Notes from Geospatial/GIS Meetup
May 12, 2026

Zoom

Attendees: Janet Reyes, facilitator

Via Zoom: Danelle Angeline Baronia, Luis Barrios, Mike Cohen, Raymond Uzwyshyn

Announcements

This meeting was recorded; watch the video here. The passcode to view is mU.8qVrv

On Wednesday, May 13 at 10:00 am, Esri is hosting a YPN (Young Professionals Network) webinar on **Mentorship Matters: Growing Your GIS Career Through Connection**.

Janet will present a workshop titled **From Table to Map** on Zoom and in Orbach Science Library, Room 122 on Wednesday, May 13 at 2:00 pm. Learn how spatial data in a spreadsheet can be visualized on a map in a GIS.

Register soon for the **2026 Esri Education Summit** (July 11-12) and/or the **Esri User Conference** (July 13-17). The Education Summit, with a target audience of faculty, staff, and K12 instructors, will be held in-person at the San Diego Convention Center. User Conference registration includes a few options, such as free virtual attendance for many sessions, free one-day passes for students, and a $150 rate for students to attend the whole conference. Currently UCR has two remaining complimentary passes for a faculty or staff member to attend either the Education Summit or the User Conference.

Those looking for an immersive experience to learn about drones can consider attending **DroneCamp 2026** from August 3-7 at CSU Monterey Bay.

If you own content in ArcGIS Online and are separating from UCR in the months ahead, you may want to consider **transferring ownership of items in ArcGIS Online** to someone else at UCR, or to a different ArcGIS Online account where you can continue to access it. You can migrate content to another account using the ArcGIS Online Assistant, or you may need to request assistance from an ArcGIS Online administrator.

Shared links

3D visualization of ancient Earth: https://dinosaurpictures.org/ancient-earth#200

Presentation

Danelle Angeline Baronia, a Field Biologist and the Outreach and Engagement Lead at the University of California, Riverside's Center for Conservation Biology Sweet Lab, presented on **The Prioritization, Adaptation, and Resilience for Climate (PARC) Toolkit for Desert Climate Resilience.**

Danelle started by introducing the Desert Climate Resilience Initiative (DCRI) for the Coachella Valley, which was launched in 2023 to improve scientific expertise and community engagement around climate

change, native plant communities, carbon in the desert, and building equity. The goal is to boost community resilience. Outreach events have been an important component of the program. Two deliverables of the DCRI are a project website and the PARC toolkit.

The Mojave Desert, Sonoran Desert, Colorado Desert, and the Southern California Mountains comprise the ecoregions found in the Coachella Valley. Plant communities vary among the ecoregions; all are expected to be affected by climate change.

Pulling from existing data sources, the PARC toolkit includes vulnerability maps and climate resilience information as inputs for land management, conservation prioritization, equity enhancements, and land use scenario planning. The toolkit platform is an ArcGIS Instant App that contains a story map (which serves as an introduction) and dashboards. The introduction includes an explanation of carbon sequestration, plant biodiversity, and equity and access, along with additional resources.

The carbon sequestration portion of the toolkit addresses soil organic and inorganic carbon. Carbon stored in the soil helps mitigate climate change by being present there instead of in atmospheric gases. Data for the map was sourced from SSURGO. The user can zoom into various conservation areas to view how much organic or inorganic carbon is stored there. Another option provides maps of above-ground carbon sequestration in three native perennial plants. The maps illustrate that the desert stores a significant amount of carbon.

Another set of tabs in the toolkit contain maps displaying perennial plant suitable habitat range predictions. One set of maps features the predicted habitat ranges for ten different species of perennial plants; another set features ranges for annual plants (such as flowers). For each species, map layers have been created for predicted ranges in 2081-2100 under three different climate scenarios: optimistic (focus on sustainability), middle of the road, and pessimistic (focus on fossil fuels). Bar graphs indicate the current and predicted acreage of the ranges. The amount of predicted change varies significantly from species to species, with some essentially disappearing under the most pessimistic scenario.

Land managers studying the maps may decide, for instance, to focus on conserving areas where the plant range persists even under less-optimistic scenarios.

The third major section of the toolkit focuses on biodiversity change predictions. On this series of maps and bar graphs, areas are shaded based on how many of the 20 indicator species are present currently or are expected to be present under each of the climate scenarios. This is another aspect for land managers to consider when deciding on areas to conserve.

The credits and documentation section provides information on the data sources and shares the calculations and other research that went into creating the visualizations.

In addition to providing the deliverables, the DCRI has strengthened partnerships, established a more diverse community network, improved the lab's capacity to continue work, and generated educational materials.

Discussion

Janet asked how the tool has been received so far by the decision-makers. There was a webinar for the rollout, and the team has had a couple of consultations with organizations and with the funders. Interest has been expressed for the carbon storage data in particular.

Janet also asked about how the plant species were selected. They were largely indicator species, meaning that their presence indicates that other particular species are also likely to be present.

Ray asked how long data gathering took, and how many people were involved. Luis Barrios did most of the data gathering; Dr. Hector Zumbado-Ulate and Danelle also participated in working with the data. A lot of workshopping was required prior to building the toolkit. Luis estimated the data gathering took a year altogether. Dr. Lynn Sweet and Dr. Darrel Jenerette served as mentors and helped workshop some ideas.

Janet asked if the team has heard from other groups who are interested in creating a tool like this. So far they haven't heard much about future collaborations. They did look at the work of others who had created tools with one or more similar components. This team wanted to create a tool that would specifically benefit the Coachella Valley community.

Contact

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