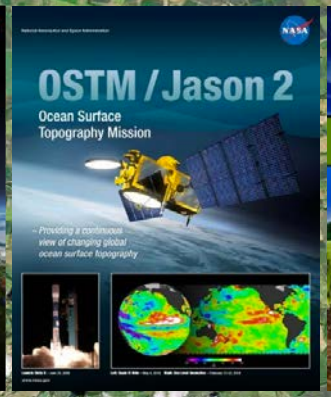
In 2018, ARSET Covered Data from More Than 80% of NASA's Earth Observing Fleet

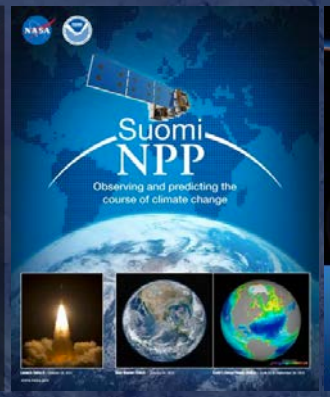


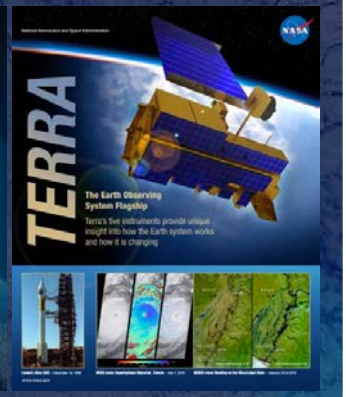












*a sample of missions in the EO fleet

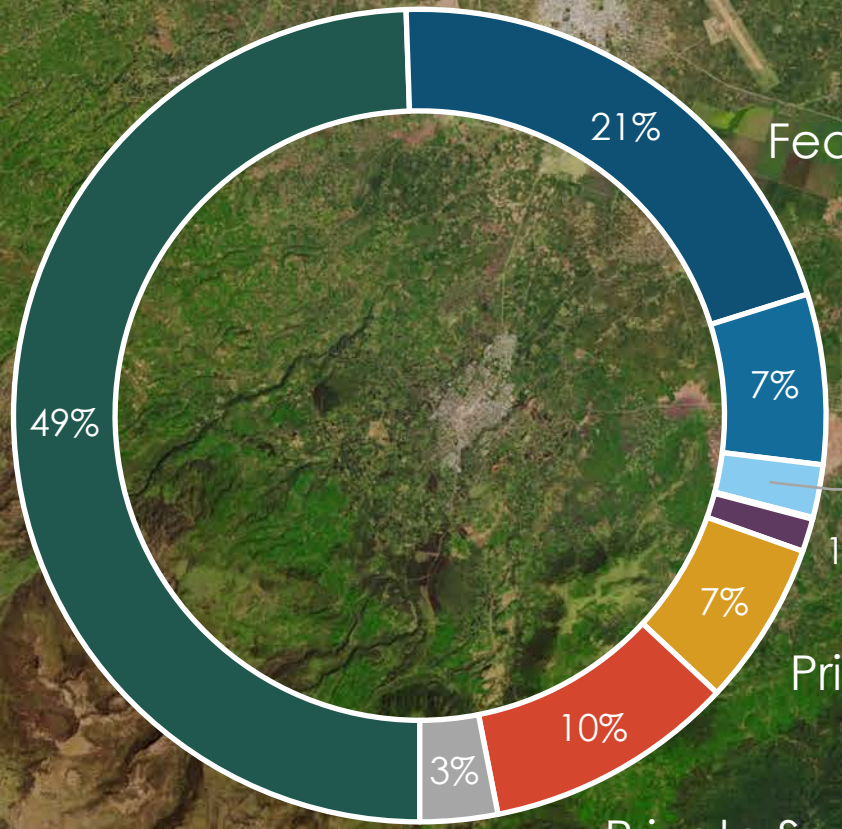
Siccar Point, Scotland, June 2018, Landsat OLI

Reaching More Organizations Than Ever Before

Lake Erie, U,S., Jan 2018, Terra MODIS

Who Takes ARSET Trainings?

In 2018, participants came from 2,570 organizations and 150 countries



Federal/Central Government

State/Provincial Government

Local Government

Regional or Multi-State Agency

Private Sector (Non-Profit), NGO

Private Sector (Profit)

Other

Academia

Sanetti Plateau, Ethiopia, Oct 2016, Landsat 8 OLI

Targeted Outreach Leads to Increase in Local Government Organizations

1,505 of the 2,570 organizations were new to ARSET

103 organizations in 2018 were local governments

⇧ This is a 30% increase from 2017

Of the 103 local government organizations, 87 were new to ARSET

Seaweed Farm, South Korea, Jan 2014, Landsat 8 OLI

Increased Latin American Participation

Matopiba, Brazil, Sep 2018, Aqua MODIS

Latin America & the Caribbean Represented 1/3 of Global ARSET Participants in 2018

In 2018, participants came from every Latin American country

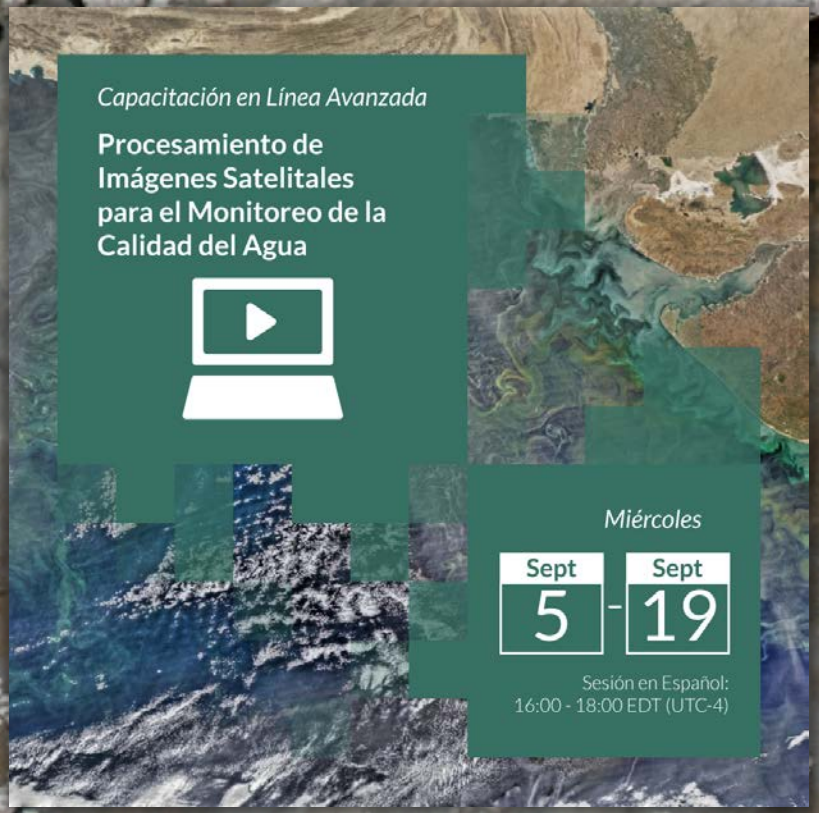
336 out of 847 organizations represented were from local-, state-, and federal-level governments

This represents a 60% growth in governmental organizations compared to 2017

Argentine Sea, Dec 2018, Terra MODIS

In 2018, ARSET Offered 2 Bilingual Trainings

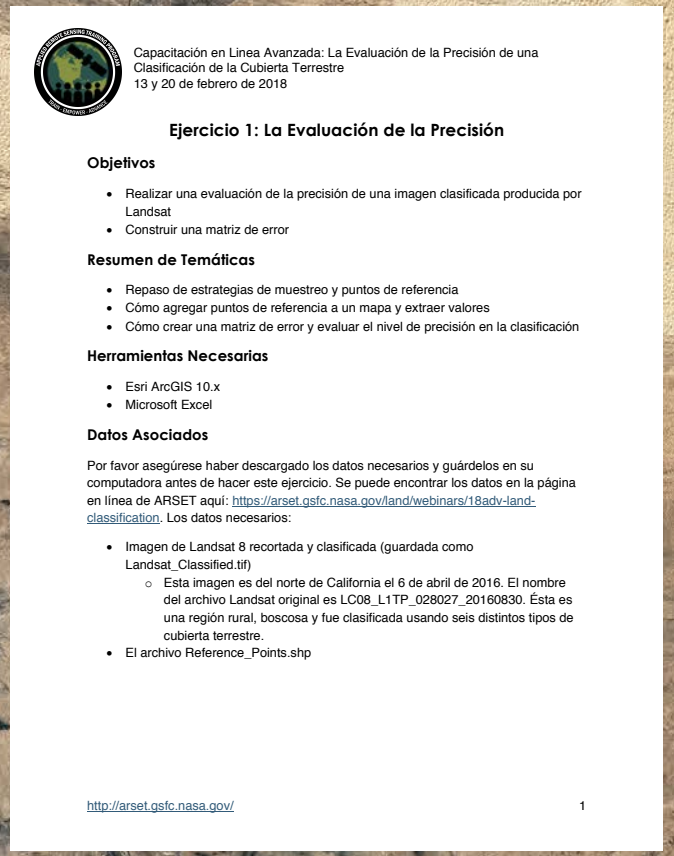
Advanced Webinar: Radar Remote Sensing for Land, Water, & Disaster Applications **was ARSET's largest webinar series to date with 1,039 participants. 72% attended the Spanish-only session.**



La Pampa Province, Argentina, Jan 2018, Aqua MODIS

Materials for English Webinars Translated into Spanish

ARSET employs a full-time translator and editor who translates materials for English-only webinar series into Spanish



Capacitación en Linea Avanzada: La Evaluación de la Precisión de una Clasificación de la Cubierta Terrestre
13 y 20 de febrero de 2018

Ejercicio 1: La Evaluación de la Precisión

Objetivos

- Realizar una evaluación de la precisión de una imagen clasificada producida por Landsat
- Construir una matriz de error

Resumen de Temáticas

- Repaso de estrategias de muestreo y puntos de referencia
- Cómo agregar puntos de referencia a un mapa y extraer valores
- Cómo crear una matriz de error y evaluar el nivel de precisión en la clasificación

Herramientas Necesarias

- Esri ArcGIS 10.x
- Microsoft Excel

Datos Asociados

Por favor asegúrese haber descargado los datos necesarios y guárdelos en su computadora antes de hacer este ejercicio. Se puede encontrar los datos en la página en línea de ARSET aquí: https://arset.gsfc.nasa.gov/land/webinars/18adv-land-classification. Los datos necesarios:

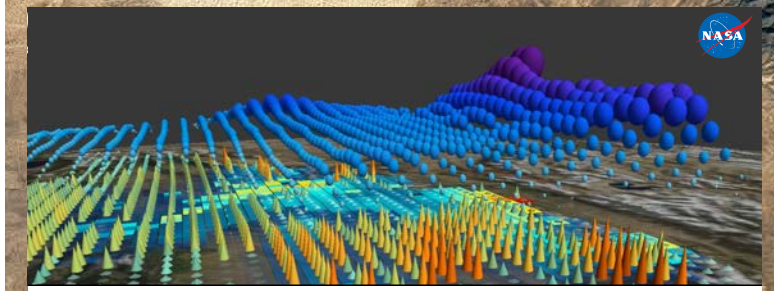
- Imagen de Landsat 8 recortada y clasificada (guardada como Landsat_Classified.tif)
  - Esta imagen es del norte de California el 6 de abril de 2016. El nombre del archivo Landsat original es LC08_L1TP_028027_20160830. Ésta es una región rural, boscosa y fue clasificada usando seis distintos tipos de cubierta terrestre.
- El archivo Reference_Points.shp

http://arset.gsfc.nasa.gov/ 1

Capacidades Nuevas y Próximas para el Monitoreo de la Calidad del Aire

Herramientas para el Análisis de Conjuntos de Datos Satelitales de la Calidad del Aire de Alta Resolución

Pawan Gupta y Melanie Follette-Cook, 17 al 22 de enero de 2018



Introducción al Uso del Modelo VIC con Observaciones de la Tierra de la NASA

Amita Mehta y Kel Markert (SERVIR Global)

15 y 22 de febrero y 1ro de marzo de 2018

Image Credit: ArcIDF, University of Washington

Samalayuca Dunes, Mexico, Jan 2018, Landsat 8 OLI

Advanced SAR Training Attendee Talks About the Advantages of ARSET Training

Facundo Casasola

Chief of the Military Geographical Service

Facundo Casasola, from the National Geographical Institute of the Ministry of Defense of the Argentine Republic, and three other people on his team took the 2018 Advanced SAR training. Participation in the ARSET training increased their capacity to use radar data, which helps with cloud cover and revisit times.

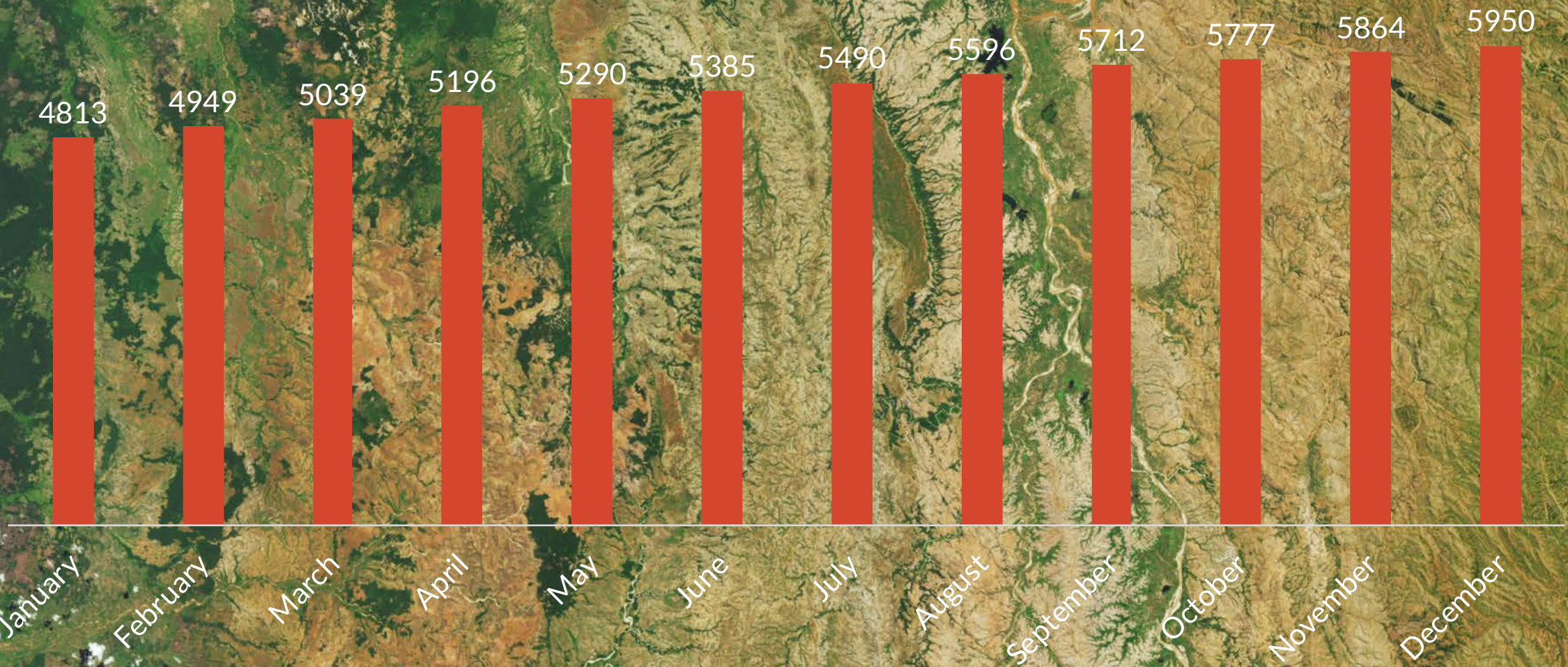
"[ARSET Trainings are] quite good. It's great that we have the chance to be directly in touch with the instructor, especially when the training is over and they start answering questions from the students as I remember."

Chubut Province, Argentina, Aug 2018, Landsat 8 OLI

Growth on Social Media

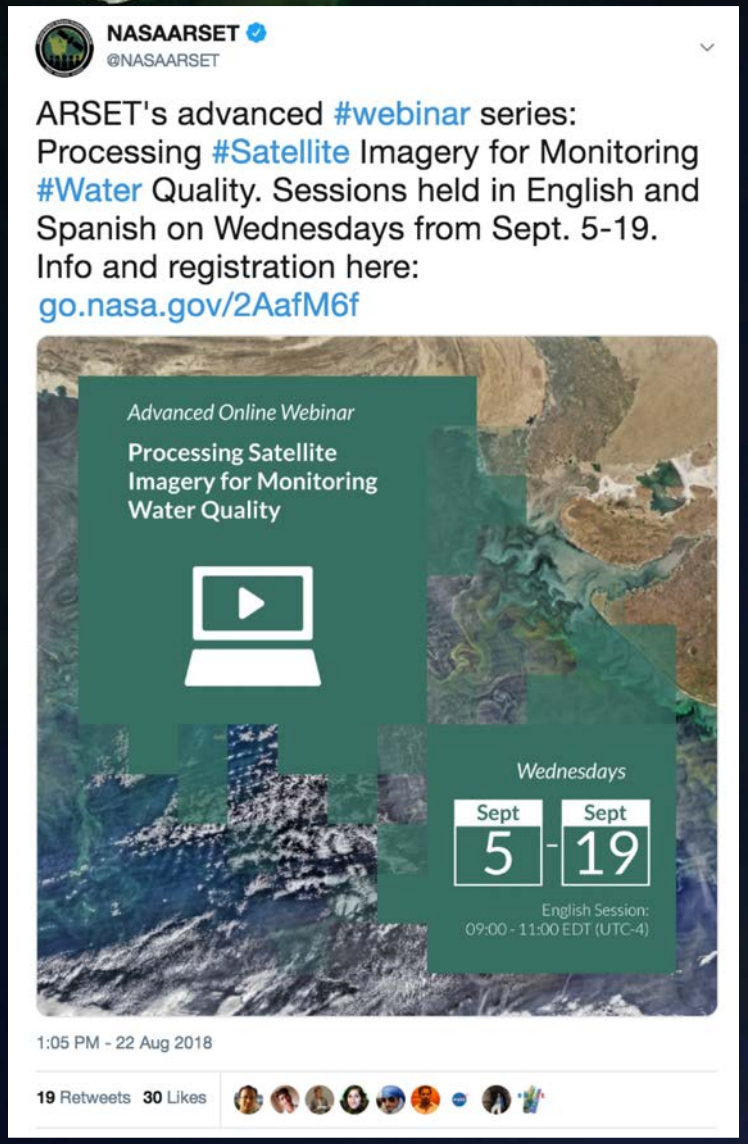
Ship tracks, Atlantic Ocean, Jan 2018, Aqua MODIS

ARSET Twitter Account Grew to 5,950 Followers



Mahajilo and Mania Rivers, Madagascar, Mar 2017, Landsat 8 OLI

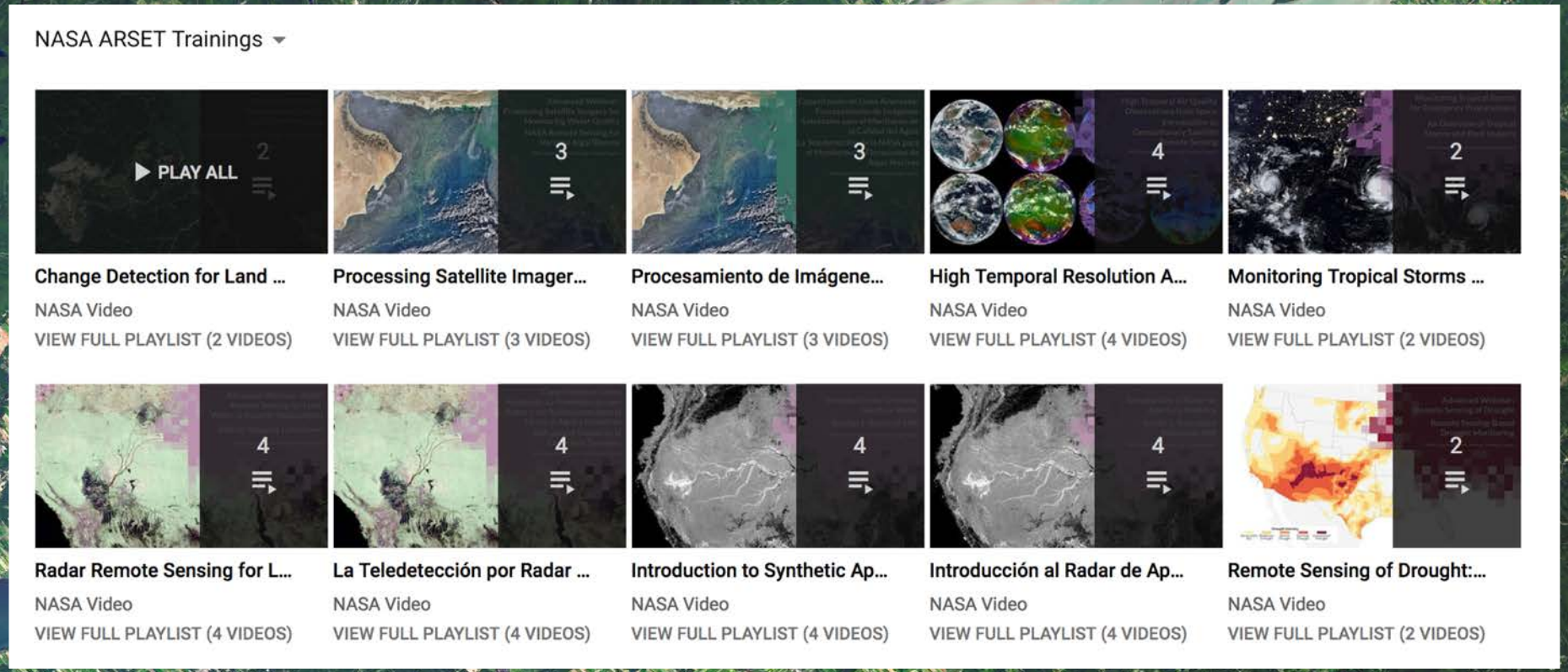
Most Popular Tweets of the Year



Sediment Plume, Gulf Coast, Mar 2018, Terra MODIS

In August, ARSET Began Posting Recorded Webinars to the NASA Video YouTube Channel

From August to December, ARSET's videos received 22,130+ views



Québec City, Canada, Jan 2018, Landsat 8 OLI

Acknowledgements and the ARSET Team

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Ana Prados, Program Manager (GSFC)

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Land & Wildfires

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Amber Jean McCullum, Instructor (ARC)

Health & Air Quality

Pawan Gupta, Lead (GSFC)

Melanie Follette-Cook, Instructor (GSFC)

Nikumaroro Atoll, Kiribati , Jul 2014, Landsat 8 OLI

Contact Us

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