GISP: The Road to and Through an Exam

Presented By: Bill Hodge, GISP
Executive Director GISCI
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GeoEd’17
GISP – An Updated Perspective

Certification
GISP Certification History
GISP Current Process
Exam Creation
Future Direction
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?
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

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CERTIFICATION vs LICENSURE
Over 1,600 Certifications Exist
Only 25% are accredited by third-parties
The GISP is our only one!
### ACTIVE GISP: CERTIFICATION HISTORY

<table>
<thead>
<tr>
<th>Year</th>
<th>Candidates</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>8,000+</td>
</tr>
<tr>
<td>2015</td>
<td>7,000+</td>
</tr>
<tr>
<td>2014</td>
<td>5,900</td>
</tr>
<tr>
<td>2012</td>
<td>5,159</td>
</tr>
<tr>
<td>2011</td>
<td>4,946</td>
</tr>
<tr>
<td>2010</td>
<td>4,729</td>
</tr>
<tr>
<td>2009</td>
<td>4,526</td>
</tr>
<tr>
<td>2008</td>
<td>3,224</td>
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<tr>
<td>2007</td>
<td>1,920</td>
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<tr>
<td>2006</td>
<td>1,375</td>
</tr>
<tr>
<td>2005</td>
<td>974</td>
</tr>
<tr>
<td>2004</td>
<td>552</td>
</tr>
<tr>
<td>2003</td>
<td>29</td>
</tr>
</tbody>
</table>

- **2003** - PILOT
- **2004** -
- **2005** -
- **2006** -
- **2007** -
- **2008** -
- **2009** -
- **2010** -
- **2011** -
- **2012** -
- **2013** -
- **2014** - Exam Announced
- **2015** - Exam Added
- **2017** -
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 GISP: CERTIFICATION HISTORY

2004 - 2017 - 8,000 + Active GISP

2015 - 2017 - 10,000+ Potential GISP 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

 Organizations:
- NSGIC
- URISA
- gita
- GLIS
- UCGIS
- AAG
Strategic Partners 2017
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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
Initial GISP Cost:

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

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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 GISP 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 BLUEPRINT: Exam Components

Knowledge Category

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceptual Foundations</td>
<td>12%</td>
</tr>
<tr>
<td>Cartography &amp; Visualization</td>
<td>14%</td>
</tr>
<tr>
<td>GIS Design Aspects &amp; Data Modeling</td>
<td>29%</td>
</tr>
<tr>
<td>GIS Analytical Methods</td>
<td>17%</td>
</tr>
<tr>
<td>Data Manipulation</td>
<td>15%</td>
</tr>
<tr>
<td>Geospatial Data</td>
<td>13%</td>
</tr>
</tbody>
</table>

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 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
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_6aydFmArLpkML8Fd4lMwqlf8q/edit?usp=sharing
  https://docs.google.com/document/d/1ioKARKLJJpG3IFbPqSqXxNHIdVByBTrfiQ-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

• 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
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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Future Direction

• Exam Maintenance & Updating
• GISP Certification Specializations
• Increased International Growth
• New Member Organizations
• Increased participation - 20,000 GISP by 2024?
THANK YOU!

bhodge@gisci.org

www.gisci.org