



BarcelonaTravelHacks.com

Bulk Rename Utility to batch change file extensions

Exiftool & Cwebp Comand line Image Modification

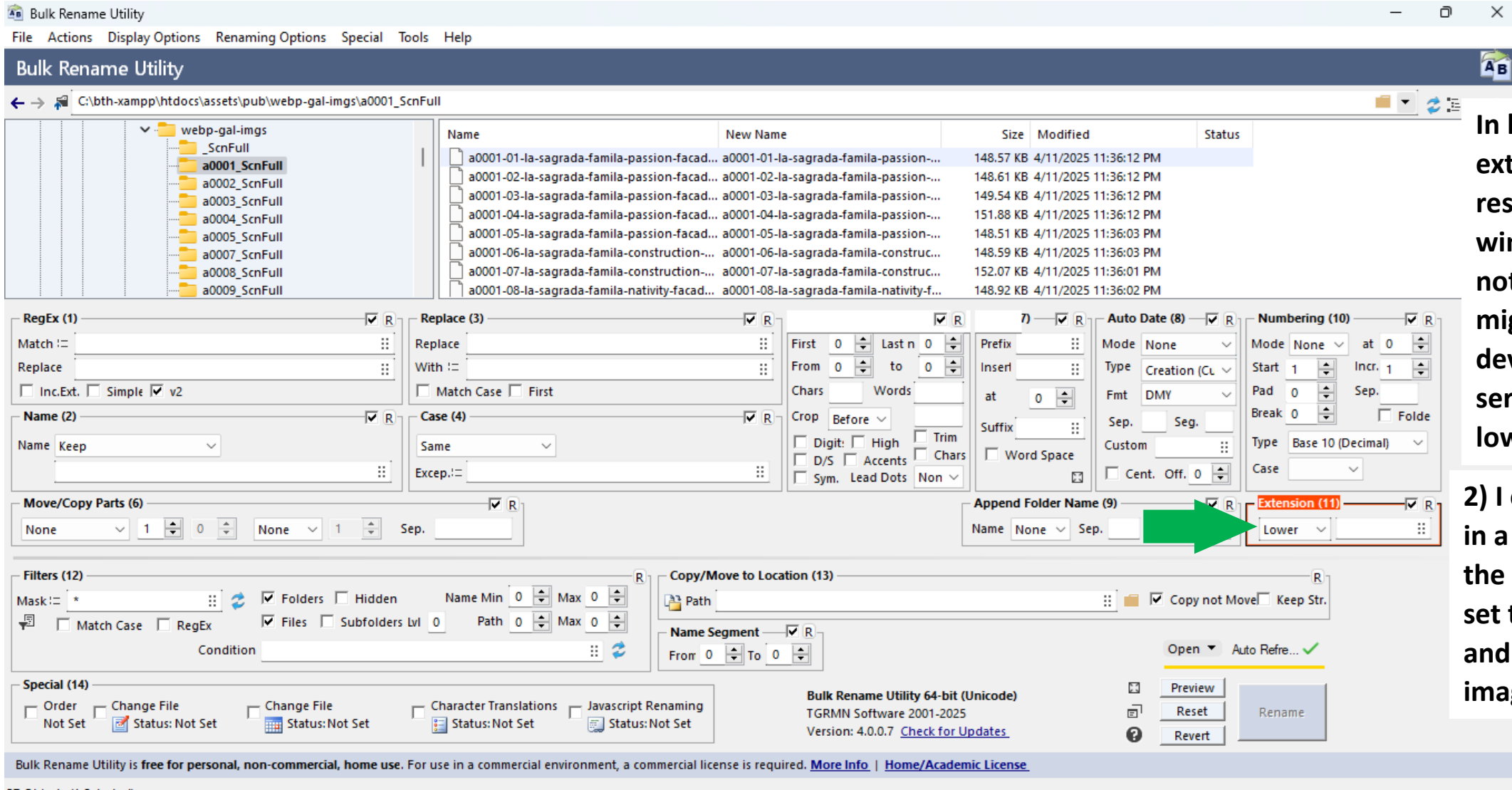
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About Batch Rename Utility

1) Go to <https://www.bulkrenameutility.co.uk/Download.php> and download the latest Windows version and install it



In linux systems the file extension case is respected where as in windows systems it is not. Therefore, when migrating files from win dev server to linux host server, I need to lowercase all files.

2) I can select all images in a folder and then at the extensions section set the case to lower and batch change all images.

Instructions for Exiftool to modify photo metadata from the command line

Exiftool contents



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How To Install EXIFTOOL on windows 11



Video tutorial from [Mercia Solutions](https://www.youtube.com/watch?v=Ku1Nx-kl7RM) here: <https://www.youtube.com/watch?v=Ku1Nx-kl7RM>

1) Go to <https://www.exiftool.org/> and download the latest Windows Executable: [exiftool-12.38.zip](#)

ExifTool by Phil Harvey

Read, Write and Edit Meta Information!

Also available --> [Utility to fix Nikon NEF images corrupted by Nikon software](#)

Note: If exiftool.org goes down, it is because of the crappy DreamHost web hosting which disables an "unlimited traffic" web site if a single bot hammers the site with a moderate load. An alternate ExifTool homepage is available at <http://exiftool.sourceforge.net/>

Installing	Tag Names	Resources	History	Forum	FAQ
Download Version 12.38 (4.8 MB) - Dec. 20, 2021 ExifTool is a platform-independent Perl library plus a command-line application for reading, writing and editing meta information in a wide variety of files. ExifTool supports many different metadata formats including EXIF, GPS, IPTC, XMP, JFIF, GeoTIFF, ICC Profile, Photoshop IRB, FlashPix, AFCP and ID3, Lyrics3, as well as the maker notes of many digital cameras by Canon, Casio, DJI, FLIR, FujiFilm, GE, GoPro, HP, JVC/Victor, Kodak, Leaf, Minolta/Konica-Minolta, Motorola, Nikon, Nintendo, Olympus/Epson, Panasonic/Leica, Pentax/Asahi, Phase One, Reconyx, Ricoh, Samsung, Sanyo, Sigma/Foveon and Sony. ExifTool is also available as a stand-alone Windows executable and a MacOS package: (Note that these versions contain the executable only, and do not include the HTML documentation or other files of the full distribution above.) Windows Executable: exiftool-12.38.zip (6.4 MB) The stand-alone Windows executable does not require Perl. Just download and un-zip the archive then double-click on "exiftool(-k).exe" to read the application documentation, drag-and-drop files and folders to view meta information, or rename to "exiftool.exe" for command-line use. Runs on all versions of Windows. (Note: Oliver Betz provides an alternate ExifTool Windows installer that avoids some problems of the self-extracting archive version above. Please post here if you have any problems/comments with this version.) MacOS Package: ExifTool-12.38.dmg (3.1 MB) The MacOS package installs the ExifTool command-line application and libraries in /usr/local/bin. After installing, type "exiftool" in a Terminal window to run exiftool and read the application documentation.					Features User Comments Supported File Types System Requirements Running ExifTool Example Output Tag Names Explained Tag Groups Writing Information Writer Limitations Known Problems Security Issues Date/Time Shift Renaming Files Performance ExifTool Library Additional Resources New Discoveries Acknowledgements License Donate Contact Me

Activate Windows
Go to Settings to activate Windows

2) Unzip and deposit the contents of the download into a newly created folder in **C:Program Files (x86)**. Name the Folder **Exiftool**. Once done this folder should contain the **exiftool(-k).exe**. Rename this to **exiftool**.

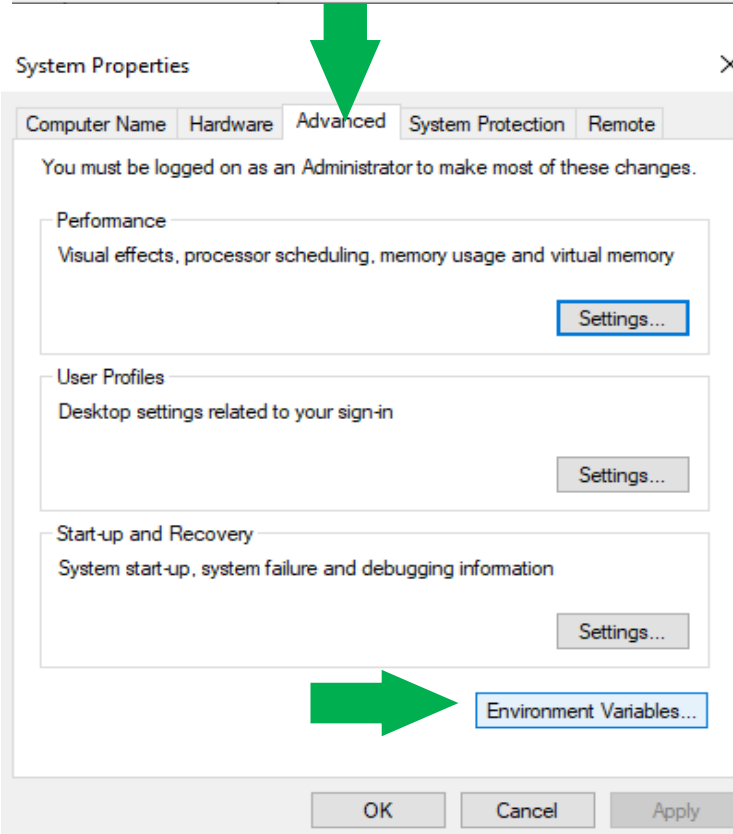
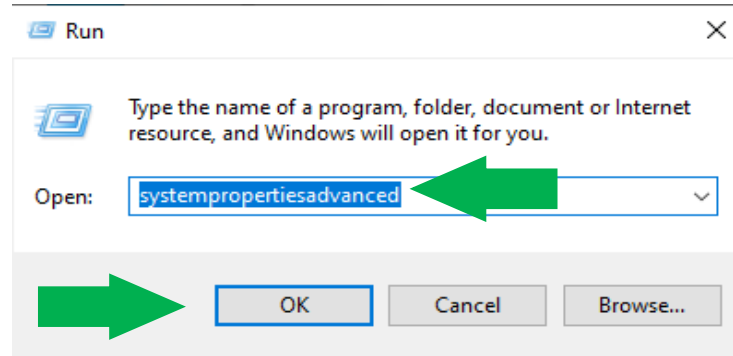


File Explorer window showing the contents of the **Program Files (x86)** directory. The **Exiftool** folder is highlighted with a green arrow.

Name	Date modified	Type	Size
Common Files	18/11/2021 23:24	File folder	
Exif Pilot	06/07/2021 09:21	File folder	
Exiftool	05/01/2022 23:55	File folder	
ExifToolGUI	06/01/2022 19:43	File folder	
Google	10/01/2022 13:07	File folder	
Internet Explorer	18/09/2021 15:11	File folder	
Microsoft	01/07/2021 22:31	File folder	
Microsoft.NET	01/07/2021 15:40	File folder	
Mozilla Maintenance Service	30/12/2021 21:27	File folder	
Windows Defender	09/04/2021 15:47	File folder	
Windows Mail	16/07/2021 22:50	File folder	
Windows Media Player	15/10/2021 00:19	File folder	
Windows Multimedia Platform	07/12/2019 15:48	File folder	
Windows NT	07/12/2019 15:44	File folder	
Windows Photo Viewer	09/04/2021 15:47	File folder	
Windows Portable Devices	07/12/2019 15:48	File folder	

Inset window showing the contents of the **Exiftool** folder. The **exiftool** application is highlighted with a green arrow.

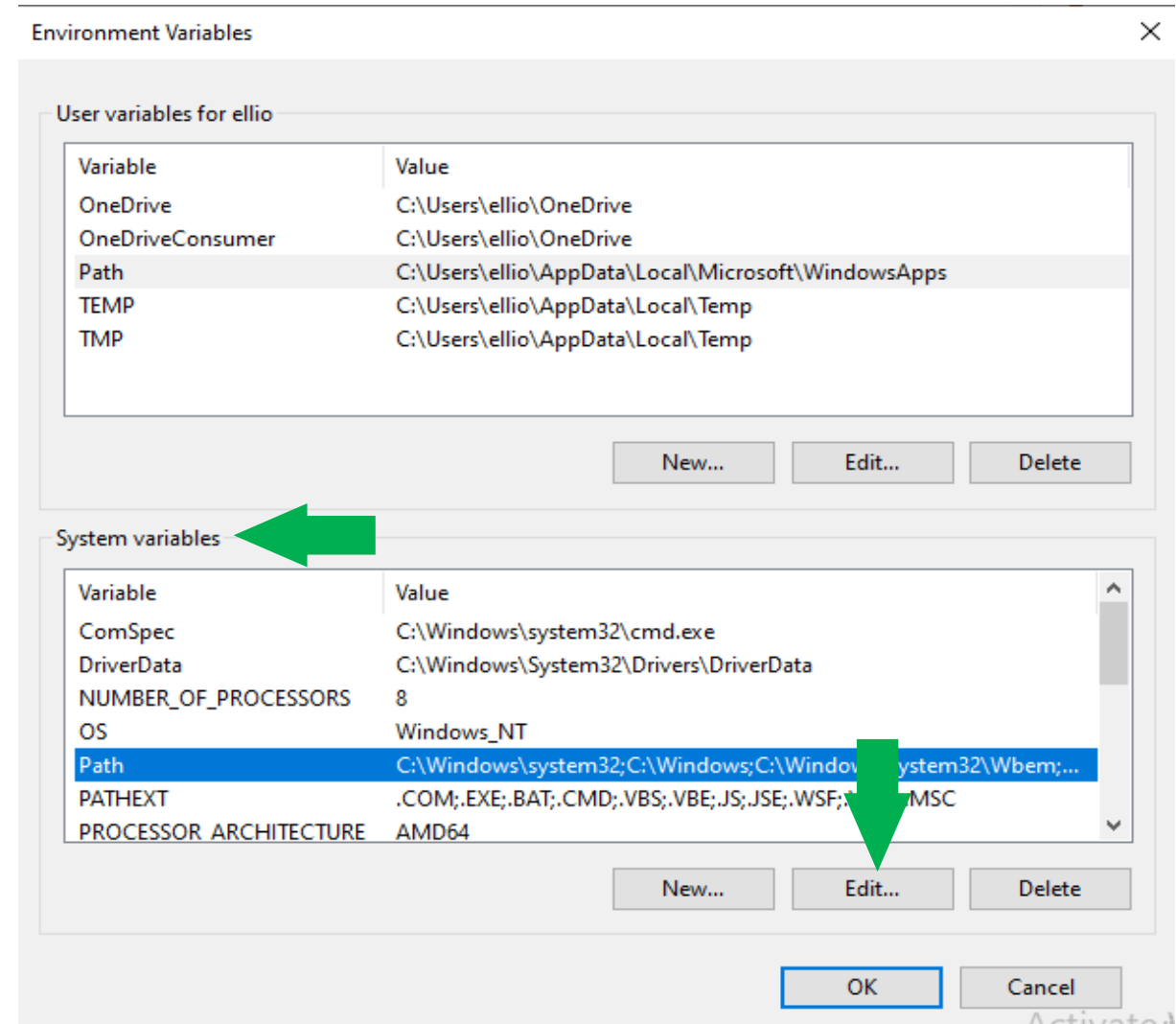
Name	Date modified	Type	Size
exiftool	05/01/2022 23:55	Application	8,653 KB

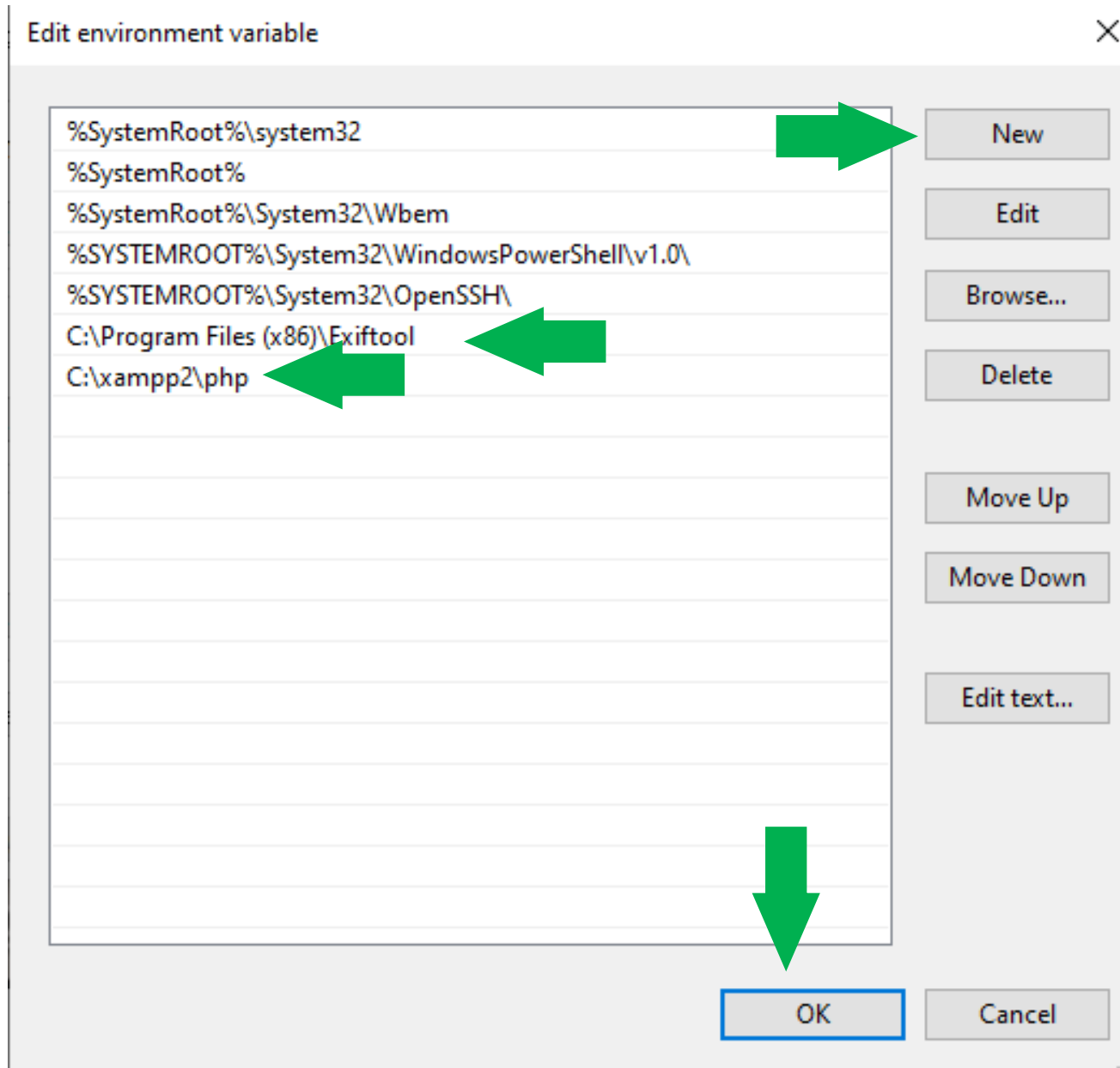


3) Press the **windows key + R** and type in **“systemPropertiesAdvanced”** select ok.

4) On the **advanced tab** click **Environmental Variables**.

5) In the **system variables** select **path** and click **edit**.





6) In the Edit environmental variables select new and type in the following path to the exiftool folder:

C:\Program Files (x86)\Exiftool

7) To allow php to access the local C drive where exif tool is installed also add a path from the xampp php folder.

C:\xampp\php

(note that in my case My xampp is called Xampp2 but normally it is just xampp.)

What can EXIFTOOL read and write?



List all writeable tags: C:\Users\ellio>**exiftool -listw**

List all writeable tags in alphabetical order: C:\Users\ellio>**exiftool -listw list**

List all supported file types: C:\Users\ellio>**exiftool -listf**

List all tag groups: C:\Users\ellio>**exiftool -listg**

List all writeable file types: C:\Users\ellio>**exiftool -listwf**

List all PTC writeable tags: C:\Users\ellio> **exiftool -listw -iptc:all**

List all EXIF writeable tags: C:\Users\ellio> **exiftool -listw -exif:all**

List all FILE writeable tags: C:\Users\ellio> **exiftool -listw -file:all**

EXIFTOOL read a file



Read all image tags for all files in a specific folder:

```
C:\Users\ellio>exiftool "C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesjpgFull\A0000" -a
```

```
Directory          : C:/xampp2/htdocs/lessons/99_BarcelonaTravelHacks/
Ver_90 - Photo metadata fixer/public_html/assets/galleryImagesjpgFull/A0000
```

```
File Size          : 342 KiB
File Modification Date/Time : 2022:01:06 01:23:17+01:00
File Access Date/Time      : 2022:01:06 16:12:48+01:00
File Creation Date/Time    : 2021:12:31 22:13:31+01:00
File Permissions         : -rw-rw-rw-
File Type             : JPEG
File Type Extension      : jpg
MIME Type             : image/jpeg
JFIF Version          : 1.01
Resolution Unit        : inches
X Resolution          : 72
Y Resolution          : 72
Exif Byte Order        : Little-endian (Intel, II)
Image Description       : charset=Ascii binary comment
Orientation           : Horizontal (normal)
X Resolution          : 72
Y Resolution          : 72
Resolution Unit        : inches
Software              : GIMP 2.10.30
Modify Date           : 2022:01:06 01:23:16
Artist                : BarcelonaTravelHacks.com
Copyright             : BarcelonaTravelHacks.com
User Comment          : binary comment
```

Color Space : sRGB
GPS Version ID : 2.2.0.0
GPS Latitude Ref : **North**
GPS Latitude : **41 deg 24' 10.93"**
GPS Longitude Ref : **East**
GPS Longitude : **2 deg 10' 24.99"**
GPS Altitude : **0 m**
GPS Map Datum : WGS-84
Subfile Type : Reduced-resolution image
Image Width : 256
Image Height : 192
Bits Per Sample : 8 8 8
Compression : JPEG (old-style)
Photometric Interpretation : YCbCr
Samples Per Pixel : 3
Thumbnail Offset : 634
Thumbnail Length : 15046
XMP Toolkit : XMP Core 4.4.0-Exiv2
Model Release Status : Limited or Incomplete Model Releases
Document ID : gimp:docid:gimp:ac998bfb-7498-43a2-bde6-1600b99ce599
Instance ID : xmp.iid:38b5657e-b2f4-421d-9ac9-fbd681448d39
Original Document ID : xmp.did:66de40a9-f03e-4d90-9063-350e8bc759b4
Format : image/jpeg
Api : 2.0
Platform : Windows
Time Stamp : 1641428597485421
Version : 2.10.30
Digital Source Type : http://cv.iptc.org/newscodes/digitalsourcetype/softwareImage
Authors Position : BarcelonaTravelHacks.com
Caption Writer : BarcelonaTravelHacks.com
Credit : BarcelonaTravelHacks.com
Date Created : 2021:09:15, 2022:1:5, 2022:1:6, 2022:1:6
Headline : **La Sagrada Famila Passion Facade**
Source : **<https://www.barcelonatravelhacks.com/Attraction/A0001/La-Sagrada-Familia>**



```

Urgency          : 2
Creator Tool     : GIMP 2.10
Rating           : 5
Marked           : True
Web Statement    : https://www.barcelonatra
BarcelonaTravelHacks
Image Creator Name : BarcelonaTravelHacks.com

```

[illegible]

Creator : BarcelonaTravelHacks.com
Description : La Sagrada Familia Passion Facade
Rights : Copywrite 2022 BarcelonaTravelHacks.com
Subject : spire | crane | sagrada familia | passion facade
Title : La sagrada Familia
Profile CMM Type : Little CMS
Profile Version : 4.3.0
Profile Class : Display Device Profile
Color Space Data : RGB
Profile Connection Space : XYZ
Profile Date Time : 2022:01:06 00:07:48
Profile File Signature : acsp
Primary Platform : Microsoft Corporation
CMM Flags : Not Embedded, Independent
Device Manufacturer :
Device Model :
Device Attributes : Reflective, Glossy, Positive, Color
Rendering Intent : Perceptual
Connection Space Illuminant : 0.9642 1 0.82491
Profile Creator : Little CMS
Profile ID : 0
Profile Description : GIMP built-in sRGB
Profile Copyright : Public Domain
Media White Point : 0.9642 1 0.82491
Chromatic Adaptation : 1.04788 0.02292 -0.05022 0.02959 0.99048 -0.01707 -0.00925 0.01508 0.75168
Red Matrix Column : 0.43604 0.22249 0.01392
Blue Matrix Column : 0.14305 0.06061 0.71393
Green Matrix Column : 0.38512 0.7169 0.09706
Red Tone Reproduction Curve : (Binary data 32 bytes, use -b option to extract)
Green Tone Reproduction Curve : (Binary data 32 bytes, use -b option to extract)
Blue Tone Reproduction Curve : (Binary data 32 bytes, use -b option to extract)
Chromaticity Channels : 3
Chromaticity Colorant : Unknown (0)
Chromaticity Channel 1 : 0.64 0.33002



Chromaticity Channel 2 : 0.3 0.60001
Chromaticity Channel 3 : 0.15001 0.06
Device Mfg Desc : GIMP
Device Model Desc : sRGB
Current IPTC Digest : 1c017ab0e358abde50b2fb141c5a5e87
By-line : BarcelonaTravelHacks.com
By-line Title : BarcelonaTravelHacks.com
Caption-Abstract : La Sagrada Familia Passion Facade
Copyright Notice : Copywrite 2022 BarcelonaTravelHacks.com
Credit : BarcelonaTravelHacks.com
Date Created : 2022-1-6
Headline : La Sagrada Familia Passion Facade
Keywords : spire | crane | sagrada familia | passion facade
Object Name : La sagrada Familia
Source : https://www.barcelonatravelhacks.com/Attraction/A0001/La-Sagrada-Familia
Time Created : 01:23:16-01:23
Urgency : 2
Writer-Editor : BarcelonaTravelHacks.com
Comment : charset=Ascii binary comment
Image Width : 1000
Image Height : 750
Encoding Process : Progressive DCT, Huffman coding
Bits Per Sample : 8
Color Components : 3
Y Cb Cr Sub Sampling : YCbCr4:4:4 (1 1)
Image Size : 1000x750
Megapixels : 0.750
Thumbnail Image : (Binary data 15046 bytes, use -b option to extract)
GPS Latitude : **41 deg 24' 10.93" N**
GPS Longitude : **2 deg 10' 24.99" E**
Date/Time Created : 2022-1-6 01:23:16-01:23
Date/Time Original : 2022-1-6 01:23:16-01:23
GPS Position : **41 deg 24' 10.93" N, 2 deg 10' 24.99" E**



1 directories scanned
1 image files read

Author: Elliott Ward Farmer

Copywrite 2020-2025

Read all image tags for EXIF group



```
C:\Users\ellio>exiftool -G -EXIF:all "C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90  
- Photo metadata fixer\public_html\assets\galleryImagesjpgFull\A0000"
```

```
===== C:/xampp2/htdocs/lessons/99_BarcelonaTravelHacks/Ver_90 - Photo metadata  
fixer/public_html/assets/galleryImagesjpgFull/A0000/A0000-01.jpg  
[EXIF]      Image Description           : charset=Ascii binary comment  
[EXIF]      Orientation                 : Horizontal (normal)  
[EXIF]      X Resolution                 : 72  
[EXIF]      Y Resolution                 : 72  
[EXIF]      Resolution Unit              : inches  
[EXIF]      Software                    : GIMP 2.10.30  
[EXIF]      Modify Date                  : 2022:01:06 01:23:16  
[EXIF]      Artist                      : BarcelonaTravelHacks.com  
[EXIF]      Copyright                   : BarcelonaTravelHacks.com  
[EXIF]      User Comment                 : binary comment  
[EXIF]      Color Space                  : sRGB  
[EXIF]      GPS Version ID               : 2.2.0.0  
[EXIF]      GPS Latitude Ref             : North  
[EXIF]      GPS Longitude Ref            : East  
[EXIF]      GPS Altitude                 : 0 m  
[EXIF]      GPS Map Datum                : WGS-84  
[EXIF]      Subfile Type                 : Reduced-resolution image  
[EXIF]      Compression                  : JPEG (old-style)  
[EXIF]      Photometric Interpretation    : YCbCr  
[EXIF]      Samples Per Pixel            : 3  
[EXIF]      Thumbnail Offset             : 634  
[EXIF]      Thumbnail Length             : 15046  
[EXIF]      Thumbnail Image              : (Binary data 15046 bytes, use -b option to extract)  
1 directories scanned  
1 image files read
```

Read all GPS tags for an image



```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -G -*GPS* A0000-01.jpg
```

```
[EXIF]           GPS Version ID           : 2.3.0.0
[EXIF]           GPS Longitude Ref        : East
[Composite]      GPS Latitude             : 41 deg 24' 10.90" N
[Composite]      GPS Longitude            : 2 deg 10' 25.00" E
[Composite]      GPS Latitude Ref         : North
[Composite]      GPS Position              : 41 deg 24' 10.90" N, 2 deg 10' 25.00" E
```

Read all IPTC tags for an image

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
-G -IPTC:all A0000-01.jpg
```

```
[IPTC]           By-line                  : BarcelonaTravelHacks.com
[IPTC]           Application Record Version : 4
[IPTC]           Copyright Notice         : Copywrite 2022 BarcelonaTravelHacks.com
[IPTC]           Keywords                  : spire,crane,sagrada familia,passion facade
[IPTC]           Object Name               : La sagrada Familia
[IPTC]           Caption-Abstract          : La Sagrada Famila Passion Facade
[IPTC]           Time Created              : 11:59:31+01:00
[IPTC]           Date Created              : 2021:09:15
```

A silhouette of the Barcelona skyline, featuring the Sagrada Família, the Guggenheim Museum, and other iconic buildings. Below the skyline, the text "BarcelonaTravelHacks.com" is written in a stylized, cursive font.

```

===== C:/xampp2/htdocs/lessons/99_BarcelonaTravelHacks/Ver_90 - Photo metadata fixer/public_html/assets/
galleryImagesjpgFull/A0000/A0000-01.jpg
[XMP]           XMP Toolkit                      : XMP Core 4.4.0-Exiv2
[XMP]           Model Release Status             : Limited or Incomplete Model Releases
[XMP]           Document ID                     : gimp:docid:gimp:ac998bfb-7498-43a2-bde6-1600b99ce599
[XMP]           Instance ID                    : xmp.iid:38b5657e-b2f4-421d-9ac9-fbd681448d39
[XMP]           Original Document ID            : xmp.did:66de40a9-f03e-4d90-9063-350e8bc759b4
[XMP]           Format                         : image/jpeg
[XMP]           Api                           : 2.0
[XMP]           Platform                      : Windows
[XMP]           Time Stamp                    : 1641428597485421
[XMP]           Version                      : 2.10.30
[XMP]           Digital Source Type            : http://cv.iptc.org/newscodes/digitalsourcetype/softwareImage
[XMP]           Authors Position                : BarcelonaTravelHacks.com
[XMP]           Caption Writer                  : BarcelonaTravelHacks.com
[XMP]           Creator Tool                  : GIMP 2.10
[XMP]           Rating                       : 5
[XMP]           Marked                      : True
[XMP]           Web Statement                    : https://www.barcelonatravelhacks.com/Information/I0002/
Terms-and-Conditions-BarcelonaTravelHacks
[XMP]           Image Creator Name                : BarcelonaTravelHacks.com
[XMP]           History Action                 : saved, saved, saved, saved, saved, saved, saved, saved, saved, saved,
saved, saved, saved, saved, saved, saved, saved, saved, saved, saved, saved
[XMP]           History Changed                 : /metadata, /, /, /, /, /metadata, /metadata, /metadata, /, /metadata, /,
/metadata, /, /metadata, /, /, /metadata, /, /metadata, /, /metadata, /

```


Delete all metadata for an image



```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>  
exiftool -all= "A0000-01.jpg"
```

```
1 image files updated
```

Set DATES tags for FILE metadata for an image

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>  
exiftool -FileCreateDate="2021:09:15 11:59:31" A0000-01.jpg
```

```
1 image files updated
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>  
exiftool -FileModifyDate="2021:09:15 11:59:31" A0000-01.jpg
```

```
1 image files updated
```

Set DATES tags for EXIF, XMP & IPTC for an image



```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>  
exiftool -iptc:DateCreated="2021:09:15"A0000-01.jpg
```

1 image files updated

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>  
exiftool -iptc:TimeCreated="11:59:31" A0000-01.jpg
```

1 image files updated

Note 1: Date and time are two separate fields for IPTC

Note 2: Exiftool automatically appends time with the Time zone i.e. +01:00 (based on system clock on your computer)

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>  
exiftool -xmp:ModifyDate="2021:09:15 11:59:31" A0000-01.jpg
```

1 image files updated

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>  
exiftool -exif:DateTimeOriginal="2021-09-15 11:59:31" A0000-01.jpg
```

1 image files updated

Set all DATES tags for an image



```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -AllDates="2021:09:15 11:59:31" "A0000-01.jpg"
```

```
1 image files updated
```

Show all DATES for an image

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -alldates A0000-01.jpg
```

```
Date/Time Original      : 2021:09:15 11:59:31
Create Date             : 2021:09:15 11:59:31
Modify Date             : 2021:09:15 11:59:31
```

Set ORIENTATION for XMP and IPTC for an image

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -exif:Orientation="Horizontal (normal)" A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -xmp:Orientation="Horizontal (normal)" A0000-01.jpg
```

Set WEB STATEMENT for XMP for an image



```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -XMP:xmpRights:WebStatement="https://www.barcelonatravelhacks.com/Information/I0002/Terms-and-Conditions-
BarcelonaTravelHacks" A0000-01.jpg

1 image files updated
```

Set TITLE tags for XMP and IPTC for an image

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -iptc:ObjectName="La sagrada Familia" A0000-01.jpg

C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -xmp:Title="La sagrada Familia" A0000-01.jpg
```

Set CREATOR tags for EXIF, XMP and IPTC for an image

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -iptc:by-line="BarcelonaTravelHacks.com" A0000-01.jpg

C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -xmp:creator="BarcelonaTravelHacks.com" A0000-01.jpg

C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -exif:Artist="BarcelonaTravelHacks.com" A0000-01.jpg
```


Set DESCRIPTION tags for EXIF, XMP & IPTC for an image



```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -iptc:Caption-Abstract="La Sagrada Famila Passion Facade" A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -xmp:description="La Sagrada Famila Passion Facade" A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -exif:ImageDescription="La Sagrada Famila Passion Facade" A0000-01.jpg
```

Set SOURCE tags for XMP & IPTC for an image

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -iptc:Source="www.barcelonatravelhacks.com" A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -xmp:Source="www.barcelonatravelhacks.com" A0000-01.jpg
```

Set CREDIT tags for XMP and IPTC for an image

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -iptc:credit="BarcelonaTravelHacks.com" A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -xmp:credit="BarcelonaTravelHacks.com" A0000-01.jpg
```

Set COPYRIGHT NOTICE tags for EXIF, XMP & IPTC for an image



```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -iptc:CopyrightNotice="Copywrite 2022 BarcelonaTravelHacks.com" A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -xmp:rights="Copywrite 2022 BarcelonaTravelHacks.com" A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -exif:Copyright="Copywrite 2022 BarcelonaTravelHacks.com" A0000-01.jpg
```

Set CAPTION-WRITER tags for XMP & IPTC for an image

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -xmp:CaptionWriter="BarcelonaTravelHacks.com" A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -iptc:By-lineTitle="Travel Blogger & coder" A0000-01.jpg
```

Set Authors-Position tags for XMP & IPTC for an image

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -xmp:AuthorsPosition="Travel Blogger & coder" A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -iptc:Writer-Editor="BarcelonaTravelHacks.com" A0000-01.jpg
```

Set GPS tags for XMP & EXIF for an image using DMS



Method 1: Use DMS (degrees, Minutes & Seconds)

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -exif:gpslatitude="41 24 10.90" -exif:gpslatituderef=N A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -exif:gpslongitude="02 10 25.00" -exif:gpslongituderef=E A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -xmp:gpslatitude="41 24 10.90 N" A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -gpslongitude="02 10 25.00 E" A0000-01.jpg
```

Set GPS tags for XMP & EXIF for an image using DD



Method 2: Use DD (Decimal Degrees)

Note 1: Exiftool automatically converts DD to DMS to input GPS data into images

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -exif:gpslatitude="41.403035" -exif:gpslatituderef=N A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -exif:gpslongitude="2.173608" -exif:gpslongituderef=E A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -xmp:gpslatitude="41.403035 N" A0000-01.jpg
```

```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>
exiftool -gpslongitude="2.173608 E" A0000-01.jpg
```

Desired EXIF, XMP & IPTC tags



```
exiftool -iptc:by-line="BarcelonaTravelHacks.com" "A0000-01.jpg"
exiftool -xmp:creator="BarcelonaTravelHacks.com" "A0000-01.jpg"
exiftool -exif:Artist="BarcelonaTravelHacks.com" "A0000-01.jpg"
```

```
exiftool -iptc:CopyrightNotice="Copywrite 2022 BarcelonaTravelHacks.com" "A0000-01.jpg"
exiftool -xmp:rights="Copywrite 2022 BarcelonaTravelHacks.com" "A0000-01.jpg"
exiftool -exif:Copyright="Copywrite 2022 BarcelonaTravelHacks.com" "A0000-01.jpg"
```

```
exiftool -XMP-xmpRights:WebStatement="https://www.barcelonatravelhacks.com/Information/I0002/Terms-and-Conditions-BarcelonaTravelHacks" "A0000-01.jpg"
exiftool -xmp-xmpRights:marked=true -xmp:copyrightstatus="CS-PRO" "A0000-01.jpg"
```

```
exiftool -iptc:keywords="spire,crane,sagrada familia,passion facade" "A0000-01.jpg"
exiftool -xmp:Subject="spire,crane,sagrada familia,passion facade" "A0000-01.jpg"
exiftool -exif:UserComment="spire,crane,sagrada familia,passion facade" "A0000-01.jpg"
```

```
exiftool -iptc:credit="Image rights provided by ThirdPartyWebsite.com" "A0000-01.jpg"
exiftool -xmp:credit="Image rights provided by ThirdPartyWebsite.com" "A0000-01.jpg"
```

```
exiftool -iptc:ObjectName="La Sagrada Familia" "A0000-01.jpg"
exiftool -xmp:Title="La Sagrada Familia" "A0000-01.jpg"
exiftool -exif:DocumentName="La Sagrada Familia" "A0000-01.jpg"
```

```
exiftool -iptc:Caption-Abstract="Image description" A0000-01.jpg
exiftool -xmp:description="Image description" A0000-01.jpg
exiftool -exif:ImageDescription="Image description" A0000-01.jpg
```

```
exiftool -iptc:Source="www.barcelonatravelhacks.com" A0000-01.jpg
exiftool -xmp:Source="www.barcelonatravelhacks.com" A0000-01.jpg
```

```
exiftool -exif:gpslatitude="41.403035" -exif:gpslatituderef=N A0000-01.jpg
exiftool -exif:gpslongitude="2.173608" -exif:gpslongituderef=E A0000-01.jpg
exiftool -xmp:gpslatitude="41.403035 N" A0000-01.jpg
exiftool -xmp:gpslongitude="2.173608 E" A0000-01.jpg
```

```
exiftool -xmp:AuthorsPosition="website owner & coder" A0000-01.jpg
exiftool -iptc:By-lineTitle="website owner & coder" A0000-01.jpg
```

```
exiftool -xmp:CaptionWriter="BarcelonaTravelHacks.com" A0000-01.jpg
exiftool -iptc:Writer-Editor="BarcelonaTravelHacks.com" A0000-01.jpg
```

Instructions for CWEBP to convert image files to WEBP format from the command line

- [How to install CWEBP on windows 11](#)
- [How to Convert jpg to WEBP using CWEBP](#)

How to install CWEBP on windows 11

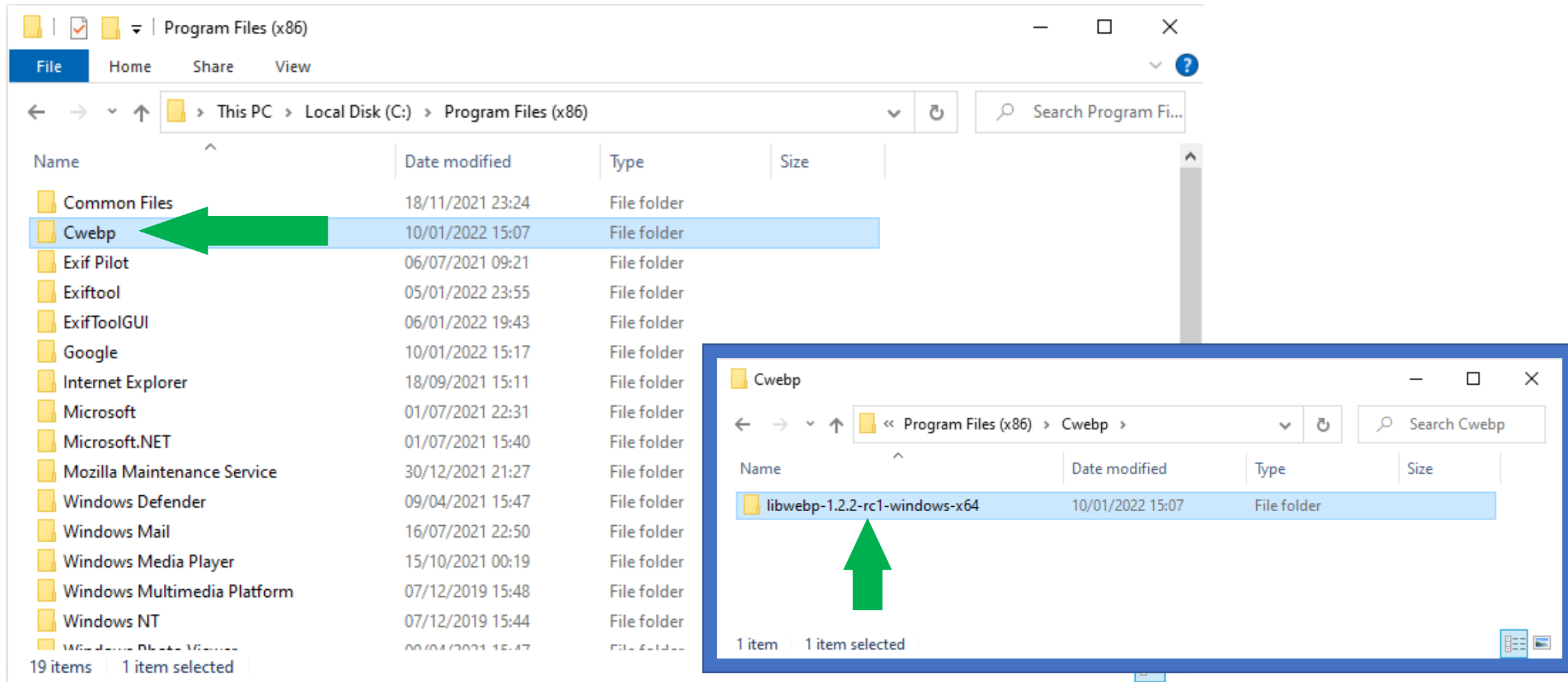


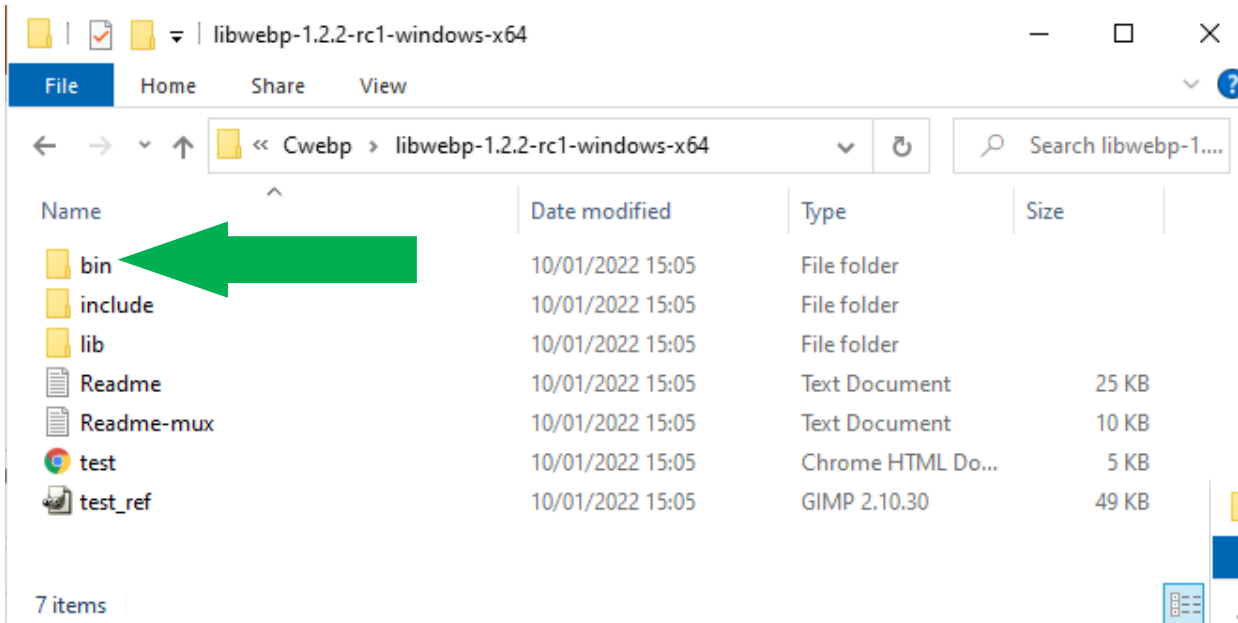
Video tutorial from [TroubleChute](https://www.youtube.com/watch?v=ZcX2h48-lc0) here: <https://www.youtube.com/watch?v=ZcX2h48-lc0>

- 1) Go to <https://storage.googleapis.com/downloads.webmproject.org/releases/webp/index.html> and scroll down to the bottom of the page to find the latest Windows Executable, in this case: [libwebp-1.2.1-windows-x64-no-wic.zip](#) This version is the one that I have got to work.

Name	Last modified	Size
libwebp-1.2.1-rc2-windows-x64.zip.asc	2021-07-28T17:04:33Z	833B
libwebp-1.2.1-rc2.tar.gz	2021-07-28T17:04:34Z	3.91MiB
libwebp-1.2.1-rc2.tar.gz.asc	2021-07-28T17:04:33Z	833B
libwebp-1.2.1-windows-x64-no-wic.zip	2021-08-13T22:55:38Z	4.62MiB
libwebp-1.2.1-windows-x64-no-wic.zip.asc	2021-08-13T22:55:37Z	833B
libwebp-1.2.1-windows-x64.zip	2021-08-13T22:55:38Z	3.43MiB
libwebp-1.2.1-windows-x64.zip.asc	2021-08-13T22:55:37Z	833B
libwebp-1.2.1.tar.gz	2021-08-13T22:55:38Z	3.91MiB
libwebp-1.2.1.tar.gz.asc	2021-08-13T22:55:37Z	833B
libwebp-1.2.2-rc1-ios-framework.tar.gz	2021-12-17T21:50:13Z	19.14MiB
libwebp-1.2.2-rc1-ios-framework.tar.gz.asc	2021-12-17T21:50:12Z	833B
libwebp-1.2.2-rc1-linux-x86-64.tar.gz	2021-12-17T21:50:13Z	10.68MiB
libwebp-1.2.2-rc1-linux-x86-64.tar.gz.asc	2021-12-17T21:50:12Z	833B
libwebp-1.2.2-rc1-mac-arm64.tar.gz	2021-12-17T21:50:12Z	4.6MiB
libwebp-1.2.2-rc1-mac-arm64.tar.gz.asc	2021-12-17T21:50:13Z	833B
libwebp-1.2.2-rc1-mac-x86-64.tar.gz	2021-12-17T21:50:12Z	3.39MiB
libwebp-1.2.2-rc1-mac-x86-64.tar.gz.asc	2021-12-17T21:50:12Z	833B
libwebp-1.2.2-rc1-windows-x64-no-wic.zip	2021-12-17T21:50:13Z	4.62MiB
libwebp-1.2.2-rc1-windows-x64-no-wic.zip.asc	2021-12-17T21:50:12Z	833B

2) Unzip and deposit the contents of the download into a newly created folder in **C:Program Files (x86)**. Name the Folder **Cwebp**. Once done this folder should contain the unzipped subfolder called **libwebp-1.2.1-windows-x64-no-wic**.



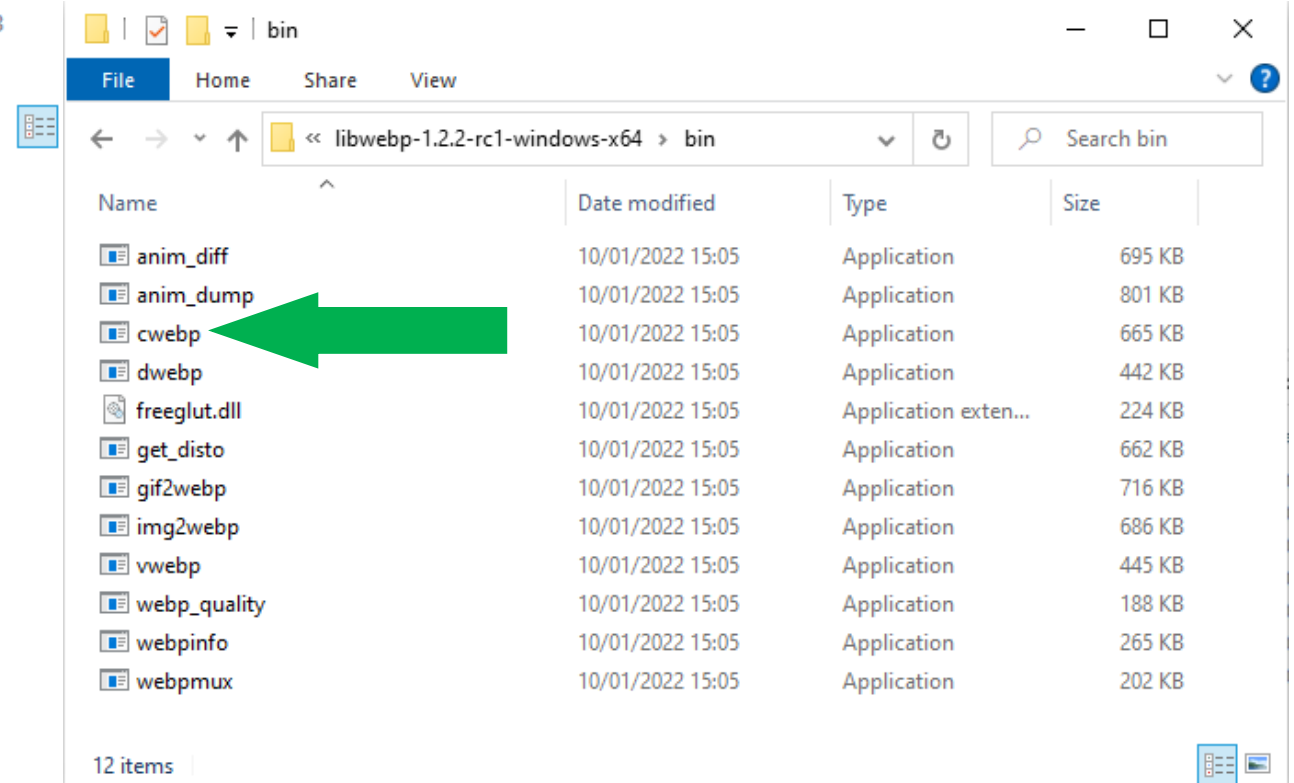


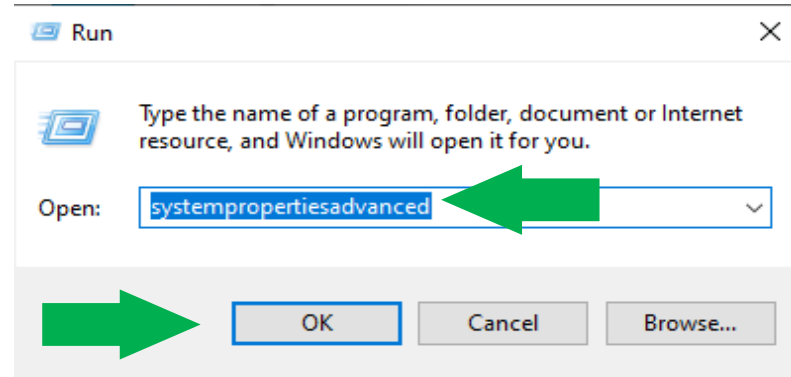
3) Within the folder C:\Program Files (x86)\Cwebp\libwebp-libwebp-1.2.1-windows-x64-no-wic, there should be a number of subfolders and files, one folder called bin.

4) Within the folder C:\Program Files (x86)\Cwebp\libwebp-1.2.2-rc1-windows-x64/bin, there should be an executable file called cwebp.exe.

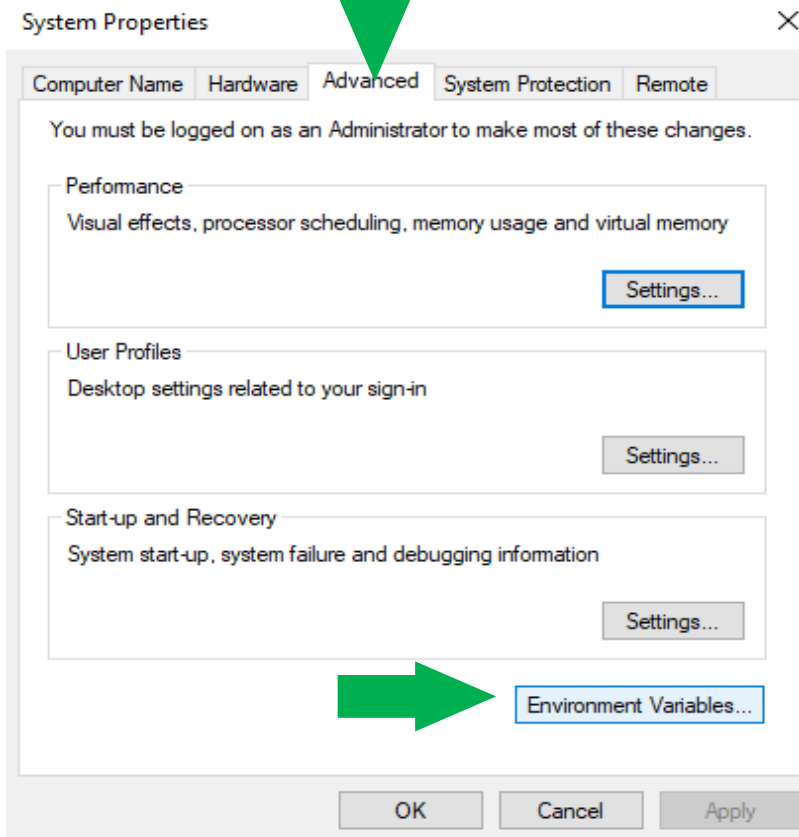
We need to get the path to the folder that contains cwebp.exe

C:\Program Files (x86)\Cwebp\libwebp-1.2.2-rc1-windows-x64\bin



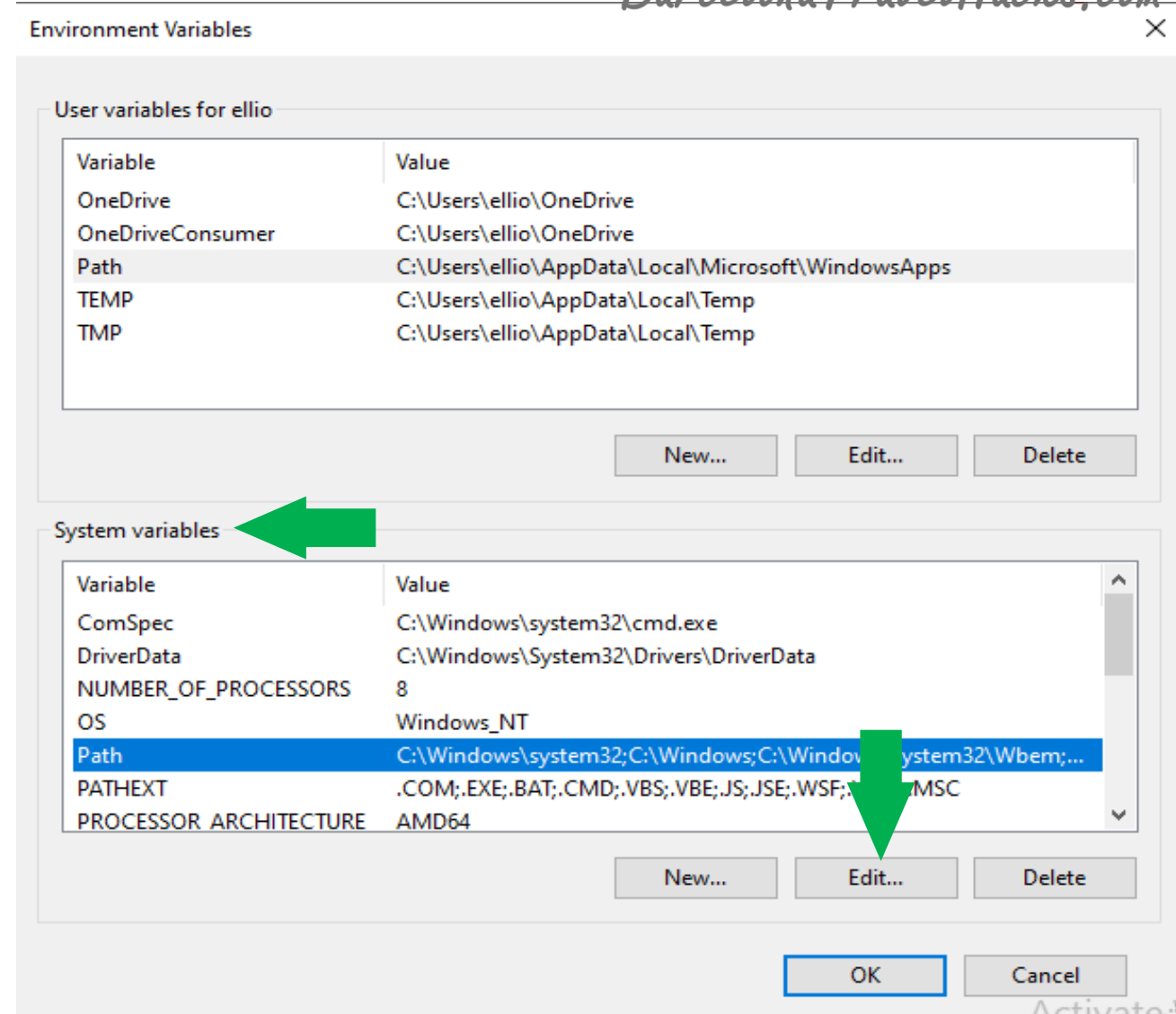


5) Press the **windows key + R** and type in **“systemPropertiesAdvanced”** select ok.



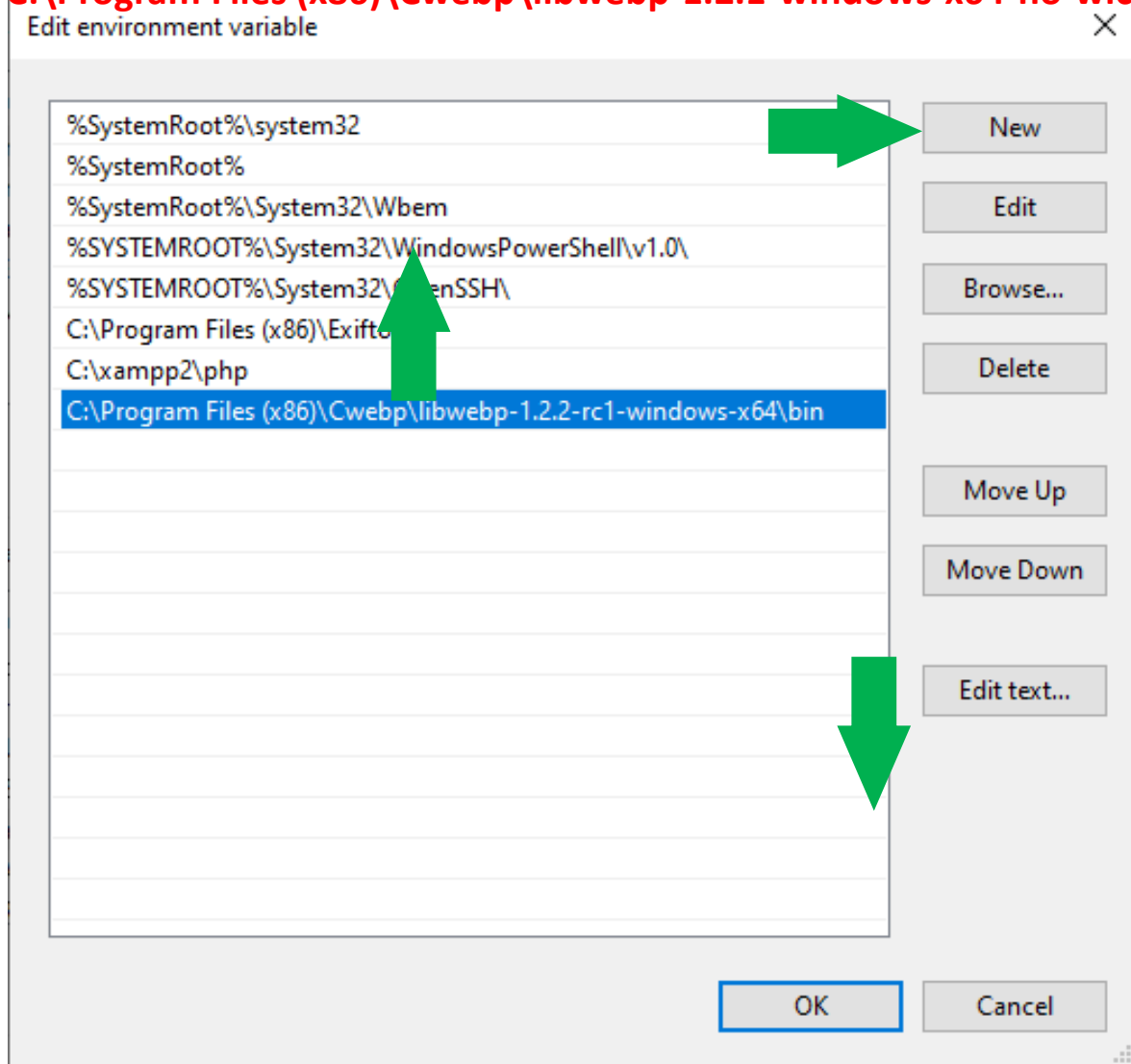
6) On the **advanced tab** click **Environmental Variables.**

7) In the **system variables** select **path** and click **edit.**



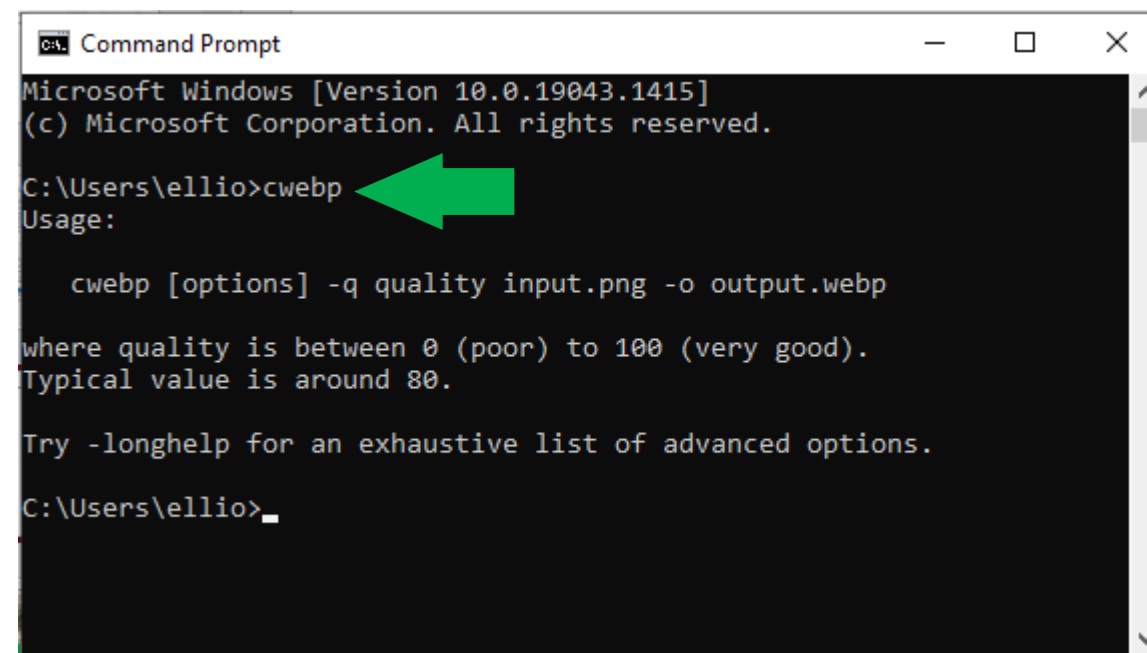
8) In the Edit environmental variables select new and type in the path subfolders to the cwebp.exe folder:

C:\Program Files (x86)\Cwebp\libwebp-1.2.1-windows-x64-no-wic\bin



9) Now from the cmd prompt we can check that cwebp is working by typing cwebp. This should give an output of basic photo conversion options.

(However, I had to restart my PC to get cwebp to work in the command prompt.)



How to Convert jpg to WEBP using CWEBP



```
C:\xampp2\htdocs\lessons\99_BarcelonaTravelHacks\Ver_90 - Photo metadata fixer\public_html\assets\galleryImagesJpgFull\A0000>  
cwebp -q 80 -metadata all "A0000-01.jpg" -o "A0000-01.webp"
```

PHP Batch Image metadata & CWEBP converter APP

- [Bulk write Metadata & Cwebp Convert](#)
- [Batch Image Metadata Menu Page](#)
- [Single Image Editor](#)
- [Single Image Metadata updater modal](#)
- [Batch Image Metadata updater page](#)
- [Batch Updater Processing Page](#)

Bulk write Metadata & Cwebp Convert



Automatically Update JPG Image Metadata for Full-size.jpg & Thumbnail.jpg based on Values in SQL row then Create WEBP Image for each

SQL TABLE COLUMNS:

\$img-id
\$noIndexTag
\$imgSize
\$imgDateTime
\$ddLat
\$ddLon
\$imgTitle
\$imgDescription
\$photoCreator
\$authorPosition
\$CreditLine
\$CopyrightNotice
\$WebStatementRights
\$pathFullsizeJpg
\$pathThumbnailJpg
\$pathFullsizeWebp
\$pathThumbnailWebp

TOOLBOX PAGE:

Input:

Single image editor

A) \$img-Id

Multiple Image editor

B) \$img-id,\$img-id,\$img-id etc

C) Folder

BATCH IMAGE PAGE:

You are about to update x Images.

Are you sure?

SINGLE IMAGE PAGE:

Single image page shows EXIF, EXIF GPS, XMP and IPTC metadata for \$pathFullsizeJpg and \$pathThumbnailJpg. Also shows SQL desired metadata.

Update Metadata button

Update EXIF, EXIF GPS, XMP & IPTC metadata for full-size & thumbnail JPGs.

Convert Metadata updated full-size & thumbnail JPGs to WEBP.
Max_filesize_fullsize 150Kb
Max_Filesize_thumbnail 45Kb

\$pathFullsizeWebp = private folder if \$noIndexTag is 1, else path = public folder

\$pathThumbnailWebp = private folder

Webp output image filename = \$imgId-\$title.webp (convert spaces to dashes)

Batch Image Metadata Menu Page





BARCELONA ▼**TRAVEL ▼****HACKS ▼**

THEME ▼**BUDGET/DISTANCE ▼**

Auto-update Image Metadata and auto-generate WEBP images

View and update metadata for a SINGLE IMAGE and it's coresponding thumbnail
Enter Image-Id: **Submit Image-Id**

Batch Update metadata for MULTIPLE IMAGES and thier coresponding thumbnails
Enter Image IDs in one of the below formats:
A) To update multiple non sequential images, enter them as a coma delimited string without spaces. i.e. a0000-01,a0000-03,a0000-04
B) To update all images in a sub folder, enter the sub-folder name. i.e. a0000
Enter Image IDs in format A or B: **Submit Image-Array**

Update Page GPX file

Auto Generate a Stav22 GPX file for a specific page

Single Image Editor



BARCELONA ▼ TRAVEL ▼ HACKS ▼

IMG ID: 40801-01 TITLE: La Sagrada Família DESCRIPTION: La Sagrada Família Passion Facade

GPS	JPG SRC	JPG SCN FULL	JPG SCN TMB	JPG MOB FULL	JPG MOB TMB
IMG TYPE: 4 ASPECT RATIO: 1 GPS LAT: 41.403038 GPS LONG: 2.173608 DMS LAT REF: N DMS LAT DEG: 41° DMS LAT MIN: 24" DMS LAT SEC: 10.8" DMS LONG REF: E DMS LONG DEG: 2° DMS LONG MIN: 10"	WATERMARKED IMG: W: 4000 x H: 3000 px IMG: CHECKSUM: N N 45.5 41° 24.1 24° 0403.000 10.8"	SCREEN IMG (FULL): W: 1000 x H: 750 px IMG: CHECKSUM: N N 45.5 41° 24.1 24° 0403.000 10.8"	SCREEN IMG (THUMB): W: 287 x H: 200 px IMG: CHECKSUM: N N 45.5 41° 24.1 24° 0403.000 10.8"	MOBILE IMG (FULL): W: 800 x H: 450 px IMG: CHECKSUM: N N 45.5 41° 24.1 24° 0403.000 10.8"	MOBILE IMG (THUMB): W: 100 x H: 75 px IMG: CHECKSUM: N N 45.5 41° 24.1 24° 0403.000 10.8"
IPTC METADATA: Title 2000: La Sagrada Família Description 2010: La Sagrada Família Passion Facade Keywords 2003: spire crane sagrada familia passion facade Caption Writer 2011: BarcelonaTravelHacks.com Author's Position 2008: Travel Writer & Editor Creator 2008: BarcelonaTravelHacks.com Credit Line 2011: BarcelonaTravelHacks.com Copyright Notice 2011: Copyright 2023 BarcelonaTravelHacks.com Source 2011: www.BarcelonaTravelHacks.com	IPTC METADATA: WATERMARKED IMG: Title 2000: La Sagrada Família Description 2010: La Sagrada Família Passion Facade Keywords 2003: spire crane sagrada familia passion facade Caption Writer 2011: BarcelonaTravelHacks.com Author's Position 2008: Travel Writer & Editor Creator 2008: BarcelonaTravelHacks.com Credit Line 2011: BarcelonaTravelHacks.com Copyright Notice 2011: Copyright 2023 BarcelonaTravelHacks.com Source 2011: www.BarcelonaTravelHacks.com	IPTC METADATA: SCREEN FULL IMG: Title 2000: La Sagrada Família Description 2010: La Sagrada Família Passion Facade Keywords 2003: spire crane sagrada familia passion facade Caption Writer 2011: BarcelonaTravelHacks.com Author's Position 2008: Travel Writer & Editor Creator 2008: BarcelonaTravelHacks.com Credit Line 2011: BarcelonaTravelHacks.com Copyright Notice 2011: Copyright 2023 BarcelonaTravelHacks.com Source 2011: www.BarcelonaTravelHacks.com	IPTC METADATA: SCREEN THUMB IMG: Title 2000: La Sagrada Família Description 2010: La Sagrada Família Passion Facade Keywords 2003: spire crane sagrada familia passion facade Caption Writer 2011: BarcelonaTravelHacks.com Author's Position 2008: Travel Writer & Editor Creator 2008: BarcelonaTravelHacks.com Credit Line 2011: BarcelonaTravelHacks.com Copyright Notice 2011: Copyright 2023 BarcelonaTravelHacks.com Source 2011: www.BarcelonaTravelHacks.com	IPTC METADATA: MOBILE FULL IMG: Title 2000: La Sagrada Família Description 2010: La Sagrada Família Passion Facade Keywords 2003: spire crane sagrada familia passion facade Caption Writer 2011: BarcelonaTravelHacks.com Author's Position 2008: Travel Writer & Editor Creator 2008: BarcelonaTravelHacks.com Credit Line 2011: BarcelonaTravelHacks.com Copyright Notice 2011: Copyright 2023 BarcelonaTravelHacks.com Source 2011: www.BarcelonaTravelHacks.com	IPTC METADATA: MOBILE THUMB IMG: Title 2000: La Sagrada Família Description 2010: La Sagrada Família Passion Facade Keywords 2003: spire crane sagrada familia passion facade Caption Writer 2011: BarcelonaTravelHacks.com Author's Position 2008: Travel Writer & Editor Creator 2008: BarcelonaTravelHacks.com Credit Line 2011: BarcelonaTravelHacks.com Copyright Notice 2011: Copyright 2023 BarcelonaTravelHacks.com Source 2011: www.BarcelonaTravelHacks.com
XMP XMP DATA:	XMP: WATERMARKED IMG: BarcelonaTravelHacks.com La Sagrada Família Passion Facade Copyright 2023 BarcelonaTravelHacks.com spire crane sagrada familia passion facade Caption Writer 2011: BarcelonaTravelHacks.com Author's Position 2008: BarcelonaTravelHacks.com Creator 2008: BarcelonaTravelHacks.com Credit Line 2011: BarcelonaTravelHacks.com Copyright Notice 2011: Copyright 2023 BarcelonaTravelHacks.com Source 2011: www.BarcelonaTravelHacks.com	XMP: SCREEN FULL IMG: BarcelonaTravelHacks.com La Sagrada Família Passion Facade Copyright 2023 BarcelonaTravelHacks.com spire crane sagrada familia passion facade Caption Writer 2011: BarcelonaTravelHacks.com Author's Position 2008: BarcelonaTravelHacks.com Creator 2008: BarcelonaTravelHacks.com Credit Line 2011: BarcelonaTravelHacks.com Copyright Notice 2011: Copyright 2023 BarcelonaTravelHacks.com Source 2011: www.BarcelonaTravelHacks.com	XMP: SCREEN THUMB IMG: BarcelonaTravelHacks.com La Sagrada Família Passion Facade Copyright 2023 BarcelonaTravelHacks.com spire crane sagrada familia passion facade Caption Writer 2011: BarcelonaTravelHacks.com Author's Position 2008: BarcelonaTravelHacks.com Creator 2008: BarcelonaTravelHacks.com Credit Line 2011: BarcelonaTravelHacks.com Copyright Notice 2011: Copyright 2023 BarcelonaTravelHacks.com Source 2011: www.BarcelonaTravelHacks.com	XMP: MOBILE FULL IMG: BarcelonaTravelHacks.com La Sagrada Família Passion Facade Copyright 2023 BarcelonaTravelHacks.com spire crane sagrada familia passion facade Caption Writer 2011: BarcelonaTravelHacks.com Author's Position 2008: BarcelonaTravelHacks.com Creator 2008: BarcelonaTravelHacks.com Credit Line 2011: BarcelonaTravelHacks.com Copyright Notice 2011: Copyright 2023 BarcelonaTravelHacks.com Source 2011: www.BarcelonaTravelHacks.com	XMP: MOBILE TMB IMG: BarcelonaTravelHacks.com La Sagrada Família Passion Facade Copyright 2023 BarcelonaTravelHacks.com spire crane sagrada familia passion facade Caption Writer 2011: BarcelonaTravelHacks.com Author's Position 2008: BarcelonaTravelHacks.com Creator 2008: BarcelonaTravelHacks.com Credit Line 2011: BarcelonaTravelHacks.com Copyright Notice 2011: Copyright 2023 BarcelonaTravelHacks.com Source 2011: www.BarcelonaTravelHacks.com

UPDATE IPTC, GPS & XMP METADATA FOR: SCREEN-FULLSIZE-JPG & SCREEN-THUMB-JPG, MOBILE-FULLSIZE-JPG & MOBILE-THUMB-JPG. CREATE FOUR WEBP IMAGES FROM JPG IMAGES

Click this button to update XMP, IPTC & EXIF metadata for Full-size and thumbnail photos.

This button will write the SQL values to both Full-size and thumbnail Image then convert both to Webp.



Single Image Metadata updater modal



search...

BARCELONA

TRAVEL

HACKS

HERE

BUDGET/DISTANCE

IMG ID: a0001-01

TITLE: La sagrada Familia

DESCRIPTION: La Sagrada Familia Passion Facade

WATERMARKED IMG:
W: 4000 x H: 3000 px

SCREEN IMG (FULL):
W: 1000 x H: 750 px

SCREEN IMG (THUMB):
W: 287 x H: 200 px

MOBILE IMG (FULL):
W: 600 x H: 450 px

MOBILE IMG (THUMB):
W: 100 x H: 75 px

Updating the following metadata fields for image ID: a0001-01 ... Please wait as this process takes 2 mins per image.

IMG ID: a0001-01

IMG TYPE: 4

ASPECT RATIO: 1

WATERMARKED IMG:
W: 4000 x H: 3000 px
7 to 15 Mb

WEBP SCREEN FULL:
W: 1000 x H: 750 px
145.0 K

WEBP SCREEN FULL:
W: 287 x H: 200 px
32.4 K

WEBP SCREEN FULL:
W: 600 x H: 450 px
57.3 K

WEBP SCREEN FULL:
W: 100 x H: 75 px
4.7 K

CLOSE UPDATE IMAGE METADATA MODAL WINDOW

MOBILE THUMB IMG:

IMG:	CHECKSUM:
400	400
200	200
600000	1000
0	0
200	200
100	100
1001000	2000

IPTC METADATA:

Title 20000:
La sagrada Familia

Description 20120:
La Sagrada Familia Passion Facade

Keywords 20030:
spire | crane | sagrada familia | passion facade

IPTC METADATA: WATERMARKED IMG:

Title 20000:
La sagrada Familia

Description 20120:
La Sagrada Familia Passion Facade

Keywords 20030:
spire | crane | sagrada familia | passion facade

IPTC METADATA: SCREEN FULL IMG:

Title 20000:
La sagrada Familia

Description 20120:
La Sagrada Familia Passion Facade

Keywords 20030:
spire | crane | sagrada familia | passion facade

IPTC METADATA: SCREEN THUMB IMG:

Title 20000:
La sagrada Familia

Description 20120:
La Sagrada Familia Passion Facade

Keywords 20030:
spire | crane | sagrada familia | passion facade

IPTC METADATA: MOBILE FULL IMG:

Title 20000:
La sagrada Familia

Description 20120:
La Sagrada Familia Passion Facade

Keywords 20030:
spire | crane | sagrada familia | passion facade

IPTC METADATA: MOBILE THUMB IMG:

Title 20000:
La sagrada Familia

Description 20120:
La Sagrada Familia Passion Facade

Keywords 20030:
spire | crane | sagrada familia | passion facade

Once the updater has finished writing the metadata to the images after 40 seconds approximately click button to close modal window.

Batch Image Metadata updater page





BARCELONA ▾

TRAVEL ▾

HACKS ▾

HOME ▾

BUDGET / DISTANCE ▾

Update metadata & generate WEBP images for the following Image IDs?

Update a total of 82 images.....

Images to Update: a0001-32, a0001-81, a0001-80, a0001-78, a0001-78, a0001-77, a0001-78, a0001-76, a0001-74, a0001-73, a0001-72, a0001-71, a0001-70, a0001-69, a0001-83, a0001-87, a0001-88, a0001-86, a0001-84, a0001-83, a0001-82, a0001-81, a0001-80, a0001-68, a0001-68, a0001-67, a0001-68, a0001-66, a0001-64, a0001-63, a0001-62, a0001-61, a0001-60, a0001-49, a0001-48, a0001-47, a0001-46, a0001-45, a0001-44, a0001-43, a0001-42, a0001-41, a0001-40, a0001-39, a0001-38, a0001-37, a0001-36, a0001-35, a0001-34, a0001-33, a0001-32, a0001-31, a0001-30, a0001-29, a0001-28, a0001-27, a0001-26, a0001-25, a0001-24, a0001-23, a0001-22, a0001-21, a0001-20, a0001-19, a0001-18, a0001-17, a0001-16, a0001-15, a0001-14, a0001-13, a0001-12, a0001-11, a0001-10, a0001-09, a0001-08, a0001-07, a0001-06, a0001-05, a0001-04, a0001-03, a0001-02, a0001-01,

Each image takes 10 seconds aprox..... Estimated runtime for this script is 8.8 minutes.....

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Travel and Tourism Directory

Click conform to start the image updater process for all the images listed above.

Batch Updater Processing Page



BARCELONA

TRAVEL

HACKS

THEME

BUDGET/DISTANCE

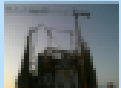
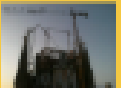
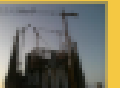
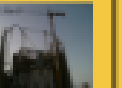
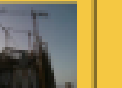
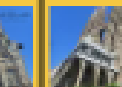
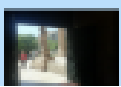
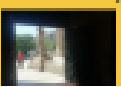
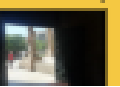
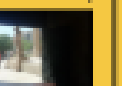
Update metadata & generate WEBP images for the following Image IDs?

Update a total of 82 images.....

Images to Update: a0001-32, a0001-31, a0001-30, a0001-79, a0001-78, a0001-77, a0001-76, a0001-75, a0001-74, a0001-73, a0001-72, a0001-71, a0001-70, a0001-69, a0001-68, a0001-67, a0001-66, a0001-65, a0001-64, a0001-63, a0001-62, a0001-61, a0001-60, a0001-59, a0001-58, a0001-57, a0001-56, a0001-55, a0001-54, a0001-53, a0001-52, a0001-51, a0001-50, a0001-49, a0001-48, a0001-47, a0001-46, a0001-45, a0001-44, a0001-43, a0001-42, a0001-41, a0001-40, a0001-39, a0001-38, a0001-37, a0001-36, a0001-35, a0001-34, a0001-33, a0001-32, a0001-31, a0001-30, a0001-29, a0001-28, a0001-27, a0001-26, a0001-25, a0001-24, a0001-23, a0001-22, a0001-21, a0001-20, a0001-19, a0001-18, a0001-17, a0001-16, a0001-15, a0001-14, a0001-13, a0001-12, a0001-11, a0001-10, a0001-09, a0001-08, a0001-07, a0001-06, a0001-05, a0001-04, a0001-03, a0001-02, a0001-01,

Each image takes 10 seconds approx..... Estimated runtime for this script is 8.8 minutes.....

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IMG ID: a0001-77 IMG TYPE: 4 ASPECT RATIO: 1	WM JPG IMG: W: 4000 x H: 3000 px  7 to 15 Mb	WEBP ICON FULL: W: 1000 x H: 750 px  147.1 K	WEBP ICON FULL: W: 257 x H: 200 px  18.3 K	WEBP ICON FULL: W: 600 x H: 450 px  49.7 K	WEBP ICON FULL: W: 100 x H: 75 px  3.7 K	
IMG ID: a0001-73 IMG TYPE: 5 ASPECT RATIO: 2	WM JPG IMG: W: 5000 x H: 3000 px  7 to 15 Mb	WEBP ICON FULL: W: 1500 x H: 750 px  145.2 K	WEBP ICON FULL: W: 400 x H: 200 px  34.1 K	WEBP ICON FULL: W: 600 x H: 300 px  57.9 K	WEBP ICON FULL: W: 150 x H: 75 px  4.8 K	
IMG ID: a0001-75 IMG TYPE: 4 ASPECT RATIO: 1	WM JPG IMG: W: 4000 x H: 3000 px 	WEBP ICON FULL: W: 1000 x H: 750 px 	WEBP ICON FULL: W: 257 x H: 200 px 	WEBP ICON FULL: W: 600 x H: 450 px 	WEBP ICON FULL: W: 100 x H: 75 px 	

Exiftool Commands Appendix



- [APPENDIX 1: EXIFTOOL show all writable FILE tags](#)
- [APPENDIX 2: EXIFTOOL show all writable IPTC tags](#)
- [APPENDIX 3: EXIFTOOL show all writable EXIF tags](#)
- [APPENDIX 4: EXIFTOOL show all writable XMP tags](#)
- [APPENDIX 5: Image metadata Web resources](#)

APPENDIX 1: EXIFTOOL show all writable FILE tags



```
C:\Users\ellio> exiftool -listw -file:all
```

Writable file tags:

Comment Directory ExifByteOrder ExifUnicodeByteOrder **FileCreateDate** FileGroupID **FileModifyDate** FileName FilePermissions
FileUserID Geosync Geotag Geotime HardLink MDItemFSCreationDate MDItemFSLabel MDItemFinderComment MDItemUserTags PreviewImage
SymLink TestName Trailer XAttrQuarantine ZoneIdentifier

APPENDIX 2: EXIFTOOL show all writable IPTC tags

```
C:\Users\ellio> exiftool -listw -iptc:all
```

Writable iptc tags:

ARMIdentifier ARMVersion ActionAdvised ApplicationRecordVersion AudioDuration AudioOutcue AudioSamplingRate
AudioSamplingResolution AudioType BitsPerComponent By-line By-lineTitle Caption-Abstract CatalogSets Category City
ClassifyState CodedCharacterSet ColorRepresentation ColorSequence Contact ContentLocationCode ContentLocationName
CopyrightNotice Country-PrimaryLocationCode Country-PrimaryLocationName Credit DataCompressionMethod DateCreated DateSent
Destination DigitalCreationDate DigitalCreationTime DocumentHistory DocumentNotes EditStatus EditorialUpdate EnvelopeNumber
EnvelopePriority EnvelopeRecordVersion ExcursionTolerance ExifCameraInfo ExpirationDate ExpirationTime FileFormat FileVersion
FixtureIdentifier GammaCompensatedValue Headline IPTC IPTCBitsPerSample IPTCImageHeight IPTCImageRotation IPTCImageWidth
IPTCPictureNumber IPTCPixelHeight IPTCPixelWidth ImageOrientation ImageType InterchangeColorSpace JobID Keywords
LanguageIdentifier LocalCaption MasterDocumentID MaximumDensityRange NewsPhotoVersion NumIndexEntries ObjectAttributeReference
ObjectCycle ObjectName ObjectPreviewData ObjectPreviewFileFormat ObjectPreviewFileVersion ObjectTypeReference
OriginalTransmissionReference OriginatingProgram OwnerID Prefs ProductID ProgramVersion Province-State QuantizationMethod
RasterizedCaption ReferenceDate ReferenceNumber ReferenceService ReleaseDate ReleaseTime SampleStructure ScanningDirection
ServiceIdentifier ShortDocumentID SimilarityIndex Source SpecialInstructions Sub-location SubjectReference
SupplementalCategories SupplementalType TimeCreated TimeSent UniqueDocumentID UniqueObjectName Urgency Writer-Editor

A silhouette of the Barcelona skyline, featuring the Sagrada Família, the Guggenheim Museum, and other iconic buildings. Below the skyline, the text "BarcelonaTravelHacks.com" is written in a stylized, cursive font.

BarcelonaTravelHacks.com

```

Acceleration ActiveArea AmbientTemperature AnalogBalance AntiAliasStrength ApertureValue ApplicationNotes Artist
AsShotICCProfile AsShotNeutral AsShotPreProfileMatrix AsShotProfileName AsShotWhiteXY BaselineExposure BaselineExposureOffset
BaselineNoise BaselineSharpness BayerGreenSplit BestQualityScale BitsPerSample BlackLevel BlackLevelBlue BlackLevelDeltaH
BlackLevelDeltaV BlackLevelGreen BlackLevelRed BlackLevelRepeatDim BlueBalance Brightness BrightnessValue CFAPattern
CFAPattern2 CFARRepeatPatternDim CacheVersion CalibrationIlluminant1 CalibrationIlluminant2 CalibrationIlluminant3
CameraCalibration1 CameraCalibration2 CameraCalibration3 CameraCalibrationSig CameraElevationAngle CameraLabel
CameraSerialNumber CellLength CellWidth ChromaBlurRadius ChromaticAberrationCorrParams ChromaticAberrationCorrection
ColorMatrix1 ColorMatrix2 ColorMatrix3 ColorSpace ColorimetricReference
ComponentsConfiguration CompositeImage CompositeImageCount CompositeImageExposureTimes CompressedBitsPerPixel Compression
Contrast Converter Copyright CreateDate CropBottom CropLeft CropRight CropTop CurrentICCProfile CurrentPreProfileMatrix
CustomRendered DNGAdobeData DNGBackwardVersion DNGLensInfo DNGPrivateData DNGVersion DateTimeOriginal DefaultBlackRender
DefaultCropOrigin DefaultCropSize DefaultScale DefaultUserCrop DepthFar DepthFormat DepthMeasureType DepthNear DepthUnits
DigitalZoomRatio DistortionCorrParams DistortionCorrection DocumentName EXIF EnhanceParams ExifImageHeight ExifImageWidth
ExifVersion Exposure ExposureCompensation ExposureIndex ExposureMode ExposureProgram ExposureTime FNumber FileSource FillOrder
Flash FlashEnergy FlashpixVersion FocalLength FocalLengthIn35mmFormat FocalPlaneResolutionUnit FocalPlaneXResolution
FocalPlaneYResolution ForwardMatrix1 ForwardMatrix2 ForwardMatrix3 FrameRate GDALMetadata GDALNoData GPSAltitude
GPSAltitudeRef GPSAreaInformation GPSDOP GPSDateStamp GPSDestBearing GPSDestBearingRef GPSDestDistance GPSDestDistanceRef
GPSDestLatitude GPSDestLatitudeRef GPSDestLongitude GPSDestLongitudeRef GPSDifferential GPSSHPositioningError GPSTimeDirection
GPSTimeDirectionRef GPSTimeLatitude GPSTimeLatitudeRef GPSTimeLongitude GPSTimeLongitudeRef GPSTimeMapDatum GPSTimeMeasureMode GPSTimeProcessingMethod
GPSSatellites GPSSpeed GPSSpeedRef GPSStatus GPSTimeStamp GPSTrack GPSTrackRef GPSVersionID GainControl Gamma
GeoTiffAsciiParams GeoTiffDirectory GeoTiffDoubleParams GooglePlusUploadCode GrayResponseUnit HalftoneHints
HighISOMultiplierBlue HighISOMultiplierGreen HighISOMultiplierRed HostComputer Humidity IPTC-NAA ISO ISOSpeed
ISOSpeedLatitudeyyy ISOSpeedLatitudezzz IlluminantData1 IlluminantData2 IlluminantData3 ImageDescription ImageHeight
ImageHistory ImageNumber ImageSourceData ImageUniqueID ImageWidth InkSet IntergraphMatrix InteropIndex InteropVersion

```

APPENDIX 3: EXIFTOOL All writable EXIF tags



JpgFromRaw JpgFromRawLength JpgFromRawStart Lens LensInfo LensMake LensModel LensSerialNumber LightSource LinearResponseLimit
LinearityLimitBlue LinearityLimitGreen LinearityLimitRed LinearizationTable LocalizedCameraModel Make MakerNoteApple
MakerNoteCanon MakerNoteCasio MakerNoteCasio2 MakerNoteDJI MakerNoteFLIR MakerNoteFujiFilm MakerNoteGE MakerNoteGE2
MakerNoteHP MakerNoteHP2 MakerNoteHP4 MakerNoteHP6 MakerNoteHasselblad MakerNoteISL MakerNoteJVC MakerNoteJVCText
MakerNoteKodak10 MakerNoteKodak11 MakerNoteKodak12 MakerNoteKodak1a MakerNoteKodak1b MakerNoteKodak2 MakerNoteKodak3
MakerNoteKodak4 MakerNoteKodak5 MakerNoteKodak6a MakerNoteKodak6b MakerNoteKodak7 MakerNoteKodak8a MakerNoteKodak8b
MakerNoteKodak8c MakerNoteKodak9 MakerNoteKodakUnknown MakerNoteKyocera MakerNoteLeica MakerNoteLeica10 MakerNoteLeica2
MakerNoteLeica3 MakerNoteLeica4 MakerNoteLeica5 MakerNoteLeica6 MakerNoteLeica7 MakerNoteLeica8 MakerNoteLeica9
MakerNoteMinolta MakerNoteMinolta2 MakerNoteMinolta3 MakerNoteMotorola MakerNoteNikon MakerNoteNikon2 MakerNoteNikon3
MakerNoteNintendo MakerNoteOlympus MakerNoteOlympus2 MakerNotePanasonic MakerNotePanasonic2 MakerNotePanasonic3
MakerNotePentax MakerNotePentax2 MakerNotePentax3 MakerNotePentax4 MakerNotePentax5 MakerNotePentax6 MakerNotePhaseOne
MakerNoteReconyx MakerNoteReconyx2 MakerNoteReconyx3 MakerNoteRicoh MakerNoteRicoh2 MakerNoteRicohPentax MakerNoteRicohText
MakerNoteSafety MakerNoteSamsung1a MakerNoteSamsung1b MakerNoteSamsung2 MakerNoteSanyo MakerNoteSanyoC4 MakerNoteSanyoPatch
MakerNoteSigma MakerNoteSony MakerNoteSony2 MakerNoteSony3 MakerNoteSony4 MakerNoteSony5 MakerNoteSonyEricsson
MakerNoteSonySRF MakerNoteUnknown MakerNoteUnknownBinary MakerNoteUnknownText MaskedAreas MaxApertureValue MaxSampleValue
MeteringMode MinSampleValue Model ModelTiePoint ModelTransform ModifyDate MoireFilter Multishot NewRawImageDigest
NoiseProfile NoiseReductionApplied NoiseReductionParams OffsetSchema OffsetTime OffsetTimeDigitized OffsetTimeOriginal
OldSubfileType OpcodeList1 OpcodeList2 OpcodeList3 Orientation OriginalBestQualitySize OriginalDefaultCropSize
OriginalDefaultFinalSize OriginalRawFileData OriginalRawFileDigest OriginalRawFileName OtherImage OtherImageLength
OtherImageStart OwnerName Padding PageName PageNumber PanasonicRawVersion PanasonicTitle PanasonicTitle2
PhotometricInterpretation PixelScale PlanarConfiguration Predictor Pressure PreviewApplicationName PreviewApplicationVersion
PreviewColorSpace PreviewDateTime PreviewImage PreviewImageLength PreviewImageStart PreviewSettingsDigest PreviewSettingsName
PrimaryChromaticities PrintIM ProcessingSoftware ProfileCalibrationSig ProfileCopyright ProfileEmbedPolicy
ProfileGainTableMap ProfileHueSatMapData1 ProfileHueSatMapData2 ProfileHueSatMapData3 ProfileHueSatMapDims
ProfileHueSatMapEncoding ProfileLookTableData ProfileLookTableDims ProfileLookTableEncoding ProfileName ProfileToneCurve
RGBTables Rating RatingPercent RawDataUniqueID RawFile RawFormat RawImageDigest RawToPreviewGain RecommendedExposureIndex
RedBalance ReductionMatrix1 ReductionMatrix2 ReductionMatrix3 ReelName ReferenceBlackWhite RelatedImageFileFormat
RelatedImageHeight RelatedImageWidth RelatedSoundFile ResolutionUnit RowsPerStrip SEMInfo SamplesPerPixel Saturation

APPENDIX 3: EXIFTOOL All writable EXIF tags



SceneCaptureType SceneType SecurityClassification SelfTimerMode SensingMethod SensitivityType SerialNumber ShadowScale
Shadows Sharpness ShutterSpeedValue Smoothness Software SonyCropSize SonyCropTopLeft SpectralSensitivity
StandardOutputSensitivity SubSecTime SubSecTimeDigitized SubSecTimeOriginal SubfileType SubjectArea SubjectDistance
SubjectDistanceRange SubjectLocation TStop TargetPrinter Thresholding ThumbnailImage ThumbnailLength ThumbnailOffset
TileLength TileWidth TimeCodes TimeZoneOffset TransferFunction UniqueCameraModel UserComment VignettingCorrParams
VignettingCorrection WBBlueLevel WBGreenLevel WBRedLevel WaterDepth WhiteBalance WhiteLevel WhitePoint XPAuthor XPComment
XPKeywords XPSubject XPTitle XPosition XResolution YCbCrCoefficients YCbCrPositioning YCbCrSubSampling YPosition
Yresolution CreditLine CreditLineReq CreditLineRequired CropAngle CropBottom CropConstrainToWarp CropH CropHeight CropLeft
CropRight CropTop CropUnit CropUnits CropW CropWidth CropX CropY CroppedAreaImageHeightPixels CroppedAreaImageWidthPixels
CroppedAreaLeftPixels CroppedAreaTopPixels Cuisine Curve0x Curve0y Curve1x Curve1y Curve2x Curve2y Curve3x Curve3y Curve4x
Curve4y Custom1 Custom10 Custom2 Custom3 Custom4 Custom5 Custom6 Custom7 Custom8 Custom9 CustomRendered DCContinent
DCCoordinatePrecision DCCoordinateUncertaintyInMeters DCCountry DCCountryCode DCCounty DCDecimalLatitude
DCDecimalLongitude DCEvent DCFootprintSRS DCFootprintSpatialFit DCFootprintWKT DCGeodeticDatum DCGeoreferenceProtocol
DCGeoreferenceRemarks DCGeoreferenceSources DCGeoreferenceVerificationStatus DCGeoreferencedBy DCGeoreferencedDate
DCHigherGeography DCHigherGeographyID DCIsland DCIslandGroup DCLocality DCLocationAccordingTo DCLocationID
DCLocationRemarks DCMaximumDepthInMeters DCMaximumDistanceAboveSurfaceInMeters DCMaximumElevationInMeters
DCMinimumDepthInMeters DCMinimumDistanceAboveSurfaceInMeters DCMinimumElevationInMeters DCMunicipality
DCPointRadiusSpatialFit DCStateProvince DCTermsLocation DCVerbatimCoordinateSystem DCVerbatimCoordinates DCVerbatimDepth
DCVerbatimElevation DCVerbatimLatitude DCVerbatimLocality DCVerbatimLongitude DCVerbatimSRS DCWaterBody DMComment
DNGIgnoreSidecars DOI DPP DataOnScreen DataOnScreenRegion DataOnScreenRegionD DataOnScreenRegionH DataOnScreenRegionText
DataOnScreenRegionUnit DataOnScreenRegionW DataOnScreenRegionX DataOnScreenRegionY Date DateAcquired DateCreated
DateIdentified DateRecieved DateTime DateTimeDigitized DateTimeOriginal DefaultAutoGray DefaultAutoTone
DefaultsSpecificToISO DefaultsSpecificToSerial Defringe DefringeGreenAmount DefringeGreenHueHi DefringeGreenHueLo
DefringePurpleAmount DefringePurpleHueHi DefringePurpleHueLo Dehaze DeprecatedOn DepthImage DerivedFrom

APPENDIX 4: EXIFTOOL All writable XMP tags



```
C:\Users\ellio> exiftool -listw -xmp:all
```

Writable xmp tags:

```
About AboutCvTerm AboutCvTermCvId AboutCvTermId AboutCvTermName AboutCvTermRefinedAbout AbsPeakAudioFilePath
AbsoluteAltitude AcademicField Acceleration AdditionalModelInformation AdultContentWarning Advisory AeProjectLink
AeProjectLinkCompositionID AeProjectLinkFullPath AeProjectLinkRenderOutputModuleIndex AeProjectLinkRenderQueueItemID
AeProjectLinkRenderTimeStamp AffineA AffineB AffineC AffineD AffineX AffineY AggregateIssueNumber AggregationType Agreement
Album AlreadyApplied AltTapeName AltTextAccessibility AltTimecode AltTimecodeTimeFormat AltTimecodeTimeValue
AltTimecodeValue AlternateTitle AlternateTitleA-lang AlternateTitleA-platform AlternateTitleText AmbientTemperature
AngleInfoRoll AngleInfoYaw ApertureValue AppInfo AppInfoApplication AppInfoItemURI AppInfoVersion AppVersion Approved
ApprovedBy ApproximateFocusDistance Artist ArtworkCircaDateCreated ArtworkContentDescription ArtworkContributionDescription
ArtworkCopyrightNotice ArtworkCopyrightOwnerID ArtworkCopyrightOwnerName ArtworkCreator ArtworkCreatorID ArtworkDateCreated
ArtworkLicensorID ArtworkLicensorName ArtworkOrObject ArtworkPhysicalDescription ArtworkSource ArtworkSourceInvURL
ArtworkSourceInventoryNo ArtworkStylePeriod ArtworkTitle AssetID AttributionName AttributionURL AudioBitrate
AudioBitrateMode AudioBitsPerSample AudioChannelCount AudioChannelType AudioCompressor AudioData AudioMimeType AudioModDate
AudioSampleRate AudioSampleType Author AuthorsPosition AutoBrightness AutoContrast AutoExposure AutoLateralCA AutoShadows
AutoTone AutoToneDigest AutoToneDigestNoSat AutoWhiteVersion BackgroundAlpha BaseURL BeatSpliceParams
BeatSpliceParamsRiseInDecibel BeatSpliceParamsRiseInTimeDuration BeatSpliceParamsRiseInTimeDurationScale
BeatSpliceParamsRiseInTimeDurationValue BeatSpliceParamsUseFileBeatsMarker BitsPerSample Blacks2012 BlogTitle BlogURL
BlueHue BlueSaturation BlurAtInfinity BookEdition Brightness BrightnessValue BurstID BurstPrimary ByteCount CFAPattern
CFAPatternColumns CFAPatternRows CFAPatternValues CRC32 CalibratedFocalLength CalibratedOpticalCenterX
CalibratedOpticalCenterY CallForImage CamReverse Camera CameraAngle CameraAppInfo CameraAppInfoApplication
CameraAppInfoItemURI CameraAppInfoVersion CameraBurstID CameraDepthMap CameraDepthMapConfidenceURI CameraDepthMapDepthURI
CameraDepthMapFar CameraDepthMapFocalTable CameraDepthMapFocalTableEntryCount CameraDepthMapFormat
CameraDepthMapItemSemantic CameraDepthMapMeasureType CameraDepthMapNear CameraDepthMapSoftware CameraDepthMapUnits
CameraElevationAngle CameraFilename CameraImage CameraImageItemSemantic CameraImageItemURI CameraImagingModel
CameraImagingModelDistortion CameraImagingModelDistortionCount CameraImagingModelFocalLengthX CameraImagingModelFocalLengthY
CameraImagingModelImageHeight CameraImagingModelImageWidth CameraImagingModelPixelAspectRatio
CameraImagingModelPrincipalPointX CameraImagingModelPrincipalPointY CameraImagingModelSkew CameraLabel CameraLightEstimate
CameraLightEstimateColorCorrectionB CameraLightEstimateColorCorrectionG CameraLightEstimateColorCorrectionR
```

APPENDIX 4: EXIFTOOL All writable XMP tags



CameraLightEstimatePixelIntensity CameraMakeModel CameraModel CameraModelID CameraModelRestriction CameraMove
CameraPointCloud CameraPointCloudMetric CameraPointCloudPointCloud CameraPointCloudPoints CameraPose CameraPosePositionX
CameraPosePositionY CameraPosePositionZ CameraPoseRotationW CameraPoseRotationX CameraPoseRotationY CameraPoseRotationZ
CameraPoseTimestamp CameraProfile CameraProfileDigest CameraSerialNumber CameraTrait CameraVendorInfo
CameraVendorInfoManufacturer CameraVendorInfoModel CameraVendorInfoNotes Cameras Caption CaptionWriter CaptionsAuthorNames
CaptionsDateTimeStamps CaptureSoftware CatalogSets Categories Category CellGlobalID CellR CellTowerID Certificate Channel
ChannelA-lang ChannelChannel ChannelSubchannel1 ChannelSubchannel2 ChannelSubchannel3 ChannelSubchannel4 ChildFontFiles
ChromaticAberrationB ChromaticAberrationR CircGradBasedCorrActive CircGradBasedCorrAmount CircGradBasedCorrBlacks2012
CircGradBasedCorrBrightness CircGradBasedCorrClarity CircGradBasedCorrClarity2012 CircGradBasedCorrContrast
CircGradBasedCorrContrast2012 CircGradBasedCorrCorrectionName CircGradBasedCorrCorrectionSyncID CircGradBasedCorrDefringe
CircGradBasedCorrDehaze CircGradBasedCorrExposure CircGradBasedCorrExposure2012 CircGradBasedCorrHighlights2012
CircGradBasedCorrHue CircGradBasedCorrLuminanceNoise CircGradBasedCorrMaskAlpha CircGradBasedCorrMaskAngle
CircGradBasedCorrMaskBottom CircGradBasedCorrMaskCenterValue CircGradBasedCorrMaskCenterWeight CircGradBasedCorrMaskDabs
CircGradBasedCorrMaskFeather CircGradBasedCorrMaskFlipped CircGradBasedCorrMaskFlow CircGradBasedCorrMaskFullX
CircGradBasedCorrMaskFullyY CircGradBasedCorrMaskInputDigest CircGradBasedCorrMaskLeft CircGradBasedCorrMaskMaskActive
CircGradBasedCorrMaskMaskBlendMode CircGradBasedCorrMaskMaskDigest CircGradBasedCorrMaskMaskInverted
CircGradBasedCorrMaskMaskName CircGradBasedCorrMaskMaskSubType CircGradBasedCorrMaskMaskSyncID
CircGradBasedCorrMaskMaskVersion CircGradBasedCorrMaskMasks CircGradBasedCorrMaskMasksAlpha CircGradBasedCorrMaskMasksAngle
CircGradBasedCorrMaskMasksBottom CircGradBasedCorrMaskMasksCenterValue CircGradBasedCorrMaskMasksCenterWeight
CircGradBasedCorrMaskMasksDabs CircGradBasedCorrMaskMasksFeather CircGradBasedCorrMaskMasksFlipped
CircGradBasedCorrMaskMasksFlow CircGradBasedCorrMaskMasksFullX CircGradBasedCorrMaskMasksFullyY
CircGradBasedCorrMaskMasksInputDigest CircGradBasedCorrMaskMasksLeft CircGradBasedCorrMaskMasksMaskActive
CircGradBasedCorrMaskMasksMaskBlendMode CircGradBasedCorrMaskMasksMaskDigest CircGradBasedCorrMaskMasksMaskInverted
CircGradBasedCorrMaskMasksMaskName CircGradBasedCorrMaskMasksMaskSubType CircGradBasedCorrMaskMasksMaskSyncID
CircGradBasedCorrMaskMasksMaskVersion CircGradBasedCorrMaskMasksMidpoint CircGradBasedCorrMaskMasksOrigin
CircGradBasedCorrMaskMasksPerimeterValue CircGradBasedCorrMaskMasksRadius CircGradBasedCorrMaskMasksReferencePoint
CircGradBasedCorrMaskMasksRight CircGradBasedCorrMaskMasksRoundness CircGradBasedCorrMaskMasksSizeX
CircGradBasedCorrMaskMasksSizeY CircGradBasedCorrMaskMasksTop CircGradBasedCorrMaskMasksValue
CircGradBasedCorrMaskMasksVersion CircGradBasedCorrMaskMasksWhat CircGradBasedCorrMaskMasksWholeImageArea

APPENDIX 4: EXIFTOOL All writable XMP tags



CircGradBasedCorrMaskMasksX CircGradBasedCorrMaskMasksY CircGradBasedCorrMaskMasksZeroX CircGradBasedCorrMaskMasksZeroY
CircGradBasedCorrMaskMidpoint CircGradBasedCorrMaskOrigin CircGradBasedCorrMaskPerimeterValue CircGradBasedCorrMaskRadius
CircGradBasedCorrMaskRange CircGradBasedCorrMaskRangeAreaModels CircGradBasedCorrMaskRangeAreaModelsColorSampleInfo
CircGradBasedCorrMaskRangeAreaModelsComponents CircGradBasedCorrMaskRangeColorAmount CircGradBasedCorrMaskRangeDepthFeather
CircGradBasedCorrMaskRangeDepthMax CircGradBasedCorrMaskRangeDepthMin CircGradBasedCorrMaskRangeInvert
CircGradBasedCorrMaskRangeLumFeather CircGradBasedCorrMaskRangeLumMax CircGradBasedCorrMaskRangeLumMin
CircGradBasedCorrMaskRangeLumRange CircGradBasedCorrMaskRangeLuminanceDepthSampleInfo CircGradBasedCorrMaskRangeSampleType
CircGradBasedCorrMaskRangeType CircGradBasedCorrMaskRangeVersion CircGradBasedCorrMaskReferencePoint
CircGradBasedCorrMaskRight CircGradBasedCorrMaskRoundness CircGradBasedCorrMaskSizeX CircGradBasedCorrMaskSizeY
CircGradBasedCorrMaskTop CircGradBasedCorrMaskValue CircGradBasedCorrMaskVersion CircGradBasedCorrMaskWhat
CircGradBasedCorrMaskWholeImageArea CircGradBasedCorrMaskX CircGradBasedCorrMaskY CircGradBasedCorrMaskZeroX
CircGradBasedCorrMaskZeroY CircGradBasedCorrMasks CircGradBasedCorrMoire CircGradBasedCorrRangeMask
CircGradBasedCorrRangeMaskAreaModels CircGradBasedCorrRangeMaskAreaModelsColorSampleInfo
CircGradBasedCorrRangeMaskAreaModelsComponents CircGradBasedCorrRangeMaskColorAmount CircGradBasedCorrRangeMaskDepthFeather
CircGradBasedCorrRangeMaskDepthMax CircGradBasedCorrRangeMaskDepthMin CircGradBasedCorrRangeMaskInvert
CircGradBasedCorrRangeMaskLumFeather CircGradBasedCorrRangeMaskLumMax CircGradBasedCorrRangeMaskLumMin
CircGradBasedCorrRangeMaskLumRange CircGradBasedCorrRangeMaskLuminanceDepthSampleInfo CircGradBasedCorrRangeMaskSampleType
CircGradBasedCorrRangeMaskType CircGradBasedCorrRangeMaskVersion CircGradBasedCorrSaturation CircGradBasedCorrShadows2012
CircGradBasedCorrSharpness CircGradBasedCorrTemperature CircGradBasedCorrTexture CircGradBasedCorrTint
CircGradBasedCorrToningHue CircGradBasedCorrToningSaturation CircGradBasedCorrWhat CircGradBasedCorrWhites2012
CircaDateCreated CircularGradientBasedCorrections City Clarity Clarity2012 Client ClientName ClipboardAspectRatio
ClipboardOrientation Cluster CollectionName CollectionURI Collections Color ColorClass ColorGradeBlending
ColorGradeGlobalHue ColorGradeGlobalLum ColorGradeGlobalSat ColorGradeHighlightLum ColorGradeMidtoneHue ColorGradeMidtoneLum
ColorGradeMidtoneSat ColorGradeShadowLum ColorLabel ColorMode ColorNoiseReduction ColorNoiseReductionDetail
ColorNoiseReductionSmoothness ColorSpace ColorTemperature ColorantA ColorantB ColorantBlack ColorantBlue ColorantCyan
ColorantGray ColorantGreen ColorantL ColorantMagenta ColorantMode ColorantRed ColorantSwatchName ColorantTint ColorantType
ColorantYellow Colorants CompImageImagesPerSequence CompImageMaxExposureAll CompImageMaxExposureUsed CompImageMinExposureAll
CompImageMinExposureUsed CompImageNumSequences CompImageSumExposureAll CompImageSumExposureUsed CompImageTotalExposurePeriod

APPENDIX 4: EXIFTOOL All writable XMP tags



CompImageValues CompatibleVersion ComplianceProfile ComponentsConfiguration Composer CompositeImage CompositeImageCount
CompositeImageExposureTimes Composition CompressedBitsPerPixel Compression Confidence ConfidenceLevel ConfidenceMime
ContactInfo Container ContainerDirectory ContainerDirectoryItem ContainerDirectoryItemDataURI ContainerDirectoryItemLength
ContainerDirectoryItemMime ContainerDirectoryItemPadding ContainerFormat ContainerFormatIdentifier ContainerFormatName
ContentType Contrast Contrast2012 ContributedMedia ContributedMediaDuration ContributedMediaDurationScale
ContributedMediaDurationValue ContributedMediaManaged ContributedMediaPath ContributedMediaStartTime
ContributedMediaStartTimeScale ContributedMediaStartTimeValue ContributedMediaTrack ContributedMediaWebStatement Contributor
ContributorIdentifier ContributorName ContributorRole ControlledVocabularyTerm ConvertToGrayscale Converter CookingEquipment
CookingMethod Copyright CopyrightOwner CopyrightOwnerID CopyrightOwnerImageID CopyrightOwnerName CopyrightRegistrationNumber
CopyrightStatus CopyrightYear CorporateEntity Country CountryCode Course CoverDate CoverDisplayDate Coverage CreateDate
CreationDate Creator CreatorAddress CreatorAppID CreatorCity CreatorContactInfo CreatorCountry CreatorIdentifier CreatorName
CreatorOpenWithUIOptions CreatorPostalCode CreatorRegion CreatorRole CreatorTool CreatorWorkEmail CreatorWorkTelephone
CreatorWorkURL Credit DerivedFromAlternatePaths DerivedFromDocumentID DerivedFromFilePATH DerivedFromFromPart
DerivedFromInstanceID DerivedFromLastModifyDate DerivedFromLastURL DerivedFromLinkCategory DerivedFromLinkForm
DerivedFromManageTo DerivedFromManageUI DerivedFromManager DerivedFromManagerVariant DerivedFromMaskMarkers
DerivedFromOriginalDocumentID DerivedFromPartMapping DerivedFromPlacedResolutionUnit DerivedFromPlacedXResolution
DerivedFromPlacedYResolution DerivedFromRenditionClass DerivedFromRenditionParams DerivedFromToPart DerivedFromVersionID
Description Device DeviceSettingDescription DeviceSettingDescriptionColumns DeviceSettingDescriptionRows
DeviceSettingDescriptionSettings DewarpData DewarpFlag DietaryNeeds DigitalImageGUID DigitalSourceFileType DigitalSourceType
DigitalZoomRatio Director DirectorPhotography DisableAutoCreation DiscNumber DishType DisplayName
DistortionCorrectionAlreadyApplied Distributor DistributorProductID DocumentAncestors DocumentID Dopesheet DopesheetLink
DopesheetLinkLink DopesheetLinkLinkQualifier Duration DurationScale DurationValue EIssn EarliestAgeOrLowestStage
EarliestEonOrLowestEonothem EarliestEpochOrLowestSeries EarliestEraOrLowestErathem EarliestPeriodOrLowestSystem EarthPos
EarthPosAltitude EarthPosLatitude EarthPosLongitude EarthPosRotationW EarthPosRotationX EarthPosRotationY EarthPosRotationZ
EarthPosTimestamp EditStatus Edition EmbargoDate EmbdEncRightsExpr EmbeddedEncodedRightsExpr EmbeddedEncodedRightsExprLangID
EmbeddedEncodedRightsExprType EmbeddedXMPDigest EndUser EndUserID EndUserName EndingPage Engineer Episode EpisodeIdentifier
EpisodeName EpisodeNumber EquipmentInstitution EquipmentManufacturer Event EventAlias EventDate EventDay EventEarliestDate
EventEnd EventEndDayOfYear EventFieldNotes EventFieldNumber EventHabitat EventID EventLatestDate

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EventMonth EventParentEventID EventRemarks EventSampleSizeUnit EventSampleSizeValue EventSamplingEffort EventSamplingProtocol
EventStart EventStartDayOfYear EventSubtype EventType EventVerbatimEventDate EventYear ExclusiveCoverage
ExclusivityEndDate ExifImageHeight ExifImageWidth ExifVersion ExpirationDate Exposure Exposure2012 ExposureCompensation
ExposureIndex ExposureLockUsed ExposureMode ExposureProgram ExposureTime ExtDescrAccessibility ExternalMetadataLink FFID
FNumber FaceBalanceOrigI FaceBalanceOrigQ FaceBalanceStrength FaceBalanceWarmth FaceID Far FeedIdentifier Field FileDataRate
FileNameAsDelivered FileSource FillLight Firmware FirstPhotoDate FirstPublicationDate FixtureIdentifier Flash
FlashCompensation FlashEnergy FlashFired FlashFunction FlashManufacturer FlashMode FlashModel FlashRedEyeMode FlashReturn
FlashpixVersion FlightPitchDegree FlightRollDegree FlightXSpeed FlightYSpeed FlightYawDegree FlightZSpeed FocalDistance
FocalLength FocalLengthIn35mmFormat FocalPlaneResolutionUnit FocalPlaneXResolution FocalPlaneYResolution FocalPointX
FocalPointY FontComposite FontFace FontFamily FontFileName FontName FontType FontVersion Fonts Format ForwardLock
FossilSpecimen FossilSpecimenMaterialSampleID Framing FullPanoHeightPixels FullPanoWidthPixels GIFTftpPriority GPSAltitude
GPSAltitudeRef GPSAreaInformation GPSDOP GPSDateTime GPSDestBearing GPSDestBearingRef GPSDestDistance GPSDestDistanceRef
GPSDestLatitude GPSDestLongitude GPSDifferential GPSHPositioningError GPSImgDirection GPSImgDirectionRef GPSLatitude
GPSLongitude GPSLongitude GPSMapDatum GPSMeasureMode GPSProcessingMethod GPSSatellites GPSSpeed GPSSpeedRef GPSStatus
GPSTrack GPSTrackRef GPSVersionID GainControl Gamma Genre GenreCvId GenreCvTermId GenreCvTermName GenreCvTermRefinedAbout
Geography GeologicalContext GeologicalContextBed GeologicalContextFormation GeologicalContextGroup GeologicalContextID
GeologicalContextMember GimbalPitchDegree GimbalReverse GimbalRollDegree GimbalYawDegree Good GradientBasedCorrActive
GradientBasedCorrAmount GradientBasedCorrBlacks2012 GradientBasedCorrBrightness GradientBasedCorrClarity
GradientBasedCorrClarity2012 GradientBasedCorrContrast GradientBasedCorrContrast2012 GradientBasedCorrCorrectionName
GradientBasedCorrCorrectionSyncID GradientBasedCorrDefringe GradientBasedCorrDehaze GradientBasedCorrExposure
GradientBasedCorrExposure2012 GradientBasedCorrHighlights2012 GradientBasedCorrHue GradientBasedCorrLuminanceNoise
GradientBasedCorrMaskAlpha GradientBasedCorrMaskAngle GradientBasedCorrMaskBottom GradientBasedCorrMaskCenterValue
GradientBasedCorrMaskCenterWeight GradientBasedCorrMaskDabs GradientBasedCorrMaskFeather GradientBasedCorrMaskFlipped
GradientBasedCorrMaskFlow GradientBasedCorrMaskFullX GradientBasedCorrMaskFullyY GradientBasedCorrMaskInputDigest
GradientBasedCorrMaskLeft GradientBasedCorrMaskMaskActive GradientBasedCorrMaskMaskBlendMode GradientBasedCorrMaskMaskDigest
GradientBasedCorrMaskMaskInverted GradientBasedCorrMaskMaskName GradientBasedCorrMaskMaskSubType
GradientBasedCorrMaskMaskSyncID GradientBasedCorrMaskMaskVersion GradientBasedCorrMaskMasks GradientBasedCorrMaskMasksAlpha
GradientBasedCorrMaskMasksAngle GradientBasedCorrMaskMasksBottom GradientBasedCorrMaskMasksCenterValue

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GradientBasedCorrMaskMasksCenterWeight GradientBasedCorrMaskMasksDabs GradientBasedCorrMaskMasksFeather
GradientBasedCorrMaskMasksFlipped GradientBasedCorrMaskMasksFlow GradientBasedCorrMaskMasksFullX
GradientBasedCorrMaskMasksFullyY GradientBasedCorrMaskMasksInputDigest GradientBasedCorrMaskMasksLeft
GradientBasedCorrMaskMasksMaskActive GradientBasedCorrMaskMasksMaskBlendMode GradientBasedCorrMaskMasksMaskDigest
GradientBasedCorrMaskMasksMaskInverted GradientBasedCorrMaskMasksMaskName GradientBasedCorrMaskMasksMaskSubType
GradientBasedCorrMaskMasksMaskSyncID GradientBasedCorrMaskMasksMaskVersion GradientBasedCorrMaskMasksMidpoint
GradientBasedCorrMaskMasksOrigin GradientBasedCorrMaskMasksPerimeterValue GradientBasedCorrMaskMasksRadius
GradientBasedCorrMaskMasksReferencePoint GradientBasedCorrMaskMasksRight GradientBasedCorrMaskMasksRoundness
GradientBasedCorrMaskMasksSizeX GradientBasedCorrMaskMasksSizeY GradientBasedCorrMaskMasksTop GradientBasedCorrMaskMasksValue
GradientBasedCorrMaskMasksVersion GradientBasedCorrMaskMasksWhat GradientBasedCorrMaskMasksWholeImageArea
GradientBasedCorrMaskMasksX GradientBasedCorrMaskMasksY GradientBasedCorrMaskMasksZeroX GradientBasedCorrMaskMasksZeroY
GradientBasedCorrMaskMidpoint GradientBasedCorrMaskOrigin GradientBasedCorrMaskPerimeterValue GradientBasedCorrMaskRadius
GradientBasedCorrMaskRange GradientBasedCorrMaskRangeAreaModels GradientBasedCorrMaskRangeAreaModelsColorSampleInfo
GradientBasedCorrMaskRangeAreaModelsComponents GradientBasedCorrMaskRangeColorAmount GradientBasedCorrMaskRangeDepthFeather
GradientBasedCorrMaskRangeDepthMax GradientBasedCorrMaskRangeDepthMin GradientBasedCorrMaskRangeInvert
GradientBasedCorrMaskRangeLumFeather GradientBasedCorrMaskRangeLumMax GradientBasedCorrMaskRangeLumMin
GradientBasedCorrMaskRangeLumRange GradientBasedCorrMaskRangeLuminanceDepthSampleInfo GradientBasedCorrMaskRangeSampleType
GradientBasedCorrMaskRangeType GradientBasedCorrMaskRangeVersion GradientBasedCorrMaskReferencePoint
GradientBasedCorrMaskRight GradientBasedCorrMaskRoundness GradientBasedCorrMaskSizeX GradientBasedCorrMaskSizeY
GradientBasedCorrMaskTop GradientBasedCorrMaskValue GradientBasedCorrMaskVersion GradientBasedCorrMaskWhat
GradientBasedCorrMaskWholeImageArea GradientBasedCorrMaskX GradientBasedCorrMaskY GradientBasedCorrMaskZeroX
GradientBasedCorrMaskZeroY GradientBasedCorrMasks GradientBasedCorrMoire GradientBasedCorrRangeMask
GradientBasedCorrRangeMaskAreaModels GradientBasedCorrRangeMaskAreaModelsColorSampleInfo
GradientBasedCorrRangeMaskAreaModelsComponents GradientBasedCorrRangeMaskColorAmount GradientBasedCorrRangeMaskDepthFeather
GradientBasedCorrRangeMaskDepthMax GradientBasedCorrRangeMaskDepthMin GradientBasedCorrRangeMaskInvert
GradientBasedCorrRangeMaskLumFeather GradientBasedCorrRangeMaskLumMax GradientBasedCorrRangeMaskLumMin
GradientBasedCorrRangeMaskLumRange GradientBasedCorrRangeMaskLuminanceDepthSampleInfo GradientBasedCorrRangeMaskSampleType

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GradientBasedCorrRangeMaskType GradientBasedCorrRangeMaskVersion GradientBasedCorrSaturation GradientBasedCorrShadows2012
GradientBasedCorrSharpness GradientBasedCorrTemperature GradientBasedCorrTexture GradientBasedCorrTint
GradientBasedCorrToningHue GradientBasedCorrToningSaturation GradientBasedCorrWhat GradientBasedCorrWhites2012
GradientBasedCorrections GrainAmount GrainFrequency GrainSeed GrainSize GrayMixerAqua GrayMixerBlue GrayMixerGreen
GrayMixerMagenta GrayMixerOrange GrayMixerPurple GrayMixerRed GrayMixerYellow GreenHue GreenSaturation Group HDRPMakerNote
HasAlternative HasCorrection HasCorrectionA-lang HasCorrectionA-platform HasCorrectionText HasCrop HasExtendedXMP HasSettings
HasTranslation HasVisibleOverprint HasVisibleTransparency Headline HierarchicalKeywords HierarchicalKeywords1
HierarchicalKeywords1Applied HierarchicalKeywords1Children HierarchicalKeywords2 HierarchicalKeywords2Applied
HierarchicalKeywords2Children HierarchicalKeywords3 HierarchicalKeywords3Applied HierarchicalKeywords3Children
HierarchicalKeywords4 HierarchicalKeywords4Applied HierarchicalKeywords4Children HierarchicalKeywords5
HierarchicalKeywords5Applied HierarchicalKeywords5Children HierarchicalKeywords6 HierarchicalKeywords6Applied
HierarchicalSubject HighestBiostratigraphicZone Highlight2012 HighlightRecovery Highlights Highlights2012 History
HistoryAction HistoryChanged HistoryInstanceID HistoryParameters HistorySoftwareAgent HistoryWhen HueAdjustmentAqua
HueAdjustmentBlue HueAdjustmentGreen HueAdjustmentMagenta HueAdjustmentOrange HueAdjustmentPurple HueAdjustmentRed
HueAdjustmentYellow HumanObservation HumanObservationDay HumanObservationEarliestDate HumanObservationEndDayOfYear
HumanObservationEventDate HumanObservationEventID HumanObservationEventRemarks HumanObservationEventTime
HumanObservationFieldNotes HumanObservationFieldNumber HumanObservationHabitat HumanObservationLatestDate
HumanObservationMonth HumanObservationParentEventID HumanObservationSampleSizeUnit HumanObservationSampleSizeValue
HumanObservationSamplingEffort HumanObservationSamplingProtocol HumanObservationStartDayOfYear
HumanObservationVerbatimEventDate HumanObservationYear Humidity ICCProfileName IPTCLastEdited ISBN ISO ISOSpeed
ISOSpeedLatitudeyyy ISOSpeedLatitudezzz ISSN Identification IdentificationID IdentificationQualifier IdentificationReferences
IdentificationRemarks IdentificationVerificationStatus IdentifiedBy Identifier ImageAlterationConstraints ImageCreator
ImageCreatorID ImageCreatorImageID ImageCreatorName ImageData ImageDescription ImageDuplicationConstraints
ImageFileConstraints ImageFileFormatAsDelivered ImageFileSizeAsDelivered ImageHeight ImageHistory ImageMimeType ImageNumber
ImageRank ImageRef ImageRegion ImageRegionBoundary ImageRegionBoundaryH ImageRegionBoundaryRx ImageRegionBoundaryShape
ImageRegionBoundaryUnit ImageRegionBoundaryVertices ImageRegionBoundaryVerticesX ImageRegionBoundaryVerticesY
ImageRegionBoundaryW ImageRegionBoundaryX ImageRegionBoundaryY ImageRegionCtype ImageRegionCtypeIdentifier
ImageRegionCtypeName Image Region ImageRegionID ImageRegionName ImageRegionRole ImageRegionRoleIdentifier

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ImageRegionRoleName ImageSizeRestriction ImageSupplier ImageSupplierID ImageSupplierImageID ImageSupplierName ImageType
ImageUniqueID ImageWidth IncrementalTemperature IncrementalTint Industry IngredientExclusion Ingredients
IngredientsAlternatePaths IngredientsDocumentID IngredientsFilePath IngredientsFromPart IngredientsInstanceID
IngredientsLastModifyDate IngredientsLastURL IngredientsLinkCategory IngredientsLinkForm IngredientsManageTo
IngredientsManageUI IngredientsManager IngredientsManagerVariant IngredientsMaskMarkers IngredientsOriginalDocumentID
IngredientsPartMapping IngredientsPlacedResolutionUnit IngredientsPlacedXResolution IngredientsPlacedYResolution
IngredientsRenditionClass IngredientsRenditionParams IngredientsToPart IngredientsVersionID InitialCameraDolly
InitialHorizontalFOVDegrees InitialVerticalFOVDegrees InitialViewHeadingDegrees InitialViewPitchDegrees
InitialViewRollDegrees InstanceID Instructions Instrument IntellectualGenre InteropIndex IntroTime IntroTimeScale
IntroTimeValue IsAlternativeOf IsCorrectionOf IsMergedHDR IsMergedPanorama IsTranslationOf IssueIdentifier IssueName
IssueTeaser IssueType ItemSubType JPEGHandling JobName JobRef JobRefId JobRefName JobRefUrl JobStatus Jurisdiction Key
Keyword KeywordInfo Keywords KillDate KillDateA-platform KillDateDate Label LabelName1 LabelName2 LabelName3 LabelName4
LabelName5 LabelName6 Language LargestValidInteriorRectHeight LargestValidInteriorRectLeft LargestValidInteriorRectTop
LargestValidInteriorRectWidth LastKeywordIPTC LastKeywordXMP LastPhotoDate LastURL
LateralChromaticAberrationCorrectionAlreadyApplied LatestAgeOrHighestStage LatestEonOrHighestEonothem
LatestEpochOrHighestSeries LatestEraOrHighestErathem LatestPeriodOrHighestSystem Latitude LegacyIPTCDigest LegalCode Lens
LensCorrectionSettings LensDistortInfo LensID LensInfo LensMake LensManualDistortionAmount LensManufacturer LensModel
LensProfileChromaticAberrationScale LensProfileDigest LensProfileDistortionScale LensProfileEnable LensProfileFilename
LensProfileIsEmbedded LensProfileMatchKeyCameraModelName LensProfileMatchKeyExifMake LensProfileMatchKeyExifModel
LensProfileMatchKeyIsRaw LensProfileMatchKeyLensID LensProfileMatchKeyLensInfo LensProfileMatchKeyLensName
LensProfileMatchKeySensorFormatFactor LensProfileName LensProfileSetup LensProfileVignettingScale LensSerialNumber License
LicenseEndDate LicenseID LicenseStartDate LicenseTransactionDate LicenseType Licensee LicenseeID LicenseeImageID
LicenseeImageNotes LicenseeName LicenseeProjectReference LicenseeTransactionID Licensor LicensorCity LicensorCountry
LicensorEmail LicensorExtendedAddress LicensorID LicensorImageID LicensorName LicensorNotes LicensorPostalCode
LicensorRegion LicensorStreetAddress LicensorTelephone1 LicensorTelephone2 LicensorTelephoneType1 LicensorTelephoneType2
LicensorTransactionID LicensorURL LightSource Link LinkedEncRightsExpr LinkedEncodedRightsExpr
LinkedEncodedRightsExprLangID LinkedEncodedRightsExprType LithostratigraphicTerms LivingSpecimen
LivingSpecimenMaterialSampleID Location LocationAreaCode LocationCreated LocationCreatedCity LocationCreatedCountryCode

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LocationCreatedCountryName LocationCreatedGPSAltitude LocationCreatedGPSLatitude LocationCreatedGPSLongitude
LocationCreatedIdentifier LocationCreatedLocationId LocationCreatedLocationName LocationCreatedProvinceState
LocationCreatedSublocation LocationCreatedWorldRegion LocationShown LocationShownCity LocationShownCountryCode
LocationShownCountryName LocationShownGPSAltitude LocationShownGPSLatitude LocationShownGPSLongitude LocationShownIdentifier
LocationShownLocationId LocationShownLocationName LocationShownProvinceState LocationShownSublocation LocationShownWorldRegion
LogComment Longitude Look LookAmount LookCluster LookCopyright LookGroup LookName LookParameters LookParametersCameraProfile
LookParametersClarity2012 LookParametersConvertToGrayscale LookParametersLookTable LookParametersProcessVersion
LookParametersToneCurvePV2012 LookParametersToneCurvePV2012Blue LookParametersToneCurvePV2012Green
LookParametersToneCurvePV2012Red LookParametersVersion LookSupportsAmount LookSupportsMonochrome LookSupportsOutputReferred
LookUUID Loop LowestBiostratigraphicZone LuminanceAdjustmentAqua LuminanceAdjustmentBlue LuminanceAdjustmentGreen
LuminanceAdjustmentMagenta LuminanceAdjustmentOrange LuminanceAdjustmentPurple LuminanceAdjustmentRed
LuminanceAdjustmentYellow LuminanceNoiseReductionContrast LuminanceNoiseReductionDetail LuminanceSmoothing Lyrics MacAtom
MacAtomApplicationCode MacAtomInvocationAppleEvent MacAtomPosixProjectPath MachineObservation MachineObservationDay
MachineObservationEarliestDate MachineObservationEndDayOfYear MachineObservationEventDate MachineObservationEventID
MachineObservationEventRemarks MachineObservationEventTime MachineObservationFieldNotes MachineObservationFieldNumber
MachineObservationHabitat MachineObservationLatestDate MachineObservationMonth MachineObservationParentEventID
MachineObservationSampleSizeUnit MachineObservationSampleSizeValue MachineObservationSamplingEffort
MachineObservationSamplingProtocol MachineObservationStartDayOfYear MachineObservationVerbatimEventDate MachineObservationYear
MainIngredient MajorVersion Make MakerNote ManageTo ManageUI ManagedFrom ManagedFromAlternatePaths ManagedFromDocumentID
ManagedFromFile Path ManagedFromFromPart ManagedFromInstanceID ManagedFromLastModifyDate ManagedFromLastURL
ManagedFromLinkCategory ManagedFromLinkForm ManagedFromManageTo ManagedFromManageUI ManagedFromManager
ManagedFromManagerVariant ManagedFromMaskMarkers ManagedFromOriginalDocumentID ManagedFromPartMapping
ManagedFromPlacedResolutionUnit ManagedFromPlacedXResolution ManagedFromPlacedYResolution ManagedFromRenditionClass
ManagedFromRenditionParams ManagedFromToPart ManagedFromVersionID Manager ManagerVariant Manifest ManifestLinkForm
ManifestPlacedResolutionUnit ManifestPlacedXResolution ManifestPlacedYResolution ManifestReference
ManifestReferenceAlternatePaths ManifestReferenceDocumentID ManifestReferenceFilePath ManifestReferenceFromPart
ManifestReferenceInstanceID ManifestReferenceLastModifyDate ManifestReferenceLastURL ManifestReferenceLinkCategory
ManifestReferenceLinkForm ManifestReferenceManageTo ManifestReferenceManageUI ManifestReferenceManager

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ManifestReferenceManagerVariant ManifestReferenceMaskMarkers ManifestReferenceOriginalDocumentID ManifestReferencePartMapping
ManifestReferencePlacedResolutionUnit ManifestReferencePlacedXResolution ManifestReferencePlacedYResolution
ManifestReferenceRenditionClass ManifestReferenceRenditionParams ManifestReferenceToPart ManifestReferenceVersionID
Manufacturer Marked Markers MarkersComment MarkersCuePointParams MarkersCuePointParamsKey MarkersCuePointParamsValue
MarkersCuePointType MarkersDuration MarkersLocation MarkersName MarkersProbability MarkersSpeaker MarkersStartTime
MarkersTarget MarkersType MaskGroupBasedCorrActive MaskGroupBasedCorrAmount MaskGroupBasedCorrBlacks2012
MaskGroupBasedCorrBrightness MaskGroupBasedCorrClarity MaskGroupBasedCorrClarity2012 MaskGroupBasedCorrContrast
MaskGroupBasedCorrContrast2012 MaskGroupBasedCorrCorrectionName MaskGroupBasedCorrCorrectionSyncID MaskGroupBasedCorrDefringe
MaskGroupBasedCorrDehaze MaskGroupBasedCorrExposure MaskGroupBasedCorrExposure2012 MaskGroupBasedCorrHighlights2012
MaskGroupBasedCorrHue MaskGroupBasedCorrLuminanceNoise MaskGroupBasedCorrMask MaskGroupBasedCorrMaskAlpha
MaskGroupBasedCorrMaskAngle MaskGroupBasedCorrMaskBottom MaskGroupBasedCorrMaskCenterValue MaskGroupBasedCorrMaskCenterWeight
MaskGroupBasedCorrMaskDabs MaskGroupBasedCorrMaskFeather MaskGroupBasedCorrMaskFlipped MaskGroupBasedCorrMaskFlow
MaskGroupBasedCorrMaskFullX MaskGroupBasedCorrMaskFullyY MaskGroupBasedCorrMaskInputDigest MaskGroupBasedCorrMaskLeft
MaskGroupBasedCorrMaskMaskActive MaskGroupBasedCorrMaskMaskBlendMode MaskGroupBasedCorrMaskMaskDigest
MaskGroupBasedCorrMaskMaskInverted MaskGroupBasedCorrMaskMaskName MaskGroupBasedCorrMaskMaskSubType
MaskGroupBasedCorrMaskMaskSyncID MaskGroupBasedCorrMaskMaskVersion MaskGroupBasedCorrMaskMasks
MaskGroupBasedCorrMaskMasksAlpha MaskGroupBasedCorrMaskMasksAngle MaskGroupBasedCorrMaskMasksBottom
MaskGroupBasedCorrMaskMasksCenterValue MaskGroupBasedCorrMaskMasksCenterWeight MaskGroupBasedCorrMaskMasksDabs
MaskGroupBasedCorrMaskMasksFeather MaskGroupBasedCorrMaskMasksFlipped MaskGroupBasedCorrMaskMasksFlow
MaskGroupBasedCorrMaskMasksFullX MaskGroupBasedCorrMaskMasksFullyY MaskGroupBasedCorrMaskMasksInputDigest
MaskGroupBasedCorrMaskMasksLeft MaskGroupBasedCorrMaskMasksMaskActive MaskGroupBasedCorrMaskMasksMaskBlendMode
MaskGroupBasedCorrMaskMasksMaskDigest MaskGroupBasedCorrMaskMasksMaskInverted MaskGroupBasedCorrMaskMasksMaskName
MaskGroupBasedCorrMaskMasksMaskSubType MaskGroupBasedCorrMaskMasksMaskSyncID MaskGroupBasedCorrMaskMasksMaskVersion
MaskGroupBasedCorrMaskMasksMidpoint MaskGroupBasedCorrMaskMasksOrigin MaskGroupBasedCorrMaskMasksPerimeterValue
MaskGroupBasedCorrMaskMasksRadius MaskGroupBasedCorrMaskMasksReferencePoint MaskGroupBasedCorrMaskMasksRight
MaskGroupBasedCorrMaskMasksRoundness MaskGroupBasedCorrMaskMasksSizeX MaskGroupBasedCorrMaskMasksSizeY
MaskGroupBasedCorrMaskMasksTop MaskGroupBasedCorrMaskMasksValue MaskGroupBasedCorrMaskMasksVersion
MaskGroupBasedCorrMaskMasksWhat MaskGroupBasedCorrMaskMasksWholeImageArea MaskGroupBasedCorrMaskMasksX

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MaskGroupBasedCorrMaskMasksY MaskGroupBasedCorrMaskMasksZeroX MaskGroupBasedCorrMaskMasksZeroY MaskGroupBasedCorrMaskMidpoint
MaskGroupBasedCorrMaskOrigin MaskGroupBasedCorrMaskPerimeterValue MaskGroupBasedCorrMaskRadius MaskGroupBasedCorrMaskRange
MaskGroupBasedCorrMaskRangeAreaModels MaskGroupBasedCorrMaskRangeAreaModelsColorSampleInfo
MaskGroupBasedCorrMaskRangeAreaModelsComponents MaskGroupBasedCorrMaskRangeColorAmount MaskGroupBasedCorrMaskRangeDepthFeather
MaskGroupBasedCorrMaskRangeDepthMax MaskGroupBasedCorrMaskRangeDepthMin MaskGroupBasedCorrMaskRangeInvert
MaskGroupBasedCorrMaskRangeLumFeather MaskGroupBasedCorrMaskRangeLumMax MaskGroupBasedCorrMaskRangeLumMin
MaskGroupBasedCorrMaskRangeLumRange MaskGroupBasedCorrMaskRangeLuminanceDepthSampleInfo MaskGroupBasedCorrMaskRangeSampleType
MaskGroupBasedCorrMaskRangeType MaskGroupBasedCorrMaskRangeVersion MaskGroupBasedCorrMaskReferencePoint
MaskGroupBasedCorrMaskRight MaskGroupBasedCorrMaskRoundness MaskGroupBasedCorrMaskSizeX MaskGroupBasedCorrMaskSizeY
MaskGroupBasedCorrMaskTop MaskGroupBasedCorrMaskValue MaskGroupBasedCorrMaskVersion MaskGroupBasedCorrMaskWhat
MaskGroupBasedCorrMaskWholeImageArea MaskGroupBasedCorrMaskX MaskGroupBasedCorrMaskY MaskGroupBasedCorrMaskZeroX
MaskGroupBasedCorrMaskZeroY MaskGroupBasedCorrMoire MaskGroupBasedCorrRangeMask MaskGroupBasedCorrRangeMaskAreaModels
MaskGroupBasedCorrRangeMaskAreaModelsColorSampleInfo MaskGroupBasedCorrRangeMaskAreaModelsComponents
MaskGroupBasedCorrRangeMaskColorAmount MaskGroupBasedCorrRangeMaskDepthFeather MaskGroupBasedCorrRangeMaskDepthMax
MaskGroupBasedCorrRangeMaskDepthMin MaskGroupBasedCorrRangeMaskInvert MaskGroupBasedCorrRangeMaskLumFeather
MaskGroupBasedCorrRangeMaskLumMax MaskGroupBasedCorrRangeMaskLumMin MaskGroupBasedCorrRangeMaskLumRange
MaskGroupBasedCorrRangeMaskLuminanceDepthSampleInfo MaskGroupBasedCorrRangeMaskSampleType MaskGroupBasedCorrRangeMaskType
MaskGroupBasedCorrRangeMaskVersion MaskGroupBasedCorrSaturation MaskGroupBasedCorrShadows2012 MaskGroupBasedCorrSharpness
MaskGroupBasedCorrTemperature MaskGroupBasedCorrTexture MaskGroupBasedCorrTint MaskGroupBasedCorrToningHue
MaskGroupBasedCorrToningSaturation MaskGroupBasedCorrWhat MaskGroupBasedCorrWhites2012 MaskGroupBasedCorrections
MaterialSample MaterialSampleID MaxApertureValue MaxAvailHeight MaxAvailWidth MaxPageSize MaxPageSizeH MaxPageSizeUnit
MaxPageSizeW MaxStorage Meal MeasureType MeasurementAccuracy MeasurementDeterminedBy MeasurementDeterminedDate MeasurementID
MeasurementMethod MeasurementOrFact MeasurementRemarks MeasurementType MeasurementUnit MeasurementValue MediaConstraints
MediaEventIdDate MediaSummaryCode MetadataDate MetadataModDate MeteringMode MicroVideo MicroVideoOffset
MicroVideoPresentationTimestampUs MicroVideoVersion Mime MinorModelAgeDisclosure MinorVersion MobileCountryCode
MobileNetworkCode ModDate Model ModelAge ModelReleaseID ModelReleaseStatus ModelYear ModificationDate ModifyDate MoireFilter
MorePermissions NPages Name NationalCatalogNumber NativeDigest Near NegativeCacheLargePreviewSize NegativeCacheMaximumSize
NegativeCachePath NeutralDensityFactor Nickname Notes Number NumberOfBeats OECFColumns OECFNames OECFRows OECFValues OS

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Object ObjectCycle ObjectDescription ObjectSubtype ObjectType Occurrence OccurrenceAssociatedMedia
OccurrenceAssociatedOccurrences OccurrenceAssociatedReferences OccurrenceAssociatedSequences OccurrenceAssociatedTaxa
OccurrenceBehavior OccurrenceCatalogNumber OccurrenceDetails OccurrenceDisposition OccurrenceEstablishmentMeans OccurrenceID
OccurrenceIndividualCount OccurrenceIndividualID OccurrenceLifeStage OccurrenceOrganismQuantity OccurrenceOrganismQuantityType
OccurrenceOtherCatalogNumbers OccurrencePreparations OccurrencePreviousIdentifications OccurrenceRecordNumber
OccurrenceRecordedBy OccurrenceRemarks OccurrenceReproductiveCondition OccurrenceSex OccurrenceStatus OffSaleDate
OffSaleDateA-platform OffSaleDateDate OnSaleDate OnSaleDateA-platform OnSaleDateDate OnSaleDay OnSaleDayA-platform
OnSaleDayDay OptionEndDate Opto-ElectricConvFactor OrganisationInImageCode OrganisationInImageName Organism
OrganismAssociatedOccurrences OrganismAssociatedOrganisms OrganismID OrganismName OrganismPreviousIdentifications
OrganismRemarks OrganismScope Organization Orientation OriginPlatform OriginalCreateDateTime OriginalDocumentID
OriginalFileName OriginatingProgram OtherConditions OtherConstraints OtherImageInfo OtherLicenseDocuments OtherLicenseInfo
OtherLicenseRequirements OutCue OutCueScale OutCueValue OverrideLookVignette Owner OwnerName PDFVersion PLUSVersion PMVersion
PageCount PageImage PageImageFormat PageImageHeight PageImagePageNumber PageImageWidth PageInfo PageProgressionDirection
PageRange PaintBasedCorrectionMasks PaintBasedCorrections PaintCorrectionActive PaintCorrectionAmount
PaintCorrectionBlacks2012 PaintCorrectionBrightness PaintCorrectionClarity PaintCorrectionClarity2012 PaintCorrectionContrast
PaintCorrectionContrast2012 PaintCorrectionCorrectionName PaintCorrectionCorrectionSyncID PaintCorrectionDefringe
PaintCorrectionDehaze PaintCorrectionExposure PaintCorrectionExposure2012 PaintCorrectionHighlights2012 PaintCorrectionHue
PaintCorrectionLuminanceNoise PaintCorrectionMaskAlpha PaintCorrectionMaskAngle PaintCorrectionMaskBottom
PaintCorrectionMaskCenterValue PaintCorrectionMaskCenterWeight PaintCorrectionMaskDabs PaintCorrectionMaskFeather
PaintCorrectionMaskFlipped PaintCorrectionMaskFlow PaintCorrectionMaskFullX PaintCorrectionMaskFully
PaintCorrectionMaskInputDigest PaintCorrectionMaskLeft PaintCorrectionMaskMaskActive PaintCorrectionMaskMaskBlendMode
PaintCorrectionMaskMaskDigest PaintCorrectionMaskMaskInverted PaintCorrectionMaskMaskName PaintCorrectionMaskMaskSubType
PaintCorrectionMaskMaskSyncID PaintCorrectionMaskMaskVersion PaintCorrectionMaskMasks PaintCorrectionMaskMasksAlpha
PaintCorrectionMaskMasksAngle PaintCorrectionMaskMasksBottom PaintCorrectionMaskMasksCenterValue
PaintCorrectionMaskMasksCenterWeight PaintCorrectionMaskMasksDabs PaintCorrectionMaskMasksFeather
PaintCorrectionMaskMasksFlipped PaintCorrectionMaskMasksFlow PaintCorrectionMaskMasksFullX PaintCorrectionMaskMasksFully
PaintCorrectionMaskMasksInputDigest PaintCorrectionMaskMasksLeft PaintCorrectionMaskMasksMaskActive
PaintCorrectionMaskMasksMaskBlendMode PaintCorrectionMaskMasksMaskDigest PaintCorrectionMaskMasksMaskInverted

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PaintCorrectionMaskMasksMaskName PaintCorrectionMaskMasksMaskSubType PaintCorrectionMaskMasksMaskSyncID
PaintCorrectionMaskMasksMaskVersion PaintCorrectionMaskMasksMidpoint PaintCorrectionMaskMasksOrigin
PaintCorrectionMaskMasksPerimeterValue PaintCorrectionMaskMasksRadius PaintCorrectionMaskMasksReferencePoint
PaintCorrectionMaskMasksRight PaintCorrectionMaskMasksRoundness PaintCorrectionMaskMasksSizeX PaintCorrectionMaskMasksSizeY
PaintCorrectionMaskMasksTop PaintCorrectionMaskMasksValue PaintCorrectionMaskMasksVersion PaintCorrectionMaskMasksWhat
PaintCorrectionMaskMasksWholeImageArea PaintCorrectionMaskMasksX PaintCorrectionMaskMasksY PaintCorrectionMaskMasksZeroX
PaintCorrectionMaskMasksZeroY PaintCorrectionMaskMidpoint PaintCorrectionMaskOrigin PaintCorrectionMaskPerimeterValue
PaintCorrectionMaskRadius PaintCorrectionMaskRange PaintCorrectionMaskRangeAreaModels
PaintCorrectionMaskRangeAreaModelsColorSampleInfo PaintCorrectionMaskRangeAreaModelsComponents
PaintCorrectionMaskRangeColorAmount PaintCorrectionMaskRangeDepthFeather PaintCorrectionMaskRangeDepthMax
PaintCorrectionMaskRangeDepthMin PaintCorrectionMaskRangeInvert PaintCorrectionMaskRangeLumFeather
PaintCorrectionMaskRangeLumMax PaintCorrectionMaskRangeLumMin PaintCorrectionMaskRangeLumRange
PaintCorrectionMaskRangeLuminanceDepthSampleInfo PaintCorrectionMaskRangeSampleType PaintCorrectionMaskRangeType
PaintCorrectionMaskRangeVersion PaintCorrectionMaskReferencePoint PaintCorrectionMaskRight PaintCorrectionMaskRoundness
PaintCorrectionMaskSizeX PaintCorrectionMaskSizeY PaintCorrectionMaskTop PaintCorrectionMaskValue PaintCorrectionMaskVersion
PaintCorrectionMaskWhat PaintCorrectionMaskWholeImageArea PaintCorrectionMaskX PaintCorrectionMaskY PaintCorrectionMaskZeroX
PaintCorrectionMaskZeroY PaintCorrectionMoire PaintCorrectionRangeMask PaintCorrectionRangeMaskAreaModels
PaintCorrectionRangeMaskAreaModelsColorSampleInfo PaintCorrectionRangeMaskAreaModelsComponents
PaintCorrectionRangeMaskColorAmount PaintCorrectionRangeMaskDepthFeather PaintCorrectionRangeMaskDepthMax
PaintCorrectionRangeMaskDepthMin PaintCorrectionRangeMaskInvert PaintCorrectionRangeMaskLumFeather
PaintCorrectionRangeMaskLumMax PaintCorrectionRangeMaskLumMin PaintCorrectionRangeMaskLumRange
PaintCorrectionRangeMaskLuminanceDepthSampleInfo PaintCorrectionRangeMaskSampleType PaintCorrectionRangeMaskType
PaintCorrectionRangeMaskVersion PaintCorrectionSaturation PaintCorrectionShadows2012 PaintCorrectionSharpness
PaintCorrectionTemperature PaintCorrectionTexture PaintCorrectionTint PaintCorrectionToningHue PaintCorrectionToningSaturation
PaintCorrectionWhat PaintCorrectionWhites2012 PanoramicStitchCameraMotion PanoramicStitchMapType PanoramicStitchPhi0
PanoramicStitchPhi1 PanoramicStitchTheta0 PanoramicStitchTheta1 Pantry PantryInstanceID ParametricDarks
ParametricHighlightSplit ParametricHighlights ParametricLights ParametricMidtoneSplit ParametricShadowSplit ParametricShadows
ParentMEID ParentMediaEventID ParentReference1 ParentReference2 ParentReference3 ParentReference4 ParentReference5

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ParentReference6 PartOfCompilation PatientBirthDate PatientID PatientName PatientSex People Permissions Permits Person
PersonHeard PersonHeardIdentifier PersonHeardName PersonInImage PersonInImageCharacteristic PersonInImageCvTermCvId
PersonInImageCvTermId PersonInImageCvTermName PersonInImageCvTermRefinedAbout PersonInImageDescription PersonInImageId
PersonInImageName PersonInImageWDetails Personality PerspectiveAspect PerspectiveHorizontal PerspectiveRotate PerspectiveScale
PerspectiveUpright PerspectiveVertical PerspectiveX PerspectiveY PhotographicSensitivity PhotometricInterpretation PickLabel
PipelineVersion PlanarConfiguration Plane PlaneBoundary PlaneBoundaryVertexCount PlaneExtentX PlaneExtentZ PlanePose
PlanePosePositionX PlanePosePositionY PlanePosePositionZ PlanePoseRotationW PlanePoseRotationX PlanePoseRotationY
PlanePoseRotationZ PlanePoseTimestamp Planes PlanningRef PlanningRefIdentifier PlanningRefName PlanningRefRole PlateNames
Platform PortraitNote PortraitRequest PortraitVersion Pose PoseHeadingDegrees PosePitchDegrees PosePositionX PosePositionY
PosePositionZ PoseRollDegrees PoseRotationW PoseRotationX PoseRotationY PoseRotationZ PoseTimestamp PositionDescriptor
PostCropVignetteAmount PostCropVignetteFeather PostCropVignetteHighlightContrast PostCropVignetteMidpoint
PostCropVignetteRoundness PostCropVignetteStyle Prefs PreservedFileName PreservedSpecimen PreservedSpecimenMaterialSampleID
PresetType Pressure PrimaryChromaticities PrimaryFTP PrivateRTKInfo ProcessVersion Producer ProductCode ProductID ProductIDType
ProductInImage ProductInImageDescription ProductInImageGTIN ProductInImageName ProductOrServiceConstraints Profession Profile
ProfileCameraIndices ProfileType Profiles Prohibits ProjectName ProjectRef ProjectRefPath ProjectRefType ProjectionType
PropertyReleaseID PropertyReleaseStatus PublicationDate PublicationDateA-platform PublicationDateDate PublicationDisplayDate
PublicationDisplayDateA-platform PublicationDisplayDateDate PublicationEvent PublicationEventDate PublicationEventIdentifier
PublicationEventName PublicationName Publisher PublishingFrequency PullDown RPP RangeMask RangeMaskMapInfo
RangeMaskMapInfoLabMax RangeMaskMapInfoLabMin RangeMaskMapInfoLumEq RangeMaskMapInfoRGBMax RangeMaskMapInfoRGBMin Rating
RatingPercent RatingRegion RatingRegionCity RatingRegionCountryCode RatingRegionCountryName RatingRegionGPSAltitude
RatingRegionGPSLatitude RatingRegionGPSLongitude RatingRegionIdentifier RatingRegionLocationId RatingRegionLocationName
RatingRegionProvinceState RatingRegionSublocation RatingRegionWorldRegion RatingScaleMaxValue RatingScaleMinValue
RatingSourceLink RatingValue RatingValueLogoLink RawFileName Rawrppused RecDevice RecDeviceAttLensDescription
RecDeviceManufacturer RecDeviceModelName RecDeviceOwnersDeviceId RecDeviceSerialNumber RecipeEndingPage RecipePageRange
RecipeSource RecipeStartingPage RecipeTitle RecommendedExposureIndex Record RecordBasisOfRecord RecordCollectionCode
RecordCollectionID RecordDataGeneralizations RecordDatasetID RecordDatasetName RecordDynamicProperties
RecordInformationWithheld RecordInstitutionCode RecordInstitutionID RecordOwnerInstitutionCode RedEyeInfo RedHue RedSaturation
Reference1 Reference2 Reference3 Reference4 Reference5 Reference6 ReferenceBlackWhite RegionAppliedToDimensions

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RegionAppliedToDimensionsH RegionAppliedToDimensionsUnit RegionAppliedToDimensionsW RegionArea RegionAreaD RegionAreaH
RegionAreaUnit RegionAreaW RegionAreaX RegionAreaY RegionBarCodeValue RegionConstraints RegionDescription RegionExtensions
RegionFocusUsage RegionInfo RegionInfoDateRegionsValid RegionInfoMP RegionInfoRegions RegionList RegionName
RegionPersonDisplayName RegionPersonEmailDigest RegionPersonLiveIdCID RegionPersonSourceID RegionRectangle RegionRotation
RegionSeeAlso RegionType RegistryEntryRole RegistryID RegistryItemID RegistryOrganisationID RelatedResourceID RelatedSoundFile
Relation RelationshipAccordingTo RelationshipEstablishedDate RelationshipOfResource RelationshipRemarks RelativeAltitude
RelativePeakAudioFilePath RelativeTimestamp RelativeTimestampScale RelativeTimestampValue ReleaseDate ReleaseReady ReleaseTime
RenditionClass RenditionOf RenditionOfAlternatePaths RenditionOfDocumentID RenditionOfFilePath RenditionOfFromPart
RenditionOfInstanceID RenditionOfLastModifyDate RenditionOfLastURL RenditionOfLinkCategory RenditionOfLinkForm
RenditionOfManageTo RenditionOfManageUI RenditionOfManager RenditionOfManagerVariant RenditionOfMaskMarkers
RenditionOfOriginalDocumentID RenditionOfPartMapping RenditionOfPlacedResolutionUnit RenditionOfPlacedXResolution
RenditionOfPlacedYResolution RenditionOfRenditionClass RenditionOfRenditionParams RenditionOfToPart RenditionOfVersionID
RenditionParams Requires ResampleParams ResampleParamsQuality ResolutionUnit ResourceID ResourceRelationship
ResourceRelationshipID Restrictions RetouchAreaFeather RetouchAreaMaskAlpha RetouchAreaMaskAngle RetouchAreaMaskBottom
RetouchAreaMaskCenterValue RetouchAreaMaskCenterWeight RetouchAreaMaskDabs RetouchAreaMaskFeather RetouchAreaMaskFlipped
RetouchAreaMaskFlow RetouchAreaMaskFullX RetouchAreaMaskFullyY RetouchAreaMaskInputDigest RetouchAreaMaskLeft
RetouchAreaMaskMaskActive RetouchAreaMaskMaskBlendMode RetouchAreaMaskMaskDigest RetouchAreaMaskMaskInverted
RetouchAreaMaskMaskName RetouchAreaMaskMaskSubType RetouchAreaMaskMaskSyncID RetouchAreaMaskMaskVersion RetouchAreaMaskMasks
RetouchAreaMaskMasksAlpha RetouchAreaMaskMasksAngle RetouchAreaMaskMasksBottom RetouchAreaMaskMasksCenterValue
RetouchAreaMaskMasksCenterWeight RetouchAreaMaskMasksDabs RetouchAreaMaskMasksFeather RetouchAreaMaskMasksFlipped
RetouchAreaMaskMasksFlow RetouchAreaMaskMasksFullX RetouchAreaMaskMasksFullyY RetouchAreaMaskMasksInputDigest
RetouchAreaMaskMasksLeft RetouchAreaMaskMasksMaskActive RetouchAreaMaskMasksMaskBlendMode RetouchAreaMaskMasksMaskDigest
RetouchAreaMaskMasksMaskInverted RetouchAreaMaskMasksMaskName RetouchAreaMaskMasksMaskSubType RetouchAreaMaskMasksMaskSyncID
RetouchAreaMaskMasksMaskVersion RetouchAreaMaskMasksMidpoint RetouchAreaMaskMasksOrigin RetouchAreaMaskMasksPerimeterValue
RetouchAreaMaskMasksRadius RetouchAreaMaskMasksReferencePoint RetouchAreaMaskMasksRight RetouchAreaMaskMasksRoundness
RetouchAreaMaskMasksSizeX RetouchAreaMaskMasksSizeY RetouchAreaMaskMasksTop RetouchAreaMaskMasksValue
RetouchAreaMaskMasksVersion RetouchAreaMaskMasksWhat RetouchAreaMaskMasksWholeImageArea RetouchAreaMaskMasksX
RetouchAreaMaskMasksY RetouchAreaMaskMasksZeroX RetouchAreaMaskMasksZeroY RetouchAreaMaskMidpoint RetouchAreaMaskOrigin

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RetouchAreaMaskPerimeterValue RetouchAreaMaskRadius RetouchAreaMaskRange RetouchAreaMaskRangeAreaModels
RetouchAreaMaskRangeAreaModelsColorSampleInfo RetouchAreaMaskRangeAreaModelsComponents RetouchAreaMaskRangeColorAmount
RetouchAreaMaskRangeDepthFeather RetouchAreaMaskRangeDepthMax RetouchAreaMaskRangeDepthMin RetouchAreaMaskRangeInvert
RetouchAreaMaskRangeLumFeather RetouchAreaMaskRangeLumMax RetouchAreaMaskRangeLumMin RetouchAreaMaskRangeLumRange
RetouchAreaMaskRangeLuminanceDepthSampleInfo RetouchAreaMaskRangeSampleType RetouchAreaMaskRangeType
RetouchAreaMaskRangeVersion RetouchAreaMaskReferencePoint RetouchAreaMaskRight RetouchAreaMaskRoundness RetouchAreaMaskSizeX
RetouchAreaMaskSizeY RetouchAreaMaskTop RetouchAreaMaskValue RetouchAreaMaskVersion RetouchAreaMaskWhat
RetouchAreaMaskWholeImageArea RetouchAreaMaskX RetouchAreaMaskY RetouchAreaMaskZeroX RetouchAreaMaskZeroY RetouchAreaMasks
RetouchAreaMethod RetouchAreaOffsetY RetouchAreaOpacity RetouchAreaSeed RetouchAreaSourceState RetouchAreaSourceX
RetouchAreaSpotType RetouchAreas RetouchInfo Reuse ReuseAllowed ReuseProhibited Revision RichTextComment RightAlbedo Rights
RightsAgent RightsOwner RoutedTo RoutingDestinations RoutingExclusions RoutingNotes RtkFlag RtkStdHgt RtkStdLat RtkStdLon
SamplePageRange SamplesPerPixel Saturation SaturationAdjustmentAqua SaturationAdjustmentBlue SaturationAdjustmentGreen
SaturationAdjustmentMagenta SaturationAdjustmentOrange SaturationAdjustmentPurple SaturationAdjustmentRed
SaturationAdjustmentYellow SaveID ScaleType Scene SceneCaptureType SceneType Season SeasonIdentifier SeasonName SeasonNumber
SecondaryFTP Section SelfData SellingAgency SensingMethod SensitivityType SequenceName SequenceNumber SequenceTotalNumber
SerialNumber Series SeriesDateTime SeriesDescription SeriesIdentifier SeriesModality SeriesName SeriesNumber SeriesTitle
ServingSize Setting ShadowTint Shadows Shadows2012 SharpenDetail SharpenEdgeMasking SharpenRadius Sharpness ShootID
ShortDescription ShortName ShotDate ShotDay ShotLocation ShotName ShotNumber ShotSize ShownEvent ShownEventIdentifier
ShownEventName ShutterSpeedValue SidecarForExtension SkillLevel SlideshowName SlideshowNumber SlideshowTotalNumber Smoothness
Snapshot SnapshotFormat SnapshotHeightPixels SnapshotImageRole SnapshotLink SnapshotLinkQualifier SnapshotUsedVideoFrame
SnapshotUsedVideoFrameTimeFormat SnapshotUsedVideoFrameTimeValue SnapshotUsedVideoFrameValue SnapshotWidthPixels Snapshots
Software SortName Source SourceCount SourcePhotosCount SpatialFrequencyResponse SpatialFrequencyResponseColumns
SpatialFrequencyResponseNames SpatialFrequencyResponseRows SpatialFrequencyResponseValues SpeakerPlacement SpecialOccasion
SpecialTypeID SpectralSensitivity Spherical SplitToningBalance SplitToningHighlightHue SplitToningHighlightSaturation
SplitToningShadowHue SplitToningShadowSaturation Sport StandardOutputSensitivity StartTimeSampleSize StartTimeScale
StartTimecode StartTimecodeTimeFormat StartTimecodeTimeValue StartTimecodeValue StartingPage State Status StereoMode Stitched
StitchingSoftware StorylineIdentifier StreamReady StreamType StretchMode StudyDateTime StudyDescription StudyID StudyPhysician
StylePeriod SubLabels1 SubLabels2 SubLabels3 SubLabels4 SubLabels5 SubVersionFileName SubVersionReference

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SubVersions Subject SubjectArea SubjectCode SubjectDistance SubjectDistanceRange SubjectLocation Subsection1 Subsection2
Subsection3 Subsection4 Subtitle SupplementDisplayID SupplementStartingPage SupplementTitle SupplementalCategories
SupplyChainSource SupplyChainSourceIdentifier SupplyChainSourceName SupportsAmount SupportsColor SupportsHighDynamicRange
SupportsMonochrome SupportsNormalDynamicRange SupportsOutputReferred SupportsSceneReferred SwatchColorantA SwatchColorantB
SwatchColorantBlack SwatchColorantBlue SwatchColorantCyan SwatchColorantGray SwatchColorantGreen SwatchColorantL
SwatchColorantMagenta SwatchColorantMode SwatchColorantRed SwatchColorantSwatchName SwatchColorantTint SwatchColorantType
SwatchColorantYellow SwatchGroupName SwatchGroupType SwatchGroups SwatchGroupsColorants TIFFHandling TagStructure Tagged
TagsList TakeNumber TapeName Taxon TaxonAcceptedNameUsage TaxonAcceptedNameUsageID TaxonClass TaxonConceptID TaxonFamily
TaxonGenus TaxonHigherClassification TaxonID TaxonInfraspecificEpithet TaxonKingdom TaxonNameAccordingTo
TaxonNameAccordingToID TaxonNamePublishedIn TaxonNamePublishedInID TaxonNamePublishedInYear TaxonNomenclaturalCode
TaxonNomenclaturalStatus TaxonOrder TaxonOriginalNameUsage TaxonOriginalNameUsageID TaxonParentNameUsage
TaxonParentNameUsageID TaxonPhylum TaxonRank TaxonRemarks TaxonScientificName TaxonScientificNameAuthorship
TaxonScientificNameID TaxonSpecificEpithet TaxonSubgenus TaxonTaxonomicStatus TaxonVerbatimTaxonRank TaxonVernacularName
Teaser Tempo TemporalCoverage TemporalCoverageFrom TemporalCoverageTo TermsAndConditionsText TermsAndConditionsURL
TextLayerName TextLayerText TextLayers Texture ThumbnailFormat ThumbnailHeight ThumbnailImage ThumbnailWidth Thumbnails Ticker
TimeCreated TimePeriod TimeScaleParams TimeScaleParamsFrameOverlappingPercentage TimeScaleParamsFrameSize
TimeScaleParamsQuality TimeShot TimeSignature TimeStamp Tint Title ToggleStyleAmount ToggleStyleDigest ToneCurve ToneCurveBlue
ToneCurveGreen ToneCurveName ToneCurveName2012 ToneCurvePV2012 ToneCurvePV2012Blue ToneCurvePV2012Green ToneCurvePV2012Red
ToneCurveRed ToneMapStrength TrackNumber Tracks TracksFrameRate TracksMarkers TracksMarkersComment TracksMarkersCuePointParams
TracksMarkersCuePointParamsKey TracksMarkersCuePointParamsValue TracksMarkersCuePointType TracksMarkersDuration
TracksMarkersLocation TracksMarkersName TracksMarkersProbability TracksMarkersSpeaker TracksMarkersStartTime
TracksMarkersTarget TracksMarkersType TracksTrackName TracksTrackType Transcript TranscriptLink TranscriptLinkLink
TranscriptLinkLinkQualifier TransferFunction TransmissionReference Trapped Type TypeStatus URL URLA-platform URLUrl UUID Units
UprightCenterMode UprightCenterNormX UprightCenterNormY UprightDependentDigest UprightFocalLength35mm UprightFocalMode
UprightFourSegmentsCount UprightPreview UprightTransformCount UprightTransform_0 UprightTransform_1 UprightTransform_2
UprightTransform_3 UprightTransform_4 UprightTransform_5 UprightVersion Urgency Usage UsageTerms UseGuidelines
UsePanoramaViewer UserComment UserFields UspsNumber VendorInfo VendorInfoManufacturer VendorInfoModel VendorInfoNotes Version
VersionID VersionIdentifier Versions VersionsComments VersionsEvent VersionsEventAction VersionsEventChanged

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VersionsEventInstanceID VersionsEventParameters VersionsEventSoftwareAgent VersionsEventWhen VersionsModifier
VersionsModifyDate VersionsVersion Vibrance VideoAlphaMode VideoAlphaPremultipleColor VideoAlphaPremultipleColorA
VideoAlphaPremultipleColorB VideoAlphaPremultipleColorBlack VideoAlphaPremultipleColorBlue VideoAlphaPremultipleColorCyan
VideoAlphaPremultipleColorGray VideoAlphaPremultipleColorGreen VideoAlphaPremultipleColorL VideoAlphaPremultipleColorMagenta
VideoAlphaPremultipleColorMode VideoAlphaPremultipleColorRed VideoAlphaPremultipleColorSwatchName
VideoAlphaPremultipleColorTint VideoAlphaPremultipleColorType VideoAlphaPremultipleColorYellow VideoAlphaUnityIsTransparent
VideoBitrate VideoBitrateMode VideoColorSpace VideoCompressor VideoDisplayAspectRatio VideoEncodingProfile VideoFieldOrder
VideoFrameRate VideoFrameSize VideoFrameSizeH VideoFrameSizeUnit VideoFrameSizeW VideoModDate VideoPixelAspectRatio
VideoPixelDepth VideoShotType VideoShotTypeIdentifier VideoShotTypeName VideoStreamsCount Viewpoint VignetteAmount
VignetteCorrectionAlreadyApplied VignetteMidpoint VisualColor VisualTechnique Volume WaterDepth WebStatement
WeightedFlatSubject What WhiteBalance WhiteBalance0 WhiteBalance1 WhiteBalance2 WhitePoint Whites2012 WindowsAtom
WindowsAtomExtension WindowsAtomInvocationFlags WindowsAtomUncProjectPath WordCount WorkToDo WorkflowTag WorkflowTagCvId
WorkflowTagCvTermId WorkflowTagCvTermName WorkflowTagCvTermRefinedAbout XMP XMPToolkit XResolution YCbCrCoefficients
YCbCrPositioning YCbCrSubSampling YResolution Yield

APPENDIX 5: Image metadata Web resources



1) Mapping table to map tags between XMP, IPTC and EXIF

<https://iptc.org/std/photometadata/specification/mapping/iptc-pmd-newsmlg2.html>

2) Image metadata and google Images

<https://iptc.org/standards/photo-metadata/quick-guide-to-iptc-photo-metadata-and-google-images/>

3) Check if metadata tags are synchronised across XMP, IPTC and EXIF

<https://getpmd.iptc.org/getiptcpmd.html>