



Water Resources Research Center

University of Hawaii at Manoa

# Hawaii's WRRC Research in American Samoa

Aly El-Kadi  
Associate Director

- 2013 WRRC has extended its services to cover American Samoa (AS).
- Projects mainly address water sustainability under climate change and water quality issues related to land-ocean interface.
- Potential new water resources at high-elevated lands.
- Full cooperation with local agencies, including Power Authority (ASPA), Environmental Protection Agency AS EPA, and Community College.

- Data is scarce, especially weather and stream data
- 2013-2016: 10 WRRIP research projects + technology transfer
- WRRIP support used as seed to attract other grants
- NOAA's Pacific Regional Integrated Sciences and Assessments (RISA)
- Financial support from WRRC, ASPA, AS EPA
- Established weather stations
- In progress: New stream gages

# El-Kadi's contributions

## WRRIP

|      |          |
|------|----------|
| 2013 | \$52,976 |
|------|----------|

## Other funds As PI

|              |      |           |
|--------------|------|-----------|
| Pacific RISA | 2013 | \$152,014 |
| Pacific RISA | 2015 | \$344,701 |
| WRRC         | 2015 | \$20,000  |
| AS EPA       | 2016 | \$20,000  |
| ASPA         | 2016 | \$12,500  |
| Total        |      | \$549,215 |

## As Co-PI

|                        |      |           |
|------------------------|------|-----------|
| AS EPA and other local | 2016 | \$250,000 |
|------------------------|------|-----------|

Teledyne RD Instruments

# StreamPro ADCP

Shallow Streamflow Measurement System

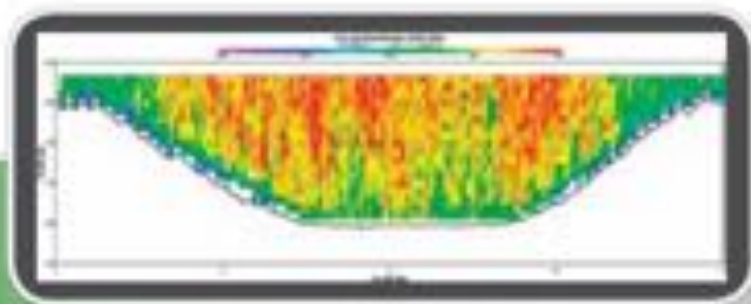
Your Shallow Water Solution

Teledyne RD Instruments' STREAMPRO ADCP (Acoustic Doppler Current Profiler) represents a revolutionary advancement in streamflow measurement. You can accurately measure discharge in shallow streams in a matter of minutes—a fraction of the time required using traditional hand-held devices. With StreamPro there's no need to move from station to station to obtain single-point velocity data or compute the discharge by hand; streamflow measurements are obtained in real-time.

**Get out of the water:** StreamPro can be tethered to be pulled from a bridge, cableway, or tagline pulley system. This greatly improves



*The StreamPro's transducer can be towed from the front or middle of the float, or can be removed and hand-held in the water for applications such as under-ice flow measurements.*



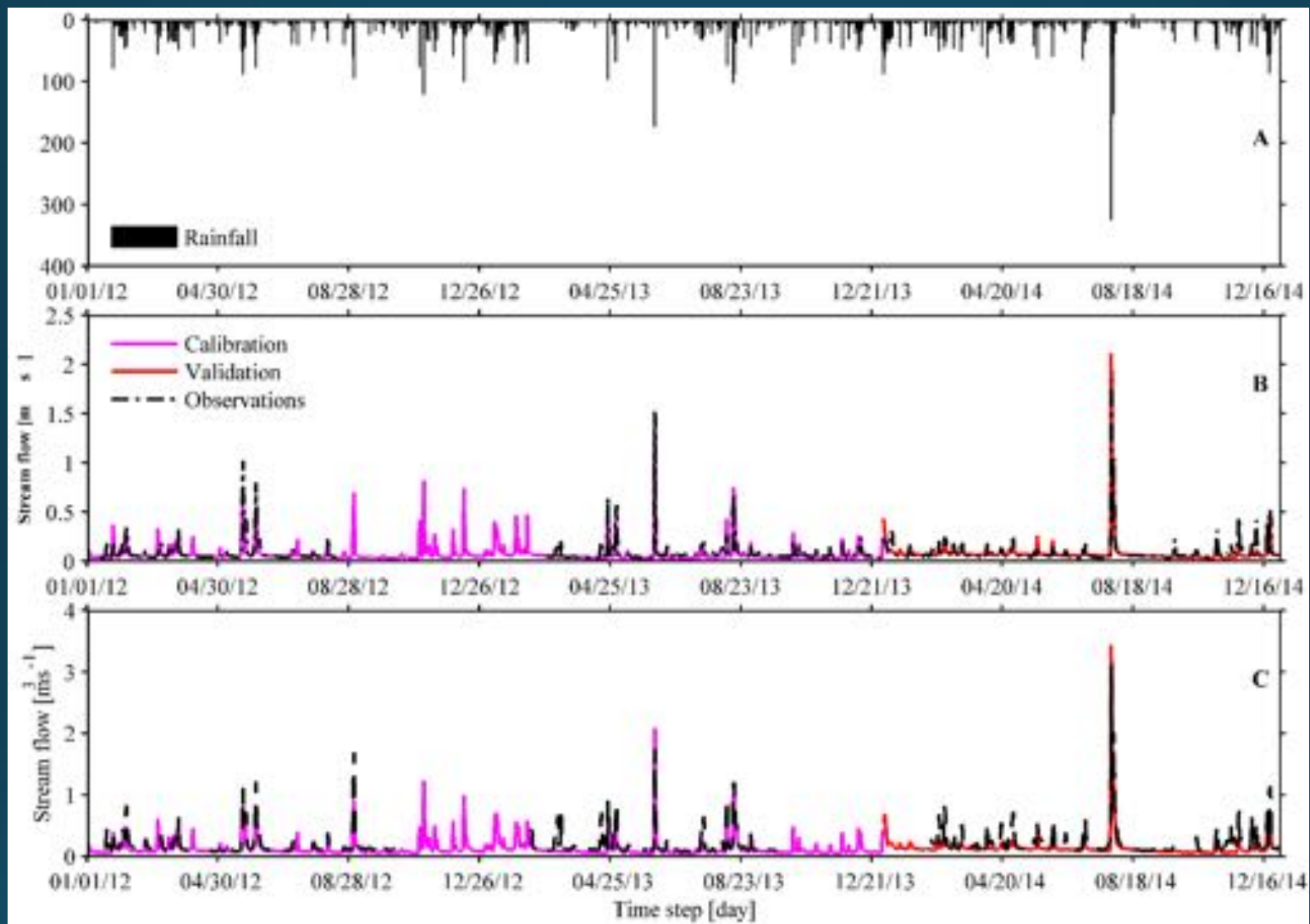


- Sampling for nutrients and dissolved radon gas to determine groundwater and nutrient flux rates to the coastal environment.



- WRRC and ASPA staff installing one of 6 new weather stations on Tutuila





- The daily rainfall (A), observed and simulated daily streamflow of Faga'alu watershed at two locations for the calibration (2012-2013) and validation (2014) periods



The Second Conference on

# WATER RESOURCE SUSTAINABILITY ISSUES ON TROPICAL ISLANDS

December 1 - 3 , 2015 | Hilton Hawaiian Village | Honolulu, Hawaii





## ORGANIZED AND SPONSORED BY

- Water Resources Research Center, University of **Hawaii** at Manoa
- Water and Environmental Research Institute of the Western Pacific, University of **Guam**
- Puerto Rico Water Resources and Environmental Research Institute, University of **Puerto Rico**
- Virgin Islands Water Resources Research Institute, University of the **Virgin Islands**

## CO-SPONSORED BY

- American Samoa Power Authority
- Department of Geology and Geophysics, University of Hawaii at Manoa
- NIWR
- Sea Grant College Program, University of Hawaii at Manoa
- USGS Pacific Islands Water Science Center, Honolulu, Hawaii
- WRRIP

# Technical Advisory Committee



## The conference was intended to meet:

- Threats to island communities be addressed by sound scientific research before they reach crisis proportions
- Resource protection managers need access to research that is specific to island environments
- Enhanced communication and collaboration between island researchers can provide a vital, synergistic link, which will strengthen all research programs



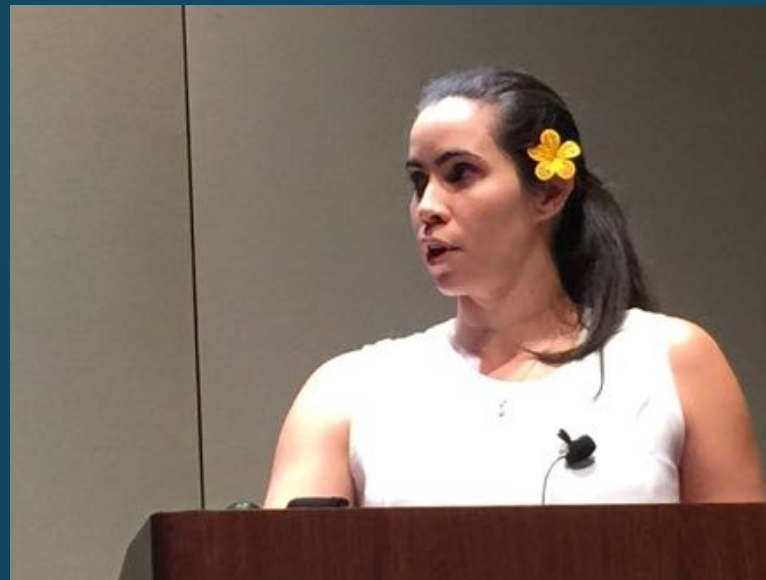
# Technical Sessions

## Oral Sessions (invited/contributed)

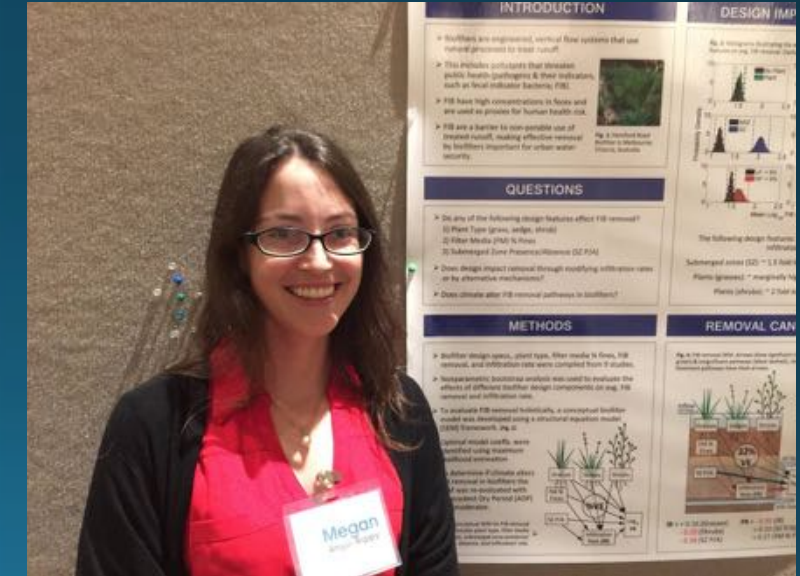
- Water resources sustainability
- Water quality
- Climate change and its impacts on water resources
- Water resources exploration
- Protection strategies for water resources
- Managing water demands and supplies
- Coastal groundwater

## Poster Session

- Water resources sustainability
- Water quality



- 150 participants
- 72 oral and poster presentations
- Panel discussion
- Proceedings volume to follow



- Excellent feedback
- Next meeting 2017 Virgin Islands/ Puerto Rico?
- Role model for other regions?

**download abstract volume and some slides/posters:**

- <http://www.wrrc.hawaii.edu/index.shtml>
- <https://www.facebook.com/wrrchawaii/>