

Opening Date: August 11, 2017
Closing Date: Open Until Filled
Work Location: Austin, Texas
Posting Number: 17-50
Monthly Salary: \$6,000–\$6,979
Group/Class: B25/2466 or 2155
Travel %: 15%
Division/Department: Water Science and Conservation/Surface Water/Bays & Estuaries
Number of Positions: 1

JOB VACANCY NOTICE

Hydrodynamic Modeler/Engineer (Hydrologist V/Engineer V)

*Apply Via Mail/Hand Delivery: Texas Water Development Board
Stephen F. Austin Building, 1700 North Congress Ave., Room 670,
Austin, Texas 78701, via facsimile (512) 463-7644, via email
HR@twdb.texas.gov or via Work in Texas (www.workintexas.com).
Refer to Human Resources (512) 475-2142. Equal Opportunity
Employer*

Veteran's Preference

Veterans, Reservist or Guardsmen with an MOS or additional duties that fall in the fields of Meteorology and Oceanography, 68- Meteorology and Oceanography (METOC), 1W- Operations - Weather or other related fields pertaining to the minimum experience requirements may meet the minimum qualifications for this position and are highly encouraged to apply.

Additional Military Crosswalk information can be accessed at
http://www.hr.sao.texas.gov/Compensation/MilitaryCrosswalk/MOSC_NaturalResources.pdf.

Job Description Summary

Performs advanced to highly-advanced (senior-level) hydrologic and hydrodynamic modeling and studies for the Bays and Estuaries program in the Surface Water Division. Work involves developing, maintaining, and applying hydrodynamic and salinity transport models of Texas bays to support the evaluation of freshwater inflow needs for Texas estuaries. Investigates, develops, and implements the use of improved data and methods for estuarine hydrodynamic and transport models. Plans and participates in scientific and engineering field studies of state streams, rivers, bays, and estuaries. Serves as a liaison at public meetings; provides technical support to stakeholders and customers; and, communicates analyses and results to general and technical audiences. May train others. May plan, assign, and/or supervise contract administration activities. Works under limited to minimal supervision, with considerable to extensive latitude for the use of initiative and independent judgment. Reports to the Manager of the Bays and Estuaries department.

Essential Job Functions

- Develops, maintains, and applies hydrodynamic models of rivers and estuaries using 2D and 3D hydrodynamic and salinity transport models.
- Writes, executes, and maintains the Python, Unix, Fortran, and ArcGIS programs and scripts.
- Applies scripts and programs to reformat input/output data files for model execution and for analysis and visualization of field data and model results.
- Revises existing hydrodynamic model source code and implements new algorithms and functionality.
- Posts updates of data and technical memos to the agency website.
- Conducts mathematical and statistical analyses of state water resources to support environmental flow and water resources planning studies.

Female and minority applicants are encouraged to apply.

Males born on or after January 1, 1960, will be required to present proof of Selective Service registration on the first day of employment or proof of exemption from Selective Service registration requirement. All offers of employment are contingent upon the candidate having legal authorization to work in the United States. Failure to present such authorization within the time specified by the U.S. Department of Labor will result in the offer being rescinded. Candidates must be eligible to work in the United States without requiring sponsorship. Only applicants interviewed will be notified of their selection or non-selection. Resumes will not be accepted in place of a completed State of Texas application unless indicated.

HR-002 (Non-Supervisory)
Revised 6/21/2017



The Texas Water Development Board does not discriminate on basis of race, color, national origin, sex, religion, age, or disability in employment or provision of services, programs, or activities. www.twdb.texas.gov/jobs

TWDB participates in E-Verify! Information from each new employee's Form I-9 will be provided to the Social Security Administration (SSA) and, if necessary, the Department of Homeland Security (DHS) to confirm work authorization.

Job Vacancy Notice (cont.)

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- Writes, reviews, and evaluates technical memos, reports, work process, and policy documents; provides presentations to technical and non-technical audiences.
- Works with other entities to develop and implement models and conduct analyses.
- Assists with field studies, including planning, on-site work, equipment installation, data acquisition, and data management.
- Serves as liaison and provides technical support and information to stakeholder groups, scientific committees, and customers.
- Serves as contract manager for research and monitoring contracts.
- May require work outdoors, occasionally in small boats, possibly during inclement weather or under hot/cold temperatures.
- May require work days to occasionally exceed 8 hours, including early mornings, late nights, and weekends.
- May travel up to 15% of the time.
- Maintains confidential and sensitive information.
- Ensures individual and team files (electronic and hard versions) are appropriately maintained and timely disposed of in accordance with the agency's records retention procedures and schedule.
- Maintains required certifications and licenses and meets the continuing education needs and requirements of the position to include, attending mandatory training courses.
- Required to operate a state or personal vehicle for business purposes, including the transport and operation of boats and equipment.
- Performs other duties as assigned.

Minimum Qualifications

- Graduate degree, or working towards completion of a graduate degree, from an accredited college or university with major coursework in Engineering or Physical Science with emphasis in hydrodynamic modeling, surface water resources, or related field.
- Seven to nine years of experience developing, applying, or running hydrodynamic, hydrologic, hydraulic, or other computational/numerical models.
- Relevant education and experience can be substituted on a year-for-year basis.

Preferred Qualifications

- Previous experience developing, applying, or running hydrodynamic, hydrologic, hydraulic, or other computational/numerical models.
- Previous experience processing, displaying, and analyzing scientific data, including large data sets.
- Previous experience using Unix/Linux operating systems and/or scripting/programming languages, such as Python, Perl, bash, Fortran, etc.
- Licensed as a Professional Engineer by the State of Texas.

Knowledge, Skills, and Abilities (KSAs)

- Knowledge of local, state, and federal laws and regulations relevant to the Bays and Estuaries department, including water management and environmental flows in Texas, and of the principles and practices of public administration.
- Knowledge of scientific, engineering, statistical, modeling, and hydrologic principles and techniques.
- Knowledge of the practical application of hydrology, hydrodynamics, water quality, and water management technologies.
- Skills in using Microsoft Office programs such as Word, Excel, PowerPoint, Outlook, SharePoint, and Access.
- Skills in use of internet, email, word processing, spreadsheet, presentation, and database software.
- Skills in scientific data collection, management, and interpretation, particularly of hydrologic data.

Job Vacancy Notice (cont.)

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- Skills in using numerical/visualization tools, *e.g.*, Matlab, Scipy/Numpy, Matplotlib, Tecplot, Gnuplot, *etc.*
- Skills in developing, applying, or running hydrodynamic and salinity transport models (*e.g.*, TxBLEND, SELFE, ROMS, SUNTANS, Delft3D, ADH, *etc.*) or other computational/numerical models.
- Skills in programming/scripting languages, such as Python, Fortran, Matlab, or equivalent, for developing and modifying software and scripts for conducting analyses and to maintain automated processes.
- Skills in statistical and/or spatial data analysis techniques (*e.g.*, ArcGIS, *etc.*).
- Skills with using mechanical and electrical equipment, including water quality, water velocity, and surveying tools, such as GPS systems, as well as boats and trailers.
- Ability to meet public/government officials to initiate studies and to request data pertinent to studies.
- Ability to lead scientific studies/field operations and perform duties as assigned without direct supervision.
- Ability to adhere to work schedules, follow procedures with respect to leave and submit accurate timesheets by prescribed deadlines.
- Ability to make mature, objective decisions and identify areas of potential problems.
- Ability to perform effectively and willingly when changes occur in scope and nature of the work and work environment.
- Ability to perform routine and non-routine work assignments accurately and on-time with little or no supervision.
- Ability to perform assigned duties and improve work habits and/or output.
- Ability to complete assigned work, on time, neatly and with infrequent errors.
- Ability to interpret policies, procedures, and regulations.
- Ability to provide prompt, courteous and accurate assistance and clear and concise communication to internal and external stakeholders (general and technical audiences) both verbally and in writing.
- Ability to work and cooperate with others in a team environment and accept assignments from multiple authorities.
- Ability to manage multiple tasks and schedule work to maintain regular progress on assignments and meet deadlines.
- Ability to stand/sit/move with no physical limitations or aids to perform activities such as retrieve/replace files in a large file system for boxes up to 30 lbs. or to lift and carry 30 lbs. over varying terrain, carry equipment in varying weather, and to work in small boats.
- Ability to operate a vehicle (state or personal) for state business and maintain a driver's license and driving record that complies with state and agency requirements.
- Ability and willingness to travel 15% of the time, primarily within the State of Texas.
- Ability to work days that may exceed 8 hours, including early mornings, nights, and weekends.
- Ability to train others.
- Ability to operate and transport motorized boats up to 25-ft in length safely, effectively, and independently or a willingness to learn.

Remarks

- Copy of required academic transcripts and/or licensures and driving record must be submitted at the time of hire. Failure to provide required documentation will result in no further consideration for employment.
- Important Notice: Otherwise qualified candidates who are ultimately considered for potential employment with the Texas Water Development Board may be the subject of a request for any criminal history record information maintained by the Texas Department of Public Safety (DPS). Evidence of a criminal conviction or other relevant information obtained from the DPS shall not automatically disqualify an individual from employment with the Texas Water Development Board.