

Geo-referencing .ECW Files of Drone Images in QGIS – An Introduction

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Flow

1. Introduction to the .ECW File

2. Open sources for .ECW files

3. QGIS demo

1. Introduction

- i. .ECW stands for Enhanced Compression Wavelet, and is a type of raster;
- ii. One can compress and decompress the files with small amounts of RAM, and the processes are fast;
- iii. .ECW files are capable of great compression levels, achieving ratios of up to 1:100.
- iv. The files are ideal for large scale photography shot from great distances — for example, from the sky and space;
- v. .ECW are popular with meteorologists and oceanographers;
- vi. With ECWs, one can display enormous images (gigabytes in size) without pixilation, and require less compute;
- vii. Australian software developers, Earth Resource (ER) Mapping Ltd., created the ECW file (1998);
- viii. As the files became more popular, more people used them on smaller computers.
 - Another adaptation made it possible to decompress portions of images without decompressing the entire file.

1. Introduction ...

- i. .ECW files are used in aerial photographs, from mountaintops, skyscrapers, low-flying drones and high-flying airplanes.
- ii. ECW files can capture extremely large subjects from space, shorelines, cities, full length of rivers, and entire states;
- iii. **Advantages of ECW files.**
 - *Size.* For images of a terabyte or more, ECW files are ideal;
 - *High performance.* ECW's compression ratios is up to 1:100.
 - *Storage.* You can store massive amounts of data in ECW files (reduce their size by more than 90%);
- iv. **Disadvantage of ECW files.**
 - *Look, but don't touch.* ECW files are primarily for moving, storing, and viewing images, and non optimal for editing; Proprietary product of Hexagon Geospatial
- v. Some software that can open .ECW files:
 - ERDAS Imagine (paid)
 - ESRI ArcGIS for Desktop (paid)
 - Canvas X Pro (paid)
 - Safe Software for Desktop (trial version)
 - **QGIS (open source)**

2. Open Source for .ECW Files

- i. <http://downloads.gvsig.org/download/geodata/raster/ecw/>
- ii. <https://opendata.vancouver.ca/pages/2011-orthophoto-imagery-ecw/>
- iii. UTM zone finder:
<https://mapscaping.com/utm-zone-finder/>
- iv. QGIS demo

See the next slide for the correctly geo-referenced drone .ECW file.

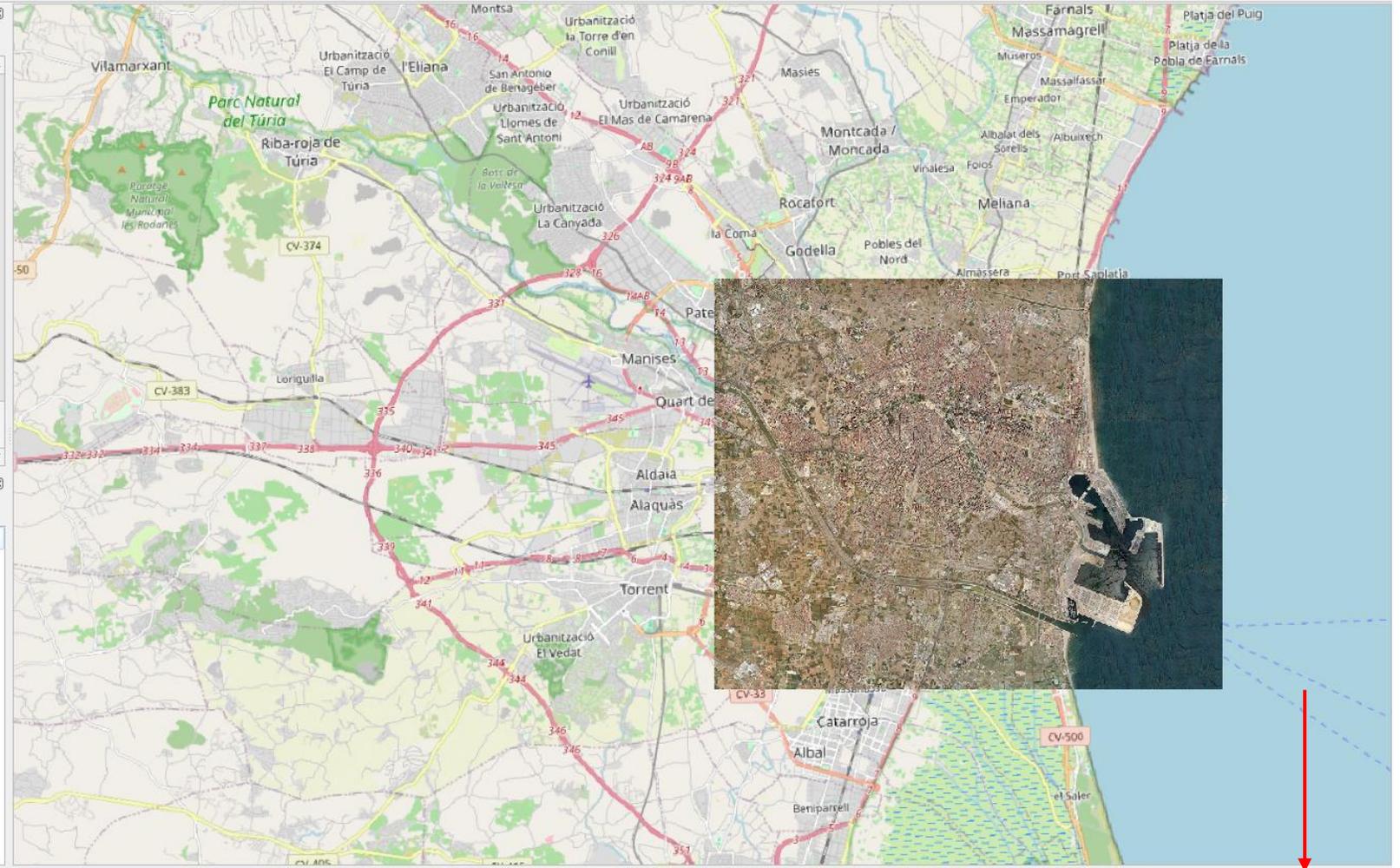


Browser

- GeoPackage
- Spatialite
- PostGIS
- SAP HANA
- MSSQL
- Oracle
- WMS/WMTS
- Vector Tiles
- XYZ Tiles
 - 3d buildings
 - open topo
 - Open topo map
 - OpenStreetMap
- WCS
- WFS / OGC API - Features
- ArcGIS REST Servers
- GeoNode

Layers

- valencia2002
 - valencia2002 ()
 - C:/Users/ramra/Desktop/valencia2002/geodata/raster/ecw/
 - valencia2002/valencia2002.ecw



Type to locate (Ctrl+K)

Coordinate 701730,4368717 Scale 1:134045 Magnifier 100% Rotation 0.0° Render EPSG:23030



Thanks