



METADATA WHITEPAPER JUNE 2016

Metadata—the Key to Protecting Copyright in Digital Imagery

Embedding Metadata in Adobe Creative Suite & Creative Cloud

INTRODUCTION

Metadata is an important key to protecting your illustrations and photography from accidental infringement and potential orphaning. By embedding all critical ownership and contact information directly into the digital file, metadata facilitates and encourages respect for the rights of creators and rights holders.

Think of metadata as a digital business card that you attach to the files you create. As your file travels, so does your information. Metadata can be added to files created using any Adobe application (Photoshop, Illustrator, After Effects, InDesign, Acrobat). Metadata Templates can be created to save time and easily add common information to folders of files using Adobe Bridge or Lightroom. In addition to ownership and contact information, keywords, captions, credit lines and other information can be added to enhance searching, sorting and organizing in Bridge or other digital asset management (DAM) software.

Metadata provides limited but important protection against orphaning. Creator-applied metadata is not permanent and can be automatically stripped out by "save for web" functions and by posting on file sharing and social media platforms. It can also be removed and/or replaced by publishers and other end users of images. Efforts are underway to enable creators to permanently embed their metadata in their files. We encourage creators to support these efforts when asked. In the meantime, to protect your creative assets and help identify your work, the AMI advises medical illustrators to incorporate the following as standard business practice:

- Embed critical copyright and contact metadata into your digital files
- Place a visible copyright mark on your published work and watermark your online portfolios
- Sign your work legibly with full name (not initials)
- Register your work with the U.S. Copyright Office
- Register yourself with online artist registries and keep your contact information up to date

Start embedding metadata today! Follow these instructions on how to create Metadata Templates and how to apply contact, copyright, and licensing metadata using the File Info in Adobe applications.

CREATE A METADATA TEMPLATE

By creating a template, you will save the task of entering COMMON information every time a new file is created. Do not enter SPECIFIC information – it can be added after the template is applied.

1. Start with a new blank document in Photoshop, Illustrator, or InDesign.
2. Select **File > File info**. The top of the File Info window has tabbed categories (Adobe CS5 is shown).
3. In the **Basic** tab, enter all the COMMON information applicable for the majority of your files such as **author name, author title, copyright status, notice, URL**, etc.
4. In the **IPTC** tab, enter your contact information. Because phone, email, address, and website names can change, provide secondary numbers if possible. Separate multiple entries with a comma. Be sure to follow international standards for contact info so that it can be understood globally. For example, include <http://> in your web addresses, write your phone number in international format, use ISO country codes, etc. You want a user or client to easily find and contact you if they obtain your image and want permissions or a license.
5. Scroll down to IPTC status and enter **credit line**, and **source**.
6. After entering all COMMON information, click the **Template flyout menu > Export**. Give the template a meaningful name so you will remember its function.

Metadata templates are saved in the Adobe > XMP > Metadata Templates folder, which is accessed by all CS and CC applications.

7. Close and discard the blank document.

The screenshot shows the 'Basic' tab of the 'File Info' window. The left sidebar lists categories: Basic, Camera Data, Origin, IPTC, IPTC Extension, GPS Data, Audio Data, Video Data, Photoshop, DICOM, and Raw Data. The main area contains fields for: Document Title, Author (Max Brodel), Author Title (Certified Medical Illustrator), Description, Rating (5 stars), Description Writer, Keywords, Copyright Status (Copyrighted), Copyright Notice (©2016 Max Brodel / Johns Hopkins University, All rights reserved), Copyright Info URL (http://medicalart.johnshopkins.edu/), Creation Date (Jun 19, 2016, 12:30:36 PM), Modification Date (Jun 19, 2016, 12:30:36 PM), Application (Adobe Photoshop CC 2015 (Macintosh)), and Format (application/vnd.adobe.photoshop). At the bottom, there are buttons for Preferences, Template (with a dropdown arrow), Cancel, and OK.

The screenshot shows the 'IPTC' tab of the 'File Info' window. The left sidebar is the same as the previous screenshot. The main area is divided into two sections: 'IPTC Contact' and 'IPTC Status'. The 'IPTC Contact' section includes fields for Creator (Max Brodel), Creator's Job Title (Certified Medical Illustrator), Address (Johns Hopkins University School of Medicine, Art as Applied to Medicine, 1830 East Monument Street, Suite 7000), City (Baltimore), State/Province (MD), Postal Code (21287), Country (United States), Phone(s) (+1 (410) 9553213, +1 (800) 1112222), E-Mail(s) (max.brodel@jhmi.edu, medart-info@jhmi.edu), and Website(s) (http://medicalart.johnshopkins.edu/). The 'IPTC Status' section includes fields for Title, Job Identifier, Instructions, Credit Line (Artist: Max Brodel, http://medicalart.johnshopkins.edu), Source (Johns Hopkins University), Copyright Notice (©2016 Max Brodel / Johns Hopkins University, All rights reserved), and Rights Usage Terms. At the bottom, there are buttons for Preferences, Template (with a dropdown arrow), Cancel, and OK. The dropdown menu for 'Template' is open, showing options: Template (checked), Import..., and Export...

APPLY A METADATA TEMPLATE TO AN IMAGE

1. Open an **existing** file in Photoshop or Illustrator and select **File > File Info**.

In Acrobat select **File > Properties > Description Tab > click Additional Metadata** button.

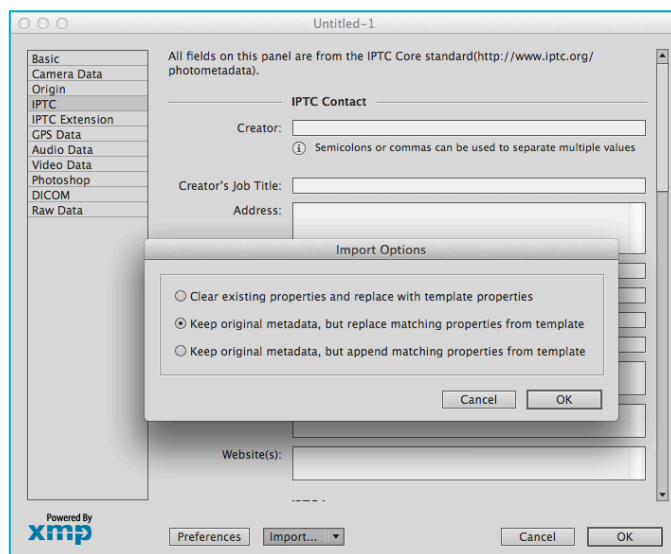
2. Click on the flyout menu > **Import** and select the name of the metadata template. A window will appear with 3 options:

- 1) **Clear** existing properties and replace with template properties
- 2) Keep original metadata but **replace** matching properties from template
- 3) Keep original metadata but **append** matching properties from template.

3. After the template is applied, enter image specific information such as Document Title, Description, and Keywords.

4. In **IPTC Status**, enter image-specific Copyright, Credit and Rights Usage Terms.

5. Click **OK**. Notice that a © symbol now appears in the window title bar of your image.



Replace adds properties if they are not present and replaces properties for those that exist. Use caution when replacing metadata so that you don't inadvertently overwrite existing metadata from images that are not yours.

Append adds properties if they are not present but does not replace existing properties.

CAUTION: Copyright management information metadata must never be removed from files that you process from other illustrators, photographers, or designers. Only **Clear** metadata on images you personally created. Removing copyright metadata is a violation of the DMCA and carries penalties and fines!

PRESERVE METADATA IN “SAVE FOR WEB” AND “EXPORT AS”

Metadata remains with a file even if the file's format changes, for example if you create a PSD file then later **Save As** a JPG. Metadata is even retained if a file is placed into another file such as an InDesign layout. However, in Photoshop the default metadata settings in **Save for Web** and/or **Export As** is “None” — which removes metadata from the file to reduce file size for fast web viewing. Change the following to preserve embedded metadata:

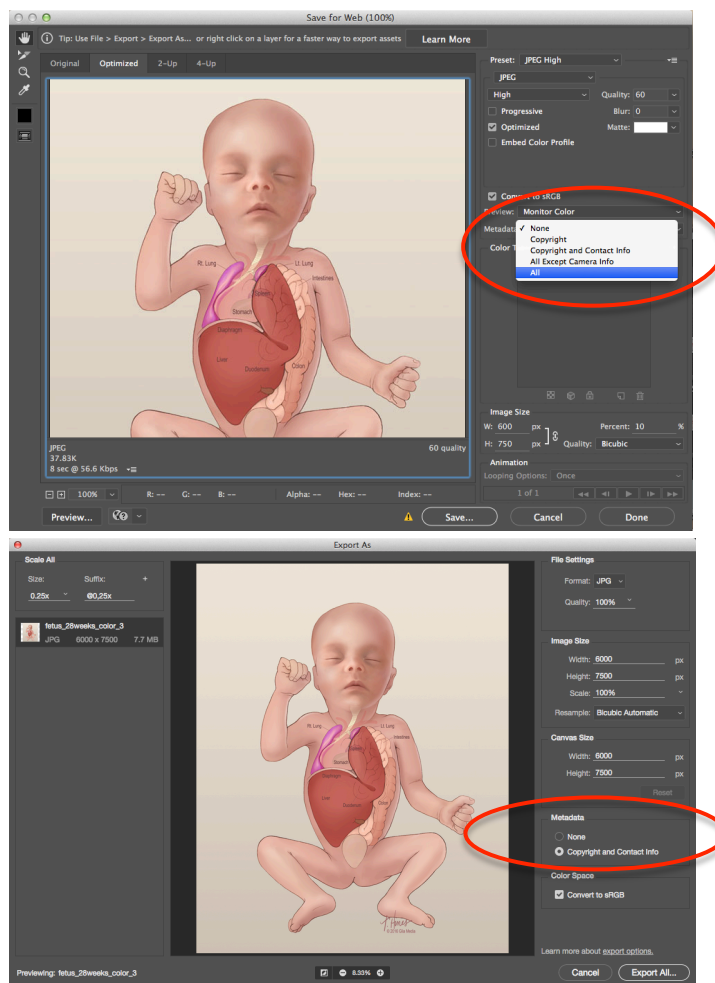
In Photoshop CC 2015

Method 1: File > Export > **Save for Web**

(Legacy) > Metadata > select “ALL.” Once selected, the option remains checked until changed by the user.

Method 2: File > Export > **Export As** > Metadata > select “Copyright and Contact info”

Method 3: To permanently change the setting go to **Preferences** > Export > Metadata > select “Copyright and Contact Info”

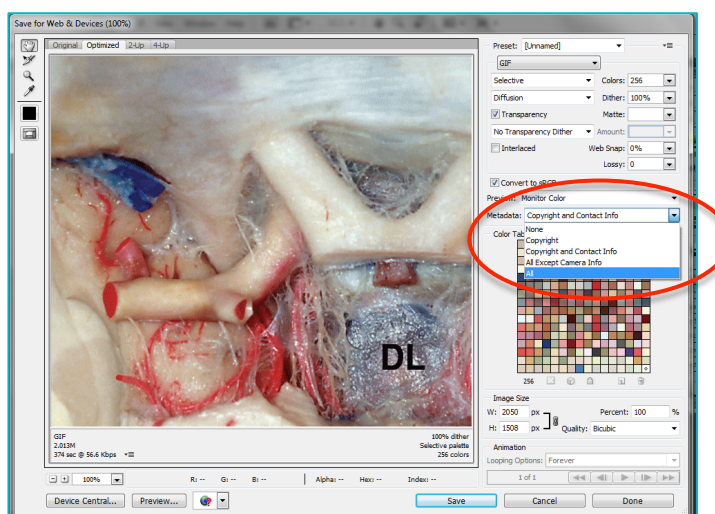


In Photoshop CS4-6

File > Save for Web & Devices > Metadata flyout menu > select “Copyright and Contact”, “All except Camera info”, or “All”. Once selected, the option remains checked until changed by the user.

In Photoshop CS3

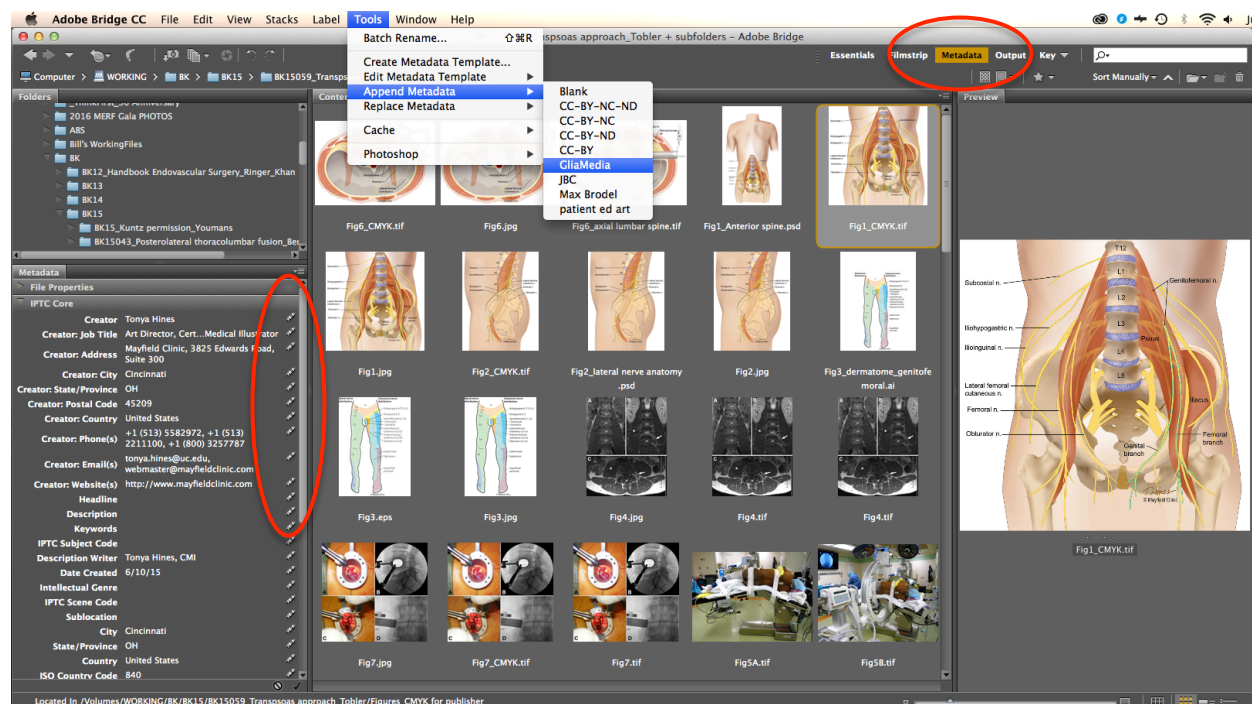
File > Save for Web & Devices > Optimize flyout menu > select “Include XMP”. Once selected, the option remains checked until changed by the user.



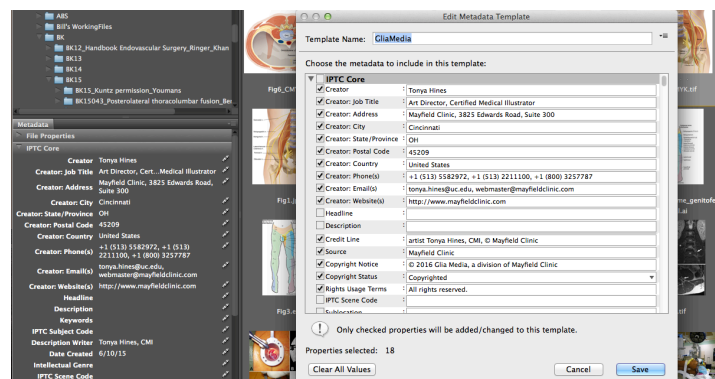
APPLY METADATA TO MULTIPLE IMAGES WITH ADOBE BRIDGE

Adobe Bridge is a digital asset management (DAM) app that enables artists to organize, browse, and find their images in a lightbox-style interface. One of its most powerful features is batch editing of metadata. Direct writing of metadata using Bridge is efficient and nondestructive — you can add/change the information in a JPEG image without opening and subjecting it to an additional round of compression. This is very useful if you have an older archive of illustrations that need metadata. Adobe Lightroom performs similar functions.

1. Shown below is the Adobe Bridge **Metadata workspace**. In the Content panel, select multiple files (hold down shift key) that you want to embed metadata.
2. Select **Tools** menu, locate the metadata template you wish to apply from either the **Append Metadata**, or **Replace Metadata** sub-menus.
3. After the COMMON template is applied, you can add individual metadata fields like Title, Description, Keywords, etc. with the pencil icon. Again, shift-select multiple files to write the same properties to images.



4. Select **Tools > Edit Metadata Template** to quickly make custom templates based off your COMMON info.



IPTC EXTENSION AND IPTC-PLUS METADATA PANELS

The IPTC Extension and PLUS schemas are a supplemental to the IPTC Core. They provide:

- Fields to improve administration for registering the image with a registry.
- Fields to precisely define the licensing terms and the copyrights of an image.

With the release of Creative Suite 5, Adobe integrated numerous PLUS rights metadata fields in the **IPTC Extension** panel. Download the [IPTC File Info panel in CS5 User Guide](#). It has an excellent overview on how to properly fill out the fields, proper phone format [+1 (800) 1234567], how to designate registries, etc.

Once installed, you can access the panels via a new menu item in Adobe Bridge located between the Window and Help menus.

CREATIVE COMMONS METADATA

Some medical illustrators and photographers may provide images for Open Access journals under a Creative Commons license. Because figure legends and captions become separated from images, it's important to embed the specific CC license, attribution, and restriction information you desire into the image so that it is machine readable online.

The online [CC License Chooser](#) will generate an XMP file that you can add to the Metadata Templates folder. Be sure to fill out the attribute information.

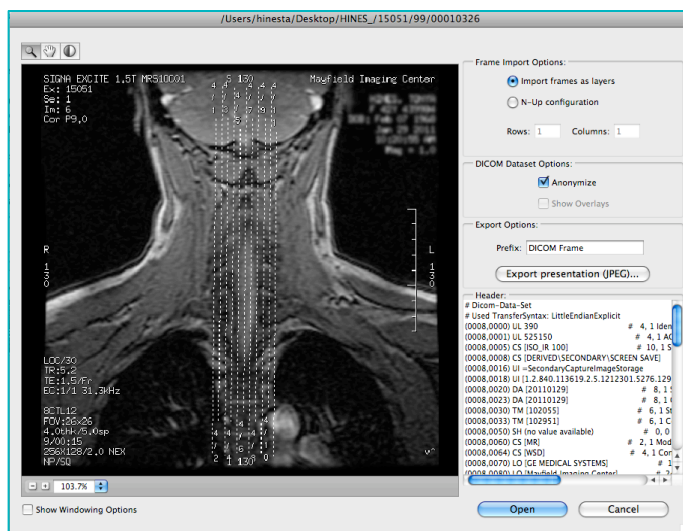
A CC metadata panel (like the one shown right) can be installed from John Bishop Images (see appendix for link).

Six licenses allow for a variety of uses:

- | | |
|-------------|---|
| CC BY | Attribution |
| CC BY-SA | Attribution-ShareAlike |
| CC BY-ND | Attribution-NoDerivatives |
| CC BY-NC | Attribution-NonCommercial |
| CC BY-NC-SA | Attribution-NonCommercial-ShareAlike |
| CC BY-NC-ND | Attribution-NonCommercial-NoDerivatives |

CAUTION: DICOM AND PATIENT METADATA

Many medical illustrators work with patient scans for research and medical legal projects. A DICOM (Digital Imaging and Communications in Medicine) file stores the digital image along with metadata such as the patient's name, ID, study ID, date of birth, etc. When processing for outside use (publication, PowerPoint, or web), be sure to anonymize the images when importing into Photoshop. You can also remove protected health information (PHI) from the **File Info > DICOM** metadata panel. Take extra precautions to ensure your workflow is HIPAA (Health Insurance Portability and Accountability Act) compliant.



CAUTION: PNG / GIF FILE TYPES DO NOT RETAIN METADATA

Metadata standards are specific to file types: Natively, GIF does not support metadata, PNG supports some (keyword=value pairs), and JPG and TIFF support EXIF/IPTC. Even though you can write metadata to PNG with save to web, Bridge, Fireworks, or another program (like ExifTool), the casual viewer would not see it in Windows Explorer properties/details or Preview/Spotlight info, unless they opened the file in Bridge or a program to extract the data.

CAUTION: EMPLOYEES ACTING ON BEHALF

Illustrators and photographers who work for educational institutions or private corporations should check with their employers about intellectual property policies and establish standard protocols and templates for embedded metadata across the entire creative department.

CAUTION: SOCIAL MEDIA STRIP METADATA

Many illustrators and photographers use social media to showcase and promote their work. However, some of the most popular platforms such as Facebook, Flickr, Instagram, and Twitter strip the metadata from image files.

For more information see <http://www.embeddedmetadata.org/social-media-test-results.php>

To protect your images when sharing on social media, consider posting web resolution images with a strong watermark.

| Social Media site/system | Summary | Displays correctly? | Displays 4Cs? | Save As embedded? | Download embedded? |
|--|--|---------------------|---------------|-------------------|--------------------|
| BEHANCE - www.behance.net Tested in late 2015 | All rights-relevant fields and more are shown, all correctly. Embedded metadata is preserved in the SaveAs and the downloaded image file. Compared to 2013: not tested then | Exif | IPTC | Exif | IPTC |
| Dropbox - www.dropbox.com Tested in late 2015 | No embedded metadata shown. Embedded metadata only preserved in the downloaded image file but not in the SaveAs. Compared to 2013: also SaveAs files preserved metadata then = decline | Exif | IPTC | Exif | IPTC |
| Facebook - www.facebook.com Tested in late 2015 | No embedded metadata shown. SaveAs file preserved Copyright Notice and Creator in IIM, anything else is stripped off. Surprise: 2 IIM fields contain data generated by Facebook. Compared to 2013: at least 2 fields in IIM survive now = slight improvement | Exif | IPTC | Exif | IPTC |
| Flickr FREE account - www.flickr.com Tested in late 2015 | Some embedded metadata fields are shown, all correctly, but not all rights-relevant 4Cs. Embedded metadata is stripped off SaveAs files but preserved in downloaded files. Compared to 2013: plus = any downloaded file preserves metadata now; minus = even high resolution SaveAs file does not preserve it now. | Exif | IPTC | Exif | IPTC |
| Instagram - www.instagram.com Tested in late 2015 | Tested using the Instagram iOS app v 6.4.1: No embedded metadata fields are shown. No retrieval of image files possible. Compared to 2013: in SaveAs files all metadata were preserved then = decline | Exif | IPTC | Exif | IPTC |
| Tumblr - www.tumblr.com Tested in late 2015 | No embedded metadata shown. Only the embedded Exif fields are preserved in the SaveAs image files, IIM and XMP metadata is stripped off. Compared to 2013: in SaveAs files all metadata were preserved then = decline | Exif | IPTC | Exif | IPTC |
| Twitter - www.twitter.com Tested in late 2015 | No embedded embedded metadata shown. Only downscaled images are available for SaveAs and the metadata are stripped off such files. Compared to 2013: no change | Exif | IPTC | Exif | IPTC |

"Social Media Sites Photo Metadata Test Results" by [IPTC](http://www.embeddedmetadata.org)
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FOR MORE INFORMATION

<https://www.iptc.org/std/photometadata/documentation/GenericGuidelines/>

<http://www.photometadata.org>

<http://www.adobe.com/products/xmp/>

<http://www.embeddedmetadata.org/>

<http://www.useplus.com>

<http://www.controlledvocabulary.com>

<http://www.PLUSregistry.org>

<https://creativecommons.org/faq>

CEPIC-IPTC IMAGE METADATA HANDBOOK

http://www.iptc.org/site/Photo_Metadata/CEPIC-

[IPTC_Image_Metadata_Handbook_Update_Notification_Request](http://www.iptc.org/site/Photo_Metadata/CEPIC-IPTC_Image_Metadata_Handbook_Update_Notification_Request)

IPTC-PLUS METADATA PANEL TOOLKIT

<https://iptc.org/standards/photo-metadata/iptc-standard/>

CREATIVE COMMONS FILE INFO PANEL

<http://johnbishopimages.com/blog/2010/11/12/creative-commons-fileinfo-panel/>

This whitepaper was prepared by the
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