# What is exif data?

When a digital image is captured, metadata specific to that image is stored. This information is called exchangeable image file format" — "exif" for short — data. Some examples of exif data are date, time and file size. This information can be extremely useful when conducting image analysis. Analysts can exploit exif data to find the location of the image, camera make and model, and other information that is valuable to the intelligence production cycle.

## Incorporating exif data

To find exif data, an analyst can use a number of different tools. FotoForensics is the service used for the workflow described here. In the example in this report, we've taken an image of a cargo ship from a ship-spotting forum (see figure 1) and uploaded it to FotoForensics to analyst the exif data.

User-uploaded images in forums will likely have their exif data intact. However, if the analyst tries to pull exif data from an image on social media, there will likely be little to no data present. Social media platforms have begun to strip exif data off of user images to protect user privacy.

Once on FotoForensics, the analyst will have two options for image analysis. The analyst can paste an image URL or upload a file for analysis (see figure 2).

For this workflow, the analyst can save the above image of the cargo ship, and then upload the .jpg file into FotoForensics.

When the upload is complete the analyst should select the metadata field from the "Analysis" dropdown list (see figure 3). The analyst can then scroll down and begin to review information pertinent to the investigation.

*Figure 1 | Image from shipspotting.com*


*Figure 2 | FotoForensics user interface*


*Figure 3 | FotoForensics post image upload with metadata analysis selected*

After reviewing the exif data collected by FotoForensics, a few pieces of information stand out. The analyst can glean what type of device was used to capture the image (see figure 4). This information can be useful when investigating a party of interest that may have a standard issue camera for reconnaissance.

FotoForensics also provides the analyst with an approximate latitude and longitude coordinate (see figure 5). This coordinate can be further incorporated into a targeting packet or reconnaissance mission.

Overall, the information captured from exif data can greatly enhance a unit's analytic ability. The exploitation of images, whether of an adversarial object or person or of a location, can help the analyst to further understand their battlespace or objective.

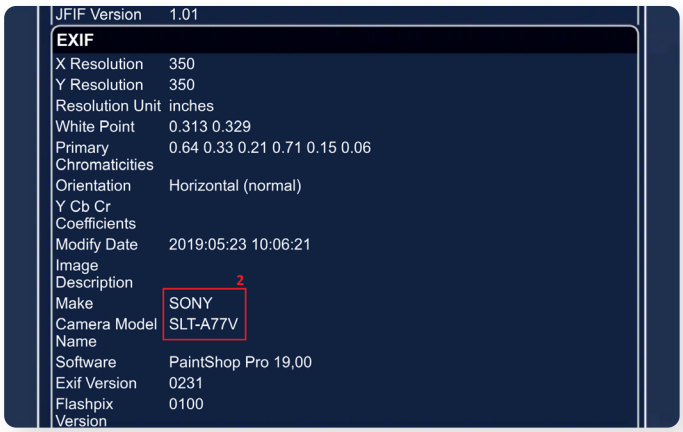


*Figure 4 | FotoForensics exif data results including camera model*

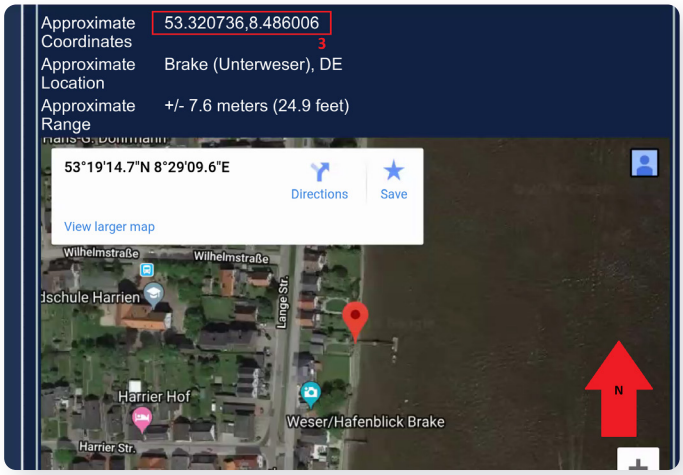


*Figure 5 | FotoForensics exif data results including geographic coordinates.*

## Conclusion

This workflow covers how to extract and incorporate exif data into the intelligence product. The analyst found a .jpg file of a cargo ship and leveraged FotoForensics to conduct exif data analysis. Results from the analysis included key identifiers such as equipment used and location data that can then be incorporated further into a finished intelligence product.

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