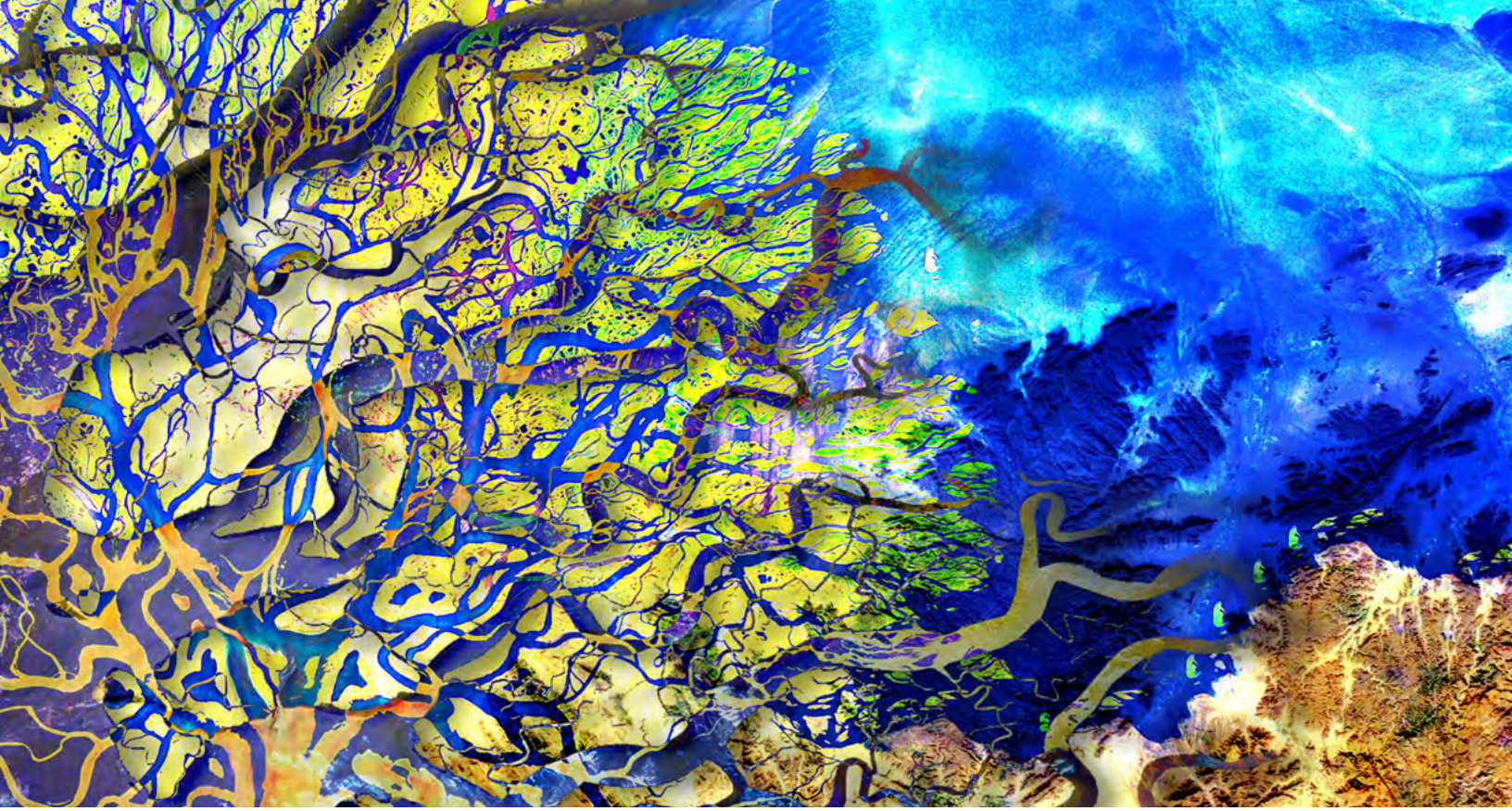
OCTAVE

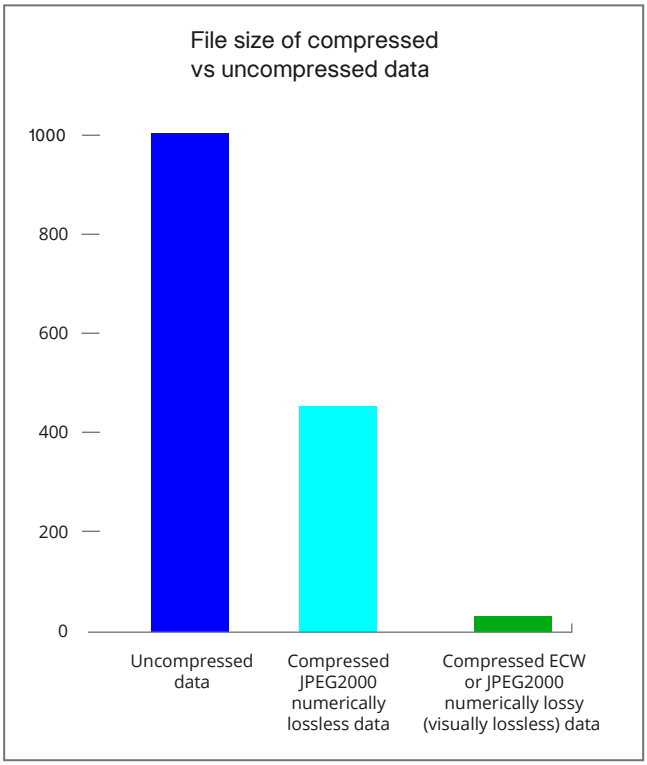
BROCHURE

Octave ECW Compression



Octave ECW Compression (formerly ECW Compression) is the ultimate technology suite for your geospatial image archive. Leverage Enhanced Compressed Wavelet (ECW), Octave's proprietary, high-performance file format, to significantly reduce the size of geospatial images so you can store less, stream faster and scale effortlessly.

- ECW Compression is designed specifically for massive imagery – typically in the gigapixel or terapixel range.
- Achieve 15:1 compression ratios (94% reduction) at visually lossless quality rates
- Get the fastest compression and decompression (rendering) rates in the industry
- Consolidate imagery into large mosaics, rather than smaller tiles, caches and other variants



ECW Compression's 15:1 target ratio produces visually lossless compression results.

ECW Compression outperforms all alternative storage formats

All geospatial image formats must adhere to a sliding scale of four critical format characteristics:

- Encoding speed
- Decoding speed
- Image quality
- File size requirements or compression achieved

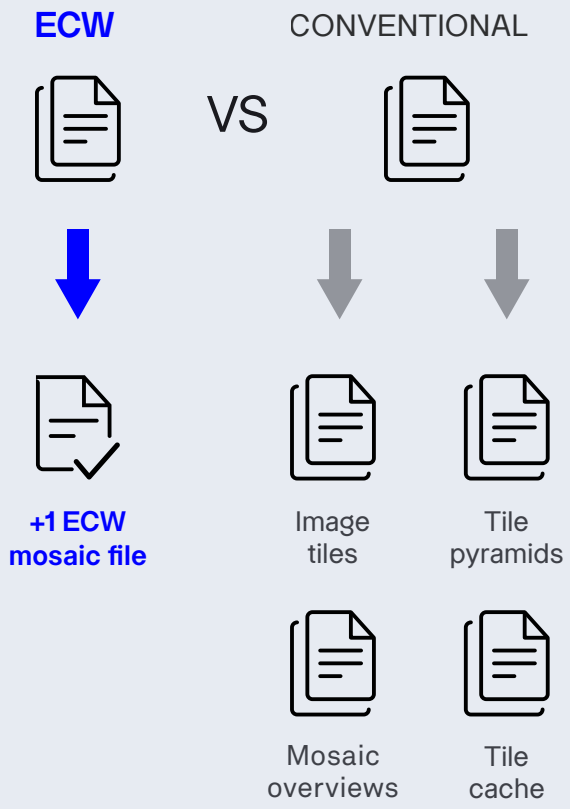
Most compression methods prioritize one characteristic, limiting their overall effectiveness. What makes ECW Compression unique is it provides equivalent or significantly better performance across all four characteristics.

ECW Compression delivers cost savings and performance gains beyond all alternative methods. For example, JPEG2000 offers equivalent image quality at equivalent file size, but suffers from slow encoding and substantially slower decoding speed.

ECW Compression provides more efficient data storage, leading to improved management, reduced data duplication, faster delivery and display and retains visually lossless image quality.

ECW Compression files vs. conventional compression files

One single file fulfills all performance criteria, highlighting the simplicity of ECW Compression. When an ECW file is created, it is already optimized for display performance and ready for use, eliminating the significant overhead of other formats in generating, storing, managing and maintaining image tiles, image pyramids, tile caches and other duplicated data copies for specific applications.



Get ECW Compression in these Octave products

	Read ECW files	Create (compress to) ECW	Read JPEG 2000	Create JPEG 2000	Read ECWP streams	Stream ECWP over the web
Octave GeoCompressor	•	•	•	•	•	
Octave Imagine	•	•	•	•	•	
Octave Alto Data Management	•	•	•	•	•	•
Octave GeoMedia	•		•	•		
Octave ImageStation		•		•		
Octave Alto Lightspeed	•		•			
Octave Alto Server	•		•			•
Octave Alto Catalog Explorer					•	

Octave GeoCompressor

Octave GeoCompressor (formerly GeoCompressor) is a high-performance geospatial image and point cloud compression application that simplifies the creation of ECW, JPEG2000 and Hexagon Special Point Cloud (HSPC) formats. It is designed to augment existing data provider workflows to perform final mosaic and compression steps prior to delivery.

Octave Imagine

Octave Imagine (formerly ERDAS IMAGINE) can be used to create an unlimited number of ECW and JPEG2000 compressed images from input images of up to 250 gigapixels, using either export or direct-write. Leverage ECW Protocol (ECWP) fast streaming for instant delivery into this rich image processing and analysis package.

Octave Alto Data Management

Octave Alto Data Management (formerly ERDAS APOLLO) lets you securely disseminate massive volumes of imagery to thousands of users using ECWP.

Octave GeoMedia

Octave GeoMedia's (formerly GeoMedia) ECW display workflow is exactly the same as that for conventional imagery inside GeoMedia, only it's much quicker and uses less data.

Incorporate ECW into your desktop, server or mobile application

	Read ECW files	Create (compress to) ECW	Read JPEG 2000	Create JPEG 2000	Read ECWP streams	Stream ECWP over the web
Octave ECW SDK	•	•	•	•	•	

The Octave ECW SDK (formerly ERDAS ECW/JP2 SDK) lets you read and write ECW and JPEG2000 file formats and read ECWP streams. This robust developer toolkit offers simple integration using C / C++ / Java APIs to add format support to your application. Supported environments include Windows, Linux, Android, iOS and MacOS.

Many other industry applications support ECW via the ECW SDK. Generally speaking, ECW is supported everywhere you need it.

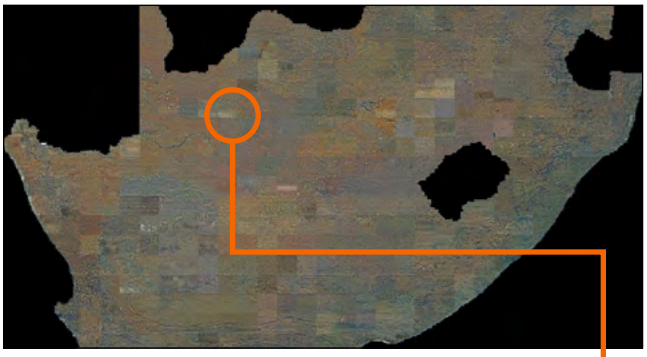


Image courtesy of GeoSpace International and the Chief Directorate: National Geo-spatial Information

Zoomed-in photo of the compressed image (near Upington, Northern Cape province, South Africa) – image courtesy of GeoSpace International and the Chief Directorate: National Geo-spatial Information

One country, one mosaic

A single aerial image covering South Africa at 50 cm GSD

3,659,118 x 2,836,274 px

10.4 terapixels

4 band, RGB

45,816 image files

28,996.53 GB uncompressed

3 band, RGB

Single image file

439.67 GB ECW compressed

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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GEOSYSTEMS is a leading GeoIT specialist, empowering public authorities, private companies, and research organizations to leverage geodata for informed decision-making. With over 37 years of expertise, the company develops downstream services that seamlessly process satellite imagery and integrate it with diverse data sources through highly automated workflows. The resulting insights are delivered via intuitive, interactive web applications. GEOSYSTEMS' products and solutions cater to a wide range of markets, including natural resource protection, green urban planning, infrastructure management, land surveying, climate adaptation, CO2 compensation, smart farming, forestry under climate change, and security. As Octave's diamond partner the company provides globally recognized software and platforms for remote sensing, photogrammetry, GIS, data management, browser-based applications, and 4D real-time solutions. Representing Skyline Software Systems, Inc. as its platinum partner, GEOSYSTEMS offers cutting-edge technology for 3D photogrammetry.

GEOSYSTEMS is an OHB subsidiary based near Munich. Further information: www.geosystems.de/en