

Geophysics/Surveying Unit's Past, Current, and Future Gravity Projects

Date	Project	Description	Cooperators/ Participating Agency
10/1999 – 01/2000 10/2000 – 01/2001 11/2001 – 01/2002 11/2002 – 01/2003 11/2005 – 02/2006 12/2007 – 04/2008 Future Dates TBD	Pinal Active Management Area Aquifer Storage Monitoring Status: Ongoing	Collected gravity measurements at 105 points for monitoring the change in aquifer storage in the Pinal AMA. This data is then used to improve water budgets and modeling parameters for the Pinal AMA groundwater model.	ADWR Pinal AMA Groundwater Users Advisory Council
02/2002 – 05/2002 02/2003 – 05/2003 03/2004 – 05/2004 03/2005 – 06/2005 03/2007 – 07/2007 03/2009 – 08/2009 Future Dates TBD	Phoenix Active Management Area Aquifer Storage Monitoring Status: Ongoing	Collected gravity measurements at 135 points for monitoring the change in aquifer storage in the Phoenix AMA. This data is then used to improve water budgets and modeling parameters for the Phoenix AMA groundwater model	ADWR Phoenix AMA Groundwater Users Advisory Council
09/2002	McMicken Depth-to-Bedrock Study Status: Completed	Collected gravity and GPS measurements at 345 points for modeling the depth-to-bedrock. This data was then used to model earth fissure risks zones around a flood control structure.	ADWR Flood Control District of Maricopa County
1999 – 2005	Various Graduate Studies Projects Status: Completed	Collected gravity data for various Geology Graduate Projects around Tempe Town Lake, Central Arizona Project Canal in Scottsdale, and the 71 st and Olive land subsidence feature.	ADWR Arizona State University
02/2004 – 11/2004	Santa Cruz Active Management Area Specific Yield Study Status: Completed	Collected gravity measurements at 5 well-sites. This data was then used to calculate the specific yield in the Kino Springs and Highway 82 micro-basins in the Santa Cruz AMA to better improve modeling parameters for the Santa Cruz AMA groundwater model.	ADWR
04/2004 – 06/2004	Hassayampa Depth-to-Bedrock Study Status: Completed	Collected gravity and GPS measurements at 1350 points for modeling the depth-to-bedrock. This data was then used to improve the groundwater model for the Hassayampa sub-basin within the Phoenix AMA.	ADWR
11/2005 – 02/2006	Detrital Valley Depth-to-Bedrock and Water In Storage Study Status: Completed	Collected gravity and GPS measurements at 310 points for modeling the depth-to-bedrock. This data was then used to calculate groundwater in storage estimates for the Detrital Valley Groundwater Basin.	ADWR USGS Mohave County

Date	Project	Description	Cooperators/ Participating Agency
08/2006 - 09/2006	Sacramento Valley Depth-to-Bedrock and Water In Storage Study Status: Completed	Collected gravity and GPS measurements at 316 points for modeling the depth-to-bedrock. This data was then used to calculate groundwater in storage estimates for the Sacramento Valley Groundwater Basin.	ADWR USGS Mohave County
02/2007 – 09/2009	Santa Cruz Active Management Area Specific Yield Study Status: Completed	Collected gravity measurements at 3 well-sites. This data was then used to calculate the specific yield in the Rio Rico and Elephant Head micro-basins of the Santa Cruz AMA to better improve modeling parameters for the Santa Cruz AMA groundwater model.	ADWR
09/2009 – Present	Prescott Active Management Area Specific Yield Study Status: In Progress	Collect gravity measurements at 3 well-sites. This data is then used to calculate the specific yield in the Lynx Creek and Granite Creek Areas of the Prescott AMA to better improve modeling parameters for the Prescott AMA groundwater model.	ADWR
10/2011 – 02/2012	Butler Valley Narrows Depth-to-Bedrock Study Status: Completed	Collected gravity and GPS measurements at 85 points for modeling the depth-to-bedrock. This data was then used to improve the groundwater model for the Butler Valley Groundwater Basin.	ADWR Arizona Geological Survey Arizona State Land Department
01/2010 – 06/2013	Earth Fissure Risk Study Status: Completed	Develop a methodology for identifying high risk earth fissure zones along the Central Arizona Project canal using geological, hydrological, and survey data. Determine an earth fissure risk zone along the CAP canal in the Hawk Rock Area using the newly developed methodology.	ADWR Arizona Geological Survey Central Arizona Project
09/2007 – 10/2007 (Data Collection) FY2013-2014 (Modeling/Estimates)	Superstition Vistas (Higley Basin) Depth-to-Bedrock and Water In Storage Study Status: In Progress	Collected gravity and GPS measurements at 922 points for modeling the depth-to-bedrock. This data is used to calculate groundwater in storage estimates for the Superstition Vistas Planning Area in the Eastern Half of the East Salt River Sub-basin.	ADWR Arizona Geological Survey Arizona State Land Department Central Arizona Project
09/2008 – 02/2009 (Data Collection) FY2014-2015 (Modeling/Estimates)	Willcox and Douglas Depth-to-Bedrock and Water In Storage Study Status: In Progress	Collected gravity and GPS measurements at 1003 points for modeling the depth-to-bedrock. This data is used to calculate groundwater in storage estimates for the Willcox and Douglas Groundwater Basins.	ADWR USGS

Geophysics/Surveying Unit's Past, Current, and Future GPS Surveying Projects

Date	Project	Description	Cooperators/ Participating Agency
08/1997 08/1999 08/2001 08/2007 Future Dates TBD	Hawk Rock GPS Survey Status: Ongoing	Collect survey-grade GPS data for monitoring land subsidence in the Hawk Rock area of east Mesa and Apache Junction.	ADWR CAP
03/2000 – 05/2000 03/2001 – 05/2001 02/2002 – 03/2002 03/2004 – 05/2004 03/2005 – 05/2005 Future Dates TBD	Pinal Active Management Area GPS Survey For Aquifer Storage Monitoring Status: Ongoing	Collect survey-grade GPS data that is used in adjusting gravity data for monitoring the change in aquifer storage in the Pinal AMA.	ADWR Pinal AMA Groundwater Users Advisory Council
05/2003 – 07/2003 06/2005 – 08/2005 Future Dates TBD	Phoenix Active Management Area GPS Survey For Aquifer Storage Monitoring Status: Ongoing	Collect survey-grade GPS data that is used in adjusting gravity data for monitoring the change in aquifer storage in the Phoenix AMA.	ADWR Phoenix AMA Groundwater Users Advisory Council
04/2001	Estes WQARF GPS Survey Status: Completed	Collected survey-grade GPS data for WQARF project.	ADWR ADEQ
11/2001	Miracle Mile WQARF GPS Survey Status: Completed	Collected survey-grade GPS data for WQARF project.	ADWR ADEQ
02/2002	East Washington WQARF GPS Survey Status: Completed	Collected survey-grade GPS data for WQARF project.	ADWR ADEQ
12/2002	Payson WQARF GPS Survey Status: Completed	Collected survey-grade GPS data for WQARF project.	ADWR ADEQ
10/2005	Klondyke WQARF GPS Survey Status: Completed	Collected survey-grade GPS data for WQARF project.	ADWR ADEQ
05/2006	Yuma WQARF GPS Survey Status: Completed	Collected survey-grade GPS data for WQARF project.	ADWR ADEQ
03/2007	Vulture Mill WQARF GPS Survey Status: Completed	Collected survey-grade GPS data for WQARF project.	ADWR ADEQ
04/2008	Central Phoenix WQARF GPS Survey Status: Completed	Collected survey-grade GPS data for WQARF project.	ADWR ADEQ
01/2009	East Phoenix WQARF GPS Survey Status: Completed	Collected survey-grade GPS data for WQARF project.	ADWR ADEQ
08/2008 – Present	Transducer GPS Survey Status: Ongoing	Collected survey-grade GPS data for improved land surface elevations that will be used in calculating more accurate groundwater level elevations derived from transducer data.	ADWR USGS

Date	Project	Description	Cooperators/ Participating Agency
07/19/2011 – Present	Superstition Mountain Recharge GPS Survey For Change-in-Storage Study Status: In Progress	Collect survey-grade GPS data that is used in adjusting gravity data to monitor the increase in storage associated with recharge activities.	ADWR Central Arizona Project
10/2011	Butler Valley Narrows GPS Survey For Depth-to-Bedrock Study Status: Completed	Collected survey-grade GPS data that is used in adjusting gravity data for modeling the depth-to-bedrock. This data was then used to improve the groundwater model for the Butler Valley Groundwater Basin.	ADWR Arizona Geological Survey Arizona State Land Department
02/2012 – Present	Green Valley Sahuarita Rd and Rosemont West Transducer GPS Survey for Land Subsidence Monitoring/InSAR Support Status: In Progress	Collect monthly survey-grade GPS data for improved land subsidence monitoring and to better understand seasonal uplift and subsidence related to seasonal pumping demands.	ADWR USGS
09/2012 – Present	Holbrook Basin GPS Survey Status: In Progress	Collect bi-annual survey-grade GPS data for improved land subsidence monitoring and to better understand historical land subsidence in the area.	ADWR AZLSG
04/2013	Butler Valley GPS Survey Status: Completed	Collected survey-grade GPS data for improved land surface elevations for more accurate groundwater level elevation.	ADWR AZGS ASLD
02/2013 – Present	McMullen Valley Wenden Area GPS Survey for Land Subsidence Monitoring/InSAR Support Status: In Progress	Collect bi-annual survey-grade GPS data for improved land subsidence monitoring and to better understand historical land subsidence in the area.	ADWR