

# The Virginia Geospatial Newsletter

Showcasing GIS, Remote Sensing and GPS Supported Products and Services in the Commonwealth

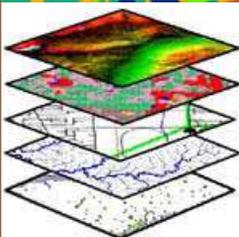
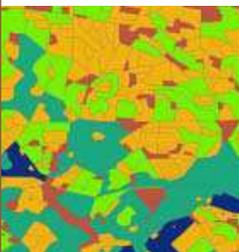
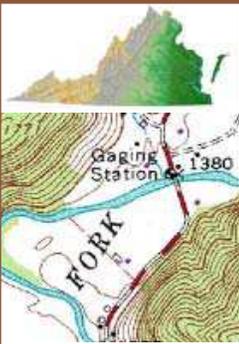
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The Virginia Geospatial Extension Program is a partnership between the Virginia Space Grant Consortium and Virginia Cooperative Extension

## Expanding GIS Education at Tidewater Community College

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Tidewater Community College (TCC) has a longstanding tradition of responding to the educational needs of the workforce in southeastern Virginia. This tradition is frequently



TIDEWATER COMMUNITY COLLEGE

evoked when new market segments and industries are created virtually overnight by the rapid development and employ of advanced technologies. TCC can be thought of as a “first responder” when it comes to the development of training materials and techniques to produce the skilled employees that will become the lifeblood of these industries. TCC’s growing commitment to the support of training in geospatial science and technology is a prime example of this tradition.

High Growth Job Training Initiative, TCC has begun to develop GIS/geospatial coursework designed to meet the specific needs of the workforce in southeastern Virginia. The foundation

of this curriculum is being designed with the use of two important guideposts, the Hampton Roads Regional GIS Survey conducted by Old Dominion University (ODU) and the Geographic Information Science & Technology Body of Knowledge (BoK) recently published by the University Consortium for Geographic Information Science (UCGIS). Survey responses from nearly fifty geospatially-related organizations are being analyzed to pinpoint the most highly valued employee skills and the most preferable training delivery methods. In conjunction, the BoK is used to define the

In recognition of the designation of geospatial technology as a key component of the President’s

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The purpose of the Virginia Geospatial Newsletter is to highlight innovative geospatial products and services throughout the Commonwealth and to widely disseminate geospatial knowledge and awareness throughout Virginia.

If you have suggestions or comments, or if you would like to contribute to the newsletter, please contact John McGee at the Virginia Geospatial Extension Program (jmcg@vt.edu or [540] 231-2428).

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# Regional Councils as a Geospatial Unit of Analytical Geography

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On May 20, 2005, the Northern Shenandoah Valley Regional Commission learned that 2030 Growth projections from the Washington, D.C. Metropolitan Washington Council of Governments anticipated a need for 600,000 workers from outside their footprint and that further, those workers would require an additional 400,000 units.

Four years after 9/11, the Northern Shenandoah Valley housing prices were on their way to doubling, commute times were getting longer and, further, the region itself was already short of labor, so there was no excess to export to the Washington, D.C. MSA. The projections promised 25 more years of the current pressures and further congestion in the greater Mid-Atlantic region.

The Commission voted for staff to work with the Wash COG staff and other regional councils to consider if there were some way to balance the work-housing-transportation relationships.

At the first meeting in October, 2005, Regional Council staff from throughout the Washington-Baltimore-Northern Virginia, DC-MD-VA-WV Combined Statistical Area (CSA) shared perspectives of transportation, workforce and housing relationships between their area and the CSA. The scope of impact expanded to the extent that the term Super-Region was applied to the Mid-Atlantic states involved and it stuck.

The second meeting in February, 2006 included Wilmington, Delaware's MPO – WILMAPCO on the recommendation of the Baltimore Metropolitan Council. Their analysis of transportation and mobility data further expanded the Mid-Atlantic Super-Region to contain the District of Columbia, Delaware, Maryland, New Jersey, Pennsylvania, Virginia and West Virginia.

## Analysis

Regional Council and related Metropolitan Planning Organization analyses were based on movements between jurisdiction within their region, and to some degree, to points outside the home region. The WILMAPCO process called "Planning on the Edge," considered surrounding regions like Baltimore and the Delaware Valley – Philadelphia, and demonstrated the value of a region to region perspectives.

To apply this to the Mid-Atlantic would be easy for Virginia, with its complete system of Planning Districts. The regions organized in 1968 under the Virginia Area Development Act had become the basis of Sub-State District data since 1972 when Governor Linwood Holton's Executive Order 15 made is a requirement that State agencies using sub-state districts use Planning Districts or multiples. Though the courts and highway department were exempted, the Virginia Department of Transportation has come to use the Planning District boundaries and Commissions that serve that geography for MPO and rural transportation planning.

The only other state with a complete network system of regional councils

was West Virginia. Data was not compiled by region to the degree it is in Virginia. The advantage in Virginia is that the Planning District number could be used like a FIPS code to aggregate data to regions. The lack of similar systems in northern States, has been a long term barrier to nation-wide regional analysis. Another issue to solve is that of multi-level regions like Wash COG which includes the Northern Virginia Planning District jurisdictions, but is not itself a substitute for the Northern Virginia Regional Commission, serving Planning District 8.

While many have considered this a GIS problem, that is not truly the case. A query for Counties, Cities or Towns along I-95 or I-81 could easily be generated from GIS, but the same could not be done for regional councils, because the data set has not been defined. It might be possible in Virginia, but not in the other states.

The key to regional analysis of the regions of the Mid-Atlantic Super-region was to first code counties and cities to regions. This I accomplished in tandem with a project undertaken through my e-newsletter, Regional Community Development News. For 2006 I have chosen to look at every state in search of a complete, single layer of regions where all or most have a regional council staff.

## Results

Figure 1 shows the Mid-Atlantic Regional Planning Areas. This is currently a draft. Where counties were not included in a formal regional council,

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# Northern Shenandoah Valley Regional Commission

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districting used by agencies such as the Department of Transportation or for meeting housing planning requirements. In Delaware, the Counties remain the primary sub-state district/region. Numbers were assigned to group counties in order to compile for the analysis. According to Wendi Stine, GIS Analyst, this is the primary innovation relative to this project. Once the geography is defined, compilation and application of traditional tools can go forward.

Figure 2 Net Population Change 2000-2005 and Figure 3 Percentage Population Change 2000-2005 were the first applications of the new regions for analysis. For Virginians, the percentage growth map explains, for example, the steep rise in housing costs post 9/11. NoVA area job growth and related population pushed south and west in search of housing. Net change does not demonstrate the real impact.

This has been established as a pilot with support of the Federal Collaboratory Expedition process and its use to develop a "region builder" function in LandVIEW7 where a single layer of State Standard regions, like the Virginia Planning Districts, would be a base to which individual counties could be added or subtracted to get the region of analysis, or combinations of regions could be easily added.

The key to this is an appropriate geo-code, one free of the tyranny of the alphabet contained in FIPS codes today.

