Basic Guidelines for Minimal Descriptive Embedded Metadata in Digital Images
by EMDaWG (Embedded Metadata Working Group – Smithsonian Institution)
April 2010.

I. Introduction

This document defines the minimum proposed descriptive embedded metadata[1] for digital images[2] at the Smithsonian Institution. It also provides basic guidelines for the use of embedded metadata in imaging workflows across the Institution. It represents a consensus of practitioners across various units about how to better manage the data that is populated into our digital images. Its intention is not to dictate practice, but rather to educate and provide guidance for those working with digital image collections. Though we acknowledge that this information continues to evolve, we also recognize the Institution's desire for clarity about how to identify and use digital materials at this point in time. Further, a commonly understood and implemented metadata terminology will assist in the implementation of the goals and objectives of the SI Strategic Plan. The group recommends that metadata management criteria be reviewed every two years to stay current with best practices. At the time of this document's publication Adobe had released the latest version of their Creative Suite (CS5), which includes recent updates to the IPTC schema. The working group determined that these changes would not be reflected in the document until CS5 is more widely adopted and evaluated.

This document identifies the following:

1. Required core set of embedded metadata
2. Suggested set of embedded metadata
3. Recommendations of data value types not to embed in digital images
4. Recommendations when working with vendors who will be embedding metadata
5. Appendices:
     a. IPTC Element Narratives
     b. Examples of IPTC fields mapped to various imaging programs

The group was established in April 2009 in response to a growing request from staff who work daily with digital assets to clarify practices of embedding metadata in images. The group's goal was to establish a core set of minimal embedded metadata fields and to define the type of data values for those fields which could both provide better online access of Smithsonian images and, ensure preservation of these images in the future. One of the first steps of the group was to survey members of the group as to their current practice, if any. Once compiled, results were compared and key embedded metadata fields were identified. Disparities were found in the metadata fields used by various units, which made sharing common search catalogs difficult. This prompted several discussions as to the types of data values that might better be contained in those fields, and that would serve a majority of units. In an attempt to accommodate the different, various needs of individual units when populating these fields, it was

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[1] Technical metadata is outside the scope of this document.
[2] Digital images includes still image files and born digital files.

determined that an additional suggested set should also be established. The suggested set also contains sample values, provided by different units in the group, for populating fields. During these discussions, the group also advised establishing recommendations for data value types which should not be embedded. They also elaborated on recommendations for embedded metadata when working with scanning or imaging vendors. Finally, the group established an appendix of IPTC fields mapped to various imaging programs. The intention is to guide practitioners when populating fields in various metadata editing utilities and software versions so as to ensure proper mapping.

II.   Background

Metadata is a crucial, yet largely invisible set of information about the characteristics of any item, such as who collected it, when it was collected, and in what format. In digital imaging, there are two types of embedded metadata (information stored within the file itself): technical and descriptive. Technical metadata, which may consist of an equipment name, manufacturer, and capture date, is usually embedded automatically into the file by the equipment software that produces the file. Descriptive metadata requires manual input of additional information about the image by a library, museum, archive or information specialist; this input process may be automated to a certain degree, but may still require manual data entry of information that is unique to the image.

The process of producing metadata about images is not new. We all have done this by writing brief description on the front or back of a photograph. In today's digital world, this process is just updated so that we can provide more and more descriptive information which can travel with the file no matter where it goes. Why is this important? Adding descriptive metadata to a digital image allows us to take advantage of existing technologies that can read and extract that metadata, allowing others to search for our images. It is also helpful when an image comes back to the Institution, from a researcher or general public, in determining its original source and location. The more standardized and *useful* information we put into the metadata, the more searchable these images. As the Smithsonian increasingly digitizes and shares its images, the group strongly suggests that the Institution adopts the standards of best practices for embedded minimal metadata.

A minimal amount of metadata within digital assets takes on critical importance when it comes to the Institution's enterprise Digital Asset Management System (DAMS). The SI DAMS provides for an Institution-wide application used for storing, searching and retrieving digital assets. Without the requisite metadata to accompany each digital asset, the DAMS would be reduced to an unorganized storage system filled with millions of files but no efficient way to search on or to retrieve assets. The SI DAMS' extensive Core Metadata Model (see: *https://sp.si.edu/col/SI-DAM/Metadata%20Related/0-SI_DAM_CoreModel_Elements-01-19-2010.ppt*) is the basis for the DAMS functionality.

Realizing that some of the images created at SI are:

- Already contained within the SI DAMS;
- Currently residing outside the SI DAMS but may eventually be ingested into the SI DAMS;

the group tried to keep in mind how data values would map to fields within the current SI DAMS Core Metadata Model.

The group also tried to keep in mind digitization workflows, productivity and availability of software across the Institution to facilitate practical implementation. We realize that a variety of people--photographers, digital imaging specialists, web practitioners, scientists, interns, vendors, etc.--may be creating digital images. In many cases, people will be working with various databases and Collection Information systems (CIS). Most likely, embedded metadata will be inserted by the asset creator (i.e. photographers, digital imaging specialists, interns). Often in the creation of the digital asset, embedded metadata can be batch processed. Batch processing aids in a more efficient workflow and productivity. Be mindful that data which is unique to a single asset should not be included as part of batch processing. If batch processing is not tenable, then not embedding metadata may be the most efficient option.

III.   Recommendations

The group recommends a *minimal core set* of embedded metadata. After surveying the group as to their practice, it became apparent that many units across the institution were using a version of the International Press Telecommunications Council (IPTC) format.[3] Because the core set of elements may not serve the entire Institution community; the group provides a recommended suggested set of embedded metadata as an extention to the core set of fields. Depending on the image file format used, IPTC data can be stored within the file itself in a variety of ways. In recent versions of many image viewing and processing programs, embedded IPTC data is increasingly being saved in XMP format[4]. The recommendations in this document do not indicate a preference on which way the IPTC data is stored within the file.

The tables below contain the element name, definition of that element, sample data values, notes, and character field limitations. It should also be noted that when considering digitization, filenaming conventions should be established beforehand and contained in your digital imaging specifications. When repurposing the digital surrogates, i.e. Web use, image fulfillment, we recommend *against* stripping out the embedded metadata for various reasons stated above.

The group has also noted that SAO has its own metadata model, called AVM and is available at the following link:http://www.virtualastronomy.org/avm_1.1_final_draft.pdf

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[3] Go to www.iptc.org for detailed information regarding IPTC

[4] Go to www.adobe.com/products/xmp/ for detailed information regarding XMP, and to www.adobe.com/devnet/xmp/ for the XMP specification documents.

Required: Core Set of Embedded Metadata

Element Name	Definition	Sample Data Value	Notes	Character Limit*
Document Title	File number, Accession Number, Catalog Number, Digital File Name, Negative Number, Unique Identifier root level etc.	1) LB016021-a 2) 08596201 3) gn_03644 4) landes_photo_arizona_16 5) 23456.000 6) 123457.000;1234568.000 * 7) P00001 8) N00001	5) example of a catalog number 6) example of multiple objects in one image 7) example of a catalog number 8) example of catalog number 9) example of catalog number	*IPTC fields have character limits depending on the application utilizing the standard and not all data may be displayed. With some applications data may be truncated at a given character limit. 64

		9) T00001		
		10)20100121_01a_csf_ps_001.tif	10) example of file name representing coverage of event at NMAI	
		11)SFF2009_Strauss_6-24_0004.dng		
Copyright Notice	Copyright Notice	1) The Smithsonian continues to research information on its collections. Contact Smithsonian for current status. 2) This image is in the public domain. 3) Copyright National Anthropological Archives, Smithsonian Institution 4) Copyright William M. Groethe	Smithsonian staff should provide accurate copyright information particularly if the copyright status is known. The following default statement should only be used if the unit does not know the copyright status of the work. 'The Smithsonian continues to research information on its collections. Contact Smithsonian for current status'[5].	128
Source	Name and Abbreviation of SI owning unit, Smithsonian Institution	1) NMAI-Natl. Museum of the American Indian, Smithsonian Institution 2) NAA- Natl. Anthropological Archives, Smithsonian Institution		32
Creator (*Note: Unit makes decision- document	Creator of digital object	1) Smithsonian Institution Libraries	*IPTC Creator Job Title field can be used to define the role of the creator.	32

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[5] The committee recognizes that copyright data may change however it is so important that it is better to put in data if known.

within unit how they reached this decision). In the DAMS the IPTC Creator field is mapped to the Asset Creator field, which is the creator of the digital object.	*or* Creator of original object	2) Department of Anthropology		
		3) National Anthropological Archives		
		4) Photographer Name	4) *If author is not known then default to department name (refrain from using acronyms)*	
		5) Cynthia Frankenburg	5) *if Creator=name then Creators Title field is populated. Job Title=Photographer*	
		6) William Greene	6) *if Creator=name then Creators Title field is populated. Job Title=Scanner*	
		7) Woody Guthrie	7) *Creator original object	

Not Required: Suggested Set of Embedded Metadata

Element Name	Definition	Sample Value	Notes	Character Limit
Date *In the DAMS IPTC Date is mapped to Asset Creation Date, which is the creation date of the digital object.*	Date of Object *or* Date of Creation of Digital	1) 07/23/1967 2) 02/14/2009 3) 01/01/2001	Date structure for IPTC is MM/DD/YYYY. Description field can be used if date range or other date structure is being used. If year is only known, then default to the first day of the first month of the year. 01/01/2001would be the value for sometime during the year 2001.	8
Description	Free narrative text	1) 123457.000 (right); 123458.000 (left) 2) Cultural Resources Center 2007 Powwow Open House, CRC Open House, CRC Exterior, Chief Joseph, Nez Perce 3) scan from 4x5 CT, slide or B&W negative 4) media of original art (oil on canvas, watercolor, etc.)	1)*see above under Title example. This field is used to locate individual objects within an image that contains multiple objects.*	2000
Keywords	Free text field but should be used to store a list of standard term(s) separated by a common delimiter such as semicolon.	1) Lighting Archive; Electrification; Lighting; Lighting Fixtures; Architectural History; History of Architecture 2) Object; Publication; Our Lives 3) Alice Fletcher; Francis La Flesche; 4558	This list can come from any existing controlled vocabularies like your unit CIS' Iconography lookup list, public resources such as Library of Congress Subject Headings, taxonomic checklists, etc. The goal is to be *consistent* with in your unit as this is a field whose data is often used for searching. For instance, if you use singular form, stick with singular form, don't alternate between singular and plural. Don't alternate between variations, like US, USA, or United States. *(See below for links to controlled vocabularies	64

		4) Viento de Agua; plena; bomba 5) rugby; Wales; sports 6) name of exhibition object is photographed for inclusion in	for consideration.) 2) *taken from defined look-up list in database:* **Object**=*image of object in the collection;* **Publication**= *quality suitable for publication;* **Our Lives**=*imaged for* **Our Lives** *exhibition.*	
Credit/Provider	What you would like to accompany the image in a publication. Ex: Image Number, SI owning Unit, Smithsonian Institution	1) Image Number, NAA, Smithsonian Institution 2) Ken Rahaim, Smithsonian Institution 3)Photographer's name, museum (i.e. National Portrait Gallery) ** Ernest L. Spybuck (Absentee Shawnee, 1883–1949), *Procession before War Dance*, ca. 1910. Watercolor on paperboard, 42.2 x 63.9 cm. Oklahoma. Photo by David Heald. 2/5735		32
Job Identifier	Instructions or unit id for	MSC07-04608		32

	a job			
Headline	(Formally called Caption) A descriptive title or a caption.	Dr. J.E. Tallmage	This field was formerly known as "Caption". If you are using older software you may still have Caption and not have "Headline"	256

Controlled Vocabularies:

A controlled vocabulary is a prescribed set of consistently used and carefully defined terms, which promotes consistency in the indexing of documents and facilitation of searching (http://www.geospatial.govt.nz/glossary/ http://dublincore.org/documents/usageguide/glossary.shtml). The resources below represent several options for controlled vocabularies, but should not be considered an SI officially approved list. Besides those listed below, additional vocabularies are also available.

- Library of Congress Authorities contains preferred geographic names, personal names, corporate names, and subject terms http://authorities.loc.gov/
- Getty Art and Architecture Thesaurus (AAT) is a structured vocabulary elating to fine art, architecture, decorative arts, archival materials, and material culture http://www.getty.edu/research/conducting_research/vocabularies/aat/
- Library of Congress Thesaurus for Graphic Materials is a thesaurus of subject terms pertaining to topics in pictures as well as genre and format terms for photographs, prints, drawings and other graphic materials http://www.loc.gov/rr/print/tgm2/
- The Integrated Taxonomic Information System (ITIS) is the authoritative taxonomic information on plants, animals, fungi, and microbes of North America and the world, http://www.itis.gov/
- The U.S. Board on Geographic Names, http://geonames.usgs.gov/, is the official repository of domestic geographic names data and sanctions the standard spellings of all foreign place names. It is the official vehicle for geographic names use by all departments of the Federal Government, and the source for applying geographic names to Federal electronic and printed products. For domestic names, see the Geographic Names Information System (GNIS), http://geonames.usgs.gov/pls/gnispublic/f?p=127:1:3019481933857537. For foreign names, see the Georgraphic Names Server (GNS), http://earth-info.nga.mil/gns/html/index.html

Recommendation to SI Staff regarding embedded metadata when using vendors for digitization:

Material at the Institution is often outsourced to vendors for digital conversion. It is the recommendation of this group that vendors who are responsible for delivering digital surrogates be made aware of the minimal requirements for embedded metadata. It is advised that these requirements be provided in the RFP to ensure that the vendor's quote considers these requirements. It is also suggested that before the project begins,

a review of required IPTC fields and data values be discussed and agreed upon with the vendor. Any automatic descriptive or administrative data that will be delivered as part of the project from the vendor should be noted at this time. Units should provide the vendor with the exact wording for any fields the unit is requesting them to populate with data. Also insure that the vendor is not misusing IPTC /Exif fields such as embedding their company's URLs, copyright statements, scanning technician proper names, etc. Be mindful of using templates if data is to change over the course of production. A quality assurance routine should be determined before the project beings and quality control conformance should be evaluated at regular intervals throughout the project's lifespan. This should be documented by the vendor and submitted with the digital surrogates. An acceptance/fail rate should be agreed upon before the project begins, in case it becomes necessary to resubmit files to the vendor for correction.

Data Value Types Not Recommended:

Embedded metadata by its nature is part of the image file and therefore travels with the file throughout the entire lifecycle from creation to archiving or deletion. As a result, data embedded should be information that will remain valid as long as the file exists which, for a museum, is theoretically forever. Data that change over time are better served in a rights management system, a collections information system (CIS) or other management database linked to the image. Information such as website addresses, phone numbers, emails, etc. will not remain valid in the long term and should be avoided in embedded metadata schemas.

It is also important to note that the image file will likely be repurposed or reused frequently throughout its lifetime. All embedded metadata should be acceptable for viewing by all persons, including the general public. Sensitive information, be it insurance valuations, localities of endangered species, specific storage locations, etc. would not be appropriate embedded data types.

IV. Conclusion:

As digitization becomes recognized as a critical part of the core business functions at the Smithsonian in order to support the goals and objectives of the Smithsonian Strategic Plan, we, as creators and stewards of the Institution's digital wealth, must implement procedures and processes that will make Goal Broadening Access[6] a viable goal.

We have made great stride in the development and creation of these guidelines. But we have more to do. Other digital formats await our attention, such as audio and video files. By improving our workflow through improved standards and adoption of best practices, our digitization infrastructure will be better equipped in meeting future

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[6] SI Strategic Plan, FY 2010-2015, page 4.

measures of success, including doubling the current rate of digitization, and the quality and reuse of digital assets.[7]

As the Smithsonian begins to digitize and make its digital assets accessible, it begins to build a digital foundation for its collections and research. Accessing this digital foundation will be crucial to the Institution. As system changes are implemented, the ability to search and readily locate these digital assets becomes a key component to the SI Digitization Strategic Plan. As we begin to move forward in creating these digital assets and pushing them out to the public, it is at the creation stage that we must also have the systems search and retrieval functions in mind. These images will only be as accessible as we make them. In light of the goals and objectives of the SI Strategic Plan, a commonly understood and implemented metadata terminology would be beneficial to the Institution. It would minimize confusion in retrieving assets, readily identify which unit and collection within that unit the image came from, and also inform the user that the image may have a copyright restriction and that contacting the particular holding unit of the digital asset may be appropriate before use. This guideline has been created with the intention of educating and providing guidance for those working with digital image collections. As we established these guidelines, we have kept in mind the various needs and types of data across the institution. Our core model suggests elements that are consist across SI, while our suggested set of elements was established to accommodate the needs that one unit may have over another. The guidelines are for still image digital files. It also includes born digital material. The group has also realized the need to address PDF, video, and audio and would hope to work on each over the course of the year. The group recommends that this document be reviewed every two years to stay current with best practices.

The following people have participated in this sub group and have helped in the realization of this document:

Stephanie Ogeneski Christensen-NAA (co-leader), Doug Dunlop-SIL (co-leader), Lowell Ashley-SIL, Ricc Ferrante-SIA, Cindy Frankenburg-NMAI, Ducky Nguyen-NMAI, Kay Peterson-NMAH, Suzanne Pilsk-SIL, Ken Rahaim-OCIO, Marguerite Roby-SIA, Erin Rushing-SIL, Stephanie Smith-CFCH, Rebecca Snyder-NMNH, Amy Staples-NMAfa, Sarah Stauderman-SIA, Patti Williams-NASM

Thanks to Merry Foresta for comments and editing.

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[7] SI Strategic Plan, FY 2010-2015, page 24.

V. Appendices

Appendix A:

Element Narrative

The element narratives are meant to give a more detailed description based on the IPTC Photo Metadata. The table provided in this document gives Element Names based on these fields. This section is to help assist in understanding and ease of use of the core and suggested fields. The Basic Guidelines for Minimal Descriptive Embedded Metadata in Digital Images core and suggested fields reflect how the Embedded Metadata Group has determined how the definitions below would best suit a majority of needs across the Institution. The following descriptions of the above Element Names have been taken from the IPTC Photo Metadata Specification (July 2009). Please refer to http://www.iptc.org/std/photometadata/specification/IPTC-PhotoMetadata%28200907%29_1.pdf for more detailed information.

Document Title:

Definition	A shorthand reference for the item. Title provides a short human readable name which can be a text and/or numeric reference. It is not the same as Headline.
Photo Definition	A shorthand reference for the digital image. Title provides a short human readable name which can be a text and/or numeric reference. It is not the same as Headline.
Photo Help Text	Enter a short verbal and human readable name for the image, this may be the file name
User Note(s)	Many use the Title field to store the filename of the image, though the field may be used in many ways. Formal identifiers are provided by the Digital Image Id, or the Registry Entry property of the IPTC Extension.

Copyright Notice:

Definition	Contains any necessary copyright notice for claiming the intellectual property for this item

Source:

Definition	Identifies the original owner of the copyright for the intellectual content of the item. This could be an agency, a member of an agency or an individual. Source could be different from Creator and from the entities in the Copyright Notice.
Photo Definition	Identifies the original owner of the copyright for the intellectual content of the image. This could be an agency, a member of an agency or an individual. Source could be different from Creator and from the entities in the Copyright Notice.
Photo Help Text	Enter the original owner of the copyright of this image

Creator:

Definition	Contains the name of the person who created the content of this item, a photographer for photos, a graphic artist for graphics, or a writer for textual news, but in cases where the photographer should not be identified the name of a company or organisation may be appropriate.
Photo Definition	Contains the name of the photographer, but in cases where the photographer should not be identified the name of a company or organisation may be appropriate.
Photo Help Text	Enter the name of the person that created this image
User Note(s)	The creator can be expressed in a more controlled way using the "Image Creator" of PLUS in the IPTC Extension additionally. It is the user's responsibility to keep the values of the IPTC Core and the PLUS fields in sync.
Implementation Note(s)	Synchronising this Creator property with PLUS' Image Creator Name should be supported by software.

Date:

Definition	Designates the date and optionally the time the intellectual content was created rather than the date of the creation of the physical representation.
Photo Definition	Designates the date and optionally the time the content of the image was created rather than the date of the creation of the digital representation.
Photo Help Text	Enter the Date the image was taken
User Note(s)	
Implementation Note(s)	If a software system requires explicit time values and no time is given by the Date Created property the software system should default the time to 00:00:00. If the software system does not require an explicit time value the time part should be left empty as it is.

Description:

Definition	A textual description, including captions, of the item's content, particularly used where the object is not text.
Photo Definition	A textual description, including captions, of the image.
Photo Help Text	Enter a "caption" describing the who, what, and why of what is happening in this image, this might include names of people, and/or their role in the action that is taking place

Keywords:

Definition	Keywords to express the subject of the content. Keywords may be free text and don't have to be taken from a controlled vocabulary. Codes from the controlled vocabulary IPTC Subject NewsCodes must go to the "Subject Code" field.
Photo Definition	Keywords to express the subject of the image. Keywords may be free text and don't have to be taken from a controlled vocabulary. Codes from the controlled vocabulary IPTC Subject NewsCodes must go to the "Subject Code" field.
Photo Help Text	Enter any number of keywords, terms or phrases used to express the subject matter in the image.

Credit/Provider:

Definition	The credit to person(s) and/or organisation(s) required by the supplier of the item to be used when published. This is a free-text field.
Photo	The credit to person(s) and/or organisation(s) required by the supplier of the image to be used when published. This is a free-

Definition	text field.
Photo Help Text	Enter who should be Credited when this image is published
User Note(s)	Note 1: For more formal identifications of the creator or the owner of the copyrights of this image other rights properties may be used. Note 2: This property was named "Credit" by the IIM metadata, then it was renamed to "Provider" in IPTC Core 1.0 and has been renamed to "Credit Line" in IPTC Core 1.1. as this was actually the way the field has been used

Job Identifier:

Definition	Number or identifier for the purpose of improved workflow handling. This is a user created identifier related to the job for which the item is supplied.
Photo Definition	Number or identifier for the purpose of improved workflow handling. This is a user created identifier related to the job for which the image is supplied.
Photo Help Text	Enter a number or identifier needed for workflow control or tracking

Headline:

Definition	A brief synopsis of the caption. Headline is not the same as Title.
Photo Definition	A brief synopsis of the caption. Headline is not the same as Title.
Photo Help Text	Enter a brief publishable synopsis or summary of the contents of the image

Appendix B: Examples of IPTC Fields Mapped to Various Imaging Programs

Basic Guidelines for Minimal Descriptive Embedded Metadata in Digital Images by EMDaWG (Embedded Metadata Working Group) April 2010

Appendix: IPTC Fields Mapped to Various Imaging Programs

Yellow= Core Green= Suggested Gray= Not Suggested

IPTC				Adobe	Adobe	Adobe	Adobe	Adobe
IPTC IIM (v4)	size	IPTC Core (v1)	size	Photoshop v6	Photoshop v7	P-Shop CS (v8)	P-ShopCS2 (v9)	P-Shop CS3 (v10)
Object Name (Title)	64	Title	64	Object Name	Title	Document Title	Document Title	Title
Urgency	1	deprecated		Urgency	Urgency	Urgency		
Category	3	deprecated		Categories	Categories	Categories		
Supplemental Categories	32	deprecated		Supplemental Categories	Supplemental Categories	Supplemental Categories		
Keywords	64	Keywords	64	Keywords	Keywords	Keywords	Keywords	Keywords
Special Instructions	256	Instructions	256	Special Instructions	Instructions	Instructions	Instructions	Instructions
Date Created	8	Date Created	8	Date Created	Date Created	Date Created	Date Created	Date Created
By-line (Author)	32	Creator	32	By-line	Author	Author	Author	Creator
By-line Title (Author Position)		Creator's Title	32	By-line Title	Author's Position		Author Title	Creator Job Title
City	32	City	32	City	City	City	City	City
Province/State	32	Province/State	32	State/Province	State/Province	State/Province	State/Province	State/Province
Country/Primary Location	64	Country	64	Country Name	Country	Country	Country	Country
Original Transmission Reference	32	Job Identifier	32	Original Transmission Refer	Transmission Reference	Transmission Reference	Transmission Reference	Job Identifier
Headline	256	Headline	256	Headline	Headline	Headline	Headline	Headline
Credit	32	Provider	32	Credit	Credit	Credit	Credit	Provider
Source	32	Source	32	Source	Source	Source	Source	Source
Copyright Notice	128	Copyright Notice	128	Copyright Notice	Copyright Notice	Copyright Notice	Copyright Notice	Copyright Notice
Caption/Abstract	2000	Caption/Description	2000	Caption	Caption	Description	Description	Description
Writer/Editor	32	Caption/Description Writer	32	Caption Writer	Caption Writer	Description Writer	Description Writer	Description Writer
		Creator's Contact Info (CCI): City					Creator City	Creator City
		CCI: Country					Creator Country	Creator Country
		CCI: Address					Creator Address	Creator Address
		CCI: Postal Code					Creator Postal Code	Creator Postal Code
		CCI: State/Province					Creator State/Province	Creator State/Province
		CCI:Email(s)					Creator Email(s)	Creator Email(s)
		CCI: Phone(s)					Creator Phone(s)	Creator Phone(s)
		CCI: WebURL(s)					Creator WebURL(s)	Creator WebURL(s)
		ISO Country Code	3				Country Code	Country Code
		Intellectual Genre					Intellectual Genre	Intellectual Genre
		Location	32				Location	Location
		Rights Usage Terms					Rights Usage Terms	Rights Usage Terms
		Subject Code					IPTC Subject Code	IPTC Subject Code
		IPTC Scene					IPTC Scene	IPTC Scene
Edit Status	32							
Fixture Identifier	32				Job Name			
Content Location Name	64							
Contact	128							
				Image URL	Owner URL	Copyright Info URL	Copyright Info URL	Copyright Info URL
				Mark as Copyrighted	Copyright Status	Copyright Status	Copyright Status	Copyright Status
Fields in blue are part of the IPTC IIMv4 schema, and used by iView, but not visible by any other programs except via plug-ins								
Fields in red will not be read in any programs except Photoshop, and/or other programs using the Adobe "File Info" data format								

** This table is courtesy Ken Rahiam

Adobe	Adobe	Adobe	Adobe	Apple	Camera Bits	iView	iView
P-ShopCS4 (v11)	P-Shop CS3 (v10)	P-ShopCS4 (v11)	P-Shop Elements3	Aperture v1.5	PhotoMechanic 4.5	MediaPro v2.6	MediaPro v3.1
Title	Title	Title	Document Title	Object Name	Object Name	Product	Title
				Urgency	Urgency	Color Label	Urgency
			Categories	Category	Category	Genre	Category
			Supplemental Categories	Supplemental Categories	Supp Cat1/Cat2/Cat3	Categories	Supplemental Categories
Keywords	Keywords	Keywords	Keywords	Keywords	Keywords	Keywords	Keywords
Instructions	Instructions	Instructions		Special Instructions	Special Instructions	Instructions	Instructions
Date Created	Date Created	Date Created		Date Created	Date Created	Event Date	Date Created
Creator	Creator	Creator	Author	Byline	Photographer	Author	Creator
Creator Job Title	Creator Job Title	Creator Job Title		Byline Title	Title	Author Title	Creator's Job Title
City	City	City		City	City	City	City
State/Province	State/Province	State/Province		Province/State	State	State	State/Province
Country	Country	Country		Country Name	Country	Country	Country
Job Identifier	Job Identifier	Job Identifier		Original Transmission	Transmission Ref	Transmission	Job Identifier
Headline	Headline	Headline		Headline	Headline	Title	Headline
Provider	Provider	Provider		Credit	Credit	Credit	Provider
Source	Source	Source		Source	Source	Source	Source
Copyright Notice	Copyright Notice	Copyright Notice	Copyright Notice	Copyright Notice	Copyright	Copyright	Copyright Notice
Description	Description	Description	Description	Caption	Caption	Captoin	Description
Description Writer	Description Writer	Description Writer	Description Writer	Writer/Editor	Caption Writers	Writer	Description Writer
Creator City	Creator City	Creator City			Contact City		City
Creator Country	Creator Country	Creator Country			Contact Country		Country
Creator Address	Creator Address	Creator Address			Contact Address		Address
Creator Postal Code	Creator Postal Code	Creator Postal Code			Contact Zip		Postal Code
Creator State/Province	Creator State/Province	Creator State/Province			Contact State		State/Province
Creator Email(s)	Creator Email(s)	Creator Email(s)			Contact Email(s)		Email(s)
Creator Phone(s)	Creator Phone(s)	Creator Phone(s)			Contact Phone(s)		Phone(s)
Creator WebURL(s)	Creator WebURL(s)	Creator WebURL(s)			Contact Web URL(s)		Website(s)
Country Code	Country Code	Country Code			Code		Country Code
Intellectual Genre	Intellectual Genre	Intellectual Genre			Intellectual Genre		Intellectual Genre
Location	Location	Location			Location		Location
Rights Usage Terms	Rights Usage Terms	Rights Usage Terms			Rights Usage Terms		Rights Usage Terms
IPTC Subject Code	IPTC Subject Code	IPTC Subject Code			IPTC Subject Code		Subject Code
IPTC Scene	IPTC Scene	IPTC Scene			IPTC Scene		Scenes
				Edit Status			Edit Status
				Fixture Identifier			Event
				Contact Location Name			(IIM) Location
							People
Copyright Info URL	Copyright Info URL	Copyright Info URL	Copyright Info URL		Copyright Info URL		
Copyright Status	Copyright Status	Copyright Status	Copyright Status		Copyright Status		
				Version Name			
				Contact Location Code			
				Editorial Update			
				Expiration Date			
				Image Orientation			