

Case Study



City of Aurora, Colorado

Rocky Mountain City Beats the Blues and Saves Thousands in Color Balancing Costs

Portion of an image showing a section of I-70 just west of Pena Boulevard in Aurora, Colorado. At wider views, the original imagery as received from the data provider had a blue overcast, which in the illustration below has been corrected with the color-balancing tools in GeoExpress.



Organization

City of Aurora

Location

Aurora, Colorado

Industry

City government

Product

GIS maps

Customers

City planners and engineers

Image Library

238 GB uncompressed

Website

www.auroragov.org

Background

Aurora is the third-largest city in Colorado. The City of Aurora is a member of the Denver Regional Council of Governments (DRCOG), which manages a biannual aerial photography project

that covers a wide variety of topographies across the Denver Front Range, west into the mountains and east into the plains. The imagery is used by local governments and organizations as background for GIS mapping, where it enables utilities, water, political boundaries and other features to be placed on maps with spatial accuracy.

Challenges

The varying topography and vegetation types make it difficult to maintain a uniform color balance. Many of the City of Aurora's water projects extend well beyond the city limits, so poster-sized project maps may span 50 miles or more. This exaggerates any color inconsistencies in the aerial photography used as background. The 2006 imagery flown and rectified by DRCOG's contractor showed a blue overcast. "This imbalance was not noticeable when the map was scaled to view just a few miles," says Larry Rector, GIS analyst for the City of Aurora, "but it dominated the map when scaled to show larger areas. This created an unacceptable result on our maps covering hundreds of square miles." Contractors approached the City with offers to color correct the images at a cost in the thousands of dollars. Rector believed there had to be a more cost-effective way to improve the appearance of the imagery.

Solution

The City had already purchased GeoExpress as a tool to compress image files to the MrSID format, thus optimizing computer storage space, and to mosaic image tiles into a single image with a larger coverage area. "In playing with GeoExpress' color balance feature," says Rector, "I found that by adjusting RGB levels I could remove most of the blue overcast, and that this shift could be performed on the entire mosaic image at once. This saved us the many hours it would have required to balance each tile." Furthermore, the live updating function allowed Rector to view the effect on the screen before performing the process. The result was an easily stored and easily viewed mosaic of the City's area of interest with the blue overcast removed.

"The quality of our source imagery was not under our control, so we were glad that GeoExpress enabled us to color balance our GIS aerial images during compression."

Larry Rector
GIS Analyst
City of Aurora

Benefits

The City of Aurora saved both time and money using GeoExpress software to color balance its imagery. The process was easy and quick in GeoExpress, saving hours of labor and thousands of dollars in outsourced image processing costs. Additionally, the combination of color-balancing tools and compression capabilities in a single process resulted in workflow efficiencies for the City.

For More Information

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