All the sites monitored for the StreamPULSE project in Arizona are located in the Salt-Verde River watershed. The Verde River watershed is ~5,500 sq miles (<http://www.verderiverinstitute.org/200004%20DWR%20Verde%20River%20Watershed%20Report.pdf>). The watershed includes parts of Coconino National forest, Prescott National Forest, and Tonto National Forest. The watershed is not highly populated, but Yavapai County, which contains the western portion of the watershed, has doubled in population between 1990 and 2015 (107,714 to 222,255). Oak Creek (OC), Wet Beaver Creek (WB), and Sycamore Creek (SC) are tributaries along the Verde River, while our Middle Verde (MV) and Lower Verde (LV) sites are located on the main stem. OC, WB, and MV are located in the upper portion of the watershed (higher elevation pinyon-juniper forest), while SC and LV are located in the lower portion of the watershed (lower elevation Sonoran Desert. The Verde River joins the Salt River which is then the main surface-water resource for Phoenix metropolitan area. The Eastern Canal (EC) is located in the metropolitan area and supplied by water diverted from the Verde-Salt River.

AZ\_OC - Oak Creek – monitoring began 2016-11-14. Joins the Verde River just downstream of Cottonwood-Verde Valley. The reach used for the StreamPULSE is located in Sedona, Arizona. The sonde is located just downstream of an overpass, and the rest of the reach is partly to mostly shaded by deciduous trees. Substrate alternates between cobble bottom and sandy stretches. Riffle areas present. USGS station is 10 meters downstream of our sonde set up.

AZ\_WB – Wet Beaver Creek – monitoring began 2017-07-12. Joins with Dry Beaver Creek before joining the Verde River at Camp Verde. The reach we sampled is located downstream of Wet Beaver Wilderness near Beaver Creek Ranch (<https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3810866.pdf>) and permission was obtained through the US Forest Service. The reach is heavily shaded, clear water, cobble bottom stream with several stretches of riffles.

AZ\_MV – Middle Verde – monitoring began 2017-11-14. The reach used for StreamPULSE is south of Camp Verde and accessed through Shield Ranch, which is owned by The Nature Conservancy. Instrumentation is located on the White Cliffs, a crumbly rock formation on the east bank of the river. Substrate is soft clay. People paddle this area and west side will eventually be state park with public access. Seep willow and typha present along stream channel as well as sporadic trees.

AZ\_LV – Lower Verde – monitoring began 2017-07-10. The reach used for the StreamPULSE project is ~1 mile above the confluence of the Verde River and the Salt River accessed with permission of Salt River Pima-Maricopa Indian Community. USGS, SRP-MIC, and SRP have partnered with us to make this installation successful.

One Eureka Manta 2 (Eurkea, Austin, TX) and several Onset HOBO lux sensors are deployed at each of the sites, logging data continuously at 15 minute intervals. The Manta is equipped to measure temperature,

conductivity (with specific conductance, salinity, and TDS, pH (with separate reference electrode), optical dissolved-oxygen, low-range depth (0 to 25m) sensor that also provides barometric pressure readings, CDOM sensor, and a Turner turbidity sensor with extended turbidity brush that cleans the turbidity, CDOM, and pH probe. Sondes were switched with cleaned and calibrated sondes every 3-4 weeks.

Two additional sites in Arizona will be included in the StreamPulse data set. Sycamore Creek (AZ\_SC) data will be leveraged from two NEON sites located ~200 m from the StreamPulse site. This site is part of an LTREB (Co-PIs Nancy Grimm and John Sabo), with additional data available <https://sustainability.asu.edu/caplter/data/search/?search-for=Sycamore+creek>. The Eastern Canal site (AZ\_EC) data will be leveraged from data collected by the Salt River Project utility company. EC is a concrete channel that is part of the network of canals distributing water from the Salt-Verde River through the city.

PI- Nancy Grimm

Technician- Sophia Bonjour

Graduate Students- Amalia Handler, Katie Kemmitt, Marina Lauck

Undergraduate- Corey Caulkins

ADDITIONAL LINKS

<http://verderiverinstitute.org/verdespecific.html>

Closest USGS gauging stations:

OC - https://waterdata.usgs.gov/az/nwis/uv?site\_no=09504420

WB - <https://waterdata.usgs.gov/az/nwis/uv?site_no=09505200>

MV - <https://waterdata.usgs.gov/az/nwis/uv?site_no=09506000>

LV - https://waterdata.usgs.gov/az/nwis/uv?site\_no=09511300