GISP: The Road to and Through an Exam

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NYS GIS Association

GISP – An Updated Perspective

Why does any certification exist for any industry?

Any existing certification follows a similar path:

HOW DO WE MOVE FROM THE BIRTH OF AN INDUSTRY TO CERTIFICATION?

Idea → Technology → Industry → Profession → Certification → Continued Industry Growth

One certification leads to another

Managerial Certification

Higher Level Certification

Entry Level Certification

General Certification

Provisional Certification

GISP – An Updated Perspective

Certification

→ GISP Certification History

GISP Current Process

Exam Creation

Future Direction

NORTH CAROLINA ArcGIS USERS GROUP
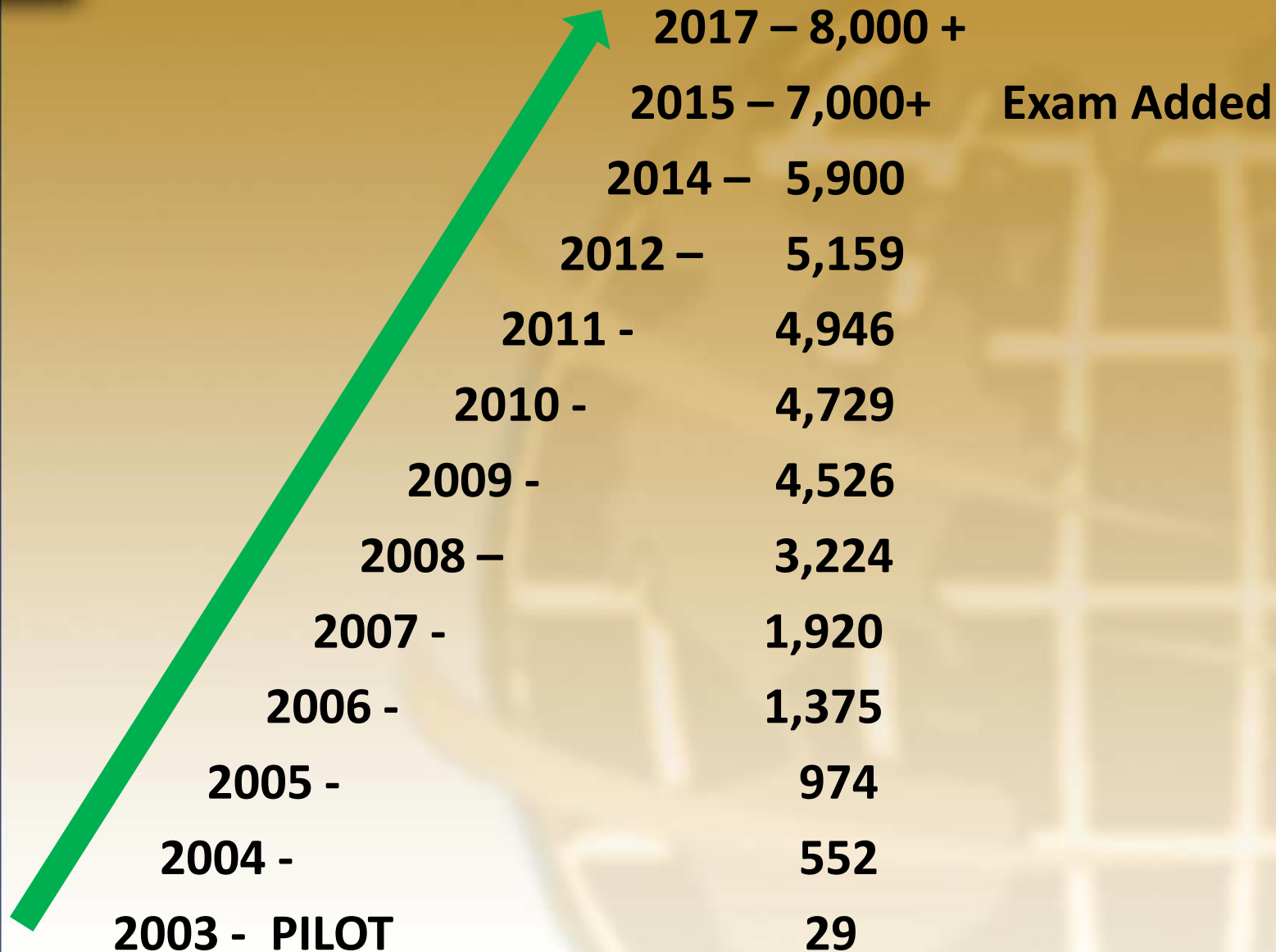
GISP – An Updated Perspective

CERTIFICATION vs LICENSURE

Over 1,600 Certifications Exist

The GISP is our only one!

GIS CERTIFICATION INSTITUTE

ACTIVE GISPs: CERTIFICATION HISTORY

2017 – 8,000 +

2015 – 7,000+   Exam Added

2014 –   5,900

2012 –   5,159

2011 -   4,946

2010 -   4,729

2009 -   4,526

2008 –   3,224

2007 -   1,920

2006 -   1,375

2005 -   974

2004 -   552

2003 - PILOT   29

ACTIVE GISPs: CERTIFICATION HISTORY

2004 - 2017 -   8,000 + Active GISPs

2015 - 2017 - 10,000+ Potential GISPs have registered on

the GISCI site to start/explore the process

2017 & beyond – 20,000 + by 2024 ?

Board Members

One of the strengths of GISCI has been the strong and diversified Board representation over the years!
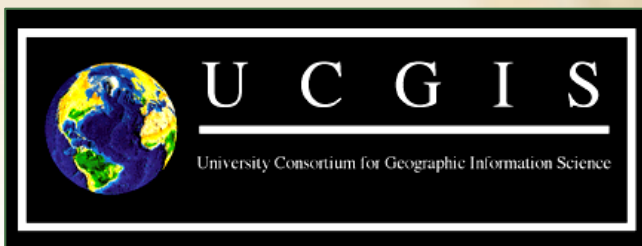
Our current Board makeup reflects that same passion, experience, and service.

GISCI is composed of Member Organizations & Strategic Partners

GIS CERTIFICATION INSTITUTE

Member Organizations

Strategic Partners 2015

GISP Current Process

Initial GISP: Portfolio Requirement + Exam

- Ethics Statement
- 4 Years Min Geospatial Experience
- Portfolio Application
  - Education, Experience, Contributions
  - Minimum Points Req in Each Category
- **GISCI Geospatial Core Technical Knowledge Exam Now Required**

GISP Current Process

Recertification: Portfolio Requirement

- Education & Contributions Required
- Experience Optional
- Exam Not Required for Recertification

- Online Application
- 3 Year Recertification Period

GIS CERTIFICATION INSTITUTE

GISP Current Cost

Initial GISP Cost:

- Application Fee - $ 100
- Portfolio Review Fee - $ 100
- Exam Fee - $ 250 North America
- Exam Fee - $ 300 International
- 3 Year Certification Period

GISP Current Cost

Recertification Cost:

- Annual Maintenance Fee - $ 95/year or $ 285 as one payment
- No Exam Required
- 3 Year Certification Period
- Recertification Application Online

GISCI – An Updated Perspective

Certification

GISP Certification History

GISP Current Process

Exam Creation

Future Direction

Exam Creation History

**Aug 2012   -   GISCI Board Selects Exam Development Project Mgr &
                        Psychometric Consultant – Starts Job Analysis**

Nov 2015   -   Inaugural Exam Deployment

Summer 2016 -   Exam Testing Window

Fall 2016   -   Exam Testing Window

Exam Creation

- Written by GISPs for GISP Certification
- Composed at a 4 Year Experience Level
- Centered on Applied Knowledge

Exam Creation Considerations

MAJOR CONSIDERATIONS

- **The Exam is required in addition to the Portfolio Process**
- **Two Exam offerings each year in 2016 & 2017**
- **Exam can be taken at any time in a person's career**

- **Students can test at the time they graduate or before**
- **There is a 6 year window to complete all parts of Certification process**

Exam Creation

EXAM BLUEPRINT: Exam Components

Knowledge Category

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

Based on 100 scored items on a 4 hr exam with 180 questions total

Exam to be offered every 6 months – Summer & Fall Windows

Exam Creation

EXAM BLUEPRINT: Exam Components

Knowledge Category

Conceptual Foundations   12%

- **101 - Knowledge of spatial relationships**
- **102 - Knowledge of standard spatial data models (vector, raster, object-related models)**
- **103 – Understanding the conceptual foundations**
- **104 - Knowledge of Earth geometry**
- **105 - Knowledge of georeferencing systems, including coordinate systems**

Cartography & Visualization   14 %

- **206 - Knowledge of contour mapping**
- **207 - Knowledge of basic physical geography**
- **208 - Knowledge of   how data collection methods influence map design**
- **209 – Knowledge of graphic representation**
- **210 - Knowledge of principles of map design**
- **211 - Understanding of how data classification techniques affects the thematic map**

Exam Creation

EXAM BLUEPRINT: Exam Components

Knowledge Category

GIS Design Aspects & Data Modeling   29%

- **312 - Knowledge of data exchange procedures**
- **313 - Knowledge of security restrictions on data**
- **314 – Knowledge of database administration**
- **315 - Knowledge of systems architecture & design**
- **316 - Knowledge of the enterprise environment**
- **317 - Knowledge of schemas and domains**
- **318 – Knowledge of digital file management**
- **319 – Knowledge of database design**
- **320 - Knowledge of database general structure**
- **321 – Knowledge of geospatial data structure**
- **322 – Understanding of desktop, server, enterprise, and hosted applications**
- **323 - Working knowledge of GIS hardware and software capabilities**
- **324 – Knowledge of data models, including vector, raster, grid, TIN, etc.**

Exam Creation

EXAM BLUEPRINT: Exam Components

Knowledge Category

GIS Analytical Methods   17%

- **425 - Knowledge of overlay analysis**
- **426 - Knowledge of planar geometry (e.g., Points, lines, polygons)**
- **427 - Knowledge of algebra**
- **428 - Knowledge of statistics**
- **429 - Knowledge of basic programming**
- **430 – Knowledge of raster/vector principles**
- **431 – Knowledge of scales (e.g., visual, verbal, relative, absolute)**
- **432 – Knowledge of units of measurement (e.g., conversion & angular vs. metric)**

Exam Creation

EXAM BLUEPRINT: Exam Components

Knowledge Category

Data Manipulation   15%

- **533 - Knowledge of selection queries**
- **534 - Knowledge of different data types (e.g., shp, GDB, coverage, DGN, TXT, IMG)**
- **535 – Knowledge of different field types**
- **536 - Knowledge of data relationships**
- **537 - Knowledge of data collection**
- **528 – Knowledge of data quality, including accuracy, precision**

Geospatial Data   13%

- **639 - Knowledge of metadata and standards**
- **640 – Understanding of the difference between geospatial QC & QA**
- **641 - Knowledge of date archiving and retrieval**
- **642 - Knowledge of differences among join, merge, union, clip, intersect**
- **643 - Knowledge of basic field data**
- **644 – Knowledge of basic field data collection**

Exam Creation

PREPARE FOR AN EXAM

- Download and study the Exam Candidate Manual from GISCI's site
  - **Concentrate on the 44 KSAs identified**
- Examine the GIS&T Body of Knowledge for reference material
- Examine URISA's site for Exam Preparation Workshop Info
- Search the web for individual KSA materials
- Refer to your own textbooks and class materials
- Visit previous exam taker's searched materials (link on our site)

https://docs.google.com/document/d/1wifTSbtaR_5oT14U_6aydFmArLp kML8Fd4lMwqIf8qg/edit?usp=sharing

https://docs.google.com/document/d/1ioKARKLJJpG3lFbPqSqXxNHIdVBh BTrfiQ-H9ivXs_w/edit?usp=sharing

Exam Creation

PREPARE FOR AN EXAM

- **Visit the GeoTech Center website**
  - **www.geotechcenter.org**
- **Take the Personal Assessment Tool Online Survey**

Personal Assessment

- **Look for a geospatial practice exam early in the 2nd Qtr 2017**
- **Exam preparation materials will follow**

The key is to focus on the 44 KSAs covered – NOT the entire geospatial world!

Exam Creation

ADVANTAGES OF AN EXAM

- Provides for a Measurable Level of Competency
- Provides Increased Visibility for GISP Professional Certification
- Builds Upon The Established, Successful GISP Portfolio
- Provides for Increased Student Participation
- Provides An Entry For Students Early In Their Careers
- Provides A Basis For A Move To More Specialized Certifications
- It Continues To Advance And Consolidate The Profession
- More companies now recognize the GISP as a preferred credential

Exam Creation

ADVICE TO A STUDENTS & ASPIRING PROFESSIONALS

- Start a profile on LinkedIn & maintain it
- Plan to take the GISCI Exam as a means to differentiate yourself
- Join an association while in school and remain active
- Attend a local GIS User Group
- Start planning to become a GISP in the future
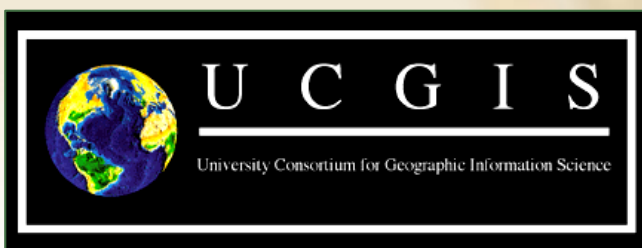- **Show an employer you are looking to the future**

Future Direction

- **Exam Maintenance & Updating**
- **GISP Certification Specializations**
- **Increased International Growth**
- **New Member Organizations**
- **Increased participation - 20,000 GISPs by 2024?**

Member Organizations

THANK YOU!

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www.gisci.org