

**Discussion of Human Resources Issues Regarding GIS Professionals in California State Service
California State GIS User Group Meeting, January 28, 2014, CalEPA Building, Sacramento**

Summary of Issues and Suggestions for Consideration by the California GIS Leadership Council

*Summarized by Jane Schafer-Kramer, Research Analyst II (GIS), Department of Water Resources
Note: The author has not performed independent verification of all issues presented here. This is a collection of notes from the discussion that took place on January 28 with the addition of some comments received between January 28 and April 10, 2014.*

Issues

The classification series for the hiring of Geographic Information Systems (GIS) professionals in State service was established in 1990 and has not been updated since. Back then, the decision was made to create a GIS parenthetical to parallel the Research Analyst and Research Program Specialist series that were established for the social sciences: Economics, Demographics, Social/Behavioral, etc.

These classifications are:

- Research Analyst I (GIS)
- Research Analyst II (GIS)
- Research Program Specialist I (GIS)
- Research Program Specialist II (GIS)
- Research Program Specialist III (GIS)

There is also a GIS parenthetical for the Research Manager Series:

- Research Manager I (GIS)
- Research Manager II (GIS)
- Research Manager III (GIS)

We have limited access to data on how many positions in these classifications actually exist in California State service. This information for years 2011 and 2012 was found on the <http://transparentcalifornia.com/> website:

2011

Classification	Number of positions
Research Analyst I (GIS)	29
Research Analyst II (GIS)	58
Research Program Specialist I (GIS)	27
Research Program Specialist II (GIS)	25
Research Program Specialist III (GIS)	4
Research Manager I (GIS)	1
Research Manager II (GIS)	5
Research Manager III (GIS)	0
Total	149

2012

Classification	Number of positions
Research Analyst I (GIS)	29
Research Analyst II (GIS)	58
Research Program Specialist I (GIS)	24
Research Program Specialist II (GIS)	26
Research Program Specialist III (GIS)	4
Research Manager I (GIS)	1
Research Manager II (GIS)	4
Research Manager III (GIS)	0
Total	146

Here are the Current monthly salary ranges for these classifications, according to the State Personnel Board website (<http://jobs.spb.ca.gov>):

Classification	Low per Month Salary	Ceiling per Month Salary	Monthly Salary Range	Ceiling Difference from Previous Position
Research Analyst I (GIS)	\$3,106.00	\$4,810.00	\$1,704.00	
Research Analyst II (GIS)	\$4,619.00	\$5,784.00	\$1,165.00	\$974.00
Research Program Specialist I (GIS)	\$4,833.00	\$6,050.00	\$1,217.00	\$266.00
Research Program Specialist II (GIS)	\$5,309.00	\$6,645.00	\$1,336.00	\$595.00
Research Program Specialist III (GIS)	\$5,831.00	\$7,300.00	\$1,469.00	\$655.00
Research Manager I (GIS)	\$5,079.00	\$6,311.00	\$1,232.00	(\$989.00)
Research Manager II (GIS)	\$5,576.00	\$6,929.00	\$1,353.00	\$618.00
Research Manager III (GIS)	\$6,779.00	\$7,698.00	\$919.00	\$769.00

According to the CalHR.ca.gov website, these classes were established in 1990 and have not been revised.

The discussion at the January 28, 2014 meeting of the California State GIS User Group, along with comments subsequently received via email, telephone, and face-to-face conversations, yielded this information:

The Research Program Specialist III positions are very rare, partly due to restriction by California Department of Human Resources (CalHR) rules. Some regional offices will only hire in Research Analyst classifications because their Department’s personnel officers have said that the Research Program Specialist classification is too specialized for a regional office. There is ambiguity in interpreting CalHR rules within the Departments. One GIS manager reports being told by her Department personnel office that a special exemption from CalHR is required to hire an RPS II (GIS) if there are fewer than 15

research staff in the organization. Another GIS manager reports that recently a Department personnel office denied the use of a GIS classification; but that decision was overturned by CalHR. We need a better understanding of the restrictions that are sometimes used to limit the use of GIS classifications, and work to clarify, loosen, or remove those restrictions. The threat and ambiguity of these restrictions is a barrier to the use of the higher classifications.

It is widely understood that the technology of GIS has changed greatly since the original specifications were written in 1990. Modernization of these specifications is needed. The research classes are very small. When the Human Resources Modernization effort was launched by the State in 2008, the RA and RPS (GIS) classes were deemed too small to be considered for modernization.

Examinations and Upward Mobility

There are likely no more than two Research Program Specialist III (GIS) positions currently active, and the number of Research Program Specialist II (GIS) positions is also low.

Examinations for all of the GIS classifications have been held infrequently, and the lists have quickly become obsolete. This situation has made it very difficult for hiring Departments to hire the best candidates. This is being dealt with in part by using Information Technology (IT) classifications that have open, continuous examinations, but this is not always the most suitable solution.

The recent effort to establish exams on an open, continuous, online, statewide basis for the RA/RPS (GIS) is a welcome development and will help to improve the quality of the candidate pool. The statewide examination effort does not include Research Manager (GIS), and those may best be handled by the hiring Department. In some Departments there is little consideration given to hiring actual GIS professionals for GIS management positions, even though the Research Manager (GIS) classifications are the most suitable ones we currently have in State Civil Service.

The rarity of the higher level GIS positions limits the upward mobility of State GIS professionals, many of whom are already at the highest pay range in the RA II (GIS) classification. Some of these “topped out” GIS professionals may be able to qualify for IT classifications such as Systems Software Specialist or Data Processing Manager, but others do not fit well into those classes.

On the other end of the classification spectrum, there is no GIS Technician classification; the entry-level class for GIS professionals is the Analyst series which requires a four-year college degree. The State cannot tap into the pool of graduates from the two-year programs in our Community Colleges. Occasionally a hiring manager will find a creative way to use the lateral transfer process to move a candidate who lacks a four-year degree from a Technician classification (such as Management Service Technician or Junior Engineering Technician) to the Research Analyst I (GIS) position, but those instances are rare and subject to intense scrutiny by personnel officers. Many of us have observed basic beginner-level GIS tasks being regularly performed by Engineers, Surveyors, and Scientists. These tasks could be performed more cost-effectively by a Technician, *if* the GIS Technician classification existed.

The Air Resources Board has created its own unique class of Air Pollution Specialists, and the GIS professionals in that organization are in this classification series, which offers higher pay than the RA/RPS series, and is in a different Bargaining Unit. This may be perceived as a disparity.

Air Resources Board Classification	Low per Month Salary	Ceiling per Month Salary
Air Pollution Specialist (Ranges A through C)	\$4,810.00	\$7,899.00
Staff Air Pollution Specialist	\$7,472.00	\$9,082.00
Air Pollution Research Specialist	\$7,472.00	\$9,082.00

Some Departments do not use the GIS classifications for a significant portion of their GIS work. This work is performed by Engineers, Environmental Scientists, Engineering Geologists, Surveyors, Graphic Designers, and others. While it is understood that GIS is a tool that can be used by many, and that not all GIS work requires a GIS professional to do it, this situation can have the effect of under-estimating the use and importance of GIS and diminishing the role of GIS professionals in carrying out the mission of the Department. Such Departments are losing out on the expertise that the best and brightest of the GIS universe have to offer.

GIS and IT

GIS encompasses many disciplines including GIS data analysis, GIS data creation and management, cartography and data visualization, project management and information technology skills including programming, GIS server support and GIS database administration. Much of the IT component of GIS today did not exist when the research classes were written, and thus is not included in the job specifications. (See Appendix for links to websites with the specifications.)

Here are some IT positions that are being used in various State Departments for some positions where the work heavily involves GIS:

Classification	Low per Month Salary	Ceiling per Month Salary
Programmer Analyst Series	\$4,619.00	\$7,465.00
Systems Software Specialist II	\$5,561.00	\$7,310.00
Systems Software Specialist III	\$6,110.00	\$8,030.00
Data Processing Manager II	\$5,849.00	\$7,688.00
Data Processing Manager III	\$7,118.00	\$8,486.00
Data Processing Manager IV	\$7,823.00	\$9,331.00

While this discussion has been focused on California State Government classifications, the draft of this document was circulated on a listserv that includes GIS professionals from outside State service. Several of those non-State commenters noted that there is no linkage of the State GIS job specifications to the U.S. Department of Labor Geospatial Competency Model. This model, which may be found at <https://www.careeronestop.org/competencymodel/competency-models/geospatial-technology.aspx>, is being widely used throughout the public and private sectors as a guide to developing geospatial technology position descriptions. This model was introduced in 2010. As was previously noted, the State job specifications have not been updated since they were created in 1990.

Suggestions

The State can best perform its business when it can closely match the qualifications of job candidates with the specified needs of the job. To that end, the State needs to modernize its GIS classifications. It is

also to the State's benefit to have a workforce that is actively engaged in continuing education and stays abreast of changes in technology. Career advancement opportunities within State service are an effective incentive for motivating the workforce. Here are some ideas that could help to modernize and open up those opportunities:

Deepen the existing Research Analyst (GIS) series. Add ranges to the RA II (GIS) class or create a Research Analyst III (GIS). The upper range or level could include specific educational and/or professional certification requirements. Nationally-recognized professional certification is available through the GIS Certification Institute (<http://www.gisci.org/>) and the American Society for Photogrammetry and Remote Sensing (<http://www.asprs.org/Certification-Program.html>.)

Alternatively, a pay-differential for professional certification could be added to existing classifications. To quote from the website of the GIS Certification Institute, this professional certification "offers participants, from the first early years on the job, until retirement, a positive method of developing value for professionals and employers in the GIS profession."

Work with CalHR to make the rules more flexible as to allow broader use of the Research Program Specialist II and III (GIS) positions.

Explore the creation of a GIS supplemental examination and certification process that could be used by hiring departments as an additional requirement for certain positions with non-GIS classifications (such as Engineer, Scientist, and IT.)

Educate the upper management of State Agencies and Departments on the existence of the higher-level GIS classifications and the potential benefits of actually using these classifications.

Create classes for GIS practitioners with Junior, Assistant, Associate, and Senior levels, or Technician, Analyst, Specialist, and Manager levels, separated from the constraints of the Research "parenthetics."

Include the U.S. Department of Labor Geospatial Competency Model in any modernization of the State GIS classifications. An example of this implementation in job specifications is Los Angeles County Government GIS: <http://egis3.lacounty.gov/eGIS/wp-content/uploads/2012/08/LA-County-Geographic-Information-Systems-GIS-Series-Classifications-and-Specifications.pdf>

#

Contact information for the author: Jane.Schafer-Kramer@water.ca.gov

Contact information for the California State GIS User Group: Christina.Boggs@water.ca.gov

APPENDIX

Useful California Department of Human Resources Website Links

Research Analyst (Various Classes) Consolidation Series, State Personnel Board Specification

<http://www.calhr.ca.gov/state-hr-professionals/pages/5729.aspx>

Research Program Specialist (Various Classes) Consolidation Series, State Personnel Board Specification

<http://www.calhr.ca.gov/state-hr-professionals/pages/7418.aspx>

Research Manager (Various Classes) Series, State Personnel Board Specification

<http://www.calhr.ca.gov/state-hr-professionals/pages/5734.aspx>

Research Analyst I (GIS) Essential Task Rating Results

<http://www.calhr.ca.gov/Documents/tvc-research-analyst-1-gis-tasks.pdf>

Research Analyst II (GIS) Essential Task Rating Results

<http://www.calhr.ca.gov/Documents/tvc-research-analyst-2-gis-tasks.pdf>

Systems Software Specialist Series, State Personnel Board Specification

<http://www.calhr.ca.gov/state-hr-professionals/pages/1585.aspx>

Data Processing Manager Series, State Personnel Board Specification

<http://www.calhr.ca.gov/state-hr-professionals/pages/1381.aspx>

Programmer Analyst Series, State Personnel Board Specification

<http://www.calhr.ca.gov/state-hr-professionals/pages/1579.aspx>

State of California Civil Service Pay Scale – by Class Title

https://www.calhr.ca.gov/Pay%20Scales%20Library/PS_Sec_15.pdf

Other Potentially Useful Website Links

United States Department of Labor Geospatial Competency Model

<https://www.careeronestop.org/competencymodel/competency-models/geospatial-technology.aspx>

Los Angeles County GIS Job Specifications and Salary Information, updated to the US Department of Labor Geospatial Competency Model in 2012

<http://egis3.lacounty.gov/eGIS/2012/08/02/los-angeles-county-releases-gis-classifications-and-specifications-job-descriptions/>

Los Angeles County GIS Job Specifications in one pdf document:

<http://egis3.lacounty.gov/eGIS/wp-content/uploads/2012/08/LA-County-Geographic-Information-Systems-GIS-Series-Classifications-and-Specifications.pdf>

GIS Certification Institute

<http://www.gisci.org/>