Facing the Challenge of the Shrinking, Aging Surveying Profession

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Outline: The past 20 years

1. Recent changes in surveying.
2. The aging surveying profession.
3. Challenges to surveying education.

Surveying has changed since 1990
Surveying Professionals in Texas

• 1990 there were 3494 RPLS
• 2000 there were 2877 RPLS (down 617, 18%)

Surveying Professionals in Texas

• 2010 there are 2588 RPLS
• (down 906, 26% since 1990)
Surveying Professionals in Texas

- RPLS age profile 2004 - 2009

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>2573</td>
<td>2576</td>
<td>2539</td>
<td>2597</td>
<td>2592</td>
<td>2588</td>
</tr>
<tr>
<td>Average</td>
<td>54.23</td>
<td>54.09</td>
<td>65.16</td>
<td>55.14</td>
<td>55.42</td>
<td>55.79</td>
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<tr>
<td>Median</td>
<td>54</td>
<td>54</td>
<td>55</td>
<td>55</td>
<td>56</td>
<td>56</td>
</tr>
<tr>
<td>65+</td>
<td>478</td>
<td>477</td>
<td>478</td>
<td>482</td>
<td>519</td>
<td>540</td>
</tr>
<tr>
<td>% 65+</td>
<td>18.6</td>
<td>18.5</td>
<td>18.8</td>
<td>18.8</td>
<td>20.0</td>
<td>20.9</td>
</tr>
</tbody>
</table>

Surveying Professionals in Texas

- RPLS age profile 2004 - 2009
Surveying Professionals in NSW

• Registered Surveyor age profile 2007

NSW Registered Surveyors 2007

Surveying Professionals in NSW

• Registered Surveyors totals trend
Surveying Professionals in Florida

- New Licensed Surveyors 1976 - 2009

Surveying Professionals in France

- Surveying Experts totals trend 1990 - 2008
PART 2

- Profile of Major Geomatics Programs in the US
- Where will new professors come from?
- Searching for a new Paradigm

Current Profile of Geomatics Programs

University of Wisconsin

- In 1990 approx. 40% of Geomatics faculty had been educated at UW
- Program within Civil Engineering – systematically dismantled the Geomatics program
- Last professors retired in 2006 – end of an era
Ohio State University

- Separate Department within College of Math and Physical Sciences
- 1995 incorporated into Dept. Civil Engineering
- 2005 geodesy faculty transferred to the Department of Geological Sciences subsequently renamed the School of Earth Sciences
- Jointly offer graduate programs in geodesy, photogrammetry and mapping

University of Maine

- 2003 split into undergraduate surveying and spatial engineering
- Surveying housed in School of Engineering Technology
- Department of Spatial Information Science – do not link to surveying profession
- Diversified disciplines - psychology
Purdue University

- Geomatics treated as a specialization of civil engineering
- Developing an inter-disciplinary Masters degree in Geo-Sensing
- Engineering-centric focus

Texas A&M University-Corpus Christi

- Approach – surveying education as an integral component of the geospatial sciences
- Two-track system – Geomatics & GIS
- 74% have selected the Geomatics track
- Faculty numbers have grown from 2 to 6 in the last 15 years
University of Florida

- Separately named Geomatics degree administered within civil engineering until 2004
- 2004 program transferred out of engineering college to School of Forest Resources & Conservation
- Within 3 years faculty number doubled from 4 to 8

Critical Issues facing Geomatics Education in the US

- Can Geomatics survive (and prosper) at major research universities?
- Shrinking and aging professionals...
- Who will teach tomorrow’s surveyors?
- How will globalization and improving communication technology impact education?
- Is it time for a new paradigm?
## Comparison of 1990 Profile of Geomatics Faculty with job application pool in 2006

<table>
<thead>
<tr>
<th>1990 Profile</th>
<th>2006 Profile</th>
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</thead>
<tbody>
<tr>
<td>• 80% American-born</td>
<td>• 5% American-born</td>
</tr>
<tr>
<td>• PhD in Photogrammetry, Cadastral Studies, Geodesy, GIS/LIS…</td>
<td>• 50% with a PhD in remote sensing</td>
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<tr>
<td>• Most had at least a BS in Surveying</td>
<td>• 80% with no surveying background</td>
</tr>
</tbody>
</table>

This comparison shows an increasing divide between the origin, discipline and qualifications of aspiring Geomatics professors and the demands and requirements of the surveying profession in the US.

## Conclusion

- Decreasing supply of surveyors
- Changing skills of educators
- No cohesive paradigm .. Intellectual focus
- Innovation in certain programs is a positive sign
- Need to diversify and contribute to the big global issues
Thank you for listening.