GISP: The Road to and Through an Exam

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GeoEd'17

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

GIS CERTIFICATION INSTITUTE

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

Academia is involved: BoK (UCGIS)
Govt is involved: GTCM (GeoTech Center)

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

GISP – An Updated Perspective

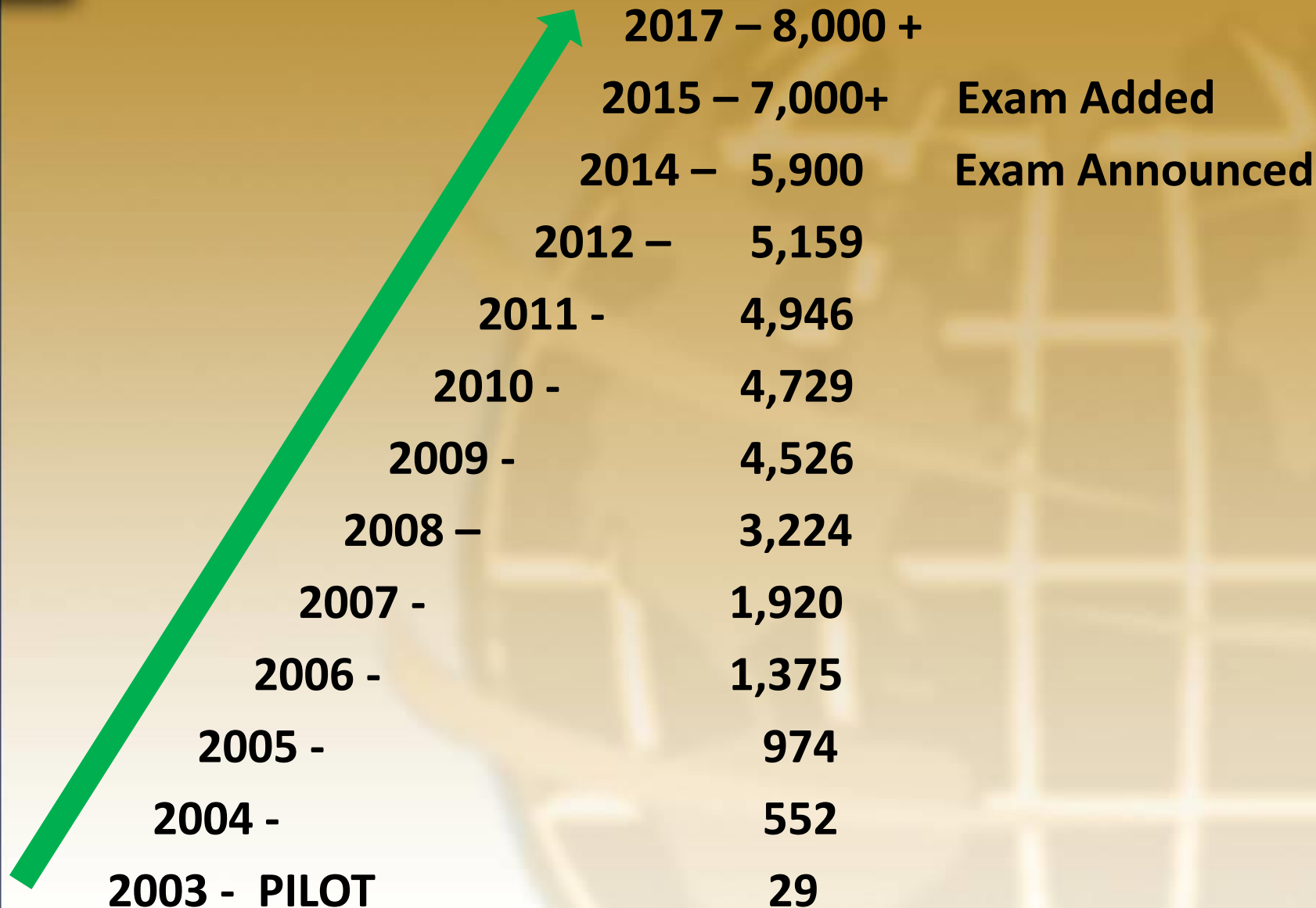CERTIFICATION vs LICENSURE

Over 1,600 Certifications Exist

Only 25% are accredited by third-parties

The GISP is our only one!

GIS CERTIFICATION INSTITUTE

ACTIVE GISPs: CERTIFICATION HISTORY

Year	Count	Note
2017 –	8,000 +	
2015 –	7,000+	Exam Added
2014 –	5,900	Exam Announced
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	

POTENTIAL GISPs: Registration HISTORY

2024 – Our Second Decade

2023 –

2022 –

2021 –

2020 -

2019 -

2018 -   250 new registrations / month

2017 –   1,500+

2016 -   2,854

2015 -   4,460   Exam Added

2014 -   1,763   Exam Announced

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 ?

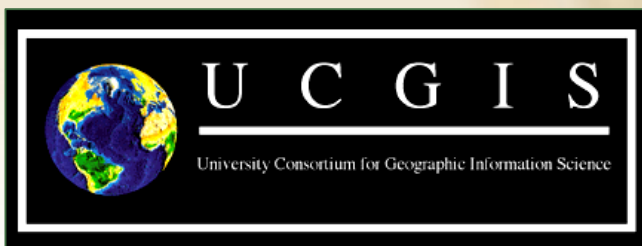# Organization Makeup: Member Organizations & Strategic Partners

One of the strengths of GISCI has been the strong and diversified Board representation over the years!

GISCI is composed of Member Organizations & Strategic Partners

Member Organizations

Strategic Partners 2017

GISP – An Updated Perspective

Certification

GISP Certification History

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GISP Current Process

Initial GISP: Portfolio Requirement + Exam

- Ethics Statement
- 4 Years Min Geospatial Experience
- Portfolio Application
    - Education, Experience, Contributions
    - Point Requirements in Each Category
- **GISCI Geospatial Core Technical Knowledge Exam Required**

GISP Current Process

Recertification: Portfolio Requirement

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

- Online Application
- 3 Year Recertification Period

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

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Exam Creation History

- **2012   Exam Process Started**
- **2015   Inaugural Exam Launched in the Fall**
- **2016   Exams Offered in Summer & Fall Sessions**
- **2017   Exam Offerings Continue**
- **2018   First Exam Blueprint Refresh**

Exam Creation

- Written by GISPs for GISP Certification

- Composed at a 4 Year Experience Level

- Centered on Applied Knowledge

- Four Hour Exam

- 100 Scored Items + Pre-Test Items

- Offered at Proctored Facilities Around the World

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 practice exam from the GeoTech Center soon**
- **GISCI working on a practice exam as well**
- **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
- 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
- **Study your degree plan and compare it to the KSAs of the GISP**
- Join an association while in school and remain active
- Attend a local GIS User Group
- Start planning to become certified in the future
- **Show an employer you are looking to the future!!**

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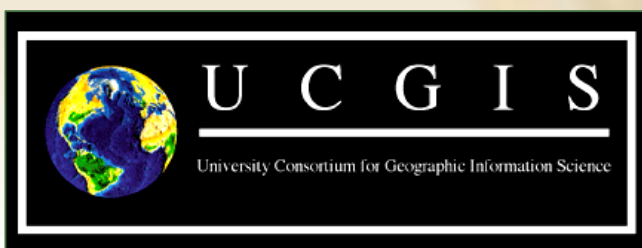
Exam Creation

Future Direction

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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