



## Editorial

>> Marc Cheves, LS

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**PUBLISHER** Allen E. Cheves  
allen.cheves@chevesmedia.com

**EDITOR** Marc S. Cheves, LS  
marc.cheves@chevesmedia.com

**ASSOCIATE EDITOR** Joel Leininger, LS  
**ASSISTANT EDITOR** Jacalyn Cheves  
**ASSOCIATE PUBLISHER** Jason Metsa

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The staff and contributing writers may be reached via the online Message Center at [amerisurv.com](http://www.amerisurv.com)

**GRAPHIC DESIGN** LTD Creative, LLC  
**WEBMASTER** Joel Cheves

**AUDIENCE DEVELOPMENT** Edward Duff  
**ACCOUNT EXECUTIVE** Richard Bremer  
**CIRCULATION** Mirta Ryker

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# Winds of Change

**T**he Windy City lived up to its name during a recent visit to Chicago where we attended a press event hosted by LizardTech, the leader in file compression. Those of you who deal with aerial images—for example, as backdrops for your land development maps—have undoubtedly encountered the company’s popular multi-resolution seamless image database file format, MrSID, commonly pronounced Mister Sid. It’s easy to grasp how the also-popular zip format operates: repeating pixels in an image—for instance, blue pixels in the sky—are replaced by a marker. Then, when the file is uncompressed for viewing, the marker replaces these pixels.

LizardTech’s MrSID, however, takes compression to another level. An outgrowth of early-90s research at Los Alamos National Lab, the company has been around for more than a decade, and announced its fourth-generation MG4 (MrSID Generation 4) format at the press event. To deal with non-raster 3D data, the company also handles aerial and terrestrial LiDAR data. Because file sizes for aerial or LiDAR data can be enormous, without compression disk space can quickly be exhausted. Using a technique called wavelet compression, ratios range from 2:1 to 20:1 and beyond.

Image compression can be either lossless (no pixels lost) or lossy (pixels discarded). In between, the company has figured out a way—something it calls visually lossless—to dramatically compress images without affecting what the human eye can detect. Look for a future article in the magazine about this fascinating technology.

After Chicago, I traveled to Louisville for the 3rd Annual Carlson User Conference. Held in the historic Brown Hotel in downtown Louisville, and titled *Carlson Works—Partnering You with the World*, nearly 200 customers and dealers from all over the world were in attendance. The conference was tightly-packed with a myriad of tracks, including Survey, Takeoff Estimating, 3D Model Building & BIM, Machine Control, Mining, SurvCE/Field, and Civil.

Keynote addresses included one by Ashtech’s General manager François Erceau, which addressed the future of GNSS. He described the road ahead for GPS, Russia’s GLONASS, Europe’s Galileo, and China’s Compass. As we have reported for many years, the new signals and greater numbers of satellites will result in more accuracy, faster acquisition, greater use in urban canyons and under cover, and longer distances for RTK.

Erceau spoke frankly about the future of Galileo and stated that by 2014, the constellation will contain only 14 satellites. Unknown is when Galileo will reach full operational capability. China has yet to issue the critical Interface Control Document which will allow manufacturers to begin developing equipment. Even so, China is saying that Compass will have 30+ satellites aloft by 2015.

Erceau spoke positively about Japan’s QZSS augmentation which will work much better in urban canyons and is aimed primarily at mobile apps such as video, audio and data. The next ten years will bring much improvement in GNSS, with developments occurring much faster in the latter half of the decade. He stressed the value of GLONASS and SBAS.

North, south, east or west, only time will tell if the winds of change that blew through Congress in the last elections bring real solutions to our lagging economy. From the Windy City, to Louisville, to places beyond, voices here and there in the industry tell us things are picking up, albeit slowly. 