



## Academic Program Review Dossier Cover Page | 2025 Cycle

**Name, Lived Name:**

Andy Lyons

**Preferred Pronoun(s):**

he/him/his

**Academic Title:**

Academic Coordinator III

**County/Program:**

Informatics and GIS Statewide Program

**Review Type:**

Merit

**Current Step:**

IV

**Requested Step:**

V

**Review Time Period:**

October 1, 2021 to September 30, 2024

**Thematic Areas:**

I. Program Coordination and Development (20%)

II. Project Development and Coordination (30%)

III. Weather and Climate Change Data Science (25%)

IV. Extension (15%)

V. Administration (10%)



**ANR Academic Position Description:  
*IGIS Statewide Program Coordinator***

**Andy Lyons**

**Effective Date:  
10/1/2016**

**PURPOSE AND CLIENTELE**

The *IGIS Statewide Program Coordinator* helps fulfill the goals of IGIS by facilitating the delivery of research, training, and data support to the UCANR network. The *Program Coordinator* provides vision and leadership for the development and implementation of IGIS research and extension programs, including strategic planning, quality assurance of program deliverables, collaboration and coordination with local and external partners, alignment of IGIS programs with the UCANR Strategic Vision, and program development including funding. The *Program Coordinator* also provides technical and academic support for research and extension through development of technical documentation, training materials, curricula, technical support for clientele, geospatial data analyses and tools, and development of new applications of geospatial science.

The *Program Coordinator's* primary clientele is the entire UCANR community including all Academics and Staff, all Statewide Programs and Institutes, RECs, AES faculty, and ANR leadership. Secondary clientele include ANR academics' direct collaborators in projects, and AES students.

The position is based at UC Berkeley with occasional travel to other UCANR locations as required.

**ACADEMIC PROGRAM MAJOR RESPONSIBILITIES**

1. Provide professional knowledge and support for **Research**:
  - a. Develop and document tools and methods that employ novel combinations of analysis, technology and data driven research hypotheses.
  - b. Test, refine and document new applications of new geospatial science and technology.
  - c. Identify and apply for funding opportunities and develop collaborations to advance high priority research areas in accordance with the IGIS mission and UCANR Strategic Vision.
  - d. Plan, support, and execute drone data collection missions.
  - e. Contribute to scholarly contributions where possible.
2. Provide academic leadership and technical support in **Training**:
  - a. Oversee the development and implementation of needs assessments of IGIS clientele regarding data needs, informatics, geospatial knowledge and skills, and technical support.
  - b. Assist in the development of curricula, training materials, and technical documentation.
  - c. Design, lead and support technical training programs for IGIS clientele.
  - d. Identify and develop innovative methods and formats for delivering and evaluating training and technical support.

3. Maintain a program of continuous **Self-Improvement and Professional Development**
  - a. Participate in in-service training, seminars, workshops, Work Group & Program Team meetings, short courses, professional society meetings and other relevant opportunities.
  - b. Maintain professional competency in Geographic Information Science, informatics, spatial data science, and/or remote sensing.
4. Support ANR, UC, and the people of California through **Service**:
  - a. Participate in UC and ANR leadership, through Work Groups & Program Teams, committees, task forces and other formal and informal structures.
  - b. Participate in professional associations and collaborations with federal, state and county governmental agencies, non-government organizations and other groups by providing independent science-based information and leadership.
  - c. Foster an increased understanding of Cooperative Extension's research and education programs in clientele, the public and policy makers.

#### **PROGRAM LEADERSHIP**

5. Provide **Program Coordination** for the regular activities of the IGIS Statewide Program:
  - a. Help run meetings and coordinate IGIS communication.
  - b. Help prepare and manage program and project budgets.
  - c. Help develop, implement, and monitor project work-plans, deliverables, tracking systems, and invoices.
  - d. Work with IGIS staff to ensure that outcomes and impacts are effectively measured and communicated.
  - e. Oversee program and project reporting in a timely and high quality manner.
  - f. Oversee staff hiring in compliance with all UCANR HR policies and procedures as needed.
6. Support, develop, and implement strategic **Outreach, Marketing, and Communication**:
  - a. Represent IGIS in a professional manner at meetings within UCANR and other fora.
  - b. Reach out to new clientele in accordance with the IGIS Strategic Plan and UCANR Strategic Vision.
  - c. Develop and disseminate marketing materials including fliers, posters, presentation materials, online resources, multimedia, blog posts, articles, etc.
  - d. Facilitate new project development and collaborations, including conceptualization, technical translation, pilot studies, and applying for funding.
  - e. Actively advocate for IGIS program awareness and support.
7. Provide leadership and technical support in **Program Development**:
  - a. Oversee the development and implementation of a IGIS Strategic Plan in accordance and alignment with the UCANR Strategic Vision and Strategic Plan.
  - b. Coordinate internal and external program reviews, including Five-Year Program Reviews.
  - c. Support and help improve internal systems for tracking activities, program deliverables, and outcomes.
  - d. Interact with UCANR Program Teams, Specialists and others within the research & extension continuum to develop, strengthen and expand the local delivery of IGIS services and resources.
  - e. Identify funding opportunities, and coordinate and provide technical input for the development of proposals for extramural funding for ANR research and extension programs.

- f. Identify, develop, and maintain productive collaborations within UCANR, other units in the UC system, state and local government, and industry.
8. Maintain a strong and positive **Leadership Style**:
- a. Provide vision, inspire, and motivate others with attitude and actions across many programs and constituencies.
  - b. Set a high standard for excellence.
  - c. Innovate and foster positive change.
  - d. Model and support a productive team working environment.
  - e. Encourage and be open to exploring new ideas and innovative changes.
  - f. Be an effective listener and communicator.

#### **AFFIRMATIVE ACTION**

- 9. Comply with all applicable federal and state laws and regulations, and all University policies regarding affirmative action, including prohibition of discrimination on the basis of race, color, national origin, religion, sex, sexual orientation, physical or mental disability, age, veteran status, medical condition, ancestry or marital status.
- 10. Promote, in all ways consistent with other responsibilities of the position, accomplishment of the affirmative action goals established by UCANR.
- 11. Take all measures necessary to assure that any employee or volunteer workers supervised by this position fulfill their affirmative action responsibilities.
- 12. Develop and support the implementation of a program mission statement and strategic plan that embodies a commitment to serve diverse ethnic and gender groups.
- 13. Plan and conduct programs in such a manner as to provide equitable service to all ethnic and gender groups that comprise the potential clientele population for the program.
- 14. Identify any barriers to clientele participation related to ethnicity, gender, or other characteristic of concern under the University's affirmative action policies, and take corrective action as needed to remove such barriers.
- 15. Compile and maintain at the program level documentation of services provided to each ethnic and gender group, including records of clientele participation, quantitative evaluations of benefits realized by clientele, and reports of any special efforts to serve under-represented groups.

#### **RELATIONSHIPS**

- 16. The *Program Coordinator* is administratively responsible to the Director of the IGIS Statewide Program. The *Program Coordinator* works cooperatively with all members of the IGIS Statewide Program, Director of Program Planning and Evaluation, and Vice Provost of Strategic Initiatives and Statewide Programs.

## QUALIFICATIONS

### *Minimum and Required Qualifications:*

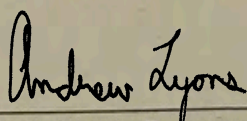
- PhD in Environmental Science, Ecology, Geography, Agriculture, Statistics, or an appropriate related field with experience in data science, geographic information sciences, remote sensing, or ecological informatics. Experience synthesizing large ecological or socio-ecological datasets and using them in complex local and statewide research projects. Experience developing and managing research projects including agriculture, ecology, or climate change. Experience using GIS, remote sensing, and/or web programming software. The ability to communicate and extend technical information in an understandable manner. Strong leadership, administration, financial, and management skills. Knowledge of human relations is required including the ability to work with people with a diversity of views and values, to motivate people and adapt to changing situations

### *Must Demonstrate:*

- Knowledge of human relations is required, including the ability to work with people with diverse views and values while motivating and adapting to changing situations.
- Literacy in internet communications and with software to support research and education programs.

### *Preferred Qualifications:*

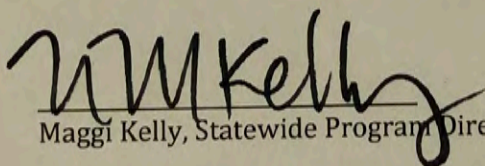
- Potential to accomplish team-based research and education programs consistent with the values of Cooperative Extension and meeting IGIS goals is preferred. Experience with or knowledge of Cooperative Extension is preferred. Familiarity and experience with web-based data frameworks such as APIs in support of research and education programs is preferred. Experience effectively and productively interacting with multiple researchers and stakeholders is preferred. FAA Part 107 Remote Pilot License with sUAS certification. Experience teaching geospatial topics for diverse audiences in diverse settings.



Andy Lyons, Program Coordinator, IGIS

1/29/2019

Date



Maggi Kelly, Statewide Program Director, IGIS

1/29/19

Date

**Mark Bell**

Digitally signed by Mark Bell  
DN: cn=Mark Bell, o, ou,  
email=mozbell@ucanr.edu, c=US  
Date: 2019.01.28 13:23:09 -08'00'

Mark Bell, Vice Provost of Strategic Initiatives  
and Statewide Programs

Date





**Position Description**  
**Andy Lyons**  
**IGIS Statewide Program Coordinator**  
**Effective Date: 2/1/2022**

**PURPOSE AND CLIENTELE**

The *IGIS Statewide Program Coordinator* helps fulfill the goals of IGIS by facilitating the delivery of research, training, and data support to the UCANR network. The *Program Coordinator* provides vision and oversight for the development and implementation of IGIS research and extension programs, including strategic planning, supervision of academics and staff, quality assurance of program deliverables, collaboration and coordination with local and external partners, alignment of IGIS programs with the UCANR Strategic Vision, and program development including funding. The *Program Coordinator* also provides technical and academic oversight for research and extension through development of technical documentation, training materials, curricula, technical support for clientele, geospatial data analyses and tools, and development of new applications of geospatial science.

The *Program Coordinator's* primary clientele is the UCANR community including all Academics and Staff, all Statewide Programs and Institutes, RECs, AES faculty, and ANR leadership. Secondary clientele includes ANR academics' direct collaborators in projects, government agencies, and AES students.

The position is based at UC Berkeley with occasional travel to other UCANR locations as required.

**ACADEMIC PROGRAM MAJOR RESPONSIBILITIES**

**Technical Competence and Impact**

1. Provide professional knowledge and support for **Research**:
  - a. Develop and document tools and methods that employ novel combinations of analysis, technology and data driven research.
  - b. Explore, test, refine and document new applications of geospatial science and technology.
  - c. Identify and support proposals for funding opportunities and develop collaborations to advance high priority research areas in accordance with the IGIS mission and UCANR Strategic Vision.
  - d. Plan and support drone data collection missions where possible.
  - e. Contribute to scholarly contributions where possible.

**Communication**

2. Provide academic leadership and technical support in **Training**:
  - a. Oversee the development and implementation of needs assessments of IGIS clientele regarding needs for data, informatics, geospatial knowledge and skills, and technical support.
  - b. Assist in the development of curricula, training materials, and technical documentation.

- c. Design, lead and support technical training programs for IGIS clientele.
- d. Identify and develop innovative methods and formats for delivering and evaluating training and technical support.

### **Collaboration, Teamwork & Flexibility**

- 3. Build and maintain **Collaborations with ANR Clientele** and their direct affiliates:
  - a. Interact with UCANR Program Teams, Specialists and others within the research & extension continuum to develop, strengthen and expand the local delivery of IGIS services and resources.
  - b. Identify, develop, and maintain productive collaborations within UCANR, other units in the UC system, state and local government, and industry.

### **Professional Development & Lifelong Learning**

- 4. Maintain a program of continuous **Self-Improvement and Professional Development**:
  - a. Participate in in-service training, seminars, workshops, Work Group & Program Team meetings, short courses, professional society meetings and other relevant opportunities.
  - b. Maintain professional competency in geographic information science, informatics, spatial data science, and computational programming.
- 5. Support ANR, UC, and the people of California through **Service**:
  - a. Participate in UC and ANR leadership, through Work Groups & Program Teams, committees, task forces and other formal and informal structures.
  - b. Participate in professional associations and collaborations with federal, state and county governmental agencies, non-government organizations and other groups by providing independent science-based information and leadership.
  - c. Foster an increased understanding of Cooperative Extension's research and education programs in clientele, the public and policy makers.

## **LEADERSHIP AND ADMINISTRATIVE DUTIES**

### **Leadership & vision**

- 6. Provide leadership and technical support in **Program Development**:
  - a. Coordinate the development and implementation of IGIS Strategic Plans in accordance and alignment with the UCANR Strategic Vision and Strategic Plan.
  - b. Coordinate internal and external program reviews, including Five-Year Program Reviews.
  - c. Support and help improve internal systems for tracking activities, program deliverables, and outcomes.
  - d. Review and vet emerging opportunities for collaborations and projects to ensure alignment with the IGIS Strategic Plan and UCANR Strategic Plan and Strategic Vision.
- 7. Maintain a strong and positive **Leadership Style**:
  - a. Provide vision, inspire, and motivate others with attitude and actions across many programs and constituencies.
  - b. Set a high standard for excellence.
  - c. Innovate and foster positive change.
  - d. Model and support a productive team working environment.

- e. Encourage and be open to exploring new ideas and innovative changes.
- f. Be an effective listener and communicator.

## **Budget & Funding**

8. Responsibly **Manage Program and Project Resources**:
  - a. Provide general oversight and management of IGIS budget and financial resources.
  - b. Provide academic and financial oversight for Contracts and Grants activities, including development of project proposals, budgets, scopes of work, requests for information, and reporting.
  - c. Identify funding opportunities, and provide technical input and coordination for the development of proposals for extramural funding for ANR research and extension programs.
  - d. Oversee development of new projects and collaborations, including conceptualization, technical translation, pilot studies, and funding applications.

## **Human Resources**

9. Provide **Program Leadership** for the regular activities of the IGIS Statewide Program:
  - a. Lead weekly team meetings and coordinate IGIS communications.
  - b. Supervise IGIS staff and academics including completion of annual performance reviews, professional development planning, and coaching.
  - c. Coordinate HR Activity including recruitments and deployment of human resources in compliance with all UCANR HR policies.
  - d. Develop, implement, and monitor project work-plans, deliverables, tracking systems, and billing systems.
  - e. Work with IGIS staff to measure and communicate program level outcomes and impacts.
  - f. Provide analytical support to the IGIS Director regarding all staffing issues.

## **Advocacy and Communication**

10. Support, develop, and implement strategic **Outreach, Marketing, and Communication**:
  - a. Represent IGIS in a professional manner at meetings within UCANR and other fora.
  - b. Reach out to new clientele in accordance with the IGIS Strategic Plan and UCANR Strategic Vision.
  - c. Develop and disseminate marketing materials including fliers, posters, presentation materials, online resources, multimedia, blog posts, articles, etc.
  - d. Actively advocate for IGIS program awareness and support.

## **AFFIRMATIVE ACTION AND DEI**

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13. Take all measures necessary to assure that any employee or volunteer workers supervised by this position fulfill their affirmative action responsibilities.
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15. Plan and conduct programs in such a manner as to provide equitable service to all ethnic and gender groups that comprise the potential clientele population for the program.
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## **RELATIONSHIPS**

17. The *IGIS Statewide Program Coordinator* is responsible to the Director of the IGIS Statewide Program. The *Program Coordinator* works cooperatively with all members of the IGIS Statewide Program, Director of Program Planning and Evaluation, and Vice Provost of Strategic Initiatives and Statewide Programs.

## **QUALIFICATIONS**

### *Minimum and Required Qualifications:*

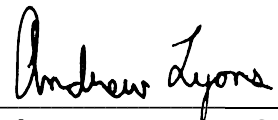
- PhD in Environmental Science, Ecology, Geography, Agriculture, Statistics, or an appropriate related field with experience in data science, geographic information sciences, remote sensing, or ecological informatics. Experience synthesizing large ecological or socio-ecological datasets and using them in complex local and statewide research projects. Experience developing and managing research projects including agriculture, ecology, or climate change. Experience using GIS, remote sensing, and/or web programming software. The ability to communicate and extend technical information in an understandable manner. Strong leadership, administration, financial, and management skills. Knowledge of human relations is required including the ability to work with people with a diversity of views and values, to motivate people and adapt to changing situations

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### *Preferred Qualifications:*

- Potential to accomplish team-based research and education programs consistent with the values of Cooperative Extension and meeting IGIS goals is preferred. Experience with or knowledge of Cooperative Extension is preferred. Familiarity and experience with web-based data frameworks such as APIs in support of research and education programs is preferred. Experience effectively and productively interacting with multiple researchers and stakeholders is preferred. FAA Part 107 Remote Pilot License with sUAS certification. Experience teaching geospatial topics for diverse audiences in diverse settings.

  
\_\_\_\_\_  
Andy Lyons, Program Coordinator, IGIS

1/24/2022  
Date

  
\_\_\_\_\_  
Maggi Kelly, Statewide Program Director, IGIS

1/25/2022  
Date

\_\_\_\_\_  
Mark Bell, Vice Provost of Strategic Initiatives  
and Statewide Programs

\_\_\_\_\_  
Date

## **ANR Academic Position Description Addendum**

Andy Lyons  
Academic Coordinator III  
Informatics and GIS Statewide Program  
Effective dates: July 1 – December 31, 2023

From July 1 – December 31, 2023, the Program Coordinator will serve as the Acting Director of IGIS with the following added responsibilities:

Percentage (%) of the position that is changing with this addendum: 15%

### **Leadership and Administrative Duties**

#### General Administration

- Lead weekly team meetings Mondays 2-3
- Review weekly progress with Shane Feirer, Sean Hogan
- Attend weekly meetings with ANR Statewide Program leadership
- Attend VP Council meetings

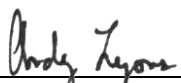
#### Program Leadership

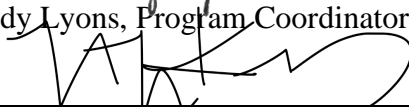
- Provide ongoing updates to IGIS staff on recent research and technology related to ANR mission and goals
- Liaise with AES faculty on UC campuses on related research and technology
- Provide leadership on grant writing for IGIS related work

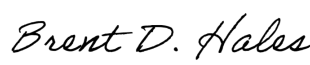
#### Training

- Lead introductory slides to each IGIS monthly technical workshops
- Provide content improvements on training materials according to new research

Signed:

  
\_\_\_\_\_  
Andy Lyons, Program Coordinator, IGIS

  
\_\_\_\_\_  
Maggi Kelly, Statewide Program Director, IGIS

  
\_\_\_\_\_  
Brent Hales, Associate Vice President

7/6/2023  
\_\_\_\_\_  
Date

12-31-23  
\_\_\_\_\_  
Date

1/26/24  
\_\_\_\_\_  
Date

### III. Program Summary Narrative

#### INTRODUCTION

**Programmatic assignment.** I am seeking a merit from Step IV to V as an AC III in the Informatics and GIS Statewide Program (IGIS). My job title is Program Coordinator, and I report directly to the IGIS Program Director, CE Specialist Maggi Kelly. Our unit has a total of 6 staff including myself.

The mission of IGIS is to provide geospatial support to all of ANR to advance research, make more effective use of data, translate research results to extension, and communicate impact. We are an inward facing Statewide Program and our primary clientele are the ANR network including CE Advisors, CE Specialists, RECs, Statewide Programs, support units, and leadership. We do not have external clientele, although many of our projects serve the external clientele of our ANR colleagues. Our mission is to provide service to all program areas, hence we are not tied to any specific Strategic Initiative, Public Value, or Condition Change. We record the outcomes of our projects wherever possible while measuring impacts and condition changes is generally done by the client. We have a modest number of applied research projects of our own initiative, focused on weather / climate data science and drone mapping. Tied to our research, we have an active extension program including workshops, online resources, and one-on-one support

As Program Coordinator, my work requires me on a daily basis to integrate our mission, the needs of individual clientele, our staff resources, the tools and technologies we use, and the administrative processes for project management and funding. I have one of the broadest skillsets on my team which makes me well equipped to connect dots between projects and people, communicate with collaborators at different levels of generalization, and connect project impacts to overarching goals and themes. I strive to give cohesion to our project portfolio, align our work to ANR's strategic goals, stay ahead of the curve in terms of technology and data science, and enable my team members to be successful by focusing on what they do best.

I have five themes. Three represent areas of coordination and implementation and span multiple public values, including i) *Program Level Coordination and Development* (20%), ii) *Project Development and Coordination* (30%), and iii) *Extension* (15%). My fourth theme, *Weather and Climate Change Data Science* (25%), has a disciplinary and technical focus that reflects applied research that is more of my own initiative. My fifth theme is Administration (10%).

#### STATEMENT OF SPECIAL CIRCUMSTANCES

I had 3 Position Descriptions during the reporting period, including an update to my initial PD which added an Administrative theme, and a 6-month Addendum listing additional duties as Acting Director. It's worth noting that although I am an AC3, I am not a Program Director. Hence the details of my Position Description and impacts will differ from other AC3s who direct programs. My Position Description also includes support for applied research, which is not an expectation of ACs and is no longer allowed by HR for Academic Coordinators in alignment with the UC APM, but my PD was written before this policy was enforced.

#### PROGRAMMATIC THEMES

##### Theme 1. Program Level Coordination and Development

##### Background, Clientele, Goals, Inputs

As Program Coordinator, my primary responsibility is to ensure the smooth operations of our unit through coordination. I also support our Director in program development decisions including strategic planning, managing program level funds and contracts, staffing, integration with ANR initiatives, reporting, and building collaborations.

##### Methods, Outcomes, and Impacts

**Coordination of activities.** I play a lead role in building and maintaining the processes IGIS uses to coordinate activities, including the structure of our weekly meetings with the Director, and a well-developed collection of interconnected Google Docs that manage everything from service center projects, Office Hours, deliverables for our annual report, billing, website content, and internal guides on common tasks (including 17

new ones I wrote this cycle). I am also included on most of our program level correspondence, attend the daily staff check-in, and have a weekly meeting with the Director. Thanks to these efforts, everyone knows what everyone else is working on, we have clear lines of communication, enquiries get routed to the appropriate person in a timely fashion, and the Director can find information at any level when she needs it.

**Program Funding.** I support the planning and management of our funding by helping the Director respond to budget calls, meeting with our financial manager every two weeks to discuss budget and funding issues, and advising the Director when action is needed. I also took the lead on our 5-year Project Initiation document for USDA's Hatch Funding (2022-2026), which supports roughly a third of our program budget, including the rationale, goals, objectives, and deliverables. I also advise the Director when we need to make decisions about taking on new staff given our project pipeline and projected revenue, and wrote the scopes of work and budgets for several of our larger extramural contracts. A significant achievement this cycle was securing additional temporary funding (\$315k) to hire a new GIS analyst to specifically serve our core clientele including new hires, ANR support units, and program teams.

**Program Reporting.** Our main program level report is our annual NIFA Progress Report (i.e., Hatch), which I coordinate and co-author. This involves compiling metrics from my team members on our deliverables, including datasets, data portals, software tools and algorithms, data collection protocols and best practices, web mapping products, presentations, publications, and training. I also support the Director in responding to information requests from ANR leadership.

**Marketing and Outreach.** Marketing and outreach were particularly critical this cycle to help us meet the needs of new academics and programs. I play a key role in our outreach efforts by sharing our training calendar and updates directly and through the communications team, sending personalized welcome emails to new ANR academics (67 this cycle), helping design our handouts (6), ANR system wall map, and presentations. This cycle I also initiated and coordinated our new "Maps for CE" service, whereby we make custom reference maps for new Advisors at no cost, with the implicit goals of demonstrating the utility of GIS and building relationships for future collaboration.

**Program Leadership and Support for ANR Initiatives.** When the Director is unavailable, I represent IGIS at leadership meetings including the Statewide Programs and Institutes Directors meetings, VP Council, and Program Council. To ensure IGIS remains a valuable programmatic asset to ANR, I stay abreast of initiatives at the Division level and look for ways for IGIS to get engaged. I do this through participation in Program Team and Work Group meetings, Town Halls, Academic Assembly Council, and special initiatives and conferences.

## **Theme 2. Project Development and Coordination**

### **Background, Clientele, Goals, Inputs**

We support around two dozen research and technology projects for our clientele every year. Projects are where the rubber meets the road, and a central part of IGIS's mission. Projects are not only one of the primary ways we provide value to the Division, they're also how we master the tools of our trade, develop our extension program, develop collaborations, and discover new ways to support ANR's mission.

### **Methods, Outcomes, and Impacts**

I play several roles in support of our GIS and drone project portfolio. I oversee project intake for most of our larger and more complex projects, and all projects where I am the lead developer (see also Theme 3). This generally involves clarifying the needs of the client, discussing with our team whether the project fits within our strategic goals and capacity, identifying the technology stack, developing a scope and work and budget, and serving as PI when needed.

Once onboard, I oversee project management for a subset of our more complex contracts involving multiple collaborators, subawards, complex reporting requirements, or high visibility. Project management roles I play include facilitating meetings and communication, liaising with the client to ensure their needs are being heard and addressed, providing technical input into the research process, tracking timelines and workflows, responding to special requests, attending to financial reporting and tracking needs, trouble shooting, and marketing. In essence, I function like an account executive serving as a hub between the client, IGIS staff, other collaborators, and our Contracts & Grants team.

Measuring outcomes and impacts can be challenging for some technology projects if have a broad focus, a niche audience, operate far upstream from the desired condition change, or are inherently difficult to track (e.g., programming libraries, web apps). To better understand our value, I developed with input from my team a new template for Scopes of Work which explicitly defines the ANR Public Values each project contributes toward. The number of projects within my portfolio that are connected to each public value are summarized below (see also Table A2 in Supporting Documentation).

PV1	PV2	PV3	PV4	PV5	PV6	PV7
10	4	9	3	5	2	0

### Theme 3. Climate Change Data Science

#### Background, Clientele, Goals, Inputs

Climate change is a cross-cutting challenge across nearly all of ANR's program areas. To understand climate change impacts and adaptation options, researchers must integrate weather and climate data – past, present, and future – with models of plant development, pests, natural resources, human health, etc. This however is not trivial, as the data and models are big, challenging to work with, and difficult to translate into actionable info ([Grantham et al, 2017](#), [Jagannathan et al, 2021](#)). These challenges are especially when trying to serve socially disadvantaged farmers ([CDFA, 2020](#)).

#### Methods, Outcomes, and Impacts

To address the needs for climate data services, I am pursuing a multi-faceted approach including the development of open-source software tools, training, research services, and community building.

Software tools are essential to overcome the most severe pain points in fusing together weather and climate data with impact models. I have intentionally focused my efforts on developing tools in open-source programming languages like R in order to leverage impact by empowering the legions of data scientists and researchers both inside and outside academia, at statewide and national levels. For similar reasons, I've made a concerted effort to follow professional standards for software development, documentation, and publishing.

My [degday](#) R package allows users to compute degree days using the methods from Zalom et al ([1983](#)), which are still the mainstay of IPM and crop development models. Accompanying the package, I published a [validation protocol](#) that other developers can use to check their code and earn a badge for their tool. While the impacts of degday are hard to measure, the package has been downloaded over 238 times per month and I've received queries from researchers around the country and internationally. My [caladaptR](#) R package fills another hole by providing a series of functions to query, import, and store modeled and observed climate data from Cal-Adapt. Completed during the reporting period, I created extensive documentation for it, two video tutorials that illustrate sample code, and taught 3 workshops reaching 66 participants.

My software development and teaching are informed by the third component – providing data analysis and extension services for researchers. The dominant demand in this arena has been translating research results into decision support tools. Outcomes in this component include decision support tools to predict [Pistachio Nut Development](#) (PI: Louise Ferguson), the economics of [IPM for Navel Orangeworm in Almonds](#) (PI: Brittney Goodrich), and a [Precision Irrigation Calculator](#) (PI: Andre Biscaro).

None of these projects could have happened without collaboration, hence my 4<sup>th</sup> strategy has been to strengthen the ANR community that has been developing weather and climate decision support tools across multiple program areas. To this end, I organized a panel session at the 2023 Statewide Conference, a similar session at the CA Adaptation Forum, and was the lead author of a UC Climate Action Seed Grant proposal (not funded) that brought together 14 ANR researchers to scale up decision support for climate resilient ag.

### Theme 4. Extension

#### Background, Clientele, Goals, Inputs

Extension for the ANR community is a core part of IGIS's mission, and has always been in high demand as GIS and data technologies are constantly evolving. We provide beginner and intermediate training on a wide range of topics related to GIS and data analysis, focusing on topics that our needs assessments (from previous reporting periods) have repeatedly shown to be in demand, including desktop GIS, web mapping,



mobile data collection, Story Maps, drone mapping, and data analysis. Our primary clientele for extension are ANR employees, UC staff and students, and project collaborators. We also design custom training for the clientele of our ANR colleagues as part of projects.

The goals of our extension services include increased knowledge, skills, and ultimately adoption of geospatial tools and data, leading to more effective and efficient uses of data in research and extension. Specific workshops and workshop series may have more specified goals, as defined by the PI or project.

### Methods, Outcomes, and Impacts

Our extension program has grown to include 3 components: live workshops, online resources (Tech Notes and video tutorials), and one-on-one help.

I play several roles for our live workshops, including marketing, developing new curricula, organizing and delivering workshops, and coordinating evaluations. This cycle I also developed and taught three new multi-part workshop series: *Introduction to R* (178 participants), *Computing Agroclimate Metrics* (26), and *Building a Degree Day Decision Support Tool* (47). To reach non-coding audiences, I also taught guest workshops on using the tools on the Cal-Adapt website for the Climate Stewards Training of Trainers (49 participants), and the California Climate Corps (66).

I coordinate evaluation for most of our workshops using a protocol I developed last reporting cycle. For all workshops combined, we reached 1,340 participants with an overall satisfaction rate of 4.6 / 5.0. 94% of participants would recommend the workshop to a friend or colleague. Participants also self-reported average knowledge gains of 1.3 on a 5-point scale, a 1.4 / 5.0 increase in skills (nearly all of our workshops are hands-on), a confidence level of 3.9 / 5.0 of performing a basic task (a proxy for behavior change), and confidence level of 3.4 / 5.0 for completing an advanced task.

I also served as the coordinator and “TA” for the first-ever short course on [Applied Statistics for CE Advisors](#) in 2022, which delivered seven 3-hour workshops to 49 CE Advisors and researchers. I was also a Project Cooperator for a RREA funded project that developed and delivered custom GIS curriculum on geospatial technology for natural resources professionals at 3 in-person workshops (79 participants).

Our flagship training event is [DroneCamp](#), an annual multi-campus 5-day intensive short course on using drones for mapping and research. Started by IGIS in 2017, this has grown into a major endeavor with each year 120 combined in-person and virtual participants, over 50 sessions, and instructors coming from 8 universities. I continue to serve on the planning committee and teach sessions during the event. I also established a new multi-campus collaboration this cycle by joining the planning committee for [UC Love Data Week](#), a systemwide week-long workshop series on data topics every February (118 participants).

The second leg of our extension programming are online resources, including written and video [Tech Notes](#) which document workflows for using geospatial science in research and extension. I invest in developing high-quality, concise online resources and making them discoverable, because many of the topics I publish are specialized and creating searchable content is by far the most effective and efficient way to share them with other researchers and developers. This cycle I created 18 Tech Notes (24,115 views), 16 workshop recordings (2,303 views), and supervised the editing of 26 DroneCamp sessions (4,804 views).

The third leg of our Extension programming is one-on-one support via Office Hours and individual contacts (mostly email and Zoom calls), both of which continue to grow in demand. I coordinated all Office Hours (279 clients), personally served 221, supported an additional 123 thru email & Zoom, and received 1 UCOP [shout-out award](#).

## PROFESSIONAL COMPETENCE AND ACTIVITY

Professional development is an integral element of technology fields, as tools and methods are constantly changing. I have been deepening my knowledge of data technologies, including R programming, designing web applications, performance optimization, data storage, user analytics, and deploying applications in the cloud through technical webinars (16), e-courses (5), and conferences (3). To help me design and implement successful projects I also strengthened my knowledge in selected science subject areas including climate change impacts, climate change adaptation, evaluation design, statistics, and project management, through online trainings (15) and conferences (4).

To stay current and connected professionally, I am an active member of the Society for Conservation



GIS where I served on the annual conference committee and taught a pre-conference workshop. I also presented at 2 regional conferences (CalCAN 2022 and GeoTech 2024), and teach GIS courses for BayGeo (5), a bay area professional association with the mission to support working GIS professionals, and the San Jose State Spatial Analytics and Visualization Institute (1).

## UNIVERSITY AND PUBLIC SERVICE

University Service expanded this cycle as I've gained experience and joined networks within the Division. I remained an active member of the Academic Coordinators Committee (ACC) during the reporting period, including two stints as co-Chair. Outcomes include helping to organize 5 all-AC meetings / training sessions, a comprehensive [Academic Coordinators FAQs](#) for which I was the lead author, representation of the interests of ACs at 4 Academic Assembly Council meetings, and contributing to a focused communication with ANR leadership about the lack of Professional Development Funding for Academic Coordinators based in SWPs.

I also served as co-Chair of the Climate Change Program Team for ~2/3 of the reporting period. In this role, I helped implement a collaborative process to advance a CE Specialist position for 2023 position call. I also co-Chaired the Drones Workgroup where I organized a monthly meetup called DroneChat (27 in total), and was an active member of the Native American Community Partnerships Workgroup (details below).

Other highlights of my university service two search committees, CalNat Statewide Conference planning committee, organizer of four sessions at the ANR Statewide Conference (2023), presentations at two Administrative Orientations, and two years on the PRC. I also continue to serve on the UC systemwide Research-IT Committee, attending roughly 9 meetings per year, and the planning committee for the systemwide [UC Love Data Week](#).

For public service, I serve on two Technical Interagency Working Groups for Extreme Heat and Flooding in support of the [Vulnerable Communities Platform](#), a GIS data portal being developed by the Governor's Office under California's Fifth Climate Change Assessment. I also plant trees in my community with a non-profit called Trees for Oakland (x4), and developed and maintain the website for [Seeds4Prosperity](#), an NGO that supports women's gardening in west Africa. I also served as a judge for mock interviews at a regional meeting of the National Society for Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS), and mentored a group of students at Santa Clara University for a class GIS project.

## AFFIRMATIVE ACTION / DEI

I don't report on Affirmative Action because my clientele are not external, however I recognize and value the need to strengthen diversity and inclusion within my field and organization. I incorporate DEI best practices within my own projects wherever possible, including making my online decision support tools multi-lingual (e.g., [Precision Irrigation Calculator](#)), ensuring that all our digital and printed maps are accessible (including color-blind friendly palettes), and teaching workshop participants how to use color-blind friendly palettes in data visualizations. I also continue to coordinate the IGIS Scholarship Program for DroneCamp, which has an explicit objective of making DroneCamp accessible to under-served audiences. During the reporting period this has resulted in 62 scholarships totaling \$19,640.

I've also maintained several threads of activity aimed to better serve our Native American clientele and advance reconciliation with CA Tribes at an organizational level. I am a long-term member of the Native American Community Partnerships Workgroup, where I contributed to bimonthly discussions (11) about strengthening ANR programming for CA Tribes, provided feedback on position descriptions for a successful cluster hire of CE Advisors focused on CA Tribes, and served on the Land Acknowledgement and Website sub-committees. I also updated my online [CA Morrill Map](#), which shows the land in California that was redistributed under the 1862 Morrill Act from dispossessed California tribes to 26 US states in support of their nascent land grant universities. I presented the Morrill Act history at the [2023 Statewide Conference](#), and a Tribal Partnerships Workshop (with more presentations planned for 2025). In 2023, I also represented ANR together with Elizabeth Moon at the national 2023 Land-Grant Partners Summit in Denver, and the First Americans Land-Grant Consortium (FALCON) Annual Conference.

## ADMINISTRATION

### Background, Clientele, Goals, Inputs

In September 2023 (i.e., two years into the reporting period), I was appointed Supervisor for a GIS Supervisor 3 and an Academic Coordinator 2. I also served as the temporary supervisor for a GIS Programmer 2 from Oct-Dec. 2022, and the co-supervisor of a GIS Analyst 2 from June 2024 - ongoing. I also served as IGIS Acting Director from July 1 - Dec 31, 2023 with additional administrative responsibilities (15% FTE). This theme covers the background, goals, and impacts of these administrative activities.

### Methods, Outcomes, and Impacts

My goals as Acting Director were to support, inspire, and foster a collaborative team environment with a shared sense of purpose. To this end I continued to meet with the team on an almost daily basis, coordinate our various projects, monitor and support internal and external communication, and meet regularly with our finance manager to plan, clarify, and troubleshoot financial issues. Knowing that talented employees are motivated by opportunities for creativity, I also promoted our “20% Projects” policy, a practice from Google and other technology companies whereby staff are permitted and encouraged to explore a new area of innovation or develop a pilot product.

In addition, I represented IGIS at numerous ANR leadership meetings including the biweekly Statewide Programs and Institutes Directors meeting (7), and VP Council (3 total during reporting period), and shared highlights with my team. I also gave the IGIS “Annual Update” presentation to Program Council, and responded to ad hoc requests from Leadership.

The outcomes of my stint as Acting Director were smooth sailing of our operations. Projects were completed on time, workshops went off as planned, staff remained highly engaged, and there were no financial hiccups.

My goals as Supervisor are to enable my direct reports to be the best version of themselves, be successful in their careers, and ensure that our team operates as a cohesive, effective unit where the whole is greater than the sum of the parts. To improve my skills as a supervisor, I went through the UC People Management training offered by L&D (completing 6 sessions), took two other ANR supervisor training webinars, and attended a handful of ANR Supervisor Café sessions. I meet with my direct reports on an almost daily basis, and coordinate closely with the Director to identify priorities and areas that warrant attention. I also have dedicated meetings to discuss performance, prepare for annual reviews, provide feedback, and define goals for the next review period.

A small but significant administrative victory I coordinated this period was successfully getting one of our staff positions reclassified from GIS Programmer II to GIS Programmer III. This was well-justified, but took many months of discussion, strategizing, preparing the documentation, and shepherding the request through the approval process. The outcome of this work is improved morale and a higher probability that one of our highly experienced programmers will continue working with ANR.

Another significant achievement this cycle was playing a lead role in creating a new position for IGIS's first ever GIS analyst focused exclusively on expanding services for our Core Clientele. This included conceptualizing the position with the Director and the team, preparing the funding request, writing the position description, recruitment, and co-Supervision. As co-Supervisor, I have helped our new employee understand ANR's structure, meet people in leadership and join teams, identify and prioritize opportunities for collaboration, develop pilot projects that address critical needs while also leveraging her areas of expertise, and identify additional resources needed. Although the position was only filled for 4 months of the reporting period, we have already made headway in updating a programmatic needs assessment and developing high impact services for support program teams, new academics, and ANR support units.

## IV. Supporting Documentation

### A. Projects

#### A1. Project Summary

Project Title	Role	Collaborators	Support Amount / Duration	Source
<b>Theme 2. Project Support, Coordination and Development</b>				
CA Family Child Care Homes Evaluation Story Map	Developed SOW, Project coordination	Danielle Lee @ UC ANR	\$4,906 / April 2024 - March 2025	CA Department of Social Services
California Farm to School Incubator Grant Program Evaluation	Project development and coordination for IGIS, website development & maintenance, data analysis support	Gail Feenstra @ UC ANR, Maggi Kelly @ UC ANR, Shane Feirer @ UC ANR, Timothy Bowles @ UC ANR	\$685,000 (IGIS portion) / 2022-2026	CDFA
Blue-Green Sharpshooter Monitoring Dashboard	Coordination; Developed SOW	Shane Feirer @ UC ANR, Cindy Kron @ UC ANR	\$1,200 / July – Nov 2023	PI program funds
Alameda County Agricultural Resiliency Planning	PI for ANR contract, developed SOW, project management and coordination, technical support	Shane Feirer @ UC ANR, Robert Johnson @ UC ANR, Courtney Coon @ Alameda County RCD	\$36,000 / June 2022 - October 2023	Alameda County RCD / Strategic Growth Council
Ag from Above x Ag for All	Proposal development, project coordination, curriculum development	Steven Worker @ UC ANR, Sean Hogan @ UC ANR, Nathaniel Caeton @ UC ANR, Lucy Diekmann @ UC ANR, Matthew Rodriguez @ UC ANR	\$31,518 / Aug 2024 - July 2027	USDA-NIFA

Project Title	Role	Collaborators	Support Amount / Duration	Source
California Reforestation Toolshed	PI for IGIS contract, developed SOW, project management and coordination, technical design	Shane Feirer @ UC ANR, Robert Johnson @ UC ANR, Steve Ostoja @ USDA Climate Hub, Jennifer Barton Smith @ UC Davis	\$81,661 / Aug 2024 - May 2025	USDA Climate Hub / CalFire
CA Crop Coefficient Science Collaborative Web Repository	Developed SOW, project coordination	Shane Feirer @ UC ANR, Robert Johnson @ UC ANR, Daniele Zaccaria @ UC ANR, Pasquale Steduto @ UC Davis	\$9,723 / May 2024 - ongoing	Almond Board
AI Institute for Next Generation Food Systems	Project development and coordination, needs assessment, curriculum development, and extension	Sean Hogan @ UC ANR, Gabriel Youtsey @ UC ANR	\$142,000 (IGIS subaward); 2020-2025	NSF
<b>Theme 3. Weather and Climate Change Data Science</b>				
Cal-Adapt for Natural Resources	Project Management, Software development, Instructor	Nancy Thomas @ University of California, Maggi Kelly @ UC ANR, Shane Feirer @ UC ANR	2019-2021	Strategic Growth Council
Navel Orangeworm Integrated Pest Management Economic Calculator for Almond Production	Lead developer	Brittney Goodrich @ UC ANR, Scott Sumerville @ UC Davis	\$2,500	Almond Board of California
Pistachio Nut Growth Development Model	Web app design, programming, updates and maintenance	Louise Ferguson @ UC ANR, Emilio Laca @ UC ANR, Lu Zhang @ Oklahoma State University	\$2,400 / 2021 - ongoing	Pistachio Research Board

Project Title	Role	Collaborators	Support Amount / Duration	Source
Precision Irrigation Calculator	Web app design, programming	Andre Biscaro @ UC ANR	\$25,054 / Sept 2022 - ongoing	Thelma Hansen Fund; CA Avocado Commission; other PI funds
New Traps and Sensors for Regional Monitoring of Navel Orangeworm in Pistachios	Proposal development, project coordination, API programming, data analysis	Shane Feirer @ UC ANR, Robert Johnson @ UC ANR, Houston Wilson @ UC ANR, Charles Burks @ USDA ARS	\$43,258 / Nov 2023 to June 2026	CDFA / USDA
<b>Theme 4. Extension</b>				
Applied Statistics for ANR Researchers	Content Development, Coordinator, Technical Support, Needs Assessment, Evaluation	Jodi Azulai @ UC ANR, Emilio Laca @ UC ANR	2021 - 2022	L&D funds
DroneCamp	Planning Committee, Curriculum Development; Instructor	Sean Hogan @ UC ANR, Brandon Stark @ UCOP Center for Excellence Unmanned Aircraft System Safety	2017 – ongoing	registration fees
Scaling-up Adoption of Geospatial Technology for Wildfire Prevention & Management	Proposal development, curriculum development, instructor, project coordination	Ricky Satomi @ UC ANR, Sean Hogan @ UC ANR	\$15,000 / Oct 2023 - Aug 2024	USDA-NIFA RREA

## A2. Project - Public Values Crosswalk

Project	PV1*	PV2*	PV3*	PV4*	PV5*	PV6*	PV7*
Ag from Above x Ag for All		1					
AIFS	1	1	1				
Alameda County Agricultural Resiliency Planning			1				
Blue-Green Sharpshooter Monitoring Dashboard	1						
CA Crop Coefficient Science Collaborative Web Repository	1		1		1		

Project	PV1*	PV2*	PV3*	PV4*	PV5*	PV6*	PV7*
CA Family Child Care Homes Evaluation Story Map						1	
caladaptR (R package)	1		1		1		
California Farm to School Incubator Grant Program Evaluation			1			1	
California Reforestation Toolshed	1			1	1		
degday (R package)					1		
DroneCamp		1					
Navel Orangeworm Integrated Pest Management Economic Calculator for Almond Production	1		1				
New Traps and Sensors for Regional Monitoring of Navel Orangeworm in Pistachios	1		1				
Pistachio Nut Growth Development Model	1		1	1			
Precision Irrigation Calculator	1		1		1		
Scaling-up Adoption of Geospatial Technology for Wildfire Prevention & Management	1	1		1			
<b>Total</b>	<b>10</b>	<b>4</b>	<b>9</b>	<b>3</b>	<b>5</b>	<b>2</b>	<b>0</b>

\*Public Values:

1. Promoting economic prosperity in California
2. Developing a qualified workforce for California
3. Safeguarding abundant and healthy food for all Californians
4. Protecting California's natural resources
5. Building climate-resilient communities and ecosystems
6. Promoting healthy people and communities
7. Developing an inclusive and equitable society

## B. Coordination of Academic Programs

### B1. Needs Assessments

Date(s)	Activity	Role	Location	Collaborators
9/10/2021 - 10/31/2021	AI and Data Science Training Needs Survey for the Artificial Intelligence Institute for Food Systems (AIFS) Network	Organizer; Co-designed survey instrument, Data analysis	Online	Sean Hogan, Hanna Bartram
10/5/2021 - 11/15/2021	Applied Statistics for CE Advisors pre-course survey	Co-designed survey instrument, Data analysis	Online	Jodi Azulai

Date(s)	Activity	Role	Location	Collaborators
3/28/2024 – ongoing	GenAI Needs Assessment for ANR	Needs assessment team member	Online	Steven Worker, Jennifer Smilowitz, Vikram Koundinya, Katherine Soule, Kitty Oppliger, Keith Taylor, Daniel Obrist
6/1/2024 - ongoing	GIS Support & Services Needs Assessment for IGIS Core Clientele	Co-lead	Online	Priyanka Vyas

**B2. Proposals**


Date	Title	Role	PI	Funding Agency	IGIS Role	IGIS Budget	Funded
12/1/2021	Farm to School Incubator Grant Evaluation	Developed SOW and budget for IGIS subaward	Gail Feenstra	CDFA	Technology support	\$685,633	Y
12/19/2021	New Automated Traps and Online Pest Forecasting Tool for Navel Orangeworm	Contributed to proposal design; developed prototype tool; technical specifications	Houston Wilson	CA Pistachio Research Board	Programming; Decision support tool development	\$40,000	N
1/19/2023	New Traps and Sensors for Regional Monitoring of Navel Orangeworm in Pistachios	PI for ANR subaward; Contributed initial concept note and final proposal, developed IGIS SOW and budget	Houston Wilson	CDFA/USDA	Programming; Decision support tool development	\$42,279	Y



Date	Title	Role	PI	Funding Agency	IGIS Role	IGIS Budget	Funded
1/19/2023	Strengthening Integrated Pest Management by Improving Pest Forecasting Decision Support Models and End User Delivery	co-PI; contributed to proposal narrative; workplan; methods	James Farrar	CDFA/ USDA	Decision support tool development; Usability testing	\$71,770	N
4/6/2023	Scaling Up Decision Support for Climate Resilient Agriculture in California	PI; lead author on letter of intent & full proposal, project design; collaboration building	Andy Lyons	UC Climate Action Seed Grant / UCOP	Coordination; Development of decision support tools	\$1,356,710	N
6/30/2023	Scaling-up Adoption of Geospatial Technology for Wildfire Prevention & Management	Project Cooperator; Contributed to proposal narrative & budget	Rick Satomi	ANR / RREA	Curriculum development; Instruction	\$8,200	Y
7/7/2023	Understanding climate change impact on California's agriculture using agroclimatic indicators	co-PI; contributed to project design, proposal	Prakash Jha	CA Fifth Climate Change Assessment	Coordination, Advisory Board	\$17,100	N
11/30/2023	Ag from Above x Ag for All	co-PI; Contributed to proposal narrative and budget	Steven Worker	USDA FANE	Curriculum development	\$31,518	Y

Date	Title	Role	PI	Funding Agency	IGIS Role	IGIS Budget	Funded
2/23/2024	Developing a User-friendly Online Irrigation Calculator	Contributed to proposal; methods section; project collaborator	Andre Biscaro	ANR/Hansen REC	Design and programming of a Precision Irrigation Calculator using real-time weather data; user analytics	\$7,968	Y
6/1/2024	Adapting a User-friendly Online Irrigation Calculator for Avocados	Project collaborator	Andre Biscaro	CA Avocado Commission	Enhancing a precision irrigation calculator for Avocado	\$4,000	Y

**B3. Coordination – Other Outputs**

Date	Output	Type	Role	Collaborators
<b>Program Reports and Proposals</b>				
2/24/2022	NIFA Progress Report for FFY 2021	IGIS annual report for USDA / NIFA	Co-author, Data analysis	Maggi Kelly, Katherine Webb-Martinez
9/30/2022	NIFA Project Initiation Proposal, 2022-2027	5-Year Proposal for USDA / NIFA Hatch funding	Author, strategic planning, data analysis	Maggi Kelly, Katherine Webb-Martinez
3/1/2023	NIFA Progress Report for FFY 2022	IGIS annual report for USDA / NIFA	Co-author, Data analysis	Maggi Kelly, Katherine Webb-Martinez
2/20/2024	NIFA Progress Report for FFY 2023	IGIS annual report for USDA / NIFA	Co-author, Data analysis	Maggi Kelly, Katherine Webb-Martinez
<b>Internal Guides</b>				
2/15/2022	How to Apply for PI Status	Internal guide	Author	IGIS Team
9/8/2022	<a href="#">Bay Area Urban Ag Map Submission Review Process</a> 	Internal video guide	Creator	Shane Feirer, Lucy Diekmann
10/30/2022	Best Practices for Shared Google Drives	Internal guide	Lead author	Sean Hogan

Date	Output	Type	Role	Collaborators
11/10/2022	Retrieving Parcel Data Via the Earth Sciences Library	Internal guide	Contributor	Ben Satzman
2/9/2023	Encrypting Your HD with FIPS 140-2 Compliant BitLocker on Windows	Internal guide, Tech Note	Lead author	IGIS Team
7/7/2022	How to Connect to the ANR VPN from Windows	Internal guide	Lead author	IGIS Team
7/14/2022	How to Upload Videos to the IGIS YouTube Channel	Internal guide	Author	IGIS Team
8/10/2022	Accessing the IGIS Alienware Desktops at UCB & UCD	Internal guide	Author	IGIS Team
3/1/2024	How to Look Up IGIS Social Media Metrics for Kit Alviz	Internal guide	Author	IGIS Team
4/20/2024	How to Upgrade a MiFi from ANR	Internal guide	Lead author	IGIS Team
4/30/2024	A Guide to Managing Two Factor Authentication at ANR, UCD, and UCB	Internal guide	Author	IGIS Team
6/19/2024	How to Apply for UCB Affiliate Status	Internal guide	Lead author	IGIS Team
6/21/2024	Guide to Completing Vendor Risk Assessments for Software	Internal guide	Lead author	Shane Feirer
7/17/2024	Guide to Requesting Local Computer Administrative Rights	Internal guide	Lead author	Sean Hogan
7/17/2024	How to Publish a Blog Post on the IGIS Blog	Internal guide	Author	IGIS Team
7/19/2024	Workflows with the ArcGIS Online Assistant	Internal guide	Author	IGIS Team
9/17/2024	Clipart Resources and Editors	Internal guide	Lead author	IGIS Team
<b>Outreach &amp; Marketing</b>				
7/29/2022 – 7/2/2024	Welcome to ANR emails to new academics (x67)	Marketing	Author	Maggi Kelly, Priyanka Vyas
4/1/2023 – 5/4/2023	IGIS Marketing Fliers (x6)	Marketing	Design, Coordination	IGIS Team
4/24/2023	<a href="#">IGIS Projects and Services (looping slideshow for SWC)</a>	Marketing	Creator	IGIS Team
4/27/2023	<a href="#">Applications of Drones in Research and Extension (looping slideshow for SWC)</a>	Marketing	Design, Contributor	IGIS Team, Drones Work Group
1/20/2023 – 8/2/2024	Reference Maps for new CE Advisors (x7)	Service for New Academics	Program Development, Coordinator	Ben Satzman, Priyanka Vyas

## B. Technical Outputs

### B1. Software

Date(s)	Product	Type	Role	Collaborators
8/9/2020 - ongoing	<a href="#">caladaptR</a>	R package for API access to climate data	Author and maintainer	Nancy Thomas (UCB), Brian Galey (UCB)
9/24/2020 – ongoing	<a href="#">uasimg: Utilities for managing and cataloging drone data</a>	R package	Designer, developer, and maintainer	Shane Feirer
11/9/2021 - ongoing	<a href="#">wrkshputils: Workshop Utilities for R</a>	R package	Designer, developer, and maintainer	
12/1/2021 - ongoing	<a href="#">degday: Compute degree days in R</a>	R package	Package developer and maintainer	Frank Zalom
8/6/2022 - ongoing	<a href="#">slideutils: Utilities for Making Slides with R Markdown</a>	R package	Designer, developer, and maintainer	
8/3/2022 - ongoing	<a href="#">degree day Validator Challenge</a>	Code validation tool	Designer, developer, and maintainer	Shane Feirer
8/1/2023 - ongoing	Navel Orangeworm SmartTrap API download tool, database, and dashboard	R production scripts	Designer, developer, and maintainer	Houston Wilson

### B2. Decision Support Tools & Web Apps

Date(s)	Product	Type	Role	Collaborators
7/15/2021 - ongoing	<a href="#">Pistachio Nut Growth Decision Support Tool</a>	online decision support tool	Web app design, Programming, Maintenance	Louise Ferguson, Lu Zhang, Emilio Laca
9/1/2022 – ongoing	<a href="#">Precision Irrigation Calculator</a>	online decision support tool	Web app designer, programmer	Andre Biscaro
9/15/2022 - ongoing	<a href="#">Morrill Map 2.0</a>	Web App (ArcGIS)	Designer, Developer	Jennifer Sowerwine, Lucy Diekmann
6/15/2022 – 8/31/2023	<a href="#">Alameda County Agricultural Resiliency Planning Map</a>	online decision support tool	PI, Coordination, Design	Courtney Coon (ACRCD), Shane Feirer, Robert Johnson
7/17/2023 – 11/13/2023	<a href="#">Blue-Green Sharpshooter Monitoring Dashboard</a>	online decision support tool	Developed SOW, coordination, design support	Cindy Kron, Gian-Paolo Solari, Shane Feirer, Robert Johnson

Date(s)	Product	Type	Role	Collaborators
3/1/2023 - 11/30/2023	<a href="#">Navel Orangeworm Integrated Pest Management Economic Calculator for Almond Production</a> <a href="#">↗</a>	online decision support tool	Web app designer, programmer	Brittney Goodrich
4/1/2024 – ongoing	<a href="#">Self-Generating Participant Profile Google Slide Show</a> <a href="#">↗</a>	Google Apps script	Designer, developer, and maintainer	DroneCamp Planning Committee

### B3. Websites & Story Maps

Date(s)	Product	Type	Role	Collaborators
5/16/2022 - ongoing	<a href="#">CA Farm-to-School Evaluation</a> <a href="#">↗</a>	Website	Development and maintenance	Shane Feirer
1/15/2022 - ongoing	<a href="#">DroneCamp website</a> <a href="#">↗</a>	Website	Development and maintenance	Corey Snipes, Sean Hogan
4/4/2024 – ongoing	<a href="#">Family Child Care Home Participation in California's Child and Adult Care Food Program (Story Map)</a> <a href="#">↗</a>	Story Map	Development of SOW, Coordination	Danielle Lee, Shane Feirer, Robert Johnson

Projects in Support Mode				
6/1/2014 - ongoing	<a href="#">t-LoCoH: spatio-temporal analysis of animal movement</a> <a href="#">↗</a>	R package	Author and maintainer	Wayne Getz (UCB)
8/9/2020 - ongoing	<a href="#">caladaptR</a> <a href="#">↗</a>	R package for API access to climate data	Author and maintainer	Nancy Thomas (UCB), Brian Galey (UCB)

## D. Extension Activities

### D1. Meetings Organized

Begin Date - End Date	Meeting Name and Type	Topic/no. of repetitions	Role	Location(s)	Total No. of Attendees
<b>Theme 2: Project Support, Coordination and Development</b>					
Aug 20, 2024 - Aug 21, 2024	AIFS Ag-tech Workshop at UC Davis for High School Students	STEM Education and Youth Development / 1	Instructor	UC Davis	17

Begin Date - End Date	Meeting Name and Type	Topic/no. of repetitions	Role	Location(s)	Total No. of Attendees
Sep 12, 2024	AIFS High School Teacher and College Professor Drone Applications Workshop	Drone Applications / 1	Instructor	UC Davis	14
<b>Theme 3: Weather and Climate Change Data Science</b>					
Oct 1, 2021	Working with Cal-Adapt Climate Data in R (workshop)	Climate Data Science / 1	Organizer; Instructor	Online	31
Oct 26, 2021	Introduction to Cal-Adapt Workshop (UC Climate Stewards)	Climate Data Science / 1	Presenter	Online	20
Feb 17, 2022	Working with Cal-Adapt Climate Data in R Workshop	Climate Data Science / 1	Organizer; Instructor	Online	23
Apr 26, 2022	Working with Cal-Adapt Climate Data in R Workshop	Climate Data Science / 1	Organizer; Instructor	Online	12
Oct 27, 2022	Introduction to Cal-Adapt (UC Climate Stewards)	Climate Data Science / 1	Presenter	Davis, CA	16
Dec 2, 2022	Computing AgroClimate Metrics in R workshop	Climate Data Science / 1	Organizer; Instructor	Online	26
Apr 26, 2023	Innovations in Weather and Climate Science, Tools, and Data (session at UC ANR Statewide Conference)	Decision support tools for climate change / 1	Session organizer and presenter	Fresno, CA	120
Jul 31, 2023	Advancing decision support for climate adaptation in agriculture and natural resources (session at the California Adaptation Forum)	Session - Advancing decision support for climate adaptation in agriculture and natural resources / 1	Organizer and presenter	Pomona, CA	0

Begin Date - End Date	Meeting Name and Type	Topic/no. of repetitions	Role	Location(s)	Total No. of Attendees
May 3, 2024 - May 24, 2024	Build an Online Degree Day Decision Support Tool in R (3-part workshop series)	Decision support tools / 3	Organizer, Instructor	online	47
<b>Theme 4: Extension</b>					
Oct 1, 2021	Introduction to ArcGIS Online Workshop	Web map training / 1	Organizer	Online	22
Oct 8, 2021	Introduction to ArcGIS Story Maps Workshop	Web maps and story maps training / 1	Organizer	Online	21
Oct 16, 2021	DroneCamp 2021 Flight Training	Drone operation training / 1	Organizer; Instructor	Fort Ord, Marina, CA.	30
Oct 22, 2021	Introduction to ArcGIS Pro Workshop	GIS for Ag Research / 1	Organizer	Online	18
Nov 5, 2021	Introduction to ArcGIS Field Maps Workshop	Introduction to ArcGIS Field Maps (Mobile Data Collection) / 1	Organizer	Online	21
Nov 19, 2021	Introduction to Jupyter Notebooks in ArcGIS Pro Workshop	Jupyter Notebooks and Python coding in ArcGIS Pro training / 1	Organizer	Online	14
Dec 10, 2021	Introduction to Cartography in ArcGIS Pro Workshop	Cartography in ArcGIS Pro Training / 1	Organizer	Online	9
Feb 18, 2022	Introduction to Jupyter Notebooks in ArcGIS Pro Workshop	Using Jupyter Notebooks in ArcGIS Pro / 1	Organizer, development of workshop materials	Online	11
Feb 22, 2022 - Feb 25, 2022	Intro to R (2 part workshop)	Intro to R / 1	Organizer, Instructor	Online	40



<b>Begin Date - End Date</b>	<b>Meeting Name and Type</b>	<b>Topic/no. of repetitions</b>	<b>Role</b>	<b>Location(s)</b>	<b>Total No. of Attendees</b>
Mar 1, 2022 - Apr 12, 2022	Applied Statistics for CE Advisors (short course)	Statistics / 7	Needs assessment, Curriculum development, Coordination, Communication, Q&A, Tech Support, Website	online	48
Mar 11, 2022	Imagery for ArcGIS Online Hackathon	Remote sensing / 1	Organizer, workshop support	Online	4
Mar 18, 2022	Introduction to ArcGIS Online workshop	Web map training / 1	Organizer, Workshop Support	Online	9
Apr 15, 2022	Introduction to ArcGIS Pro workshop	Mapping, Desktop GIS / 1	Organizer, workshop support	Online	13
May 20, 2022	Introduction to ArcGIS Story Maps workshop	Web maps and story maps training / 1	Organizer, workshop support, evaluation	Online	12
Jun 27, 2022 - Jul 1, 2022	DroneCamp 2022	Drone mapping and data analysis / 1	Planning Committee; Instructor	CSU Monterey Bay	180
Sep 30, 2022	Introduction to ArcGIS Online workshop	Web map training / 1	Organizer, workshop support	Online	38
Oct 7, 2022	Applications of Drone Technology for Naturalists	Drone Mapping / 1	Organizer; Instructor	Tahoe City	5
Oct 11, 2022 - Oct 14, 2022	Intro to R (3 part workshop)	Intro to R / 1	Organizer, Instructor	Online	41
Oct 21, 2022	Introduction to ArcGIS Pro workshop	Mapping, Desktop GIS / 1	Organizer, workshop support	Online	1

<b>Begin Date - End Date</b>	<b>Meeting Name and Type</b>	<b>Topic/no. of repetitions</b>	<b>Role</b>	<b>Location(s)</b>	<b>Total No. of Attendees</b>
Nov 18, 2022	Introduction to ArcGIS Field Maps Workshop	Introduction to ArcGIS Field Maps (Mobile Data Collection) / 1	Organizer	Online	9
Dec 9, 2022	Introduction to ArcGIS Story Maps workshop	Web maps and story maps training / 1	Organizer, workshop support, evaluation	Online	24
Jan 27, 2023	Introduction to ArcGIS Online workshop	Web map training / 1	Organizer, workshop support	Online	11
Feb 17, 2023	Intro to ArcGIS Pro	GIS / 1	Organizer, Tech Support, Evaluation	Online	26
Feb 17, 2023	Introduction to ArcGIS Pro Workshop	Computer mapping / 1	Teaching support and evaluation	Online	0
Apr 7, 2023	Introduction to Jupyter Notebooks in ArcGIS	GIS / 1	Technical Support	Online	8
Apr 7, 2023	Introduction to Jupyter Notebooks in ArcGIS	Automated programmatic GIS / 1	Meeting organizer	Online	8
Jun 26, 2023 - Jun 30, 2023	DroneCamp 2023	Drone mapping / 1	Planning Committee; Instructor	CSU Monterey Bay	127
Sep 22, 2023	Introduction to ArcGIS Online Workshop	Web Mapping / 1	Organizer, Evaluation	Online	39
Sep 27, 2023 - Oct 18, 2023	Intro to R (4-part workshop series)	Data analysis, programming / 1	Instructor	Online	33
Oct 13, 2023	Introduction to ArcGIS Pro	GIS / 1	Coordination & support	Online	15
Nov 17, 2023	Introduction to Jupyter Notebooks in ArcGIS	GIS / 1	Coordination & support	online	11
Dec 15, 2023	Introduction to ArcGIS Story Maps	GIS / 1	Coordination & support	online	16

Begin Date - End Date	Meeting Name and Type	Topic/no. of repetitions	Role	Location(s)	Total No. of Attendees
Feb 14, 2024	Drone Data 101: The Data Pipeline (workshop for UC Love Data Week)	drone mapping / 1	Organizer, coordination, & presenter	online	33
Feb 16, 2024	Intro to ArcGIS Pro	GIS / 1	Coordination and support	online	5
Mar 8, 2024	Intro to ArcGIS Online	GIS / 1	Coordination and support	online	5
Jun 13, 2024	DroneCamp 2024 (virtual)	Drone mapping / 1	Coordination and support	online	39
Jun 24, 2024 - Jun 28, 2024	DroneCamp 2024 (in-person)	drone mapping / 1	Instructor, Planning Committee, Coordination	CSU Monterey Bay	78
Sep 27, 2024	Introduction to ArcGIS Online	GIS / 1	Coordination and Support	online	14

## D2. Educational Presentations

Begin Date - End Date	Meeting Name/Event	Presentation Topic/no. of repetitions	Location(s)	No. of Attendees
<b>Theme 3: Weather and Climate Change Data Science</b>				
Nov 12, 2021	New Tools to Work with Cal-Adapt Climate Data in R, Python, and ArcGIS Pro (pres for Strategic Growth Council)	Climate Change Data Science / 1	Online	54
Dec 9, 2021	Bridging Cal-Adapt with R, Python, and ArcGIS (Cal-Adapt quarterly webinar)	Climate Change Data Science / 1	Online	24
Jan 19, 2022	A New Website for Predicting Pistachio Nut Growth (State Pistachio Day)	Winter Chill / 1	online	282
Mar 24, 2022	A New Website for Predicting Pistachio Nut	Tree Chill / 1	Davis, CA	28

Begin Date - End Date	Meeting Name/Event	Presentation Topic/no. of repetitions	Location(s)	No. of Attendees
	Growth (Pomology PT mtg)			
Aug 3, 2022	Open-Source Tools for Computing Degree Days (UC IPM mtg)	Degree days / 1	online	18
<b>Theme 4: Extension</b>				
Oct 12, 2021	DroneCamp: Professional Development Training for Drone Mapping and Research (pres. for Startup Monterey Bay)	Professional development, drone mapping / 1	online	44
Mar 9, 2022	Research and Technology Updates from the Informatics and GIS Statewide Program	GIS and drone technology / 1	online	23
Jun 22, 2022	Mission Planning (DroneCamp presentation)	Drone mapping / 1	CSU Monterey Bay	127
Jun 28, 2022	Drone Data Management and Sharing (DroneCamp presentation)	Drone mapping / 1	CSU Monterey Bay	127
Feb 21, 2023	Intro to Cal-Adapt for Climate Stewards Training of Trainers	Intro to Cal-Adapt for Climate Stewards TOT / 1	Davis, CA	13
Mar 10, 2023	Intro to Cal-Adapt (Climate Corps Training)	Using climate change data for decision making / 1	Online	66
May 25, 2023 - May 26, 2023	Applications of GIS for Forestry and Natural Resources Management	GIS / 1	Rocklin, CA	30
Jun 29, 2023	Drone Data Management (DroneCamp presentation)	Data Management / 1	CSU Monterey Bay	80
Jan 10, 2024 - Jan 11, 2024	GIS for Forestry & Natural Resource Management Workshop	GIS applications in natural resources / 1	Quincy, CA	25

Begin Date - End Date	Meeting Name/Event	Presentation Topic/no. of repetitions	Location(s)	No. of Attendees
Feb 13, 2024	Intro to Open Data Network (UC Love Data Week presentation)	Open Data / 1	online	35
Mar 19, 2024 - Mar 20, 2024	GIS for Forestry & Natural Resource Management Workshop	GIS applications in natural resources / 1	Rocklin, CA	24
Jun 24, 2024	Mission Planning (DroneCamp presentation)	Drone mapping / 1	CSU Monterey Bay	121
Jun 26, 2024	Drone Data Management, Sharing and Visualization (DroneCamp presentation)	Drone mapping / 1	CSU Monterey Bay	121
Jun 27, 2024	Open-Source Utilities for Cataloging Drone Data (DroneCamp presentation)	Drone mapping / 1	CSU Monterey Bay	121

### D3. Other Extension Products

Begin Date - End Date	Description	No. of Instances
<b>Theme 3: Weather and Climate Change Data Science</b>		
Oct 8, 2021	Working with Cal-Adapt Climate Data in R (workshop recording, <a href="https://youtu.be/mvQ2CDRNP68">https://youtu.be/mvQ2CDRNP68</a> ). Role: Instructor; Editor	1
Dec 2, 2021	Overview of caladaptR (video tutorial, <a href="https://youtu.be/6sDwXPbSYOQ">https://youtu.be/6sDwXPbSYOQ</a> ). Role: Creator	1
Dec 5, 2021	caladaptR: Import and Plot Climate Data (video tutorial, <a href="https://youtu.be/APCIBs35BJg">https://youtu.be/APCIBs35BJg</a> ). Role: Creator	1
Mar 3, 2022	Working with Cal-Adapt Climate Data in R (workshop recording, <a href="https://youtu.be/6dOPBhSw6pU">https://youtu.be/6dOPBhSw6pU</a> ). Role: Instructor; Editor	1
Mar 4, 2022	Projected Chill Portions Under Climate Change Calculator (video tutorial, <a href="https://youtu.be/MVlkiugSRgI">https://youtu.be/MVlkiugSRgI</a> ). Role: Creator	1
Nov 8, 2022	Working with Cal-Adapt Climate Data in R (workshop recording, <a href="https://youtu.be/uYnguFmvSbE">https://youtu.be/uYnguFmvSbE</a> ). Role: Instructor; Editor	1

Begin Date - End Date	Description	No. of Instances
Dec 11, 2022	Computing AgroClimate Metrics in R workshop (workshop recording, <a href="https://youtu.be/UPVC9AVV2aY">https://youtu.be/UPVC9AVV2aY</a> ). Role: Instructor; Editor	1
Jan 28, 2023	Decision Support Tools for Ag Pt1: Weather Driven Models (video tutorial, <a href="https://youtu.be/o3SEU4vaM3E">https://youtu.be/o3SEU4vaM3E</a> ). Role: Creator	1
Jan 28, 2023	Decision Support Tools for Ag Pt2: Turning Models into Decision Support Tools (video tutorial, <a href="https://youtu.be/QJ5kQz1CURk">https://youtu.be/QJ5kQz1CURk</a> ). Role: Creator	1
Jan 28, 2023	Decision Support Tools for Ag Pt3: Next Generation Decision Support Tools (video tutorial, <a href="https://youtu.be/BtVp7Zllxyo">https://youtu.be/BtVp7Zllxyo</a> ). Role: Creator	1
Sep 4, 2023	Advancing decision support for climate adaptation in agriculture and natural resources (workshop recording, <a href="https://youtu.be/Up0Zo0n8kwk">https://youtu.be/Up0Zo0n8kwk</a> ). Role: Presenter; Editor	1
May 7, 2024	Building a Degree Day Decision Support Tool in R Part 1: Degree Day Models (workshop recording, <a href="https://youtu.be/V3_huWUK5pU">https://youtu.be/V3_huWUK5pU</a> ). Role: Instructor; Editor	1
May 20, 2024	Building a Degree Day Decision Support Tool in R Part 2: Weather APIs (workshop recording, <a href="https://youtu.be/cXKQcijhsHg">https://youtu.be/cXKQcijhsHg</a> ). Role: Instructor; Editor	1
<b>Theme 4: Extension</b>		
Oct 1, 2021 – Sep 30, 2024	Office Hours contacts	221
Oct 1, 2021 – Sep 30, 2024	Individual client contacts	123
Dec 7, 2021	Connect Google Sheets to AGOL with a Published CSV (video tutorial, <a href="https://youtu.be/D2EAHQ41Dps">https://youtu.be/D2EAHQ41Dps</a> ). Role: Creator	1
Mar 10, 2022	Intro to R Workshop Part 1 (workshop recording, <a href="https://youtu.be/E1d-pBtgAIw">https://youtu.be/E1d-pBtgAIw</a> ). Role: Instructor; Editor	1
Mar 15, 2022	Intro to R Workshop Part 2 (workshop recording, <a href="https://youtu.be/lwTi2z4aKj0">https://youtu.be/lwTi2z4aKj0</a> ). Role: Instructor; Editor	1
Jul 5, 2022 - Oct 7, 2022	DroneCamp 2022 (workshop recordings, x26, <a href="https://www.youtube.com/playlist?list=PL3a8ETZjFETYqYW9UuwvGyDCHiNsmog4t">https://www.youtube.com/playlist?list=PL3a8ETZjFETYqYW9UuwvGyDCHiNsmog4t</a> ). Role: Coordinator, Supervising Editor	0

Begin Date - End Date	Description	No. of Instances
Oct 17, 2022	Intro to R Part 1: Getting Started (workshop recording, <a href="https://youtu.be/aoDy-vaUjRE">https://youtu.be/aoDy-vaUjRE</a> ). Role: Instructor; Editor	1
Oct 17, 2022	Intro to R Part 2: Packages, Functions, Data Frames, and Importing Data (workshop recording, <a href="https://youtu.be/4ls89MOVzeY">https://youtu.be/4ls89MOVzeY</a> ). Role: Instructor; Editor	1
Oct 18, 2022	Intro to R Part 3: Data Wrangling (workshop recording, <a href="https://youtu.be/qsvsi9mBxMQ">https://youtu.be/qsvsi9mBxMQ</a> ). Role: Instructor; Editor	1
Sep 30, 2023	Intro to R Part 1 of 4: Getting Started (workshop recording, <a href="https://youtu.be/wiy42SgE-Ws">https://youtu.be/wiy42SgE-Ws</a> ). Role: Instructor; Editor	1
Nov 6, 2023	Intro to R Part 2 of 4: Packages and Functions (workshop recording, <a href="https://youtu.be/ZFNHkw9B4BQ">https://youtu.be/ZFNHkw9B4BQ</a> ). Role: Instructor; Editor	1
Oct 17, 2023	Intro to R Part 3 of 4: Data Wrangling Pt1 (workshop recording, <a href="https://youtu.be/zTsAgD6UKiw">https://youtu.be/zTsAgD6UKiw</a> ). Role: Instructor; Editor	1
Nov 6, 2023	Intro to R Part 4 of 4: Data Wrangling Pt 2 and ggplot (workshop recording, <a href="https://youtu.be/C-PSh_K1n7Q">https://youtu.be/C-PSh_K1n7Q</a> ). Role: Instructor; Editor	1
Feb 17, 2024	Drone Data 101: The Data Pipeline (workshop recording, <a href="https://youtu.be/SpF9z8FbCFA">https://youtu.be/SpF9z8FbCFA</a> ). Role: Instructor; Editor	1
Sep 28, 2024	Adding a California Tribal Area Layer to an ArcGIS web map (video tutorial, <a href="https://youtu.be/8GUcevVAsVU">https://youtu.be/8GUcevVAsVU</a> ). Role: Creator	1

**D4. Other (including TV and/or radio interviews/programs, newspaper/trade magazine interviews)**

Begin Date - End Date	Interviewed/Written By (optional)	Topic	Name of Media or Publication
<b>Theme 3: Weather and Climate Change Data Science</b>			
Feb 8, 2022	Taylor Chalstrom (radio interview)	Pistachio Nut Growth Decision Support Tool ( <a href="https://bit.ly/3BKQijy">https://bit.ly/3BKQijy</a> )	MyAgLife
<b>Theme 4: Extension</b>			
May 24, 2024	Taylor Chalstrom (radio interview)	Applications of drones in agriculture; DroneCamp	MyAgLife



## E. Professional Competence and Professional Activity

### E1. Professional Development and Training

Begin Date - End Date	Location	Name, Description and Occurrence of Activity
Dec 9, 2021	online	Introducing Cal-Adapt's New Look, Feel, and Features (webinar by Geospatial Innovation Facility, UC Berkeley)
Feb 2, 2022	online	Supporting Climate Action in Marginalized Communities (webinar by the National Extension Climate Initiative)
Feb 3, 2022	online	Decision Support: Importance of understanding user experiences (webinar from the Center for Spatial Studies at UC Santa Barbara)
Mar 5, 2022	online	Using the new 2016-2020 American Community Survey Estimates (webinar from Social Science Data Analysis Network at U. Mich)
Mar 8, 2022	online	Employee Performance Eval Training (ANR training for supervisors)
Mar 18, 2022	online	Making Maps of 2020 Census Data With R (webinar from Social Science Data Analysis Network at U. Mich)
Mar 23, 2022	online	Performance Management Training for Supervisors (ANR webinar)
Mar 31, 2022	online	ESRI Education Summit
Apr 7, 2022	online	Intro to Databases and Data Storage (webinar from UC Davis DataLab)
Mar 1, 2022 - Apr 12, 2022	online	Applied Statistics for CE Advisors (7-session short course from ANR Learning and Development)
May 10, 2022	online	Spatial SQL (webinar from UC Davis DataLab)
Aug 4, 2022	online	Academic Cost Recovery/Salary Saving (ANR training)
July 13, 2022	online	Working Rangelands (ANR webinar)
Sep 6, 2022	online	Conservation Impact Evaluation and Implementation Science (webinar on synthetic counterfactuals in program evaluation)
Sep 29, 2022	online	Natural Climate Solutions Toolbox (webinar from UC Irvine Center for Ecosystem Climate Solutions)
Oct 6, 2022	online	Cultivating Data Security Practices in Precision Agriculture (CCST Expert Briefing)
Oct 18, 2022	online	ACCEL Data Products to Support Forest Restoration (webinar by USFS)
Nov 14, 2022	Davis, CA	CalCAN Summit 2022
Dec 16, 2022	online	Amazon S3 Mastery (e-course)
Jan 5, 2023	online	Git Mastery: Beginner to Expert with GitHub & GitLab (e-course)

<b>Begin Date - End Date</b>	<b>Location</b>	<b>Name, Description and Occurrence of Activity</b>
Jan 12, 2023 - Dec 14, 2023	online	UC People Management training (6 sessions)
Feb 13, 2023	online	Wikidata Basics (UC Love Data Week workshop)
Mar 17, 2023	online	Introduction to GDAL (e-course)
Apr 27, 2023	Fresno	Strategies for Planning, Developing, and Writing Large Grants (workshop)
Jun 7, 2023	online	Teaching Equity with GIS (workshop at GeoEd 2023 conference)
Jul 10, 2023 - Jul 13, 2023	San Diego, CA	ESRI User Conference 2023 (attendee)
Jul 17, 2023 - Jul 19, 2023	Berkeley, CA	UC Tech 2023 (participant)
Jul 31, 2023 - Aug 1, 2023	Pomona, CA	California Adaptation Forum (participant)
Aug 14, 2023 - Aug 18, 2023	online	Society for Conservation GIS (SCGIS) Annual Conference
Nov 20, 2023	online	AWS Serverless APIs & Apps Complete Introduction (e-course)
Nov 27, 2023	online	Degradation and Restoration of Indigenous California black oak (FireBreak webinar, UC ANR Fire Network)
Dec 18, 2023	online	Retirement Planning (FireBreak webinar, UC ANR Fire Network)
Jan 22, 2024 - Feb 26, 2024	online	'We are the Land' book club (California Native American history, 3 sessions)
Jan 26, 2024	online	PostgreSQL AWS RDS Essential Training (e-course)
Feb 28, 2024	online	Black History Month 2024 (UC ANR training)
Feb 28, 2024	Online	ANR Black History Webinar (Reconstruction Period)
Mar 12, 2024	online	Generative AI for Small-Scale Farmer Support (AIFS webinar)
Mar 14, 2024 - Mar 15, 2024	Saratoga, CA	Drone Educators GeoTech Conference
Apr 17, 2024 - Apr 19, 2024	online	ShinyConf 2024
Apr 30, 2024	online	ANR Communicators Network training on cyber security
May 24, 2024	online	Thelma Hansen 2024 Symposium (Hansen REC research symposium)
Aug 13, 2024 - Aug 14, 2024	online	posit::conf 2024 (online conference on data analysis with R)

Begin Date - End Date	Location	Name, Description and Occurrence of Activity
Aug 15, 2024	online	FAA Part 107 Small UAS Recurrent (drone pilot license renewal)
Sep 10, 2024	online	Ripple Effect Mapping (workshop from UC ANR Program Planning and Evaluation unit)

## E2. Disciplinary Society and Professional Associations

Disciplinary Society/Prof. Assoc Name	Membership/Meetings Attended/Activities
Society of Conservation GIS (SCGIS)	<ul style="list-style-type: none"> <li>• Member (2021–2024)</li> <li>• Annual Conference Planning Committee member (2021, 2022, 2023)</li> <li>• Taught data analysis pre-conference workshops at annual meeting (2021, 2023)</li> </ul>
National Society for Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS)	<ul style="list-style-type: none"> <li>• Member 2022-2023</li> <li>• Participated in the 2022 Region VI Conference</li> </ul>

## E3. Evidence of Professional Competency

Begin Date - End Date	Location	Name, Description and Occurrence of Award, Recognition, Professional Presentation, Office or Activity
Oct 12, 2021	Monterey (online)	DroneCamp: Professional Development Training for Drone Mapping and Research (invited talk at Startup Monterey Bay)
May 10, 2022 - May 26, 2022	online	Spatial Data Analysis with R (BayGeo workshop instructor, 6 sessions)
Sep 6, 2022 - Sep 22, 2022	online	Spatial Data Analysis with R (BayGeo workshop instructor, 6 sessions)
Nov 14, 2022	Davis, CA	Lowering the Bar for Using Weather Driven Models (presentation at CalCAN 2022 Summit)
Feb 14, 2023 - Mar 9, 2023	online	Spatial Data Analysis with R (BayGeo workshop instructor, 8 sessions)
Aug 14, 2023 - Aug 15, 2023	online	Intro to Spatial Data Analysis with R (2-day pre-conference workshop for SCGIS Annual Conference)
Aug 26, 2023 - Sep 14, 2023	San Francisco, online	Spatial Data Analysis with R (BayGeo workshop instructor, 7 sessions)
Mar 14, 2024	Saratoga, CA	Drone Photogrammetry for Natural Resources Management and Research (presentation at GeoTech 2024 Conference)

Begin Date - End Date	Location	Name, Description and Occurrence of Award, Recognition, Professional Presentation, Office or Activity
Apr 13, 2024 - May 2, 2024	San Francisco & online	Spatial Data Analysis with R (BayGeo workshop instructor, 7 sessions)
Aug 10, 2024	online	Data for Democracy (workshop on visualizing voter turnout data in R, instructor)

## F. University Service

Begin Date - End Date	Name, Description, and Occurrence of Activity	Org Level	Your Contribution and Leadership Role
Sep 6, 2016 (Ongoing)	UC-Wide Research-IT Committee	University-wide	ANR representative
Nov 1, 2019 (Ongoing)	UAS Work Group Co-Chair	Division-wide	Co-Chair
Oct 1, 2021 - Sep 30, 2024	DroneChat (Drones Workgroup monthly meeting, x27)	Division-wide	Co-chair
Oct 1, 2021 - Sep 30, 2024	Native American Community Partnerships workgroup (22 meetings)	Division-wide	Member; Land Acknowledgement Sub-Committee; Website Sub-Committee
Nov 2, 2021	Academic Assembly Council (AAC) mtg	Division-wide	Academic Coordinator Committee representative
Nov 16, 2021	Legislative Virtual Tour - Wildfire and Climate Change (presentation to Legislators)	Division-wide	Presenter
Dec 10, 2021	ANR Annual Video	Division-wide	Contributed video footage and input to UC ANR Annual Video
Feb 16, 2022 - Oct 14, 2022	CatNat Statewide Conference Planning Committee	Division-wide	Planning Committee member; created attendee web map for the conference website
Mar 24, 2022	Pomology Program Team mtg	Division-wide	Participant, Presenter
Apr 5, 2022 - Jul 22, 2022	Academic Coordinators FAQs (Academic Coordinator Committee publication)	Division-wide	Author, Editor
Apr 28, 2022	ACC Meeting (all-ACs)	Division-wide	Chair
May 3, 2022	AAC Quarterly meeting	Division-wide	Academic Coordinator Committee representative

<b>Begin Date - End Date</b>	<b>Name, Description, and Occurrence of Activity</b>	<b>Org Level</b>	<b>Your Contribution and Leadership Role</b>
May 18, 2022	CalAgroClimate Workshop	University-wide	Participant
May 20, 2022 (Ongoing)	Statistics Support for ANR working group (7 meetings to date)	Division-wide	Participant
Jun 17, 2022	Academic Coordinators Committee (ACC) Officers mtg	Division-wide	Chair
Aug 16, 2022 - Aug 15, 2025	Peer Review Committee	Division-wide	PRC member
Sep 1, 2022 - Oct 31, 2022	Search Committee (AC1 - Climate Smart Agriculture)	University-wide	Search Committee (successful hire)
Sep 6, 2022	AAC Meeting	Division-wide	ACC Co-Chair
Oct 5, 2022 (Ongoing)	UC Love Data Week planning committee (LDW is a system wide 5-day virtual conference every February)	University-wide	Planning Committee member; Coordinator for ANR
Oct 7, 2022 - Oct 9, 2022	CalNat Statewide Conference	Division-wide	Participant, Pre-Conference Workshop Instructor
Oct 17, 2022 - ongoing	Climate Change Program Team	Division-wide	Co-Chair
Nov 3, 2022	AAC meeting	Division-wide	ACC representative
Nov 16, 2022	ANR Mentorship Program Celebration & Debrief	Division-wide	Panelist on academic advancement
Dec 5, 2022 - Dec 14, 2022	ANR Annual Highlights Reel	Division-wide	Content contributor
Dec 13, 2022	ANR Annual Video	Division-wide	Contributed photos and video footage and text to UC ANR Annual Video
Jan 6, 2023	Project Board Training for Academic Coordinators	Division-wide	Meeting organizer
Jan 26, 2023	VP Council	Division-wide	IGIS representative
Jan 28, 2023 - Jan 29, 2023	AIFS Apps for Ag & Food Hackathon	University-wide	Mentor and Judge
Apr 23, 2023 - Apr 27, 2023	ANR Statewide Conference	Division-wide	Participant, IGIS table, session development
Apr 24, 2023	Academic Coordinator Committee (ACC) All-AC mtg	Division-wide	ACC Chair-Elect

<b>Begin Date - End Date</b>	<b>Name, Description, and Occurrence of Activity</b>	<b>Org Level</b>	<b>Your Contribution and Leadership Role</b>
Apr 24, 2023	Academic Assembly Council (AAC) mtg	Division-wide	ACC Chair-Elect
Apr 24, 2023	Climate Change Program Team (CCPT) mtg	Division-wide	Climate Change PT Co-Chair
Apr 26, 2023	Contradictory Origins: How the 1862 Morrill Act Established Land Grant Universities by Selling Stolen California Tribal Land (presentation at UC ANR Statewide Conference)	Division-wide	Session organizer & presenter
May 22, 2023	VP Council	Division-wide	IGIS representative
Jul 28, 2023 - Dec 14, 2023	Statewide Program and Institutes Directors meetings (x7)	Division-wide	Acting Director of IGIS
Aug 2, 2023	VP Council	Division-wide	IGIS representative
Aug 10, 2023 - May 31, 2024	Search Committee (GIS Programmer for Core Clientele)	Division-wide	Co-developed Position Description; Search Committee member (successful hire)
Sep 19, 2023	AIFS 1890 Day	University-wide	IGIS Representative
Oct 2, 2023	VP Council	Division-wide	Acting Director of IGIS
Oct 4, 2023	Program Council presentation	Division-wide	Acting Director of IGIS
Oct 12, 2023 - Oct 13, 2023	First Americans Land-Grant Consortium (FALCON) Annual Conference	University-wide	ANR Representative
Oct 12, 2023 - Oct 13, 2023	Land-Grant Partners Summit	University-wide	ANR representative
Oct 19, 2023	ANR Position Call webinar	Division-wide	Climate Change Program Team representative
Nov 9, 2023	Administrative Orientation	Division-wide	IGIS representative
Nov 16, 2023 - Feb 28, 2024	Climate Change Program Team - CE Specialist Position Call endorsement	Division-wide	Co-chair, meeting convener, communication, survey development, proposal review and analysis
Nov 30, 2023	Academic Advancement Work Session	Division-wide	Participant, Support

Begin Date - End Date	Name, Description, and Occurrence of Activity	Org Level	Your Contribution and Leadership Role
Dec 15, 2023 (Ongoing)	UC Parcels & Tribal Land Mapping (UCOP project to map all UC owned parcels)	University-wide	Data Sourcing, Technical Advisor
Jan 31, 2024	ANR Strategic Vision 2040 Listening Session	Division-wide	participant
Mar 5, 2024	Academic Coordinator Committee academic advancement training	Division-wide	Participant
Mar 5, 2024	ACC meeting (all-ACs)	Division-wide	Participant, Support
Mar 11, 2024	ANR State Fair Planning Committee	Division-wide	Participant
Mar 27, 2024	Weather Driven Data, Tools, and Technology for Climate Resilient Agriculture (workshop for UC Merced undergrads)	University-wide	Instructor
Apr 23, 2024	Academic Coordinators Committee (ACC) meeting	Division-wide	Participant
Apr 24, 2024	Administrative Orientation	Division-wide	IGIS representative at Administrative Orientation
Apr 30, 2024	ANR Communicator Network meeting	Division-wide	participant
May 22, 2024	California Communities Program Team meeting	Division-wide	Participant
Jul 26, 2024	ACC planning meeting (officers)	Division-wide	Co-chair
Aug 20, 2024	Knowing your organization's history (presentation at the ANR Tribal Partnerships Workshop)	State	Co-presenter

## G. Public Service

Begin Date - End Date	Name, Description, and Occurrence of Activity	Org Level	Your Contribution and Leadership Role
Aug 1, 2017 - Sep 30, 2022	Society for Conservation GIS - Annual Conference Planning Committee	International	20-25 biweekly planning calls per yr; contact speakers, develop themes; help design conference website; led conference evaluation, recorded sessions at



Begin Date - End Date	Name, Description, and Occurrence of Activity	Org Level	Your Contribution and Leadership Role
			conference, meet int'l participants at SFO
Feb 1, 2021 - Jun 30, 2022	Berkeley Mutual Aid (Database Development)	Community	I provide technical support for local mutual aid organization to migrate their client & volunteer databases from Google Sheets to AirTable
Sep 1, 2022 - Dec 15, 2022	Santa Clara University ENGR 110 UCCE X (mentor for student group project to make the Bay Area Urban Ag Map more mobile friendly)	Region	Mentor and Technical Support
Nov 12, 2022	Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS) Regional Conference	Region	Judge for Competition, Conference Participant
Jul 25, 2023	5th Climate Change Assessment - San Francisco Bay Area Regional Engagement Workshop	Region	Participant, IGIS representative
Aug 10, 2023 (ongoing)	Seeds4Prosperity (non-profit that supports women's gardening in The Gambia, West Africa)	International	Website design, development, and maintenance
Nov 12, 2023	Trees for Oakland	Community	Tree planter
Nov 15, 2023	Vulnerable Communities Platform, OPR, EXTREME HEAT	State	Inter-Agency Technical Working Group member, Technical Advisor
Feb 11, 2024	Trees for Oakland	Community	Tree planter
Feb 23, 2024	Vulnerable Communities Platform, OPR, EXTREME HEAT	State	Inter-Agency Technical Working Group member, Technical Advisor
Mar 17, 2024	Trees for Oakland	Community	Tree planter
Apr 20, 2024	Trees for Oakland	Community	Tree planter
May 28, 2024	Vulnerable Communities Platform, OPR, FLOODING	State	Inter-Agency Technical Working Group member, Technical Advisor

## H. Publications

### Peer Reviewed Journal Publications

Zhang, L., Ferguson, L., Ying, L., Lyons, A., Laca, E., & Ampatzidis, Y. 2024. *Developing a Web-based Pistachio Nut Growth Prediction System for Orchard Management*. HortTechnology, 34(1), 1-7.

<https://doi.org/10.21273/HORTTECH05270-23>

**Roles:** I developed the web app which is the main subject of the paper; methods section; editing.

Eitzel, M.V, D Sarna, S Hogan, J Sowerwine, M Mucioki, K McCovey, S Mourque, L Hillman, L.M Hillman, F Lake, V Preston, C.C Hillman, A Lyons, B Trip. 2024. *Using mixed-method analytical historical ecology to map land use and land cover change for ecocultural restoration in the Klamath River Basin*. Ecological Informatics. <https://doi.org/10.1016/j.ecoinf.2024.102552>

**Roles:** Research design, authored background material, editing

### Popular Press and Industry Publications

Andy Lyons, Lu Zhang, Cara Allan, Emilio Laca, Narges Mahvelati, Leigh Archer, Fangyi Wang, Giulia Marino, Eden Lange, Liyu Ying, Ruoyi Gao, Abdollatif Sheikhi, Ahmad Tajabadipour Pour, Emre Bilen, Mateen Sajid, Muhammad Hammad Raza And Louise Ferguson. 2022. *A New Web-Based Tool for Predicting Pistachio Nut Growth*. *West Coast Nut Magazine*. February 2022, pp. 8-13

**Roles:** Lead author, editor. I built the web app which is the subject of the article.

### Technical Reports and Extension Publications

Lyons, Andy. 2021a. [Convert an ArcGIS Pro Map to a Multi-Layered Photoshop Document](#). IGIS Tech Note. (page views: 397\*)

Lyons, Andy. 2021b. [Selecting Geospatial Software for a Project](#). IGIS Tech Note. (page views: 17\*)

Lyons, Andy. 2021c. [Turn Your Mavic 2 Pro into a Mapping Machine with these Accessories](#). IGIS Tech Note. (page views: 569\*)

Lyons, Andy and S. Hogan. 2021. [Preparing for the Part 107 Exam](#). IGIS Tech Note. (page views: 1,591\*)

Lyons, A. 2022a. [Create an Attendee Map for an Event](#). IGIS Tech Note. (page views: 85\*)

Lyons, A. 2022b. [Preparing Reference Layers for a Web Map](#). IGIS Tech Note. (page views: 68)

Lyons, A. 2023a. [Downloading Administrative Boundaries from the US Census with R](#). IGIS Tech Note. (page views: 30)

Lyons, A. 2023b. [Encrypting Your Hard Drive with FIPS Compliant BitLocker on Windows](#). IGIS Tech Note. (page views: 1,201\*)

Lyons, A. 2023c. [Importing RAWS Weather Station Data from WRCC into R](#). IGIS Tech Note.

Lyons, A. 2024a. [Importing CIMIS Data into R Using the Synoptic API](#). IGIS Tech Note.

Lyons, A. 2024b. [Using Cloud Services for Persistent Storage for Shiny Apps Part 1: AWS S3](#). IGIS Tech Note.

Lyons, A. 2024c. [How to Summarize Crop Distribution for any Area-of-Interest in California in R](#). IGIS Tech Note.

\* Page views cover May 2023 – Sept. 2024 only

## Blog Posts

[caladaptR: A New Way of Working with Downscaled Climate Data in R](#). IGIS blog post. December 7, 2021. Role: Author.

[Highlights from Google's 2021 Geo for Good Summit](#). IGIS blog post. December 9, 2021. Role: Editor.

[IGIS Joins UC Love Data Week 2022 - A Multi-Campus Workshop Series Focused on Data](#). IGIS blog post. January 14, 2022. Role: Author.

[IGIS Workshop Schedule for Fall 2022](#). September 16, 2022. Role: Author.

[Got Broadband? FCC invites feedback on the latest National Broadband Map](#). IGIS blog post. December 22, 2022. Role: Author.

[GIS & Data Workshops for Spring 2023](#). IGIS blog post. January 12, 2023. Role: Author.

[Is ChatGPT a Game Changer for GIS?](#) IGIS blog post. May 8, 2023. Role: Author.

[Learn about the Latest Climate Data & Decision Support at the California Adaptation Forum, July 31](#). IGIS blog post. July 8, 2023. Role: Author.

[ESRI User Conference 2023 – Tools for Decision Support](#). IGIS blog post. July 14, 2023. Role: Author

[IGIS Fall 2023 Workshop Schedule](#). IGIS blog post. August 22, 2023. Role: Author.

[1862/1994 Land-Grant Partners Summit Builds Connections to Strengthen Ties with Tribal Colleges](#). IGIS blog post. October 17, 2023. Role: Author.

[IGIS Maps for Cooperative Extension Service Helps New Advisors Navigate Their Coverage Area](#). IGIS blog post. March 6, 2024. Role: Author.

[DroneCamp is back!](#) IGIS blog post. April 10, 2024. Role: Author.

[Stories from DroneCamp 2024](#). IGIS blog post. July 2, 2024. Role: Editor.