**DAVID R. MAIDMENT**

**Hussein M. Alharthy Centennial Chair in Civil Engineering**

**The University of Texas at Austin**

**RESUME:March 2016**

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**POSITION**

Dr Maidment holds the Hussein M. Alharthy Centennial Chair in Civil Engineering at University of Texas at Austin, where he has been on the Civil Engineering faculty since 1981. He teaches water resources engineering, and conducts research on the application of geographic information systems in water resources.

**EDUCATION**

Bachelor of Agricultural Engineering with First-Class Honors (1971), University of Canterbury, Christchurch, New Zealand.

Master of Science (1974), and Doctor of Philosophy (1976), Department of Civil Engineering, University of Illinois at Urbana-Champaign, USA.

**BOOKS**

Strassberg, G., N.L. Jones, D. R. Maidment, *Arc Hydro Groundwater: GIS for HydroGeology*, ESRI Press, Redlands CA 2011.

Maidment, D.R., (2002), *Arc Hydro: GIS for Water Resources*, ESRI Press, Redlands CA, 2002, 220 pages.

Maidment, D.R., and D. Djokic (2000), *Hydrologic and Hydraulic Modeling Support with GIS,* ESRI Press, Redlands CA, 232 pages.

Maidment, D.R., (Editor in Chief), (1993), *Handbook of Hydrology,* McGraw-Hill, 1424 pages. (Translated into Chinese in 2002, and distributed there by [www.sciencep.com](http://www.sciencep.com))

Chow, V.T., D.R. Maidment and L.W. Mays, (1988), *Applied Hydrology,* McGraw-Hill, New

York, 570 pages. (Translated into Spanish in 1994 as *Hidrología aplicada*, and distributed by McGraw Hill Interamericana)

**HONORS**

**2016** Elected to the **National Academy of Engineering** “for development of geographic information systems applied to hydrologic processes”.

**2015** received the **J. Mike Howard Lectureship** of the Texas Floodplain Management Association.

**2014** recognized as **Geospatial Scientist of the Year**, by Geospatial Media for “contribution to geospatial science as a specialist in surface water hydrology, and in particular in the application of geographic information systems to hydrology.”

**2012,** received the **Ray K. Linsley Award** **from the American Institute of Hydrology** “In recognition of his contributions in the field of Surface Water Hydrology”.

**2011,** received the **Distinguished Alumnus Award, Civil and Environmental Engineering Alumni Association, University of Illinois at Urbana-Champaign.** "For significant and lasting impact on teaching, research and practice in the fields of hydrology and water resource engineering, including the pioneering of geographical information systems applications in hydrology and technologies that have been adopted by national and international institutions".

**2011,** received the **Ven Te Chow Award, Environmental Water Resources Institute, American Society of Civil Engineers.** “For notable contributions in water resources engineering, hydrology and hydraulic engineering, outstanding service to the profession through application of GIS in surface water and groundwater hydrology, authoring books and research papers in water resources engineering, and mentoring of young engineers.”

**2011,** received the **Quentin Martin Best Practice-Oriented Paper, Journal of Water Resources Planning and Management, American Society of Civil Engineers.** For the paper “[Linking GIS, Hydraulic Modeling, and Tabu Search for Optimizing a Water Level-Monitoring Network in South Florida](http://link.aip.org/link/jwrmd5/v136/i2/p167/s1)”, by Sergio I. Martínez, Venkatesh Merwade, and David R. Maidment, J. Water Resour. Plann. Manage. Volume 136, pp.167-176, (2010).

**2010** received the **AWRA Award for Water Resources Data and Information Systems**, and this award was permanently renamed the **David R. Maidment Award for Water Resources Data and Information Systems**, for his contributions to the advancement of the goals of the American Water Resources Association.

**2010** Received the **Community Service Award of the Consortium of Universities for the Advancement of Hydrologic Science, Inc**, for his “outstanding contributions to the community in development of Hydrologic Information Systems”.

**2005** Appointed to **Hussein M. Alharthy Centennial Chair in Civil Engineering** by the University of Texas at Austin.

**2003 Lifetime Achievement Award** from the Environmental Systems Research Institute for contributions to GIS in Water Resources.

**2003 National Associate of the National Academies** for services contributed to National Academy Committees.

**2002 Hydrologic Benchmark Award of the US Geological Survey** for contributions to national water-use information.

**2002** Electeda **Fellow of International Water Resources Association**

**1996 Arch Campbell Award** from the New Zealand Water and Wastes Association for "Service to International Hydrology".

**1990 Resources Division Best Paper Award** from the American Water Works Association for the best paper on water resources published in the *Journal of the American Water Works Association* during 1988, entitled “Effects of conservation on daily water use” (with D.T. Shaw).

**1988 Boggess Award** from the American Water Resources Association for the best paper published in the *Water Resources Bulletin*  during 1987, entitled “ Intervention analysis of water use restrictions, Austin, Texas” (with D.T. Shaw).

**NATIONAL ACADEMY COMMITTEES**

Chairman of five National Academy Committees, and Member of five National Academy Committees.

**Chairman,** Committee on Mapping Science, 2011 to present. The Mapping Science Committee organizes and oversees National Research Council studies that provide independent advice to society and to government on geospatial science, technology, and policy.

**Member,** Board on Earth Science and Resources, 2011 to present.The Board on Earth Sciences and Resources (BESR) coordinates the National Research Council's activities on solid-earth science issues and organizes and oversees studies of important national issues in the earth sciences.

**Member,** Committee on the Analysis of Costs and Benefits of Reforms to the National Flood Insurance Program.2014 to 2016. Reports: *Affordability of National Flood Insurance Program Premiums,* Report 1, 152 p. 2015; Report 2, 134 p., 2016, National Academies Press, Washington, DC,

**Member,** Committee on Independent Scientific Review of Everglades Restoration Progress, 2010 to 2012. Report: *Progress Toward Restoring the Everglades: the Fourth Biennial Review*, National Academies Press, 2012, Washington, DC, 228 p.

**Chairman,** Committee on FEMA Flood Maps, June 2007 to August 2009: Report: *Mapping the Zone:* *Improving Flood Map Accuracy,* National Academies Press, 2009, Washington DC, 136p.

**Chairman,** Committee on Floodplain Mapping Technologies, August 2006 to January 2007: Report: *Elevation Data for Floodplain Mapping*, National Academies Press, 2007, Washington DC, 166p.

**Member,** Committee on Mapping Science, 2004 – 2007

**Member,** Committee on Texas Instream Flows, May 2003 to February 2005. Report: *The Science of Instream Flows: A Review of the Texas Instream Flow Program*, National Academy Press, 2005, 162 pages.

**Chairman,** Committee on National Streamflow Information Program, December 2002 to March 2004. Report: *Assessing the National Streamflow Information Program*, National Academy Press, 2004, 176 pages.

**Chairman,** Committee on USGS Water Resources Research, January 2001 to December 2002

Report: *Estimating Water Use in the United States: A New Paradigm for the National Water-Use Information Program*, National Academy Press, 2002, 190 pages.

**Member,** Committee on Risk-Based Analyses for Flood Damage Reduction Studies, December 1998 to May 2000. Report: *Risk Analysis and Uncertainty in Flood Damage Reduction Studies*, National Academy Press, 2000, 216 pages.

**CONGRESSIONAL TESTIMONY**

Testified to two **Subcommittees of the US Senate** on Flood Preparedness, chaired by Senators Landrieu and Pryor, on National Academies studies on data accuracy in floodplain mapping, July 28, 2010

**OTHER PROFESSIONAL SERVICE**

**National Weather Service, Young Innovators Program**

Dr Maidment has been the Technical Director of the Summer Institutes held at the National Water Center in 2015 and 2016 for graduate students participating in this program, which is a collaboration of CUAHSI with the National Weather Service and federal water agency partners.

**Consortium of Universities for the Advancement of Hydrologic Science, Inc (CUAHSI) 2001 to 2011**

Dr Maidment was Chairman of the CUAHSI Hydrologic Information Systems Committee from January 2001 to April 2004, whose work laid the foundation for a large NSF-sponsored project to develop a CUAHSI Hydrologic Information System for which he served April 2004 to December 2011 as the project leader. This position involved interacting with the San Diego Supercomputer Center and researchers at about a dozen US universities who developed prototype components of this system.

**Arc Hydro**

Dr Maidment designed the widely used data model Arc Hydro, which is a customization of ArcGIS for application in water resources. He has presented an annual GIS Hydro seminar at the ESRI User Conference since 1994 which summarizes the state of the art in application of GIS to Water Resources. ESRI manufactures ArcGIS which is the world leader in Geographic Information Systems. He received ESRI’s Lifetime Achievement Award in 2003 for his contributions to the application of GIS in Water Resources.

**AWRA Conference Chairmanships**

Dr Maidment was Chairman of the Technical Committee for the Fourth, Fifth and Sixth American Water Resources Association Specialty Conferences on GIS in Water Resources held in Nashville, TN, in 2004; in Houston, TX, in 2006; and in San Mateo, CA in 2008.

**Editorships**

**Editor, Journal of Hydrology** (January 1992 – December 1996), Elsevier Science Publications, Amsterdam, the Netherlands

**Associate Editor**, **Journal of Hydrology** (1997 to 2004).

**Associate Editor, Journal of Hydrologic Engineering,** American Society of Civil Engineers, 1996 to 1999.

**PROFESSIONAL EXPERIENCE**

**September 2005 to present:** Hussein M. Alharthy Centennial Chair in Civil Engineering, University of Texas at Austin.

**September 2011 to present:** Associate Director, Center for Integrated Earth System Sciences (CIESS). Sponsored by the Jackson School for Geosciences and the Cockrell School of Engineering, University of Texas at Austin.

**September 1997 to August 2011:** Director, Center for Research in Water Resources, University of Texas at Austin

**December 2000 to December 2011:** Leader, CUAHSI Hydrologic Information Systems, Consortium of Universities for the Advancement of Hydrologic Science, Inc.

**September 2002 to August 2004:** Engineering Foundation Professor of Civil Engineering, and Director of the Center for Research in Water Resources, University of Texas at Austin

**September 1996 to August 2002:** Ashley H. Priddy Centennial Professor of Engineering, and Director of the Center for Research in Water Resources, University of Texas at Austin

**September 1981 to 1996:** Assistant Professor(1981-1985), Associate Professor (1985-1992), and Professor (1992 - present) of Civil Engineering*,* University of Texas at Austin.

**August 1980 to August 1981:** Visiting Assistant Professor of Civil Engineering,Texas A&M University, College Station, Texas.

**December 1977 to August 1980:** Scientist*,* Ministry of Works and Development, Christchurch, New Zealand.

**June 1976 to December 1977:** Guest Scholar,International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria.

**August 1972 to June 1976:** Research Assistant,Department of Civil Engineering, University of Illinois at Urbana-Champaign.

**December 1971 to August 1972:** Assistant Engineer*,* Water and Soil Division, Ministry of Works and Development, Wellington, New Zealand.

**December 1970 to February 1971:** Assistant Engineer,Queensland Irrigation and Water Supplies Commission, Mareeba, Queensland, Australia.

**INVITED KEYNOTE SPEECHES**

Maidment, D.R., National Flood Interoperability Experiment, CyberGIS All Hands Meeting, Reston, VA, 15 September 2015

Maidment, D.R., Ven Te Chow – some perspectives on his life and work, Distinguished Alumni Lecture, University of Illinois at Urbana-Champaign, 24 October 2014

Maidment, D.R. and E. Clark, National Flood Interoperability Experiment, Briefing for federal water officials convened by the Executive Office of the President, White House Conference Center, 3 October 2014

Maidment, D.R., “National Water Data Infrastructure”, National Water Center, Tuscaloosa, Alabama, 13 May 2014.

Maidment, D.R., “Towards a global water information system”, New Zealand Hydrological Society, 22 February 2013

Maidment, D.R., “GEOSS and Water Science”, GEOSS Architecture Implementation Workshop, Silver Spring, MD, 26 March 2013.

Maidment, D.R., “Future of water data management”, Invited Science Lecture to the 14th Congress of the Commission for Hydrology, World Meteorological Organization, Geneva, Switzerland, 9 Nov 2012.

Maidment, D.R. “Delivering on national water information needs”, WIRADA Science Symposium, Bureau of Meteorology and CSIRO, Melbourne, Australia, Aug 4, 2011.

Maidment, D.R., “Ven Te Chow Award Lecture”, Environmental and Water Resources Institute, American Society of Civil Engineers, Palm Springs, CA, May 24, 2011.

Maidment, D.R., “Mapping Flood Risk”, Colloqium in Geography, University of South Carolina, Columbia, SC, March 18, 2011.

Maidment, D.R., “Information Systems in Water Resources”, Dept of Civil Engineering, Brigham Young University, Provo, UT, Feb 17, 2011.

Maidment, D.R., “Water data sharing”, Office of Science and Technology Policy, Executive Office of the President, White House Conference Center, Washington, DC, Jan 18, 2011.

Maidment, D.R., “CUAHSI Hydrologic Information System and OpenMI”, European Commission and OpenMI Life Association, Brussels, Belgium – January 12, 2010

Maidment, D.R., “Hydrologic Data and Modeling – towards Hydrologic Information Science”, NSF EPsCOR meeting, University of Vermont, Burlington, 11 November 2008

Maidment, D.R., Water use in the United States, Invited Lecture at the Commonwealth Scientific and Industrial Research Organization (CSIRO), Canberra, Australia, July 24, 2008

Maidment, D.R., A Services Oriented Architecture for Water Resources Data, Science and Technology Innovators Lecture Series, Digital Technology Center, University of Minnesota, Minneapolis, October 15, 2007, <http://www.dtc.umn.edu/resources/Maidment_seminar.pdf>

Maidment, D.R., Bringing water data together in Texas, Invited Presentation at the Texas Water Summit, Texas Water Development Board, San Antonio, Tx, December 3, 2007

Maidment, D.R., “Hydrologic Information Systems”, Russian Academy of Sciences, Moscow, Russia June 26, 2007,

Maidment, D.R., “Advances in GIS in Water Resources”, Tennessee GIS Conference, Chatanooga, TN, April 16, 2007.

Maidment, D. R., “Harnessing the power of water information”, CSIRO, Canberra, Australia, November 6, 2006,

Maidment, D.R., “Hydrologic Information System development”, Chinese Academy of Sciences, Beijing, China, July 22, 2006

Maidment, D.R., “Overview of GIS in Water Resources”, Keynote speech to 5th Specialty Conference on GIS in Water Resources, American Water Resources Association, Houston TX, May 2006.

Maidment, D.R., GIS in Water Resources, Williams Memorial Lecture, University of Nebraska, Lincoln, April 2005

Maidment, D.R., GIS for water resources in Kansas, Vice Provost Invited Lecture, Kansas State University, Manhattan, KS, September 2005

Maidment, D.R., “GIS in Water Resources”, Keynote speech to 4th Specialty Conference on GIS in Water Resources, American Water Resources Association, Nashville, TN, April 2004

Maidment, D.R., "Building Hydrologic Information Systems", Keynote Speech at the National Conference of USGS Surface Water Hydrologists, San Antonio, Texas, November 19, 2003

Maidment, D.R., “GIS in Water Resources”, Keynote Speech at the GIS for Atmospheric Sciences Conference, National Center for Atmospheric Research, Boulder CO, August 18, 2002

Maidment, D.R., “GIS in Water Resources”, Keynote Speech at the 27th Annual Hydrology and Water Resources Symposium, Institution of Engineers, Australia, Melbourne, May 21, 2002

Maidment, D.R., “GIS and Hydrologic Modeling”, Plenary Speech at the 4th International Conference on Integrating Geographic Information Systems and Environmental Modeling, Banff, Canada, September 5, 2000.

Maidment, D.R., “GIS and Hydrologic Modeling – an Assessment of Progress”, Plenary Speech at the 3rd International Conference on Integrating Geographic Information Systems and Environmental Modeling, Santa Fe, New Mexico, January 23, 1996

Maidment, D.R., “GIS and Hydrologic Modeling”, Plenary Speech at the 2nd International Conference on Integrating Geographic Information Systems and Environmental Modeling, Breckenridge, Colorado, September, 1993

Maidment, D.R., “Spatial Hydrologic Modeling”, Keynote Speech at HydroGIS ’93, International Association of Scientific Hydrology Conference on Application of GIS in Hydrology and Water Resources Management, Vienna, Austria, June 1993

Maidment, D.R., “GIS and Hydrologic Modeling”, Plenary Speech at the 1st International Conference on Integrating Geographic Information Systems and Environmental Modeling, Boulder, Colorado, September, 1991

# REFEREED JOURNAL ARTICLES

Tavakoly, D. R. Maidment, J. W. McClelland, T. Whiteaker, Z.-L. Yang, C. Griffin, C.H. David, L. Meyer, “A GIS framework for regional modeling of riverine nitrogen transport: Case study, San Antonio and Guadalupe basins” (JAWRA-14-0256-P.R2), Journal of the American Water Resources Association (in print, 2016)

Braden, J.B., D.G. Brown, D.R. Maidment, S.T. Marquart-Pyatt, Populating water world: exploring data aspirations of water experts, Society and Natural Resources, **DOI:**10.1080/08941920.2014.945060, 2014

Comair, G., D. McKinney, D.R. Maidment, G.Espinoza, H. Sangireddy, A. Fayad, F. Salas, “Hydrology of the Jordan River Basin: a GIS-based system to better guide water resources management and decision making, Manuscript WARM-D-1300650R1, Water Resources Management, Springer Verlag, 2013

Salas, F. R., Boldrini, E., Maidment, D. R., Nativi, S., and Domenico, B.: Crossing the digital divide: an interoperable solution for sharing time series and coverages in Earth sciences, Nat. Hazards Earth Syst. Sci., 12, 3013-3029, doi:10.5194/nhess-12-3013-2012, 2012.

David, Cédric H., Florence Habets, David R. Maidment and Zong-Liang Yang (2011), RAPID applied to the SIM-France model, Hydrological Processes, 25(22), 3412-3425. DOI: 10.1002/hyp.8070

David, Cédric H., David R. Maidment, Guo-Yue Niu, Zong-Liang Yang, Florence Habets and Victor Eijkhout (2011), River network routing on the NHDPlus dataset, Journal of Hydrometeorology, 12(5), 913-934. DOI: 10.1175/2011JHM1345.1

Johnson, S. L., E. S. Hersh, D. R. Maidment, and M. J. Kirisits. (2012) “Spatial and Temporal Variations in Bacterial Loading in the Copano Bay Watershed.” *The Texas Journal of Science.* (in press).

Horsburgh, J.S., D.G. Tarboton, D.R. Maidment, and I. Zaslavsky, (2010) Components of an environmental observatory system, Computers and Geosciences, Elsevier, doi:10.1016

David, C. H., D. J. Gochis, D. R. Maidment, W. Yu, D. N. Yates, and Z.-L. Yang, (2009), Using NHDPlus as the Land Base for the Noah-distributed Model, Transactions in GIS, 13, 363-377.

DOI: 10.1111/j.1467-9671.2009.01169.x

Goodall, J.L. and D.R. Maidment, A spatio-temporal model for river basin-scale hydrologic systems, International Journal of Geographical Information Science, Vol. 23, No. 2, pp. 233-247, 2009.

Johnson, S.L., T. Whiteaker and D.R. Maidment, (2009), A tool for automated load duration curve creation, *Journal of American Water Resources Association*, Vol. 45 No. 3, pp. 654-663.

Maidment, D.R., (2008), “Bringing Water Data Together”, *ASCE Journal of Water Resources Planning and Management*, Vol. 134, No. 2, pp. 95-96

Horsburgh J. S., D. G. Tarboton, D. R. Maidment, I. Zaslavsky (2008), A relational model for environmental and water resources data, *Water Resources Research*, Volume 44, Paper W05406, doi:10.1029/2007WR006392.

Maidment, D.R., (2008), “Arc Hydro in Florida”, *Florida Watershed Journal*, Vol. 1, No. 1, pp. 6-8.

Merwade, V. M., D. R. Maidment and J.A. Goff, “Anisotropic considerations while interpolating river channel bathymetry”*Journal of Hydrology*, *Volume 331, Issues 3-4*, *15 December 2006*, *Pages 731-741*

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Patino-Gomez, C., D.C. McKinney, and D.R. Maidment, (2007), “Sharing water resources data in the binational Rio Grande/Rio Bravo Basin”, *ASCE Journal of Water Resources Planning and Management*, Vol. 133, No. 5, pp. 416-426.

Whiteaker, T., D.R. Maidment, J. L. Goodall, and M. Takamatsu, “Integrating Arc Hydro features with a schematic network”, *Transactions in GIS*, Vol. 10, No. 2, pp. 219 – 238, 2006.

Whiteaker, T., O. Robayo, D.R. Maidment, and D. Obenour, “From a Nexrad rainfall map to a flood inundation map”, *ASCE Journal of Hydrologic Engineering*, Vol. 11, No. 1, pp. 37-45, 2006.

Merwade, V.M., D.R. Maidment, and B.R. Hodges, Geospatial representation of river channels, *ASCE Journal of Hydrologic Engineering*, Volume 10, Issue 3, pp. 243-251, 2005

Knebl, M.R., Z.-L. Yang, K. Hutchinson, and D.R. Maidment, Regional scale modeling using Nexrad rainfall, GIS and HEC-HMS/RAS: a case study for the San Antonio River Basin summer 2002 storm event, *Journal of Environmental Management*, Vol. 75, No. 4, pp. 325-336, June 2005.

Maidment, D.R., New tools for applying GIS in water resources, *Australian Journal of Water Resources*, Vol. 8, No.1, 2004.

Tate, E.C., F. Olivera, and D.R. Maidment, Creating a terrain model for floodplain mapping, *ASCE Journal of Hydrologic Engineering*, Vol. 7, No. 2, pp. 100-108, 2002.

Loaiciga, H. A., D.R. Maidment, and J.B. Valdes, Climate Change Impacts in Regional Karst Aqufer, Texas, USA, *Journal of Hydrology*, Vol. 227, pp. 173-194, 2000

Olivera, F. and D.R. Maidment, Geographic information systems based spatially distributed model for runoff routing, *Water Resources Research*, Vol. 35, No. 4, pp. 1155-1164, 1999.

Graham, S.T., J.S. Famiglietti, and D.R. Maidment, Five minute, 1/2º, and 1º data sets of continental watersheds and river networks for use in regional and global hydrologic and climate system modeling studies, *Water Resources Research*, Vol. 35, No. 2, pp. 583-587, 1999

Reed, S.M, and D.R. Maidment, Coordinate transformations for using Nexrad data in GIS-based hydrologic modeling, *Journal of Hydrologic Engineering*, Vol. 4, No. 2, pp. 174-182, 1999

Hellweger, F. and D.R. Maidment, Geographic identification of hydrologic elements, *Journal of Hydrologic Engineering*, Vol. 4, No. 1, pp. 10-18, 1999

Olivera, F. and D. R. Maidment, Geographic information system use for hydrologic data development for design of highway drainage facilities, *Transportation Research Record*, No. 1625, pp. 131-138, National Academy Press, Washington DC, 1998

Maidment, D.R., GIS and hydrologic models of non-point source pollution in subsurface water, *Soil Science Society of America*, Special Publication 48, pp. 163-174, 1996.

Maidment, D.R., J.F. Olivera, A. Calver, A. Eatherall, W Fraczek, A unit hydrograph

derived from a spatially distributed velocity field, *Hydrologic Processes,* Vol. 10, No. 6, pp. 831-844, 1996

Watkins, D.W., D.C. McKinney, D.R. Maidment, and M.-D. Lin, GIS and groundwater modeling, J. Water Resour. Plan. Mgmt, ASCE, Vol. 122, No. 2, pp. 88-96, 1996

Arnold, J.G., J.R. Williams, and D.R. Maidment, Continuous time water and sediment routing model for large basins, Journal of Hydraulic Engineering, ASCE, Vol. 121, No. 2, pp. 171-183, 1995

Evans, T.A., D. Djokic and D.R. Maidment, Development and application of an expert geographic

information system, *Journal of Computing in Civil Engineering,* Vol. 7, No. 3, pp. 339-

353, 1993.

McKinney, D.C., D.R. Maidment, and M. Tanriverdi, An expert geographic information system for

Texas water planning, *Journal of Water Resources Planning and Management,* ASCE, Vol.

119, No. 2, pp. 170-183, 1993.

Djokic, D. and D.R. Maidment, Application of GIS network routines for water flow and transport,

*Journal of Water Resources Planning and Management,* ASCE, Vol. 119, No. 2, pp. 229-

245, 1993.

Shaw, D.T., D.R. Maidment and G.N. Arimes, Site Code: Computer-based regulatory information

for site development, *Journal of Urban Planning and Development,* ASCE, Vol. 119, No.

1, pp. 1-14, 1993.

Djokic, D., and D.R. Maidment, Terrain analysis for urban stormwater modeling, *Hydrologic*

*Processes,* 5(1), 115-124, 1991.

Jones, N.L., S.G. Wright and D.R. Maidment, Watershed delineation with triangle-based terrain

models, *Journal of Hydraulic Engineering,* ASCE, 116(10), 1232-1251, 1990.

Buchberger, S.G., and D.R. Maidment, Diffusion approximation for equilibrium distribution of

reservoir storage, *Water Resources Research,* 25(7), 1643-1652, 1989.

Buchberger, S.G., and D.R. Maidment, Design of wastewater storage ponds at land treatment sites.

I: Parallels with applied reservoir theory, *Journal of Environmental Engineering,* ASCE,

115(4), 689-703, 1989.

Buchberger, S.G., and D.R. Maidment, Design of wastewater storage ponds at land treatment sites.

II: Equilibrium storage performance functions, *Journal of Environmental Engineering,*

ASCE. 115(4). 704-724, 1989.

Shaw, D.T., and D.R. Maidment, Effects of conservation on daily water use, *Journal of the*

*American Water Works Association,* 80(8), pp. 71-77, 1988.

Shaw, D.T., and D.R. Maidment, Intervention analysis of water use restrictions, Austin, Texas,

*Water Resources Bulletin,* 23(6), 1037-1046, 1987.

Vaugh, S.K., and D.R. Maidment, Projecting storage in the Highland Lakes reservoir system,

*Journal of Water Resources Planning and Management,* ASCE, 113(5), 659-676, 1987.

Maidment, D.R., and S.-P. Miaou, Daily water use in nine cities, *Water Resources Research ,* 22(6),

845-851, 1986.

Franklin, S.F., and D.R. Maidment, Evaluation of weekly and monthly forecasts of municipal water

use, *Water Resources Bulletin,* 22(4), 611-621, 1986.

Duncan, M.J., D.R. Maidment, and F.O. Campbell, Water use in the Valetta irrigation scheme, *New*

*Zealand Journal Experimental Agriculture,* 13, 395-402, 1985.

Maidment, D.R., S.-P. Miaou, and M.M. Crawford, Transfer function models of daily urban water

use, *Water Resources Research,* 21(4), 425-432, 1985.

Koh, E.S. and D.R. Maidment, Microcomputer programs for water supply design, *Journal*

*American Water Works Association,* 76(7), 62-65, 1984.

Maidment, D.R. and E. Parzen, Cascade model of monthly municipal water use, *Water Resources*

*Research*, 20(1), 15-23, 1984.

Maidment, D.R. and E. Parzen, Time patterns of water use in six Texas cities, *Journal of Water*

*Resources Planning and Management*, ASCE, 110(1), 90-106, 1984.

Maidment, D.R. and P.D. Hutchinson, Modeling water demands of irrigation projects, *Journal of*

*Irrigation and Drainage,* ASCE, 109(4), 405-418, 1983.

Guariso, G., D.R. Maidment, S. Rinaldi, and R. Soncini-Sessa, Supply-demand coordination in

water resources management, *Water Resources Research*, 17(4), 776-782, 1981.

Maidment, D.R. and V.T. Chow, Stochastic state variable dynamic programming for reservoir

systems analysis, *Water Resources Research*, 17(6), 1578-1584, 1981.

Gouevsky, I.V., D.R. Maidment, and W. Sikorski, Agricultural water demands in the Silistra region,

*IIASA Reports*, 2(1), 37-144, 1980.

Maidment, D.R., D.G. MacDonald, and H.J. Maidment, Annotated bibliography on water demands,

*Journal of Water Supply and Management*, 3, 117-129, 1979.

Maidment, D.R., Water resources control through systems analysis, *Journal of Water Supply and*

*Management,* 2, 243-251, 1978.

Chow, V.T., D.R. Maidment, and G.W. Tauxe, Computer time and memory requirements for DP

and DDDP in water resources systems analysis, *Water Resources Research*, 10(6), 621-628,

1975.

**BOOK CHAPTERS:**

Comair, G., D. R. Maidment and D. McKinney, *Decision support for improvement of the management and cooperation for the Orontes River*, pp. 185-208 in “Science diplomacy and transboundary water management: the Orontes River case”, published by UNESCO, Paris, 2015.

Maidment, D.R., Spatial Hydrologic Modeling in *Issues and Directions in Hydraulics*, ed. by T. Nakato and R. Ettema, A.A. Balkema Publishers, Rotterdam, pp. 305-317, 1996.

Maidment, D.R., Hydrology, Chap. 1 in *Handbook in Hydrology*, Ed. by D.R. Maidment, McGraw-

Hill, pp. 1-1 to 1-15, and Appendix A, pp. A-1 to A-11, 1993.

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Buchberger, S.G., and D.R. Maidment, Variability of net evaporation and water storage, In:

*Proceedings of International Symposium on Multivariate Analysis of Hydrologic*

*Processes,* Fort Collins, CO, July, 1985.

Vaugh, S.K. and D.R. Maidment, Storage projection for reservoir systems, In: *Computer*

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Nvule, D.N. and D.R. Maidment, Water use forecasting and evaluating the effects of water

conservation measures, In: *Computer Applications in Water Resources*, ed. by H. C.

Torno, ASCE, pp. 401-411, 1985.

Maidment, D.R., I.V. Gouevsky, and W. Sikorski, Systems analysis of water demand in an

agricultural region, In: *Water and Related Land Resource Systems*, ed. by Y. Haimes and J.

Kindler, Pergamon Press, Oxford, pp. 343-349, 1980.

Maidment, D.R., Stochastic state space approach to water resources systems analysis reservoir

control, In: Proc. IIASA Workshop on *Recent developments in forecasting* /*control of*

*water resources systems*, ed. by E. Wood and A. Szolloszi Nagy, Pergamon Press, Oxford,

pp. 215-229, 1980.

Sikorski, W., I.V. Gouevsky, and D.R. Maidment, A model of agricultural water demands, *Annual*

*Proceedings of the Institute of Environmental Engineering,* Technical University of

Warsaw, Poland, pp. 50-70, 1979 (in Polish).

Maidment, D.R., Systems analysis applied to agricultural water demands, In: *Proc. 1st IIASA*

*Workshop on Water Demands*, ed. by J. Kindler, CP-78-6, International Institute of Applied

Systems Analysis, Laxenburg, Austria, pp. 47-56, 1977.

Maidment, D.R. and V.T. Chow, A new approach to urban water resources systems optimization,

In: *The Environment of Human Settlements,* ed. by P. Laconte, Pergamon Press, Oxford,

Vol. 1, pp. 249-260, 1976.

**THESES AND DISSERTATIONS SUPERVISED:**

All supervised at the University of Texas at Austin.

**Ph.D. Supervisions Completed (27)**

Salas, Fernando, Streamflow simulation in continuous and discrete space, August 2015

Tavakoly, Ahmed, Flow and transport modeling in large river networks, December 2014

Hersh, Eric, The Long Tail of hydroinformatics: implementing biological and oceanographic information in hydrologic information systems, May 2013

Siler, Clark, A Hydrologic Information System for Water Availability Modeling, August 2011

Johnson, Stephanie, A general method for modeling coastal water pollutant loadings, August 2009 (joint with Mary Jo Kirisits)

David, Cedric, Towards river flow computation at the continental scale, August 2009 (joint with Zong-Liang Yang)

To, Ernest Sin Chit, Hypoxia modeling in Corpus Christi Bay using a Hydrologic Information System, May 2009

Martinez, Sergio, Stage-Monitoring Network Optimization using GIS, August 2006

Strassberg, Gil, A geographic data model for groundwater, December 2005

Goodall, Jon, A geotemporal framework for hydrologic analysis, August 2005.

Robayo, Oscar, Map to Map: Converting a Nexrad map to a flood inundation map, December 2004

Merwade, Venkatesh, Geospatial description of river channels in three dimensions, August 2004

Whiteaker, Timothy, Geographically integrated hydrologic modeling systems, May 2004

Hay-Wilson, Lesley, A Spatial Environmental Risk Assessment Methodology for Risk-Based Decision Making at Large, Complex Facilities, December 2000, (Joint supervision with R.J. Charbeneau)

Asante, Kwabena, Approaches to continental scale river flow routing, August 2000

Coonrod, Julie, Suspended sediment yield in Texas watersheds, December 1998 (Joint supervision with E.R. Holley)

Reed, Seann, Use of digital soil maps in a rainfall-runoff model, December 1998

Mizgalewicz, Pawel, Modeling agrichemical transport in Midwest rivers using geographic information systems, December 1996

Olivera, Francisco, Spatially distributed modeling of storm runoff and nonpoint source pollution using geographic information systems, December 1996

Ye, Zichuan, Map-based surface and subsurface flow simulation models, an object-oriented and GIS approach, December 1996

Evans, Thomas A., A spatial and statistical assessment of the vulnerability of Texas groundwater to nitrate contamination, May 1995

Cuhadaroglu, Mehmet, Integrating a finite element model with geographic information system to

model urban stormwater flow, Ph.D. dissertation, August 1992, (jointly supervised with

Linda J. Hayes).

Djokic, Dean, An expert geographic information system for stormwater network analysis, Ph.D.

dissertation, May 1991.

Shaw, Douglas T., SITE CODE: a knowledge-based model of municipal site development

regulations for computer-aided design, Ph.D. dissertation, December 1989.

Saenz de Ormijana, Fidel, Stochastic analysis of nonlinear, nonstationary water storage

 systems in continuous and discrete time, Ph.D. dissertation, August 1989.

Buchberger, Steven G., A diffusion model for stochastic storage analysis, Ph.D. dissertation,

December 1987.

Miaou, Shaw-Pin, Daily urban water use analysis and forecasting, Ph.D. dissertation, August 1986.

**M.S. Supervisions Completed (102)**

Zheng, Xing, Hydraulic fabric: an information framework for river channel cross-section data, August 2015

Jackson, Stephen, Digital terrain and river channel information, August 2014

Galdeano, Carlos, Modeling stormwater sewer systems using high resolution data, May 2014

Wood, Allison, Decision support for active water management, August 2013

Liu, Sili, Water resources simulation model for San Angelo, August 2013

Sullivan, John, Characterization of Texas drought using NLDAS data, May 2013

Yang, Fengyan, Chukchi Sea environmental data management in a relational database, May 2013

Poci, Elisabeta, Establishing a national water resources geodatabase system in Albania, May 2013

Espinoza Davalos, Gonzalo E., A Mexican Case Study for World Water Online, May 2012

Siegel, Daniel B., Using Web Services and Remote Sensing to Visualize Water Balances in the San Marcos River.

Seppi, James Adam, A Services Stack Architectural Model for the CUAHSI-HIS, August 2011

Dong, Jingqi, Multi-scale Hydrological Information System using an OGC Standards-based Architecture, May 2011

Sangireddy, Harish, Point Cloud Classification for water surface identification in lidar datasets (Joint with Paola Passalacqua), May 2011

Hurd, Laura, Flood Mapping for Sanderson, Texas, December 2010

Salas, Fernando, Design and Development of a Hydrometeorological Information System, May 2010

Enslein, Bryan, “The Implementation of the Texas Hydrologic Information System, May 2009

Marney, Kate, “Geospatial Metadata and an Ontology for Water Observations Data, May 2009

Mehta, Nishesh, “Water Availability Constraints on Energy Generation: A study of the Brazos River Basin, Texas” (joint with Charles Groat), August 2009

Siler, Clark, Space-Time Analysis of the WRAP Model with a Focus on Data Visualization, May 2008

Smith, Virginia, Texas Integrated Drought Information System A Prototype of the Trinity River Basin, May 2008

Hersh, Eric, An Integrated Stream Classification System for Texas, Aug 2007

Jantzen, Tyler, Implementation of a State Hydrologic Information System, May 2007

Watts, Jessica, HSPF Model of Sandies and Elm Watershed, Texas, May 2006 (joint with Lynn Katz)

Walker, Shane, Geodatabase design for FEMA flood hazard studies, May 2006

Gibson, Carrie, Bacterial watershed loadings model for Copano Bay, May 2006 (joint with Mary Jo Kirisits)

Johnson, Nathan, ArcGIS and HSPF model development, August 2005

Fogg, Alicia, Geospatial water balancing for the South Florida Water Management District, May 2005

Gueudet, Pierre, The influence of post-spacing density of DEMs derived from LIDAR on flood modeling, May 2004

Obenour, Dan, Arc Hydro development for the Lower Colorado Basin, May 2004

Sorenson, Jennifer, Temporal geoprocessing for hydroperiod analysis of the Kissimmee River, May 2004

Strand, Meghan, Depth-duration-frequency of annual precipitation maxima in Texas, December 2003

Goodall, Jonathan, Spatial and temporal trends of the Western Arctic Ocean benthic community, May 2003

Gopalan, Hema, WRAPHydro data model: Finding input parameters for the Water Rights Analysis Package, May 2003

Mrini, Imane, Nueces Bay TMDL Project for Zinc in Oyster Tissue, May 2003

Strassberg, Gil, Dilution attenuation factors in susceptibility assessments: a GIS-based method, May 2003 (co-supervised with Lynn Katz)

Zoun, Reem Jihan, Estimation of fecal coliform loadings to Galveston Bay, May 2003

Furnans, Jordan, Topologic navigation and the Pfaffstetter system, August 2002.

Akcay, Mustafa, Arc Hydro data model for the Tigris-Euphrates Basin, August 2002, (co-supervised with David Eaton)

Figurski, Melissa, GIS algorithms for large watersheds with non-contributing areas, May 2002

Hoogerwerf, Tanya, Parameter sensitivity in hydrologic modeling, May 2002

Schneider, Kristina, Data modeling for the EPA Basins sytems, May 2002

Whiteaker, Timothy, Object-oriented treatment of geospatial data in the ArcGIS Hydro data model, August 2001

Donnelly, Kevin, A Developing Digital Flood Insurance Rate Maps for Lago Vista, May 2001

Samuels, Victoria, An Algorithm to Delineate Coastal Watersheds for TMDL Development, May 2001

Stone, Sarah, Geospatial Database and Preliminary Flood Hydrology Model for the Lower Colorado Basin, May 2001

Anderson, David, GIS-Based Hydrologic and Hydraulic Modeling for Floodplain Delineation at Highway River Crossings, December 2000

Osborne, Katherine, A Water Quality GIS Tool for the City of Austin Incorporating Non Point Sources and Best Management Practices, December 2000

Snead, Daniel, Development and Application of Unsteady Flood Models Using Geographic Information Systems, December 2000

Jonsdottir, Jona Finndis, A GIS-based analysis of the benthic community of the Western Arctic Ocean, August 2000

Davis, Kimberley, Object-oriented modeling of rivers and watersheds in Geographic Information Systems, August 2000

Perales, Jerome, GIS-based soil water determination, August 2000

Niazi, Shiva, The effect of time-step length in modeling river and aquifer interaction, August 2000

Lear, Mary, Upscaling river networks from global Digital Elevation Models, August 2000

Kim, Julie, Developing spatial environmental models for risk-based decision making, May 2000

Mason, David, An analysis of a methodology for generating watershed parameters using GIS, May 2000

Andrysiak, Peter, Visual floodplain modeling with Geographic Information Systems, May 2000

Ahrens, Seth, Flood forecasting for Buffalo Bayou using CRWR-PrePro and HEC-HMS, MS Thesis, December 1999

Azagra-Camino, Esteban, Abstract Floodplain Visualization on TINs, MS Report, December 1999

Hudgens, Bradley, Geospatial Data in Water Availability Modeling, MS Thesis, December 1999

Melancon, Patrice, A GIS-based watershed analysis system for Tillamook Bay, Oregon, MS Thesis, May 1999

Romanek, Andrew, Building the foundation for environmental risk assessment at the Marcus Hook refinery, MS Thesis, May 1999

Tate, Eric, Floodplain mapping using HEC-RAS and ArcView GIS, MS Thesis, May 1999

Wei, Kevin, Internet GIS application in environmental information distribution, MS Thesis, May 1999

Bigelow, Benjamin, Regional Flood Frequency Analyses in the Upper Mississippi River Basin, MS Report, December 1998

Hay-Wilson, Lesley, Screening Level Risk Characterization for a Mixed-Oxide Fuel Facility at the Pantex Plant, M.S. Thesis, May 1998.

How, Cindy, Fugitive emissions of VOCs from industrial sewer networks: integration of naUTilus and ArcView, M.S. Thesis, May 1998.

Kaough, Charles, An analysis of volunteer water quality data, M.S. Thesis, May 1998.

Martinez, Kris, Assessing the impact of climate change on water resources for the Edwards Aquifer, M.S. Thesis, May 1998.

Quenzer, Ann, A GIS assessment of the total loads and water quality in the Corpus Christi Bay system, M.S. Thesis, May 1998.

Akmansoy, Sandra, Aral Sea water rights, M.S. Thesis, December 1997.

Asante, Kwabena, GIS based reservoir planning for the Souss Basin, Morocco, M.S. Thesis, December 1997.

Bao, Juling, Using GIS for hydrologic data-processing and modeling in Texas, M.S. Thesis, December 1997.

Dartiguenave, Christine, Water quality master planning for Austin, M.S. Thesis, December 1997.

Dugger, Aubrey, GIS to HMS: An investigation of the Midwest Flood of 1993, M.S. Thesis, December 1997.

Nobel, Carolyn, A model for industrial water reuse: a geographic information system (GIS) approach to industrial ecology, M.S. Thesis, December 1997.

Ruan, Ye Maggie, Preliminary investigation of implementing an environmental information system for the Pantex facility, M.S. Thesis, December 1997.

Strange, Wade, Using GIS in air pollution emission estimation, M.S. Thesis, December 1997.

Hellweger, Ferdinand, A GIS preprocessor for lumped parameter hydrologic modeling programs, M.S. Thesis, August 1997.

Benaman, Jennifer, Modeling of dissolved oxygen in the Houston Ship Channel using WASP-5 and GIS, M.S. Thesis, December 1996

Saunders, William, A GIS assessment of nonpoint source pollution in the San Antonio-Nueces Coastal Basin, M.S. Report, May 1996

Smith, Peter N.H., Hydrologic data development system, M.S. Thesis, August 1995

Reed, Seann, M., A GIS procedure for integrating NEXRAD precipitation and topographic data sets, May 1995

Patoux, Jerome, Atmospheric water balance of Texas, M.S. Report, December 1994

Song, D.L., A GRID-based method for modeling subsurface agrichemical fate and transport,

 M.S. Report, May 1994.

Meehan, Karen F., Conditional probability analysis of wastewater treatment plant flow variables,

M.S. Report, August 1992.

Weig, Eric J., Design of tank retrofits to prevent vapor leakage, M.S. Report, August 1992.

Ye, Zichuan, Database design for the Yellow River hydrologic information system, M.S. thesis for

combined engineering-public affairs degree, May 1992, (jointly supervised with David J.

Eaton).

Richards, D.R., Hydrodynamic simulation of estuary flows, May 1991.

Mizgalewicz, Pawel J., Water demand analysis and forecasting system for Phoenix, Arizona, M.S.

thesis for combined engineering-public affairs degree, December 1991, (jointly supervised

with David J. Eaton).

Loomis, Thomas G., Probabilistic stream network model for nonpoint source water quality

evaluation, M.S. Thesis, May 1991.

Janek, Susan H., Use of relational databases to convert regulatory information for use in expert

systems, M.S. report, May 1991.

Lawrence, Kenneth G., A graphic environment for the integration of analysis and visualization,

M.S. report, May 1989.

Hall, Ken C., Development of a weather adjustment factor for monthly water demand forecasting,

M.S. report, December 1988.

Adderley, Virgil C., First order analysis of uncertainty of water demand forecasts, M.S. report,

May 1988.

Saenz de Ormijana, Fidel., The likely maximum flood duration method for hydrograph frequency

analysis, M.S. thesis, December 1986.

Shaw, D.T., An analysis of the effects of water conservation on daily water use in Austin and

Corpus Christi, Texas, M.S. report, August, 1986.

Woelke, Allan C., Analysis of the effect of the use of stochastic over deterministic evaporation in

reservoir reliability estimates, M.S. thesis, August 1985.

Vaugh, Samuel K., Storage projection for reservoir systems, M.S. thesis, August 1985.

Larson, Charles E., The effect of climatic variation on reservoir firm yield, M.S. thesis, August

1984.

Miaou, Shaw-Pin, Dynamic municipal water use model, M.S. thesis, December 1983.

Koh, Eng Seng, Optimal project selection of public water supply for developing countries, M.S.

report, December 1982.

**RESEARCH GRANTS AND CONTRACTS:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Project** | **Source** | **Dates** | **Amount** |
| CUAHSI Hydrologic Information System | National Science Foundation | 1/15/07-12/31/11 | $4.5 million |
| Water Rights Analysis Package | TCEQ | 9/1/06-8/31/08 | 200,000 |
| Regionalization of Texas Streams | TCEQ | 9/1/06-8/31/07 | 75,000 |
| Bacteria loadings in Copano Bay | TCEQ | 8/1/06 – 8/31/08  | 136,000 |
| FEMA Flood Map Geodatabase Design | Watershed Concepts and FEMA | 6/05 – 9/06 | 40,000 |
| Hydrologic Network Optimization | South Florida Water Management District and Taylor Engineering  | 6/04 – 9/05 | 54,000 |
| Phase 3 of the Harris County Wastewater Master Plan | PBS&J and Harris County | 11/03 – 11/04 | 5,000 |
| Erosion at LBJ Park, GIS for Midcontinent Park | National Park Service | 8/04 – 9/05 | 15,000 |
| TMDL analysis of Sandies and Elm Creek  | TCEQ | 8/04 – 8/05 | 67,900 |
| Cyprus Water Resources Database (joint with Daene McKinney) | Geodigital and US State Dept | 10/04 – 9/05 | 22,000 |
| Hydrologic Information Systems for the Consortium of Universities for the Advancement of Hydrologic Science, Inc | National Science Foundation | 3/04 – 10/06 | 1.2 million |
| Arc Hydro geodatabase development for the Rio Bravo / Rio Grande Basin | North American Development Bank | 1/04 – 8/04 | 50,000 |
| San Antonio River Basin Regional Modeling Project | San Antonio River Authority and PBS&J | 1/03 – 12/05 | 107,000 |
| Arc Hydro application in the Llano Basin | Lower Colorado River Authority | 9/02 – 8/04 | 80,000 |
| Extended Arc Hydro Framework for South Florida  | South Florida Water Management District and PBS&J | 8/03 – 6/05 | 130,000 |
| Texas Integrated Water Simulation System | US Army Corps of Engineers | 9/01 – 9/03 | 125,000 |
| Zinc contamination of oysters in Nueces Bay | Texas Commission on Environmental quality | 9/01 – 3/03 | 65,000 |
| Gulf oyster waters total maximum daily load project | Texas Commission on Environmental quality | 1/02 – 6/03 | 81,000 |
| Flood mapping and modeling for highway design | Texas Department of Transportation  | 1/01 – 8/02 | 202,000 |
| Geodatabase development for Lavaca and Matagorda Bays | Texas General Land Office | 5/02 – 6/03 | 75,000 |
| Seagrass Conservation in Texas coastal waters | US Environmental Protection Agency | 10/01-12/03 | 50,000 |
| Consortium for GIS in Water Resources | Environmental Systems Research Institute | 9/03-8/05 | 130,000 |
| Water supply vulnerability analysis | US Geological Survey | 9/01 – 2/03 | 65,000 |
| GIS for Instream Habitat Modeling | Texas Water Development Board | 10/00-12/05 | 135,000 |
| Consortium for GIS in Water Resources | Environmental Systems Research Institute | 9/99-8/02 | 140,000 |
| Geospatial database for flood mapping | Lower Colorado River Authority | 9/99-8/01 | 287,000 |
| Geospatial representation for National Hydrography Dataset and Basins  | Environmental ProtectionAgency | 7/99-2/03 | 225,000 |
| Benthic Community Structure in the Western Arctic Ocean | National Science Foundation | 3/99-2/02 | 263,509 |
| Closing the Global Water Cycle in Fully-Coupled Climate System Models | National Science Foundation | 5/97-4/99 | 141,704 |
| Integrated Geospatial Database for TotalMaximum Daily Load Modeling | Texas Natural ResourcesConservation Commission | 7/98-8/99 | 298,304 |
| Watershed data for water availability modeling | Texas Natural Resources Conservation Commission | 7/98-12/03 | 485,000 |
| GIS-based infiltration modeling | US Army Corps of Engineers | 10/98-7/99 | 24,501 |
| GIS-based flood frequency analysis | US Army Corps of Engineers | 6/98-12/98 |  |
| GIS application to the TXRR model | Texas Water Development Board | 10/98-12/00 | 50,000 |
| Water quality master planning | City of Austin | 9/98-8/00 | 93,463 |
| Integrated solutions development project | Loomis & Moore | 1/98-5/98 |  12,000 |
| Development of an integrated GIS application and decision analysis framework for the Marcus Hook Refinery | British Petroleum Oil Company | 8/97-5/00 | 315,205 |
| Buffalo Bayou River Basin GIS for HEC-HMS | US Army Corps of Engineers | 12/97-9/98 |  20,000 |
| Upper Mississippi River hydrologic model | US Army Corps of Engineers | 12/97-9/98 |  25,000 |
| GIS application to water resources assessment in Tanzania | United Nations Food and Agriculture Organization | 11/97-7/98 |  2,000 |
| Watershed analysis and decision support system: A GIS-based watershed model | Tillamook Bay NationalEstuary Project | 10/97-12/98 |  87,853 |
| Edwards Aquifer technical project on climate change - consequences and adaptive responses | American Society of Civil Engineers | 6/97-9/98 |  20,000 |
| Workshop on GIS hydrology capabilities | US Army Corps of Engineers | 9/97-10/97 |  5,500 |
| Spatial soil water modeling | Hydrologic Engineering Center, US Army Corps of Engineers | 4/97-3/98 |  24,500 |
| System of GIS-based hydrologic and hydraulic applications for highway engineering | Texas Department of Transportation | 9/96-8/99 | 196,632 |
| Watershed delineation application | Environmental Systems Research Institute | 9/96-8/97 |  25,770 |
| Closing the global water cycle in fully-coupled climate system models: Terrestrial hydrology and river transport(joint with Jay Famiglietti) | National Science Foundation | 5/97-4/99 |  70,852 |
| Water quality future needs assessment for urban creeks | City of Austin | 8/96-1/98 | 134,530 |
| Technical Cooperation Project with the Direction Generale de l'Hydraulique, Rabat, Morocco | UN Food and Agriculture Organization | 9/95-12/96 |  68,000 |
| Estimation of Total Loadings in the Corpus Christi Bay System | Coastal Bend Bays National Estuary Program | 6/96-8/97 |  60,000 |
| Use of GIS and River Reach Files | Hydrologic Engineering Center, US Army Corps ofEngineers | 10/95-5/96 |  27,000 |
| Water Balance of the 1993 Midwest Flood | Texas Water Resources Institute | 9/95-8/96 |  39,000 |
| Nonpoint source pollution assessment in the San Antonio-Nueces Coastal Basin | Texas Natural Resource Conservation Commission | 9/94-8/96 |  21,500 |
| Spatial water balance of Texas  | Texas Water Resources Institute | 9/94-8/96 |  50,000 |
| FAO/UNESCO Water Balance of Africa (with D.C. McKinney) | UN Food and Agriculture Organization | 9/94-5/96 |  90,000 |
| Integration of GIS and the Groundwater Modeling System | Waterways Expt Station, US Army Corps of Engrs | 7/94-7/95 |  80,000 |
| Hydrologic modeling using digital 5/94-5/95 24,500elevation data | Hydrologic Engineering Center, US Army Corps ofEngineers | 5/94-5/95 |  24,500 |
| Integration of processes & scales for the MSEA program (with D.C. McKinney) | CSRS, US Dept of Agriculture | 8/93-7/96 | 143,517 |
| Expert geographic information systems for environmental protection (with D.C. McKinney) | Environmental Protection Agency | 10/92-9/94 | 150,000 |
| Phoenix water demand forecast model | City of Phoenix | 1/90-12/94 |  80,900 |
| Automated water planning system for Texas (with D.C. McKinney) | Texas Water Development Board, Texas Water Resources Institute | 6/91-8/94 | 110,000 |
| Development of an Arc-Zycor interface | Arco Oil and Gas company | Unrestricted |  7,000 |
| GIS for groundwater modeling | Intera, Inc., Austin Texas | Unrestricted |  7,000 |
| Applications of the Arc-Nexpert interface | Environmental Systems Research Institute | Unrestricted  |  10,000 |
| Forecasting water use in Southern California | Metropolitan Water District of Southern California  | 9/87-8/88 |  75,000 |
| Design automation for site development (with S.G. Wright, L. J. Hayes, and M. McCullough) | National Science Foundation | 9/87-8/90 | 363,000 |
| Forecasting water use for the LCRA service area(with L.W. Mays) | Lower Colorado River Authority | 2/87-1/88 |  52,000 |
| Stochastic design of wastewater storage ponds | U.S. Geological Survey | 9/86-8/88 |  81,515 |
| Stochastic design of wastewater storage ponds | Center for Research in Water Resources | 8/85-8/86 |  10,600 |
| Frequency analysis of extreme floods and droughts | Univ. Res. Inst. & Center for Research in Water Resources | 5/86-8/86 |  7,600 |
| Predicting the impact of urban water conservation measures | Policy Research Institute | 6/86-8/86 |  2,223 |
| Microcomputer program for forecasting water use in Austin | City of Austin | 4/86-4/87 |  16,050 |
| Forecasting water use in Corpus Christi | City of Corpus Christi | 1/86-8/86 |  5,500 |
| Adaptive water use forecasting | Center for Research in Water Resources | 6/85-8/85 |  2,700 |
| Variability of net evaporation and water storage | Center for Research in Water Resources | 8/84-8/85 |  10,000 |
| Forecasting water use from the Edwards Aquifer | Edwards Underground Water District | 1/85-5/85 |  2,500 |
| Forecasting water use in Texas cities | Texas Water Resources Institute & US Geological Survey | 6/86-5/88 |  46,000 |
| Microcomputer model for forecasting water use in Austin (Phase 3) | City of Austin | 4/85-4/86 |  18,600 |
| Water use in Texas cities | Center for Research in Water Resources | 6/84-8/84 |  2,181 |
| Water use forecasting for implementing urban water conservation policy | Policy Research Institute | 6/84-8/84 |  3,400 |
| Microcomputer water use forecasting model for Austin (Phase 2) | City of Austin | 6/84-12/84 |  13,860 |
| Lower Colorado River Reservoir Operation (with L.W. Mays) | Lower Colorado River Authority | 9/83-8/85 | 160,107 |
| Forecasting water use in Austin for the Summer of 1983 (Phase 1) | City of Austin | 7/83-8/84 |  4,808 |
| Water use in Texas cities | Center for Research in Water Resources | 9/82-8/83 |  8,970 |
| Predicting the length of time between rainfalls in Texas | Center for Research in Water Resources | 1/83-5/83 |  1,330 |
| Effect of rainfall on daily municipal water use | National Science Foundation | 6/82-11/84 |  47,999 |
| Improving water management decisions during droughts | University Research Institute | 5/82-12/82 |  4,500 |
| Water demand analysis in South Florida | University of Florida | 1/82-4/83 |  6,808 |
| Modeling municipal water use with short data series | Bureau of Engineering Research | 9/81-8/82 |  3,000 |
| Methodology for forecasting municipal water use in Texas | Texas Department of Water Resources | 5/81-8/8` |  19,725 |
| Modeling and forecasting municipal water demand | Rockefeller Foundation | 1/77-12/77 |  18,000 |
| Methodologies for forecasting and control of water systems | Rockefeller Foundation | 6/76-12/76 |  9,200 |

**HARDWARE AND SOFTWARE GRANTS:**

For research on applications of Geographic Information Systems, Dr. Maidment has

obtained hardware and software donations or loans to the University of Texas of total value

approximately $315,000. Providers of hardware and software include:

 *Sun Microsystems*, Austin, TX (Sun 4/260 Sparc workstation)

 *Environmental Systems Research Institute*, Redlands CA (Arc/Info GIS software)

 *Neuron Data,* Palo Alto CA (Nexpert Object expert system software)

 *Landmark-Zycor*, Austin TX (Zmap+ gridding and contouring software)

 *Texas Instruments*, Dallas TX (Discover hypermedia conversion and display

 software)

**PROFESSIONAL COMMITTEES:**

World Meteorological Organization, Commission for Hydrology, Associate Rapporteur

 for GIS, 1994- 1996

UNESCO, Division of Water Sciences, Member of Committee on GIS in hydrology and

 water resources for Phase V of the International Hydrology Program, 1994- 1996

American Society of Civil Engineers, Hydraulics Division, Task Committee on Hydraulic

Engineering Research Advocacy, 1992-1994

**PROFESSIONAL SOCIETY MEMBERSHIPS**

American Society of Civil Engineers

American Geophysical Union

American Water Works Association

International Water Resources Association

New Zealand Hydrological Society

Honor Societies of Phi Kappa Phi and Sigma Xi

**ENGINEERING REGISTRATION**

Registered professional engineer in Texas (P.E. 53819), passed Fundamentals of

Engineering (EIT) and Principles and Practice (PE) examinations in 1988.

**PERSONAL**

Date of Birth:January 3, 1950 in Masterton, New Zealand

Citizenship:United States

Marital Status:Married to Helen J. Maidment, MD, born July 14, 1951

Children:Amy R. Maidment, born May 14, 1978; Linda J. Maidment, Born May 2, 1980