



# PSW News

December 17, 2019  
Volume 5 Issue 2



## 2019 Commercial UAV Expo Americas

By: Alan Mikuni, PSW National Director

Approximately 2,500 participants attended the 4th Commercial UAV Expo Americas in Las Vegas, Nevada, October 28-30, 2019, at the Westgate Hotel and Casino. Pre-conference workshops were held on Monday October 28, with the Expo beginning on Tuesday October 29.

ASPRS hosted two pre-conference sessions at this year's event. Session I, INTRODUCTION TO UAS OPERATIONS AND MAPPING, was an Introduction to UAS Operations and Mapping, during which attendees were briefed on how to reliably produce accurate 2D and 3D mapping products with UAS. Session II, ADVANCED UAS MAPPING CONCEPTS, focused on an in-depth look at situations wherein real-world operations and theory collide, using examples of the project you just "couldn't get right." Attendees gained a richer understanding of pitfalls that are commonly encountered with UAS mapping and how best to avoid them.

The exhibit hall hosted 168 exhibitors from 22 countries in 230 booths. The exhibitors provided glimpses of the latest drone technology. Dr. Yushin Ahn, Fresno State, staffed the ASPRS exhibit. 2020 Commercial UAV Expo Americas will be held in Las Vegas on September 15-17, 2020

## ASPRS Technical Session in Sacramento

The Pacific Southwest Region held a technical session in Sacramento on October 3, 2019. Articles summarizing two talks from this technical session are on the next two pages. Approximately 20 people were able to gather to gain some insights into the new horizontal and vertical datums coming our way from the NGS as well as using remote sensing to identify locations where invasive plants (weeds) are hindering access to the waterways within the delta formed by the Sacramento and San Joaquin Rivers. A third scheduled speaker was going to provide information on the use of remote sensing for vegetation management in the vicinity of electrical power lines. However, that presentation was cancelled due to a family emergency.

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## New Datums Are Coming in 2022!

By: Lorrain Amenda, PSW Immediate Past President

At the ASPRS PSW Sacramento meeting, Scott Martin, PLS, Senior Transportation Survey for the Caltrans Office of Land Surveys provided a presentation entitled National Geodetic Survey (NGS) National Spatial Reference System (NSRS) Modernization Project. Scott gave an overview of how the proposed horizontal and vertical datums compare to the existing datums in current use (NAD83 horizontal and NAVD88 vertical). Scott also provided an update on the work performed so far along with the coming efforts to establish new datums for all 50 states.

Scott provided links to access the documents that have been published by NGS with more of the specifics on the design of the datums and how they are being derived. One interesting aspect is that states were allowed to request a larger number of smaller zones for the state plane coordinate system, which would provide smaller distortions by the projection to a plane. All stakeholders identified by the NGS in a particular state would need to agree to get the smaller zones created. To date, California does not have the sufficient consensus, so the zones will likely mimic those used with NAD83. However, Caltrans staff did provide input that the zones should be weighted to allow for larger distortions in the portions of the state with less population rather than minimizing over the full landmass included within the geographic bounds. When the geographic bounds were used as the primary basis for the distribution of distortions, the coastal areas had some of the largest distortions (being on the edge), but that is the area that is most highly populated with the most valuable real estate. The shift to weight the distribution of distortions shifts the largest distortions to the desert and the high mountains, both areas with more public land and less private development.

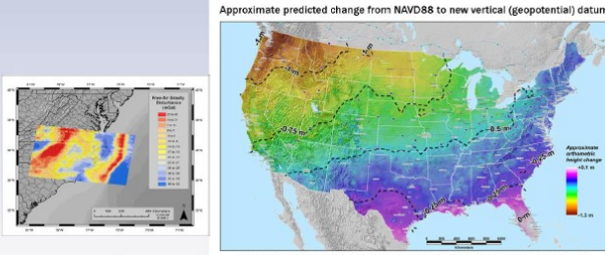
Another facet of the new datums for state-wide GIS work is that a single projection is being created to best-fit each state. In many areas, state-wide GIS projects would be referenced to UTM, but in California, that is not a good choice, because approximately ½ of the state falls in Zone 10 with the other half in Zone 11. The state-wide projection provides a much better solution.

Another item that will make those of us older folks who went through the transition from NAD27 to NAD83 breath a sigh of relief, NGS has already started working with the major purveyors of geospatial software to provide them all with the definitions of the new datums and the needed transformation from NAD83/NAVD88 so that our software should be up and running when the new datums are published and ready for use.

NOAA's National Geodetic Survey Positioning America for the Future geodesy.noaa.gov

## New Datums Are Coming in 2022!

- NOAA's National Geodetic Survey will release new **geometric** (horizontal) and **geopotential** (vertical) datums in 2022



Approximate predicted change from NAVD88 to new vertical (geopotential) datum

Predicted change estimated as NAVD88 "zero" (datum) surface minus NGS gravimetric geoid

## What is the Need?

By: Lorrain Amenda, PSW Immediate Past President

The second presentation of the evening at the ASPRS PSW Sacramento meeting was entitled “What is the need - Vegetation Sensing for Parks and Rec, Boating, and Waterways” by Ralph Jaggi, a current Caltrans employee who was started this effort with Parks and Rec as an intern at age 63. Ralph was working with others at Parks and Rec to identify areas in which invasive aquatic weeds, both floating and submersed, impaired the use of waterways, boat launches, and marinas for recreational purposes. He noted that at one time traffic at the Port of Stockton was temporarily stopped due to issues with aquatic weeds. In addition to impairing recreational and commercial boating, the weeds can also affect water quality and the diversion of water from the delta for water districts.

When Ralph started with the group, they were identifying the locations of floating weeds, such as water hyacinth, by exploring the waterways in airboats. Once an area was identified, it was typically sprayed with herbicides to keep it in check. A minimal amount of herbicide is used so as not to impact water quality and fish populations. This level of herbicide was not enough to completely eradicate the weeds, just keep the volume manageable. He did mention other means of controlling the weeds, including the use of dredging equipment and, on one occasion, hippos. The hippos provided excellent weed removal but there was concern that they could prove a danger to boaters, so that was a one-time solution, though, by far, the most fun.

In order to streamline the identification of areas with floating invasive weeds and reduce the amount of time devoted to that stage of the work, Ralph started working with aerial photography and ArcGIS to determine the locations using Remote Sensing. He was able to successfully locate many of the areas with significant floating weed intrusion using remote sensing tools. Submersed weeds are a little more difficult to locate. They were typically identified using sonar, which is also labor intensive. Ralph explored the used of hyperspectral imagery to locate these submersed weeds. He was able to get results that were pretty consistent with the sonar data he had access to. The hyperspectral method was also less labor intensive, allowing more time to be spent in the eradication process.



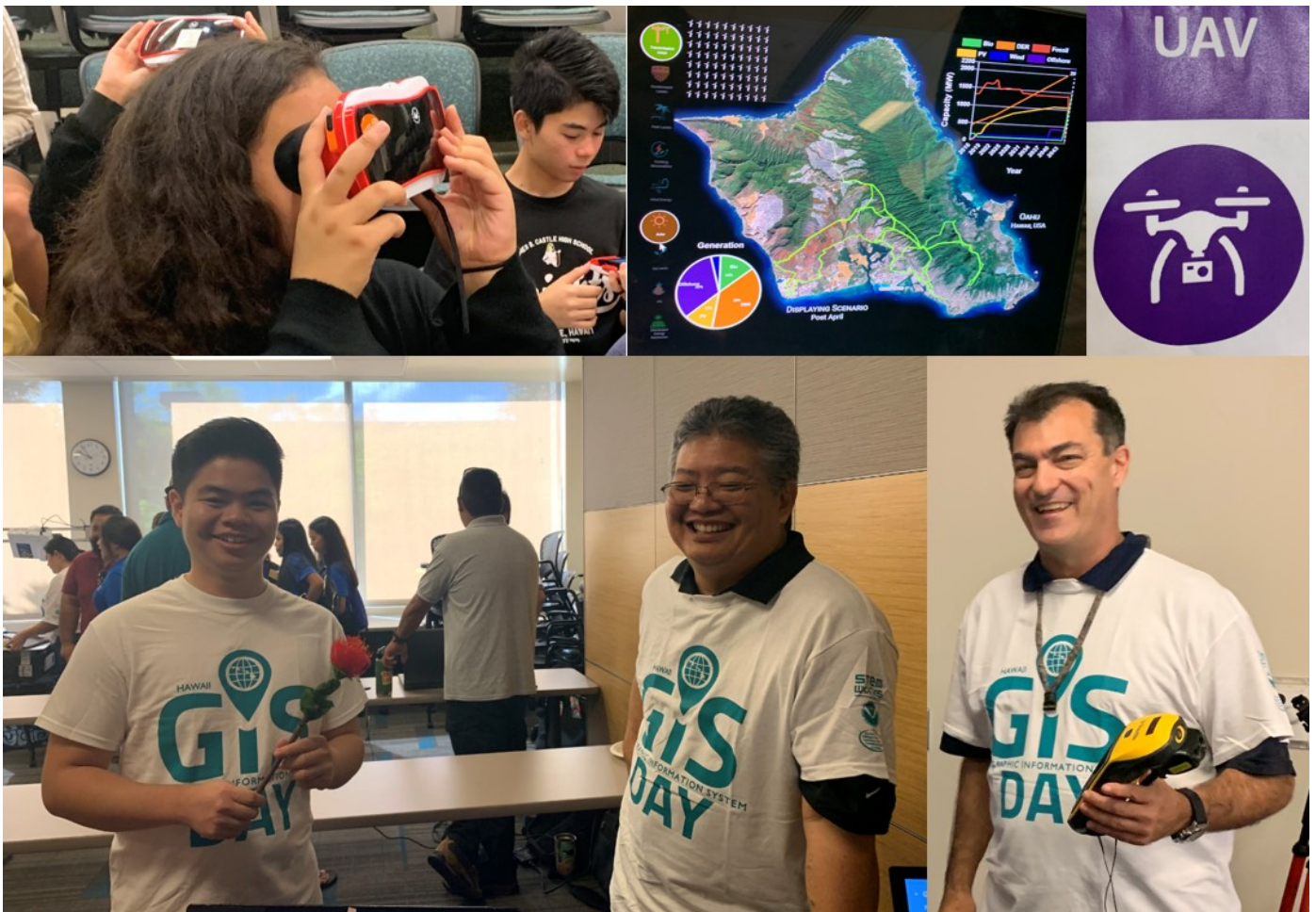
Water hyacinth in the Delta was especially bad this year because a spraying program to eradicate the weed was delayed. Photo courtesy the California Department of Boating and Waterways.

# PSW News

## GIS Day in Honolulu, HI

By: Katie Taladay, PSW Director

GIS Day is the mappiest day of the year dedicated to showing, teaching, and inspiring others to appreciate the importance of geospatial technologies to real-world applications that are making a difference in our society! This year, the Hawaii Student Chapter of ASPRS co-sponsored GIS Day in Honolulu, HI where five schools and 110 students experienced a field day of GIS activities that included: Virtual Reality, Pacific National Geographic Giant Map, GPS, Remote Sensing, numerous 5x5 GIS Exhibit Interaction Booths, and UAV Photogrammetry for Mapping! In the remote sensing activity, students learned how remote sensing technologies play an increasingly important role in monitoring, understanding, and maintaining critical earth and human systems. Students had the opportunity to use a handheld reflectance spectrometer in a hands-on activity and then discussed how global satellite remote sensing is applied to land cover change assessments. A presentation about new directions in satellite applications and AI was also presented. In the UAV activity, students learned about how UAV remote sensing and photogrammetry is a booming field with far reaching potentials across economic sectors such as agriculture, construction, art/media, earth science, construction, and other industries.



## GIS Day by the Central Coast Joint Data Committee (CCJDC) and Cabrillo College

By: Austin Robey, City of Watsonville

The Central Coast Joint Data Committee (CCJDC) and Cabrillo College organized a successful GIS Day celebration on November 13, 2019! Over 70 students, professionals, and GIS enthusiasts gathered at Cabrillo College's Community Building to learn about geospatial technology and GIS research happening throughout California's Central Coast region. Speakers from USGS, NOAA, County of Santa Cruz, Google Earth, and 2NDNATURE covered topics ranging from California's volcano risk, to recent seafloor discoveries, and how spatial thinking can empower people to make better decisions. Attendees were treated to a gallery of maps and posters from local cartographers, opportunities to network and learn about careers in GIS, as well as a raffle for GIS software provided by ESRI. The event was made possible with generous funding from the American Society of Photogrammetry and Remote Sensing (ASPRS), the American Public Works Association (APWA), and the Association of Monterey Bay Area Governments (AMBAG). Based on the success of GIS Day 2019, CCJDC plans to repeat the event in 2020.





## Pacific Southwest Region

American Society for Photogrammetry & Remote Sensing  
Serving the Imaging and Geospatial Community in the  
States of Arizona, California, Hawaii, and Nevada

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### 2020 Student Scholarships

The Pacific Southwest Region of ASPRS: The Imaging and Geospatial Information Society is pleased to offer two student scholarships in 2020. Students pursuing a degree in any of the geospatial disciplines (GIS, remote sensing, photogrammetry or closely related field) at the Associate, Baccalaureate or Graduate level of study are encouraged to apply.

Each award will consist of a \$1,000 check plus a one-year paid ASPRS membership for the following year at the appropriate level, (Student or if graduating, Associate Membership).

To be eligible for consideration, the applicant must be a current student member of ASPRS. **The deadline for applications to be received is 11:59pm, Tuesday, March 31, 2020.**

The application form is available on the ASPRS Pacific Southwest Region's website – <http://www.pswasprs.org/regional-forms/> – which may also be accessed through the Regions tab at ASPRS.org.

Submission Requirements:

- Completed Application, (including a 500 word [max] essay)
- Current academic transcript, (an unofficial version is acceptable)

All submissions should be made by email to the chair of the Awards committee at the region email address below.

**Please title your email 2020 Scholarship Application** and include all required items as either PDF or MS Word formatted documents:

[pswasprs@gmail.com](mailto:pswasprs@gmail.com)

**Submission Deadline: 11:59pm, Tuesday, March 31, 2020.**



## Student Chapter Benefits from the ASPRS Pacific Southwest Region

Participating in an ASPRS Student Chapter helps you develop technical knowledge, leadership experience and lasting relationships with peers and mentors. To help you achieve success with your student chapter activities and events, [the Pacific Southwest Region of APRRS](#) offers student chapters in our region a variety of benefits, as described below.

Visit the [ASPRS website](#) to learn if there is a chapter at your school. **If there isn't one there**, please contact us: [pswasprs@gmail.com](mailto:pswasprs@gmail.com) about the process for getting one started at your university.

### Grants and programs to support chapter activities

- Receive an annual Student Chapter Support Stipend (currently \$150) to assist your chapter operations and activities.
- Apply for a Special Event Grant (up to \$500) to support a high-impact event (e.g. GIS Day, Geospatial Symposium or Speaker Events, support to help students to attend State or National Conferences).
- Assistance in identifying and scheduling ASPRS Professional members in our region to speak at a campus event hosted by your chapter.

[The above may be useful in leveraging additional campus club and activities resources]

### Networking and scholarship opportunities

- Participate in the ASPRS annual meeting and get involved with the Student Advisory Council
- Enter your chapter team in the annual Geoleague Challenge and win prizes!
- Opportunities to apply for [National Awards and Scholarships](#)
- Access to [PSW Region Student Scholarships](#)
- Assistance in identifying APRRS Professional members as mentors or for other professional opportunities (internships, summer jobs, etc.).

### Materials and Resources

- Access to outreach materials from ASPRS
- Discounts on a variety of resources and materials available through the ASPRS Bookstore.
- Use of the PSW region banner and/or table cover at your events and post a custom ASPRS PSW Region logo on your materials.

# PSW News



## Event Funding Support Request ASPRS Pacific Southwest Region

Funding requests to the ASPRS Pacific Southwest Region (PSW), may be made for financial support of events hosted by other organizations in the region with similar missions and goals. The request for funding should be made by a member of ASPRS PSW on behalf of the requesting organization or event one calendar quarter prior to the event date.

Examples of support include: Funding of venue charges, refreshments (*no alcohol*) and other similar expenses incurred in hosting educational events, workshops, speakers, GIS Day events, and other similar activities. Typically support of up to \$100 will be considered reasonable, with larger amounts possible pending the specific nature and impact of the specific event.

**In recognition of ASPRS PSW sponsorship, promotional materials should mention ASPRS PSW (e.g. include region logo and acknowledge region support) and/or ASPRS PSW should be mentioned during opening comments at the event. ASPRS PSW may also request that information regarding ASPRS PSW and membership in the organization be provided to attendees.**

Date of request: \_\_\_\_\_ (please submit at least one calendar quarter prior to your event date)

Organization/sponsor of the event: \_\_\_\_\_

Individual requesting funding: \_\_\_\_\_

Requestor's position/role with the sponsoring organization: \_\_\_\_\_

Requestor e-mail address: \_\_\_\_\_

Requestor phone number: \_\_\_\_\_

Event for which you are requesting funding: \_\_\_\_\_

Event date: \_\_\_\_\_

Event location: \_\_\_\_\_

Anticipated attendance: \_\_\_\_\_

Please briefly describe the nature of the event or program for which you are requesting funding. (Event type? e.g. speaker, workshop, outreach event; who is the audience? e.g. professionals, students, public; how will the requested funds be used to support the event?)

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The above form is available at <https://goo.gl/tHah91>



# PSW News

## Your Pacific Southwest Region Council

The officers for the Pacific Southwest Region are working hard to provide you with quality technical presentations near to home. In the last few years we've offered technical sessions in San Diego, Fresno, Reno, and Davis. We are currently planning upcoming sessions. If you have suggestions for locations and topics for a session near where you live, please contact one of our officers or the region email at [pacificsouthwestregion@asprs.org](mailto:pacificsouthwestregion@asprs.org).

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<b>Vice President:</b>	Dr. Omar E. Mora	<a href="mailto:oemora@cpp.edu">oemora@cpp.edu</a>
<b>Secretary/Treasurer:</b>	Ms. Melissa Christie	<a href="mailto:mchristie@quantumspatial.com">mchristie@quantumspatial.com</a>
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	Ms. Katie Taladay	<a href="mailto:taladay@hawaii.edu">taladay@hawaii.edu</a>

## Join The Regional Council's Monthly Teleconference

Are you interested in joining the regional council's teleconference, in order to share ideas or learn more about ASPRS activities? If so, please RSVP by sending an email to [pswasprs@gmail.com](mailto:pswasprs@gmail.com).

### Upcoming Events of Interest:

Jan. 13 - 14, 2020 Monterey Bay, CA	<b>GeoBuiz Summit 2020</b>
Feb. 9-11, 2020 Long Beach, CA	<b>CalGIS</b>
Feb. 24-27, 2020 Redlands, CA	<b>Geodesign Summit</b>
Feb. 25-27, 2020 Santa Clara, CA	<b>Analytics and Data Summit 2020</b>
Mar. 7-9, 2020 Palm Springs, CA	<b>Esri Partner Conference</b>
Mar. 10-13, 2020 Palm Springs, CA	<b>Esri Developer Summit</b>
Mar. 23-25, 2020 Washington, DC	<b>Geo Week</b>
Apr. 6-10, 2020 Denver, CO	<b>AAG Annual Meeting</b>
Jul. 13-17, 2020 San Diego, CA	<b>Esri International User Conference</b>

