10 Years of Creating Earth Observers
The Growing Legacy of the ARSET Program

Authors: Jonathan O'Brien, Dr. Ana Prados

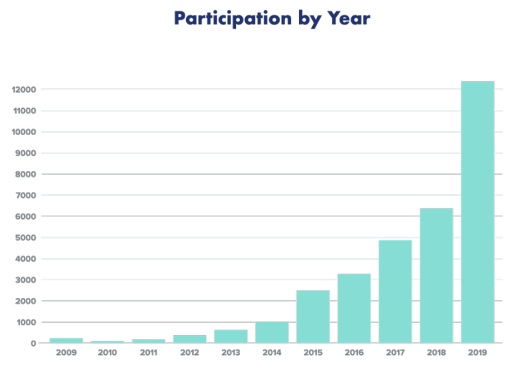
It is safe to say that the massive amount of Earth data being collected by NASA is underutilized. Years worth of untapped potential are waiting to be downloaded and processed, especially in developing or remote parts of the globe. This typically happens for a few reasons, the first being a lack of knowledge around how to use the data. The diaspora of information and sheer quantity of data sources only add to the confusion. If you add a lack of technical and institutional capacity to process satellite data into the mix, incorporating remote sensing into your decision-making process can seem like a monumental challenge. In the past, a lack of access to technical remote sensing training tailored to decision-makers only served to discourage. We are happy to say that this is no longer the case. Just over ten years ago the Applied Remote Sensing Training Program, otherwise known as ARSET, was commissioned by NASA's Applied Sciences Program specifically to address this problem. ARSET makes remote sensing possible for audiences worldwide through free, online and in-person trainings on NASA satellites, sensors, and their applications.

The foundations of the program were formed in 2008, when Dr. Ana Prados and her colleagues began developing remote sensing training modules dedicated to air quality. These came in response to a need that was outlined by the same issues and concerns mentioned in the previous paragraph. These training modules provided just the right combination of elements to allow the ancestor of the modern-day ARSET program to take shape. With all the pieces in place, the first official ARSET training ever conducted was held in person at the American Meteorological Society (AMS) Annual Meeting that took place in Phoenix, AZ in January, 2009. The training was an air quality workshop. This was followed by another eight workshops, including ARSET's first Spanish training taking place in Costa Rica. ARSET continued with this model of offering multiple in-person workshops until 2011, when the program decided to go online with its first water resources training, born out of popular demand.

ARSET Training, UNC, Oct. 2009

This online training gave birth to a new era in the ARSET timeline when it quickly became evident that online trainings could reach far more people in far more places,

with far less work. Online training ramped up in 2012 with five new offerings, reaching a total of 361 people. In 2013, ARSET added trainings in another application area, disasters, and nearly doubled its participation. The land management application area was added in 2014, and 2015 and 2016 brought training offerings at multiple levels of expertise and a social media presence respectively. At this point, the hard work of the trainers and training coordinators was beginning to show its impact. Participation numbers nearly doubled from 2016 to 2018, and nearly doubled again from 2018 to 2019. It is no surprise that 2020 is already on track to double 2019 participation.



Participation in ARSET Trainings by Year

Through experience, the trainers and training coordinators at ARSET have discovered a formula that works, as evidenced by this exponential growth in viewership and participation. The ARSET formula includes several key factors, starting with the unique ability to leverage the expertise of NASA Earth scientists to keep our training content relevant and on the cutting edge of remote sensing technology. Aside from having access to such a great network of subject matter experts, Earth scientists from the broader scientific community are often invited to present to our audiences as guest speakers. Another contributing factor to the relevance of the training content is our user-driven approach, relying heavily on user feedback to adapt our topics and methods. The ability to make our courses free and accessible online, mixed with the ability to provide multilingual training sessions and materials, makes them easy to access for a broad audience. Some workshops are still conducted in person, but this requires planning months in advance and a rigorous application process to screen participants. This is why the vast majority of ARSET trainings take place in the form of live, online sessions. These live sessions also include a “lab” session or a Q&A session, where the instructors will stay online to answer questions about the material covered. Once the live sessions are over, recordings of the training sessions can be found on Youtube and the ARSET website so they can be used for self-paced training. Trainings also come with different levels of difficulty, from introductory sessions for beginners to advanced sessions for the more seasoned crowd. Another key component is the massive efforts that are poured into outreach. ARSET’s training coordinators work tirelessly to make new connections, break into new audiences, and make sure the right people see what opportunities are being offered.

Through the amazing work of our trainers and support team, over 40,000 individuals in over 170 countries have attended ARSET trainings since 2009. You know what they say, “If it ain't broke, don’t fix it.” The formula seems to be working, and a healthy mix of repeat customers and fresh faces are tuning in to ARSET trainings almost weekly, with recent training sessions averaging nearly 1,000 participants each. As a matter

of fact, all three of the most recent trainings set attendance records, and as of June 2020, participation numbers were already double what they were in June 2019. The program also conducted its first trilingual training in English, Spanish, and French in March 2020. It is becoming apparent to the worldwide audience that ARSET is an invaluable resource. If you would like to do your part in making sure it is not as underutilized as the data is, stay connected through our newsletter or follow us on Twitter to get the latest news.