Navigating the GISP Certification

Terminology

- **Certification**: a voluntary evaluation and acknowledgment of skills in a profession. Designed to recognize expertise.

- **Licensure**: a legal regulation, requiring competency in a practice. Designed to guard against incompetence.

- **Certificate**: An award given to an individual recognizing completion of an academic or training program.

Certification

- Vendor/Software Based
  - Esri
  - Microsoft
  - Autodesk
  - QGIS (underdevelopment)
- Professional Based
  - GISCI
  - ASPRS
  - IAAO
- License from State

Professional Based

- Requirements
  - Usually have a minimum time requirement
  - Theory and Overall knowledge base
  - Can include Exam in addition to other requirements
  - Normally includes code of ethics and rules of behavior
  - Requires Continuing Education to maintain
- Benefits
  - Shows high level of overall knowledge and experience
  - Shows dedication to profession
  - Establishes you as a leader in your field

Why Certification?

- Advance GIS as a Profession
- Support employment & business needs
- Ensure core competency of ethics, experience, education & contributions

Why would you want Certification?

- Professional recognition by from other GIS Pros and other Professionals
- During period of Oct to Nov 2014 over 100 jobs preferred GISP and that keeps growing
- Greater earning potential
  - 41.2% with GISP make over $70,000 per year compared to 20.9% without GISP
  - Average Salary for GISP – $68,954
  - Average Salary without GISP – $56,062
- Personal Professional & Technical Development

GIS Certification Survey

- When hiring new GIS staff, does your organization consider having a GIS related certification as a plus over those that don't?

	2017 Prelim	2016	2015	2014
Yes	44.5%	44%	31%	30%
No	32.3%	31%	38%	38%
Not Sure	23.2%	24%	31%	32%

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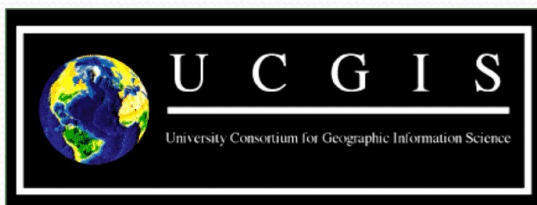
What is GISP?

- GIS Certified Professional
  - Managed by GIS Certification Institute
    - www.gisci.org
  - First GISPs certified in 2003
    - URISA lead in developing
    - Georgia was used as Pilot
  - GISCI was formed in 2004
  - Exam & portfolio based
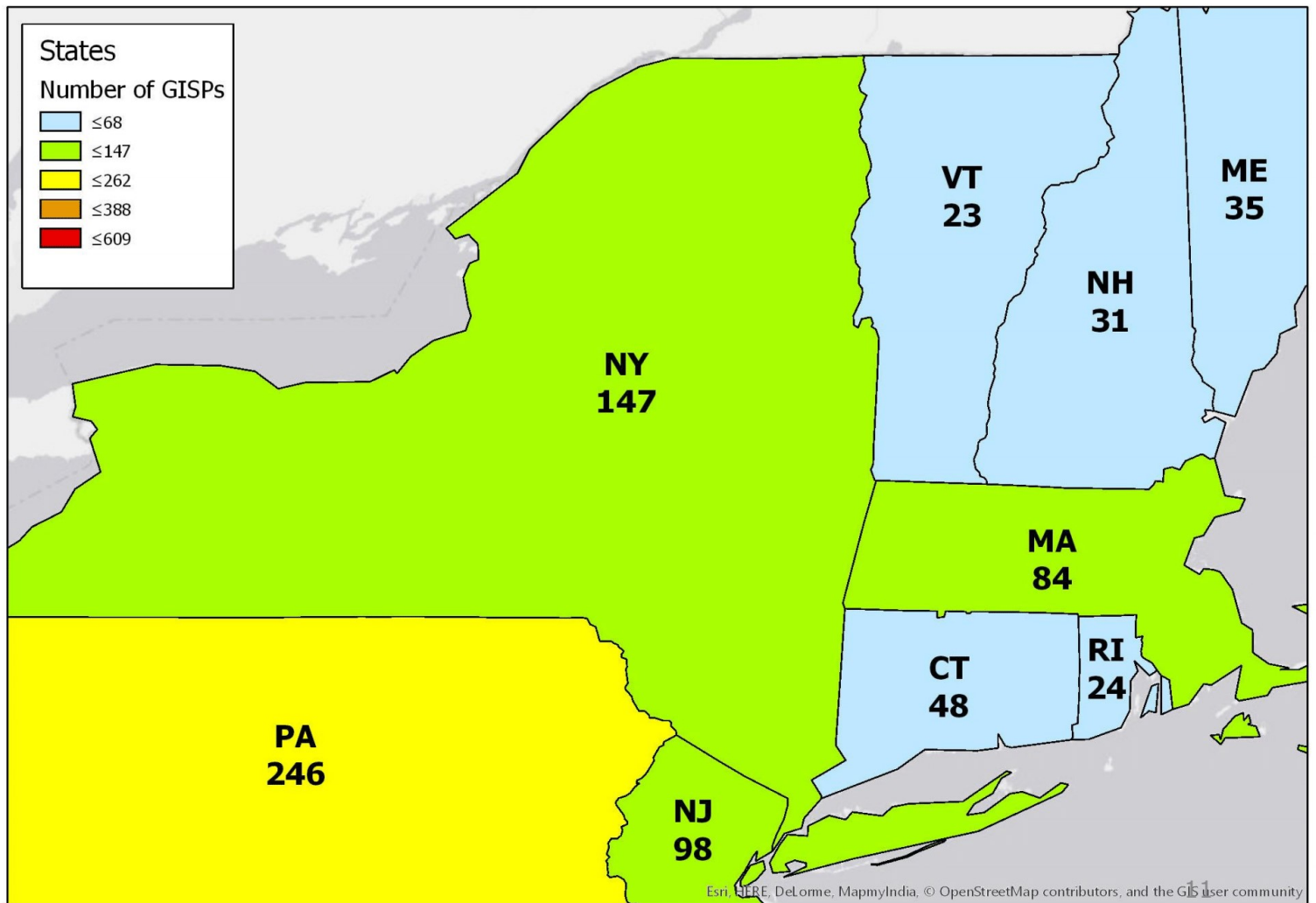
Current Member Organizations

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7,094 Active GISPs
as of June 1, 2017

Number of GISPs as of June 1, 2017

States

Number of GISPs

- ≤68
- ≤147
- ≤262
- ≤388
- ≤609

VT
23

ME
35

NH
31

NY
147

MA
84

RI
24

CT
48

PA
246

NJ
98

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community
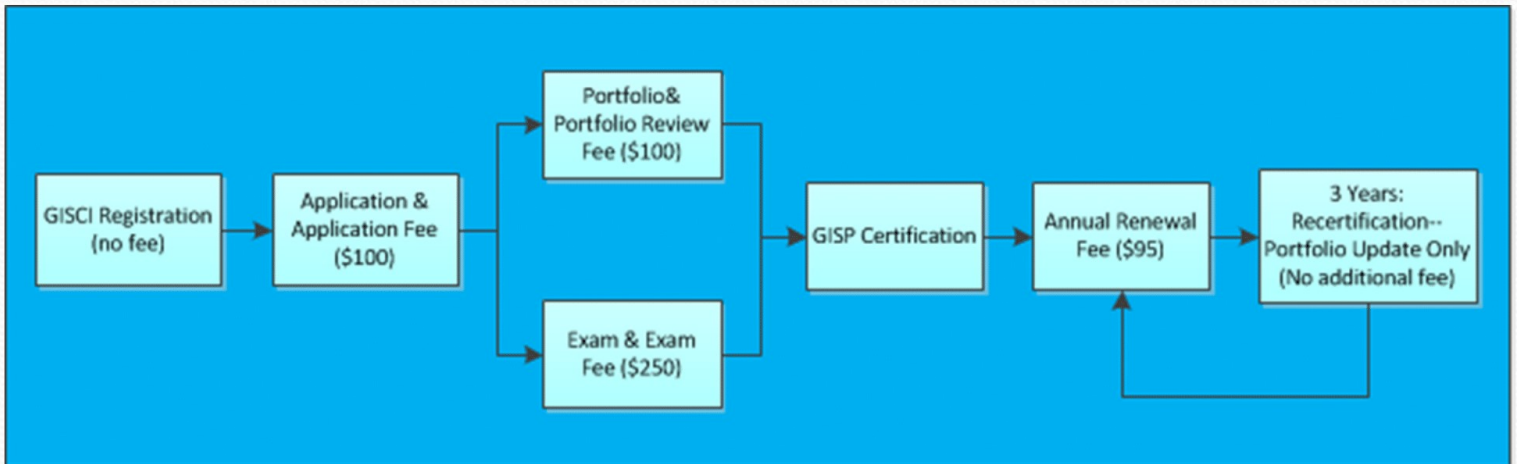
How do I get my GISP???

GISP Certification Process

- 6 Years to complete entire process
- Complete in any order
- Certified for 3 years

Current Requirements for GISP

- 4 years of full time equivalent (FTE) experience
- Complete GISP Portfolio Application
  - 150 Points in three areas
    - Education
    - Experience
    - Professional Contributions
- Code of Ethics and Rules of Conduct
- Pass exam
  - Required for all applications after July 1, 2015

The Exam

The Exam

General Info

- Computer based exam
- 150 to 200 Questions
  - Multiple Choice
  - Multiple Answer
  - True/False
- 3 to 4 Hours to complete
- Not software specific

Fall 2017 Exam

- Dec 2–9
- Computer based
- 192 Questions
  - Only 100 are scored
  - You don't know which ones
  - Multiple Choice & Multiple Answer
- 4 Hours to complete

GISCI Geospatial Core Technical Knowledge Exam® Blueprint

Knowledge Area	Weight
Conceptual Foundations	12%
Cartography and Visualization	14%
GIS Design Aspects and Data Modeling	29%
GIS Analytical Methods	17%
Data Manipulation	15%
Geospatial Data	13%

Taking the exam

- Offered at PSI testing facilities
  - World wide coverage
- Specific scheduled dates
  - Twice a year
- Working toward immediate pass/fail notification
  - Rumor has it the first exam had a 60% pass rate

Possible Sample Question

- Which of the following spheroids is now considered the best model of the earth for North America?
    - A. Clark 1866
    - B. WGS 84
    - C. Bessel 1841
    - D. GRS 80
    - E. None of the above

Possible Sample Question

- An ellipse or an ellipsoid of rotation can be described using which of the following?
  - Foci Locations
  - Semi-minor axis and semi-major axis
  - Angular rotation
  - Grid locations
  - Diameter

Possible Sample Question

- Which of the following are GNSS Constellations? (Select all the apply)
  - A. GPS
  - B. Omega
  - C. Glonass
  - D. Beidou
  - E. Polaris

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Possible Sample Questions

- You get a data from an outside source. You check the projection and it indicates it is the same as your existing GIS data. However, when you add it to one of your existing maps, the layer comes in far to the west. The scale of the data seems to match your existing data though. What might cause this new data to appear to display in the wrong location?

    A. The display units for your map are not the same as the new data

    B. The projection for the new data was incorrectly assigned

    C. The data may be in the same coordinates as your existing data but is in different units

    D. None of the above

General Tips for Studying

- Review the Certification Criteria
  - Verify Exam Knowledge Areas
  - Check against your knowledge & experience
    - http://www.geotechcenter.org/professional.html
- Look at recommended study aids
  - Get & read listed books
  - View any recommended online sources
- Try to seek out other that have taken the exam
- Try to find practice exams
  - https://www.gisci.org/ExamInfo/ExamCandidateInformation/ExamPreparationInfo.aspx

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Know the Lingo

- Study the Lingo
  - Remember how you use a term may not be its true meaning
  - Different vendors may use the same term in different contexts
  - Use flash cards or other fun methods to remember the terms and their meaning

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Before the Exam

- Don't over cram
- Get a good nights sleep
- Try to schedule exam time during your favorite part of the day

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During the Exam

- Use your time. No extra points for finishing early
- Plan on at least 3 passed through exam
  - 1st – Review and answer all you know for sure
  - 2nd – Return to those you narrowed the answer to 2 or 3 choices
  - 3rd – Review all those you have know clue and see if other questions may have provided an answer or stirred a memory. If all else fails guess.

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During the Exam

- Read each question carefully
  - Watch out for trick words
    - Most
    - Least
    - Best
    - Minimal
    - Maximum
  - Sort out the important from the non-important
- If you don't know the right answer at least try to determine the wrong answers

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The Portfolio

The Portfolio Application

- Can be done entirely online

To create your GISCI Login

The Online Application

Minimum Category Points

Educational Achievement	30 points
Professional Experience	60 points
Contributions to the Profession	8 points
Additional Points (Flexible):	52 points
Total =	**150 points**

Benchmark

- **EDUCATION** – Bachelor's degree with some GIS courses (or equivalent)

- **EXPERIENCE** – Four years in GIS application or data development (or equivalent)

- **CONTRIBUTIONS** – Annual membership and modest participation in a GIS professional association (or equivalent)

Helpful Tips Before you Begin

- There is no benefit to documenting a high point total.

- It is unnecessary to count minor achievements *unless the point values are needed to meet the minimum.*

- *Do recommend exceeding minimums by at least 50% if possible*

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Education Points

- Degree or Certificate
  - 25 Pts Masters or PhD
  - 20 Pts Bachelors
  - 10 Pts Associates
  - 5 Pts Certificate (400 or more hours)
- Accredited Coursework– GIS Related Classes taken to get Degree
  - (Credit Hours x No. Weeks x 3)/40
  - Must be manually calculated for online application
- Continuing Education classes
  - Hours in class/40
- Professional Conferences
  - .1 Pt per day of conference attended

Course Point Examples

Examples:

- 8-hour GIS Workshop:
  - 8 hours / 40 (set value) = 0.2 EDU points

- 15-week, 3-credit College Course:
  - 3 credits x 15 weeks x 3 (set value) = 135 hours
    - 135 hours / 40 (set value) = 3.38 EDU points
- 3 Day Esri Class:
  - 8 hours x 3 Days = 24 SAH
    - 24 SAH/40 (set value) = .6 EDU Points
- **NEURISA Day - 1 Day Conf = .1 EDU point**

Experience Points – Three Tiers

- **Tier I: Analyst, System Design, Programming – 25 Pts per year** Typical tasks include database design or management, documentation or analysis of functional requirements, application design and evaluation, implementation management, and system administration.
- **Tier II: Data Compilation, Data Maintenance, Teaching – 15 Pts per year:** Typical tasks include editing data, map composition, report generation, database maintenance, data validation, instructional training, and teaching.
- **Tier III: GIS User – 10 Pts per year:** Typical tasks include utilization of applications involving geospatial technologies. Candidates may be involved in managing or coordinating GIS, but not involved in the technical implementation of GIS.

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Experience – Tier 1

Tier I: GIS Analysis, System Design, Data Development, Programming	
Typical tasks include: • Database design or management • Needs Assessment • Application design and development • Data acquisition • Data analysis and interpretation • Data management • Spatial analysis • Tessellation • Vectorization • Aggregation • Visualization and reporting • Database and systems administration • System implementation • Programming evaluation • Implementation management • Create GIS data Reference "GIS System Analyst/Programmer" and "GIS Analyst,"*Model Job Descriptions for GIS Professionals.*	25 pts

Experience – Tier 2

Tier II: Data Compilation, Data Maintenance, Map Composition, Teaching	
Typical tasks include • Editing data • Querying data • Data modeling • Geocomputation • Geocoding • Map composition • Report generation • Utilization of global positioning systems (GPS) • Utilization of photogrammetric outputs and technology • Remote sensing • Database maintenance • Manage GIS layers • Map evaluation • Transaction management of GIS data • Quality assurance/quality control • Support and installation of GIS • Data validation • Instructional training • Teaching. Reference "GIS Technician" and "GIS Specialist," *Model Job Descriptions for GIS Professionals.*	15 pts

Experience – Tier 3

Tier III: GIS User
Typical tasks include
    • Technical support and troubleshooting
    • Maintain GIS web capabilities
    • Utilization of applications involving geospatial technologies
    • Management and coordination of GIS outside of technical implementation.
Reference "GIS User," *Model Job Descriptions for GIS Professionals.*
	10 pts

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Supervisory Bonus

- **Bonus points** – 10 Pts per year
  - Designed for management level GIS professionals who work less and less with the technology.
  - Must also claim other GIS experience using concepts and software.
  - Cannot claim only the supervisory bonus.
  - For online application must list as separate duplicate employer with this as only experience item.

Experience

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Exp Level	Points Possible	Accepted
Tier 1	20.55	⌑
Tier 2	20.55	⌑
Total	41.10	

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Exp Level	Points Possible	Accepted
Supervisory Bonus	54.80	⌑
Total	54.80	

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Letter from Employer

- Must submit with application for review
- Only needed from current employer

Contributions to the Profession

Documents and activities that add to the professional body of knowledge for the **benefit of the profession** as a whole – not just the employer and client.

Professional Contributions

- 8 Categories
  - Publications
  - Professional Organization Involvement
  - Workshop Instruction
  - Conference Participation
  - Awards
  - GIS Volunteer Efforts
  - Other

GIS Publication Points

- **Book or Atlas Author – 15 pts**
- **Book Chapter Author – 5 pts**
- **Publishes Maps – 3 pts**
- **Magazine Article – 3 pts**
- **Paper in Conference Proceeding – 2 pts**
- **Magazine/Newsletter Editor – 1 pts**

GIS Association Involvement

- **President or Board Chair – 5 pts per year**
- **Board Membership – 4 pts per year**
- **Committee Chairperson – 3 pts per year**
- **Committee Member - 2 pts per year**
- **Association Member – 1 point per year**

GIS Conference/Workshop Involvement

- **Conference Chair – 4 pts**
- **Conference Committee Member – 2 pts**
- **Workshop Instruction – 3 pts**
- **Conference Presentation – 1 pts**
- **Conference Poster Display – 1 pts**

All points are per each conference or workshop involved with.

Other GIS Involvement

- **National Awards – 3 pts**
- **Local or Regional Awards – 2 pts**
- **Volunteer Missions – .5 pts per day deployed**
- **Volunteer Work - .05 pts per hour**
- **Event organizer – 2 pts**
- **Event Participate/Moderator – 1 pt**

Contribution Points

- **Minimum 8 points required**
- **Contribution point claims of 2 points or less need no attached documentation.**

Additional Requirements

- ## Code of Ethics & Rules of Conduct
  - ✓ All accepted candidates must sign the GISCI Code of Ethics.
  - ✓ Sign and submit with the application packet.

Fee Structure

- Certification application fee: $100
- Certification exam fee: $250
- Certification portfolio review fee: $100

Total for certification – $450.00

- Annual Fee – $95

Other Certifications

- AICP (Planners) – $755 to $1,070
  - App fee – $70
  - Exam Fee – $425
  - APA Membership – $260 to $575
- Certified Floodplain Managers (CFM)
  - App & Exam fee – $350 to $450
- PMP
  - Exam Fee – $405 to $555
- Certified Mapping Scientist (GIS/LIS)
  - $275 to $400

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Renewal

- Every 3 years
- 24 Points over 3 years
  - Education – 6 points minimum
  - Professional Contributions – 6 points minimum
  - Experience – no minimum
- No renewal fee
- If not renewed within 6 months of expiration date, will have to go through entire process again.

Accreditation

- Seeking accreditation for GISP
  - National Commission for Certifying Agencies (NCCA)
  - Institute for Credentialing Excellence (ICE)
  - American National Standards Institute (ANSI)
  - International Organization for Standardization (ISO)

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Questions

Tripp Corbin, GISP, MCP, CTT+
tcorbin@egisassociates.com
678-710-9710 ext 0021