

## Claire Villanueva-Weeks

Pronouns: she/her | Email: clairesvw@gmail.com | Phone: (661) 600 - 5892

### EDUCATION AND CERTIFICATIONS

#### **Master of Science, Environmental Science - Geospatial Science**

*California State University, Los Angeles (CSULA)*

Advisor: Dr. Jingjing Li, Department of Geoscience and Environment

GPA: 3.93/4.0

#### **Geographic Information Systems Certificate**

*California State University, Los Angeles (CSULA)*

#### **Bachelor of Science, Biological Science**

*University of California, Irvine (UCI)*

GPA: 3.14/4.0

### WORK EXPERIENCE

#### **Space Systems and Innovations Inc.**

Jet Propulsion Laboratory (JPL)

DEVELOP Program Participant

Advisors: Dr. Kerry Cawse-Nicholson, NASA JPL, California Institute of Technology; Dr. Madeleine Pascolini-Campbell, NASA JPL, California Institute of Technology; Dr. Benjamin Holt, NASA JPL, California Institute of Technology

To examine groundwater recharge factors in the Mississippi Embayment Aquifer system, we created maps and time series to identify areas to be preserved for conservation. My role in the team was to process and map the spatial distribution of ECOSTRESS, GPM-IMERG, GRACE & GRACE-FO data in the embayment over a twenty-year period. Areas that are at risk of reduced groundwater recharge were identified and areas in which groundwater recharge was adequate were identified for conservation purposes.

*January 2022 -  
April 2022*

#### **National Aeronautics and Space Administration (NASA)**

Jet Propulsion Laboratory (JPL)

Graduate Research Internship - Maximizing Student Potential (MSP)

Advisor: Dr. Andreas Colliander, NASA JPL, California Institute of Technology

Our research focused on validation of the Soil Moisture Active Passive (SMAP) Level 3 and model-based Level 4 soil moisture data products at agricultural sites globally for the extended time period of April 1, 2015 to October 31, 2020. We investigated changes in SMAP performance during different temporal scales, focusing on a seasonal assessment of SMAP performance. In addition to comparison between Level 3 and Level 4 products, the performances of the single-channel algorithm and dual-channel algorithm Level 3 data products were investigated. SMAP performance was assessed seasonally to determine if there were any patterns in or challenges to performance that coincide with the specific conditions in agriculturally managed land.

*June 2021 -  
August 2021*

#### **National Aeronautics and Space Administration (NASA)**

Jet Propulsion Laboratory (JPL)

Graduate Research Internship - JPL Visiting Student Research Program (JVS RP)

Advisor: Dr. Andreas Colliander, NASA JPL, California Institute of Technology

Our research focused on validation of the Soil Moisture Active Passive (SMAP) level 3 soil moisture data products at agricultural sites globally for the time period of April 1, 2015 to August 31, 2019.

*September 2020 -  
December 2020*

**Anheuser-Busch**

Quality Assurance Analyst

Conducted routine analytical lab tests on beer samples and packaged beer for oxygen, carbon dioxide, specific gravity, etc. Performed various studies and statistical analyses to assess quality.

*July 2019 - present***University of California, Irvine**

Undergraduate Research Intern

Advisor: Dr. Celia Faiola

Our research focused on characterizing and quantifying the total biogenic volatile organic compound (VOC) emissions from native black sage scrub (*Salvia Mellifera*) and determining if a significant portion of those emissions could be attributed to epiphytic microbe VOC emissions. Collaborated with the Multidisciplinary Design Program (MDP), Undergraduate Research Opportunities Program (UROP), Excellence in Research, and the Microbiome Initiative.

*May 2018 -**August 2019***COMPUTATIONAL SKILLS***Matlab* - Intermediate*Python* - Proficient*Esri Products (ArcGIS Pro, ArcMap, QGIS, ArcGIS online)* - Advanced**PUBLICATIONS**

*Contribution of phyllosphere microbes to total biogenic volatile emissions from native plants of coastal sage scrub* Weeks, C. S., 2019, Journal of undergraduate research in biological sciences

**PRESENTATIONS**

*Validation of SMAP Level 3 soil moisture data products using ground-based measurements at agricultural sites C.*

Villanueva-Weeks, J. Li, A. Colliander, R. Reichle, A. Berg, M. Cosh, J. Martinez-Fernandez, H. McNairn, M. Thibeault; Poster presentation given at the American Geophysical Union Fall Meeting; 12/13/21

*Validation of SMAP Level 3 soil moisture data products using ground-based measurements at agricultural sites C.*

Villanueva-Weeks, J. Li, A. Colliander; Poster presentation given at the UCOWR/NIWR Annual Water Resources Conference; 6/14/21-6/16/21

*Validation of SMAP Level 3 soil moisture data products using ground-based measurements at agricultural sites C.*

Villanueva-Weeks, J. Li, A. Colliander; Poster presentation given at the 29th Annual Student Symposium on Research, Scholarship, and Creative Activities; 3/12/21

*Contribution of phyllosphere microbes to total biogenic volatile emissions from native plants of coastal sage scrub* C. S. Weeks; Poster presentation given at UCI Excellence in Research Symposium 2019;

4/25/19

*Contribution of phyllosphere microbes to total biogenic volatile emissions from native plants of coastal sage scrub* C. S. Weeks, J. Campos; Oral Presentation given at UCI Multidisciplinary Design Program

Symposium 2019; 5/11/19

*Contribution of phyllosphere microbes to total biogenic volatile emissions from native plants of coastal sage scrub* C. S. Weeks; Poster presentation given at UCI Undergraduate Research Symposium 2019;

5/18/19

**AWARDS AND FELLOWSHIPS**

Special Recognition in Graduate Studies at CSULA

*2021*

NASA Direct-STEM (Data Intensive Research and Education Center for STEM)  
Research Fellowship

*June 2021 - Present*  
CSULA

Outstanding Presentation Award at the 29th Annual Student Symposium on Research,  
Scholarship, and Creative Activities Poster Exhibits

*May 2021*  
CSULA

Excellence in Research Undergraduate Recipient

*May 2019*  
UCI