

POSITION DESCRIPTION						
1. Position Number			2. Explanation (show any positions replaced)			
3. Reason for Submission <input type="checkbox"/> New <input type="checkbox"/> Redescription <input type="checkbox"/> Reestablishment <input type="checkbox"/> Standardized PD <input type="checkbox"/> Other						
4. Service <input type="checkbox"/> HQ <input type="checkbox"/> Field	5. Subject to Identical Addition (IA) Action <input type="checkbox"/> Yes (multiple use) <input type="checkbox"/> No (single incumbent)					
6. Position Specifications Subject to Random Drug Testing <input type="checkbox"/> Yes <input type="checkbox"/> No Subject to Medical Standards/Surveillance <input type="checkbox"/> Yes <input type="checkbox"/> No Telework Suitable <input type="checkbox"/> Yes <input type="checkbox"/> No Fire Position <input type="checkbox"/> Yes <input type="checkbox"/> No Law Enforcement Position <input type="checkbox"/> Yes <input type="checkbox"/> No			7. Financial Statement Required <input type="checkbox"/> Executive Personnel-OGE-278 <input type="checkbox"/> Employment and Financial Interest-OGE-450 <input type="checkbox"/> None required		10. Position Sensitivity and Risk Designation <u>Non-Sensitive</u> <input type="checkbox"/> Non-Sensitive: Low-Risk <u>Public Trust</u> <input type="checkbox"/> Non-Sensitive: Moderate-Risk <input type="checkbox"/> Non-Sensitive: High-Risk <u>National Security</u> <input type="checkbox"/> Noncritical-Sensitive: Moderate-Risk <input type="checkbox"/> Noncritical-Sensitive: High-Risk <input type="checkbox"/> Critical-Sensitive: High-Risk <input type="checkbox"/> Special Sensitive: High-Risk	
			8. Miscellaneous Functional Code: -- BUS: --	9. Full Performance Level Pay Plan: Grade:		
11. Position is <input type="checkbox"/> 2-Supervisory <input type="checkbox"/> 4-Supervisor (CSRA) <input type="checkbox"/> 5-Management Official <input type="checkbox"/> 6-Leader: Type I <input type="checkbox"/> 7-Leader: Type II <input type="checkbox"/> 8-Non-Supervisory		12. Position Status <input type="checkbox"/> Competitive <input type="checkbox"/> SES <input type="checkbox"/> Excepted (specify in remarks) <input type="checkbox"/> SL/ST			13. Duty Station	
			14. Employing Office Location		15. Fair Labor Standards Act <input type="checkbox"/> Exempt <input type="checkbox"/> Nonexempt	
			16. Cybersecurity Code #1:                      #2: --                      #3: --		17. Competitive Area Code: Competitive Level Code:	
18. Classified/Graded by	Official Title of Position		Pay Plan	Occupational Code	Grade	Initial      Date
a. Department, Bureau, or Office						
b. Second Level Review			--		--	
19. Organizational Title of Position (if different from, or in addition to, official title)			20. Name of Employee (if vacant, specify)			
21. Department, Agency, or Establishment U.S. Department of the Interior			c. Third Subdivision			
a. Bureau/First Subdivision			d. Fourth Subdivision			
b. Second Subdivision			e. Fifth Subdivision			
22. Supervisory Certification. I certify that this is an accurate statement of the major duties and responsibilities of this position and its organizational relationships and that the position is necessary to carry out Government functions for which I am responsible. This certification is made with the knowledge that this information is to be used for statutory purposes relating to, but not limited to: FLSA determinations; position sensitivity and requirements; and appointment/payment of public funds. False or misleading statements may constitute violations of such statutes or their implementing regulations.						
a. Typed Name and Title of Immediate Supervisor			b. Typed Name and Title of Higher-Level Supervisor or Manager (optional)			
Signature		Date	Signature		Date	
23. Classification/Job Grading Certification. I certify that this position has been classified/graded as required by Title 5, U.S. Code, in conformance with standards published by the U.S. Office of Personnel Management or, if no published standards apply directly, consistently with the most applicable published standards.			24. Position Classification Standards Used in Classifying/Grading Position			
Typed Name and Title of Official Taking Action						
Signature		Date				
25. Position Review	Initials	Date	Initials	Date		
a. Supervisor						
b. Classifier						
26. Remarks						

## **DOI Standard PD**

**PD# DN00000**

**Classification: Hydrologist, GS-1315-13**

### **INTRODUCTION**

This position is located in an operating office (Office) within a bureau or bureau equivalent office (Bureau) within the Department of the Interior (Department). This position is a senior hydrologist with responsibility for leading or participating on hydrologic studies of considerable scope and complexity or serving as a project leader or member of an interdisciplinary team. Plans, directs, performs and/or coordinates comprehensive hydrologic studies or significant components of extensive studies, that describe and interpret hydrologic conditions in order to define, analyze, forecast, or describe both natural and human-induced hydrologic changes in the area.

### **MAJOR DUTIES (80-100%)**

Serves as senior expert in the field and as such is responsible for complete, large scale hydrologic investigations by planning, conducting, and reporting on interpretive studies. Serves as an authoritative source of consultation for other scientists and program specialists. Represents the bureau on controversial projects. Modifies established hydrologic techniques or procedures. Collects, interprets, analyzes and evaluates hydrologic data for large scale systems and makes long-range and, at times, controversial proposals based on analysis. Assignments involve planning, executing, and reporting on projects that extend or modify existing theories and concepts in the field. The complexity of assignments may require significant alteration to standard practices, equipment, and known techniques or development of totally new methods and techniques to address problems for which guidelines or precedents are not substantially applicable. Develops approaches, standards, methods, guides, and procedures for conducting the interpretive study. Plans, performs, coordinates and directs complex studies of hydrologic systems in accordance with and applicable authorizations, policy, and regulatory requirements. Develops, extends, calibrates, and advances the use of comprehensive models to conduct and simulate hydrologic analysis and inform operations.

Works on highly complex or controversial water issues whose solutions require a proven understanding of hydrology and one or more related disciplines such as ecology, hydraulics, geology, geochemistry, and the complexities of ground or surface water flow. Conducts planning, review, and evaluation of multi-basin, multi-aquifer investigations which includes statistical, mathematical, time series and other water quantity and quality modeling in adherence with all management-based water resource policies. Results of studies are frequently used to fulfill environmental analysis and disclosure of the proposed impacts as required by the US Environmental Protection Agency or other regulatory bodies. The scientist develops monitoring/mitigation measures to ensure that impacts are minimized.

Serves as subject matter expert for the for a broad geographic area with multiple watersheds. Provides current information on policy, resource management, and technical requirements. Provides technical data, expert advice, or recommendations to senior leadership, may serve as an expert witness in hearings, or respond to Congressional inquiries. Works with State, local and/or tribal land managers to ensure water resources management practices are consistent with Clean Water Act, Safe Drinking Water Act, Federal Land Management Policy Act, and the National Environmental Policy Act, state laws, and various regional, State, Federal, and local policies and procedural guidance and with Interior Board of Land Appeal decisions. Develops and implements landscape-level projects to restore watersheds, improve water quality, protect federal water rights, and protect Wild & Scenic Rivers. When Federal water rights are threatened, the scientist provides leadership and expertise to staff in filing protests or taking other

administrative or legal actions to protect the rights. Often assists the office of the Solicitor or other high-level bureau/agency officials with questions regarding compliance and/or water rights issues.

Prepares investigative project proposals and develops work plans and protocols which include consideration of state of the art experimental and theoretical analyses, changing regulatory or mission needs, evaluation of all available data from various sources, and the development of new procedures and methods of investigation to meet novel requirements. Independently conducts interpretive studies and leads large scale hydrologic projects. Performs complex analyses and evaluations and formulates scientific findings. Discusses agreements, study methods, approach, techniques, and desired results with management and representatives of cooperative agencies to implement hydrologic studies. Reconciles differences in approach or scope of study objectives in order to develop a comprehensive and scientifically sound report that can be used for broad ranging or controversial water resource management or water rights decision-making. Serves as technical expert on water resource problems of mutual concern.

Plans, organizes, directs, and evaluates regional watershed-management programs. Implements both scientific and administrative controls over these programs. Studies new or modified legislative or regulatory requirements formulates approaches for managing the watershed areas in the region. Develops and advises on new criteria, practices, and techniques for inventorying and analyzing water resources conditions, monitoring and maintaining water quality, and restoring watershed areas. Works closely with representatives from Federal, state, and municipal organizations and private industries to develop long-range land and water resource management programs that have minimal effect on the watershed areas within the region.

Serves as consultant and advisor to bureau management and other scientists on matters pertaining to specialized knowledge. Participates in national meetings, cooperates with other bureau and Department offices, colleges, universities, industrial organizations, other Federal and State agencies, private consultants, and professional societies to obtain and exchange information.

Serves as principal contact with cooperating agencies and/or stakeholders in the identification, design, planning, and conduct of water-resources investigations. Leads periodic meetings with cooperating officials to discuss program potential, development, progress, and technical accomplishments. This includes reconciling differences of opinion by persuasion or modification of project objectives, scope, approach, results, and conclusions of water-resource investigations.

#### **OTHER DUTIES (Non-grade controlling, non-series controlling)**

Oversees, plans and performs a wide range of data collection assignments. Conducts investigations that require application of a high degree of experienced professional judgment as well as advanced analytical methods. Results of such investigations serve as authoritative references for water managers and often are the basis for water-resources decisions having significant impact on life, property, regional economics, and the environment.

Analyzes, prepares, develops and publishes river volume and flood forecasts for river basins under a variety of hydrologic conditions. Analyzes goodness of fit for applicable models to ensure ideal model performance under various circumstances.

Disseminates river volume and/or flood forecasts to Federal, state, or municipal water resource or emergency management organizations, hydropower and agricultural industries, and the general public. Defends organization's recommendations before scientific and/or regulatory bodies.

Performs complex tests to determine the chemical and/or biological components of water samples from a broad range of sources. Modifies methods to improve detection of contaminants. Serves as technical expert in complex hydrological and geochemical analysis of samples. Trains other senior scientists in new methods and procedures.

Writes and publishes reports of findings as internal or external reports, recommendations to resource managers, or scientific journal publications. Publications are of considerable interest to the scientific community, stakeholders, resource managers, or cooperating agencies.

Develops, modifies, and utilizes complex interrelated databases and applications to maintain hydrologic data for conducting operational support and planning analyses.

Trains personnel in areas of expertise including advanced techniques of data collection and analysis.

Represents the office at meetings and prepares replies to a variety of requests for information.

## **FACTOR STATEMENTS**

### **FACTOR 1 - KNOWLEDGE REQUIRED BY THE POSITION                      Level 1-8, 1550 points**

Mastery of and skill in applying hydrologic sciences, methods and techniques and water management practices and procedures as well as expertise in varied hydrologic study techniques sufficient to analyze and interpret complex hydrologic data and information from multivariant hydrologic systems, to evaluate state-of-the art water resource management alternatives, and to prepare data and interpretive findings in support of study conclusions for publication of resource management and/or scientific reports.

Knowledge of applicable Federal statutes, State, local and municipal laws, when applicable, agency and bureau regulations, policies, and procedures, governing individual programs related to ground and surface water, water quality, and water availability on broad and complex systems. Skill in resolving complex problems involving multi-use resource management and apply regulatory requirement to resource management reviews and/or cooperator agreements where scope of recommendations impacts a multi-watershed, multi-use or controversial project.

Knowledge of related fields such as hydraulics, engineering, geology, geochemistry, biology, and soil sciences sufficient to evaluate effectiveness of proposals for inter-disciplinary water management problems, plans, and activities.

Leadership and consultation skills to lead teams of scientists and technicians in completing projects, managing program segments, and to provide guidance to resources managers and stakeholders.

Knowledge of administrative procedures sufficient to develop work plans and budgetary requirements for the personnel, equipment, and material necessary to implement project plans.

Knowledge of publication requirements and fundamental science practices applied to preparation of reports which clearly present scientific findings, interpretations, conclusions, and recommendations.

Skill in communicating scientific data orally and in writing to both technical and non-technical personnel to a broad variety of audiences, even when those audiences may have varying interests.

### **FACTOR 2 – SUPERVISORY CONTROL    Level 2-4, 450 points**

The supervisor sets the overall objectives and program. The scientist is responsible for determining projects and activities necessary to meet objectives and for independently planning own work,

coordinating this work with other hydrologists, engineers, or resource specialists, resolving technical problems, deciding on the necessity for and kind of technical compromise required by resource constraints, and finalizing all assignments.

The scientist keeps the supervisor informed of possible adverse reactions, publicity, or cooperator interest that might arise from study findings or conclusions. Analysis, recommendations, and conclusions are accepted as authoritative and are accepted by others that of a technical expert.

Completed work is reviewed for adherence to overall program policies and attainment of study objectives and deadlines, and for feasibility of overall recommendations.

**FACTOR 3 - GUIDELINES**

**Level 3-4, 450 points**

Guidelines include policy, procedural, and technical manuals and handbooks, standard professional practices, published research results and related scientific reports, annual work plans, and overall bureau strategic goals. Guidelines specific to assignments are often scarce, not applicable, or have gaps in specificity that require considerable interpretation and/or adaptation for application to issues and problems.

The scientist uses resourcefulness and experienced judgment in devising new study techniques, developing methods, or significantly departing from established study practices, as required by unique local hydrologic conditions as well as the broad range of water-use practices, and water-quality issues. This responsibility requires substantial deviation and departure from precedent study techniques that result in more effective methods. Such methods may be used as prototypes, for application by other scientists and water managers in the area and elsewhere. Scientist often serves as a technical reviewer of proposed legislation and regulations for impacts on bureau projects and programs.

**FACTOR 4 - COMPLEXITY**

**Level 4-5, 325 points**

Assignments involve the application of complex processes and development or modification of new techniques, methods, and procedures to unique problems and obscure conditions. The work is complicated by interrelated factors which must be considered simultaneously, such as: (1) multi-disciplinary aspects of a study; (2) the varied nature of water velocities, water flow direction, storage capacity, flow boundaries recharge characteristics, and water chemistry; (3) complex aspects of model calibration when used as a predictive study tool; (4) varied surface and subsurface geology; (5) varied land use conditions such as spatial and temporal variation in urbanization and non-uniform water supply development practices. Work is often further complicated by existence of serious conflict in scientific, resources management, or policy requirements.

The work requires the scientist to isolate specific variables to be considered in the study or management plan in order to describe conditions impinging on the storage, movement, and use of ground and surface water within highly complex surficial and subsurface geologic environments, to evaluate natural and man-induced water quality conditions in hydrologic systems; to propose appropriate changes to resources management activities; and to draw scientifically correct conclusions from the evaluation of collected data. The scientist be able to evaluate the application of new technologies, strategies, and trends as well as advocating for recommendations, strategies, and actions to reconcile or resolve novel, conflicting, or controversial issues or policies.

**FACTOR 5 - SCOPE AND EFFECT**

**Level 5-4, 225 points**

The scope of the scientist's work includes planning, executing, and reporting on original studies and investigations or ongoing studies that require a fresh approach to resolve extremely complex or novel

problems pertaining to the field of ground- and surface-water hydrology and water quality and its application in a geographic area. The work requires a thorough professional knowledge of hydrologic processes and the effects of natural or human-induced stresses on the environment.

Reports summarizing results of investigations into water resource problems serve as definitive documents on the subject, and decisions based on these reports significantly affect life, property, regional economics, the environment and/or the continued existence of specific resources.

**FACTOR 6 - PERSONAL CONTACTS**

**Level 6-3, 60 points**

Establishes and maintains contact with a technical staff of cooperators; scientists and community planners in other Federal, state, or local agencies; as well as hydrologists and support personnel in the immediate organization. Contacts are also made with consultant hydrologists and engineers as well as landowners, the general public, universities, industry, and contract personnel.

**FACTOR 7 - PURPOSE OF CONTACTS**

**Level 7-3, 120 points**

Contacts are for the purpose coordinating work efforts with co-workers; and to provide advice and recommendations to resource managers and cooperators. The scientist works with resource managers and cooperators who may need to be convinced to accept recommendations and who may be skeptical or unwilling to make needed changes.

**FACTOR 8 – PHYSICAL DEMANDS**

**Level 8-1 5 pts or Level 8-2 20 pts**

(Level 8-1) The work is typically performed in an office setting with no special physical demands. However, work may also be performed in the field which involves periods of walking, bending, climbing, or driving motor vehicles to worksites. The work may also involve some overnight travel for training, meetings, and site visits.

(Level 8-2) The work regularly combines both office and field assignments. Field work requires physical exertion, such as long periods of standing, or recurring and considerable walking, stooping, bending, crouching, crawling, and climbing such as in regular and periodic construction activities and field inspections. Work may also include frequent lifting of moderately heavy items weighing less than 50 pounds. Field assignments may also involve operating small watercraft, driving motor vehicles to work sites, some of which may be remote, and include overnight stays in remote locations.

**FACTOR 9 – WORK ENVIRONMENT**

**Level 9-1 5 pts or Level 9-2 20 pts**

(Level 9-1) The work is usually performed in an office setting. However, work time may also be spent periodically visiting field sites. Field site visits are typically performed in either an outdoor setting subject to weather changes, diverse terrain, and safety hazards associated with working around complex features and/or construction, or an industrial setting subject to noise, fumes, and moving machinery. Both settings may require the use of personal protective equipment. Safety precautions and protocols are observed at all times and the scientist complies with safety instructions and regulations and ensures individual and others' safety by promptly reporting unsafe acts, unsafe conditions, and accidents to the supervisor.

(Level 9-2) The work involves regular and recurring exposure to moderate risks, discomforts, and unpleasantness such as: high noise levels, infectious materials, or toxic or irritating chemicals; travel in safety approved small aircraft and water craft; high winds and low or high temperatures; infestation of dangerous reptiles or poisonous plants, snakes, or insects; adverse weather conditions; noxious fumes; flammable liquids; or radiation. The work involves performing tasks in close proximity to rotating heavy mechanical and electrical machinery and may involve working within confined spaces for extensive

periods of time. Special safety precautions such as protective clothing and gear are necessary. Safety precautions and protocols are observed at all times and the scientist complies with safety instructions and regulations and ensures individual and others' safety by promptly reporting unsafe acts, unsafe conditions, and accidents to the supervisor.

**OTHER SIGNIFICANT FACTS**

Position may be required to operate a motor vehicle as an incidental driver. Employees who operate a motor vehicle on public roadways require a valid drivers' license.

Position may be required to operate or be a passenger in small watercraft. Employees who operate a small watercraft are required to possess safety certification or pass an appropriate safety training course commensurate with watercraft used in the performance of duties.

Positions involving arduous field work may require a pre-employment medical examination.

**TOTAL POINTS – 3190 to 3220**

**GRADE CONVERSION – 3155-3600 = GS-13**

## EVALUATION STATEMENT

### STANDARD APPLIED

Job Family Standard (JFS) for Professional Work in the Physical Science Group, GS-1300 December 1997; Introduction to the Position Classification Standards, revised 8/09

### SERIES AND TITLE DETERMINATION

The JFS defines the 1315 series as positions that involve professional work in hydrology, the science concerned with the study of water in the hydrologic cycle. The work includes basic and applied research on water and water resources; the collection, measurement, analysis, and interpretation of information on water resources; the forecast of water supply and water flows; and the development of new, improved or more economical methods, techniques, and instruments.

The basic title for this occupation is Hydrologist.

### GRADE LEVEL DETERMINATION

The 1300 JFS is a narrative standard. When applying narrative standards each position is placed at the grade with the descriptive material that best represents the overall work of the position. The standard describes the GS-12 as typically involve planning, executing, and reporting on original studies or ongoing studies requiring a fresh approach to resolve new problems. The complexity of assignments requires extensive modification and adaptation of standard procedures, methods, and techniques or development of totally new methods and techniques to address problems for which guidelines or precedents are not substantially applicable. Hydrologists at the GS-12 make significant technical and scientific recommendations and decisions. They exercise considerable initiative and resourcefulness in carrying out these assignments to completion. Plans projects and makes changes without securing prior technical approval. Represents the agency before public bodies. Work of this position exceeds the GS-12 level.

Like work at the GS-13 level, work of the position is of unusual difficulty and responsibility requiring extended professional, scientific, or technical training and experience which has demonstrated leadership and marked attainments in professional, scientific, or technical research. At the GS-13 level, scientist represent an authoritative source of consultation for other scientists and program specialists and are called upon to perform a key role in resolving issues that significantly affect scientific programs. Some positions include staff work with responsibility for reviewing and coordinating field work in a narrow program area or reviewing and developing legislative or regulatory proposals. Other positions may involve planning, organizing, and leading teams to prepare requirements and specifications for new, large scale systems or to evaluate overall plans and proposals for significant systems. Typical work at the GS-13 includes describing hydrologic system and the related environmental framework of the basin, determining the quantity, distribution, availability, and quality of the water resources; and relating water resources to water needs. Hydrologist at this level develop long-range hydrologic plans, programs, and/or precedents of an authoritative and state-of-the-science nature.

Work of the position does not meet the GS-14 level, which is typified by delegated authority to plan and execute a specialized program, perform high-level consulting, or assume leadership over a special technical or administrative line of work where the scientist has demonstrated leadership through unusual attainments. The level differs significantly from the GS-13 level in that the GS-14 scientist is one that other recognized senior technical experts turn to for advice and counsel, not only because of the position,



but because of the incumbent's personal reputation in the field. At this level, the work typically has special significance for the success of the organization, e.g., it may have significant direct effects over a wide region or over multiple programs or may include responsibility for a new technology especially critical to the organization's programs. Illustrations in the JFS include serving as a project chief for a multi-disciplinary nationwide monitoring project where the scientist coordinates the schedules and objectives with hydrologists, chemists, geologists, and other support scientists involved in the study. Reviews the reports from each discipline area to ensure project objectives are met, sound quality assurance practices are applied, and methodology and results are accurate and consistent. Supervisor provides very general administrative and policy direction. Guidance is restricted to matters of broad policy, overall program objective, priorities, budget limitations, and broadly defined technical objectives. Decisions, commitments, and conclusions reached have considerable influence on the development of the program and establishment of standards and guides. The scope of influence of this position is not so broad as imagined at the GS-14 level.

As the work fully meets, but does not exceed, descriptions at the GS-13 level in the JFS, the position is properly classified as Hydrologist, GS-13.