

Position Description



Hydrologist – Water Quality Modelling

Business Unit: Water & Catchment Protection

Reporting to: Water Quality Modelling Manager

Position Purpose

To undertake specialised hydrology and water modelling activities, to study water in natural and engineered systems, for planning and operations, and to provide related engineering support and advice; and put safety first.

Key Accountabilities

1. **Safety:** ensure all activities are undertaken with the safety of our people as the number one priority and always role model safe behaviour.
2. **Values:** behave and make decisions in accordance with the WaterNSW Values at all times.
3. Provide technical input relating to hydrologic, hydraulic components and water quality interactions of multi-disciplinary projects in a team environment to assist in meeting regulatory and business requirements.
4. Provide project management support to deliver key projects for the business and ensure that best practice project management is applied throughout the life of the project.
5. Undertake the development, maintenance and application of a strategic suite of 'water' models for water quality and quantity, including for example catchment and stream models, system yields, network capacity and both actual and theoretical water supply system planning and operational models.
6. Undertake a broad range of water resource engineering activities for internal and external customers, including for planning, water delivery, flood and emergency operations and capital projects, and to ensure hydrologic factors and water quality are well understood and managed with acceptable risk
7. Assist Water Resource Engineers with the development of policies and processes to facilitate the delivery of hydrology services to clients.

Key Challenges

- Turning abstract data and information into meaningful knowledge to facilitate the better understanding of the complexities of catchments, storages and transfer systems.
- Keeping informed of industry standards and technological developments to provide the best accurate value for money solutions and advice.
- Ability to work in a virtual rapidly changing environment, managing change throughout the business

Significant Internal Relationships

Stakeholder	Purpose of Relationship
N/A	

Significant External Relationships

Stakeholder	Purpose of Relationship
N/A	•

Delegations, Financial Accountabilities & Freedom to Act

- As defined in the WaterNSW Financial Delegations as varied from time to time.

WaterNSW Leadership & Performance Competencies

People	Level	
Communicating with Influence	B	<ul style="list-style-type: none"> • Tailors communication to suit the audience and uses a range of influencing techniques to build support • Supports messages with relevant examples, demonstrations and stories • Communicates issues clearly with different audiences • Handles challenging questions confidently and constructively
Awareness & Personal Resilience	A	<ul style="list-style-type: none"> • Recognises own emotions and their effects, and is always aware of own response to pressure and change

		<ul style="list-style-type: none"> • Uses effective strategies to stay calm and composed under pressure • Continuously demonstrates personal integrity, honesty and sincerity • Recognises when to ask for support when under stress
Customer	Level	
Partnering & Advice	B	<ul style="list-style-type: none"> • Engages in a productive dialogue with the customer to consultatively identify a solution • Provides credible advice for customers based on an understanding of the underlying issue • Knows when to draw on additional resources to provide appropriate support and advice for customers
Business	Level	
Analysis & Problem Solving	B	<ul style="list-style-type: none"> • Defines the extent and cause of the problem through observation and investigation • Knows when and how to source and use additional information to effectively diagnose the problem and determine suitable solutions. • Considers all possible solutions and seeks input from subject matter experts where appropriate • Takes necessary action to implement the identified solution
Continuous Improvement	A	<ul style="list-style-type: none"> • Identifies everyday process improvements and ideas within each team and takes ownership to lead and implement • Adopts new ideas and approaches with positive attitude • Identifies wastes and implements practices to minimise these. • Has basic knowledge of continuous improvements tools and techniques

Planning & Delivering Results	B	<ul style="list-style-type: none"> • Manages expectations and accepts accountability for deadlines, budget and outcomes • Delivers consistently to plans and focuses on the achievement of results despite obstacles • Implements quality assurance practices to ensure projects and activities are delivered to required standards. • Initiates action without prompting
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Mandatory Candidate Requirements

Qualifications:

- Bachelor's degree or higher in Civil (or Environmental) Engineering (or Natural Resources / Environmental Science, with a tertiary qualification in hydrology or relevant experience).
- Current NSW Drivers Licence desirable

Mandatory Experience:

- Demonstrated experience in hydrologic/hydraulic data analysis, modelling and reporting.

Knowledge

- Evidence of understanding of water quality and quantity issues confronting Government and WaterNSW.
- Post-graduation experience in coding using Python, R or equivalent.
- 3D Hydrodynamics and water quality modelling experience

Favourable Candidate Requirements

- Post-graduate education / research in Water Resources, Environmental Science, Data Analytics or Freshwater aquatic sciences
- Knowledge and experience in the use of large data sets for modelling, such as SCADA, HYDSTRA and real-time online data for both quality and quantity
- Knowledge and experience in the application of technology (SCADA or modelling systems) for water data or in the development and application of models for catchment, streams and water supply systems.

Pre-Employment Checks Required

- Identification
- Qualifications
- Drivers Licence
- Pre-employment Medical
- Police Check