121 CODED DATA FIELD: CARTOGRAPHIC RESOURCES – PHYSICAL ATTRIBUTES

Field Definition and Scope

This field contains coded data relating to the physical attributes of cartographic resources.

Subfields & Occurrence

Field/Subfield	Field/Subfield Name	Repeatability	Occurrence
121	CODED DATA FIELD: CARTOGRAPHIC RESOURCES – PHYSICAL ATTRIBUTES	NR	O
a	Cartographic Resources Coded Data: Physical Attributes (General)	NR	O
b	Aerial Photography and Remote Sensing Coded Data: Physical Attributes	NR	O

Indicators

Indicator	Value	Description
1	#	blank (not defined)
2	#	blank (not defined)

Subfields Description

$a Cartographic Resource Coded Data: Physical Attributes (General)

Codes indicate aspects of the physical attributes of cartographic resource.

The subfield is 9-characters in length. Not repeatable.

Subfield $a fixed-length data elements:

Name of Data Element	Number of Characters	Character Positions
Physical Dimension	1	0
Primary Cartographic Image	2	1-2
Physical Medium	2	3-4
Creation Technique	1	5
Form of Reproduction	1	6
Geodetic Adjustment	1	7
Physical Form of Publication	1	8

$b Aerial Photography and Remote Sensing Coded Data: Physical Attributes

Codes indicate aspects of the aerial photography and remote sensing attributes of cartographic resource.

The subfield is 8-characters in length. Not repeatable.

Subfield $b fixed-length data elements:

Name of Data Element	Number of Characters	Character Positions
Altitude of Sensor	1	0
Attitude of Sensor	1	1
Spectral Bands	2	2-3
Quality of Image	1	4
Cloud Cover	1	5
Mean Value of Ground Resolution	2	6-7

Notes on Field Contents

$a/0 Physical Dimension

1-character code indicates the physical dimensions of the resource.

a	2-dimensional
b	3-dimensional

$a/1-2 Primary Cartographic Image

1-character codes indicate the techniques used for the creation of the primary cartographic image. Up to two techniques can be recorded (left justified); unused positions contain blanks.

a	manually and plotted	E.g. maps produced by plotting instruments such as stereo plotters with or without computer assistance; maps drawn or painted by hand.
b	photographically	E.g. cartographic resources produced by conventional (visible spectrum) aerial photographic techniques such as aerial photography, photo maps, orthophotos.
c	by computer	E.g. maps produced by a computer line printer.
d	by active remote sensing techniques	Excludes techniques covered by codes a, b, or c.
e	by passive remote sensing techniques	Excludes techniques covered by codes a, b, or c.

Examples:

Printed line map is coded: a#

Photomap enhanced with line map features is coded: ba

MSS satellite remote sensing image is coded: e#

Radar remote sensing image is coded: d#

$a/3-4 Physical Medium

2-character code indicates the physical medium of the cartographic resource. The first character of the code indicates the general type of physical medium. The second character gives the specific type. This code is used to show that the cartographic resource is made of the material indicated, e.g. when the cartographic resource is a metal plate, a lithographic stone, a scribed plate on a plastic base, etc.

aa	paper	Non-photographic medium
ab	wood	Non-photographic medium
ac	stone	Non-photographic medium
ad	metal	Non-photographic medium
ae	synthetics (e.g. plastics, vinyl)	Non-photographic medium
af	skin (e.g. parchment, vellum)	Non-photographic medium
ag	textile including man-made fibre textiles (e.g. silk, cloth, nylon)	Non-photographic medium
ah	magnetic storage medium – computer compatible	Non-photographic medium
ai	magnetic storage medium – not computer compatible	Non-photographic medium
aj	tracing paper	Non-photographic medium
ak	cardboard	Non-photographic medium
ap	plaster	Non-photographic medium
au	unknown	Non-photographic medium
az	other non-photographic medium	Non-photographic medium
ba	transparent or opaque flexible base positive	Photographic medium
bb	transparent or opaque flexible base negative	Photographic medium
bc	transparent or opaque non-flexible base positive	Photographic medium
bd	transparent or opaque non-flexible base negative	Photographic medium
bz	other photographic medium	Photographic medium

$a/5 Creation Technique

A one-character code indicates the final step creation technique of the original cartographic resource.

a	manuscript	Hand drawn, including constructions of unique resources such as stone carvings, models, etc.
b	printing	Offset, engraving, wood block print, lithographed, stamped, Braille, relief, etc.
c	photocopying	All macroform hard copy produced directly on opaque material by radiant energy through contact or projection.
d	microphotography	All microform copy on transparent material produced either by filming or by computer output.
u	unknown	
y	the cartographic resource is not a final product but is on a pre-production medium as specified in character positions 3-4, Physical medium	
z	other	

Examples:

Printed photomap enhanced with line map feature: b

Photomap on photographic paper: c

$a/6 Form of Reproduction

1-character code indicates the form of reproduction of the resource.

a	by hand	
b	printed	
c	photography	
d	transfer line print	E.g., Xerox, blueprints, ozalid.
y	not a reproduction	

$a/7 Geodetic Adjustment

1-character code indicates the geodetic adjustment of the resource. Further details are given in field 131.

a	no adjustment
b	adjusted but without grid system
c	adjusted with grid system
x	not applicable

$a/8 Physical Form of Publication

1-character code indicates the physical form of publication of the resource.

a	single
b	in parts
c	atlas including loose-leaf published atlas
d	as a separate supplement to a journal, monograph, etc.
e	bound into a journal, monograph, etc.
z	other

$b/0 Altitude of Sensor

1-character code indicates the altitude of the sensor's platform for cartographic resources.

a	terrestrial
b	aerial

c	space

$b/1 Attitude of Sensor

1-character code indicates the attitude of the sensed image resulting from the angle of the sensor when recording the image for cartographic resources.

a	low oblique
b	high oblique
c	vertical

$b/2-3 Spectral Bands

2-characters indicate the number of spectral bands involved. The number is right justified, unused positions contain zeros. Applicable only to remote sensing.

01 to 99	number of bands
xx	not applicable

$b/4 Quality of Image

1-character code indicates the quality of the image.

a	poor
b	fair
c	good
d	very good

$b/5 Cloud Cover

1-character indicates the cloud cover in eighths.

1	1/8 cover
2	2/8 cover
3	3/8 cover
4	4/8 cover
5	5/8 cover
6	6/8 cover
7	7/8 cover
8	completely covered by clouds

$b/6-7 Mean Value of Ground Resolution

2-character code indicates the mean value of the ground resolution. Character position 6 carries either the numeric mean value for the resolution or an indication that it is less than 1 centimetre or greater than 9 kilometres. Character position 7 carries a code for the metric unit used. Applicable only to remote sensing.

$b/6 Mean Ground Resolution Values

-	less than 1 centimetre
1-9	numeric value
+	greater than 9 kilometres
x	not applicable

$b/7 Metric Unit Codes

c	centimetres
i	decimetres
m	metres
d	decametres
h	hectametres
k	kilometres
x	not applicable

Examples:

Mean ground resolution of 5 centimetres: 5c

Mean ground resolution of 80 metres: 8d

Mean ground resolution of 10 kilometres: +k

Not remote sensing: xx

Related Fields

120 CODED DATA FIELD: CARTOGRAPHIC RESOURCES – GENERAL	These fields are used to code other attributes of cartographic resources.
131 CODED DATA FIELD: CARTOGRAPHIC RESOURCES – GEODETIC, GRID AND VERTICAL MEASUREMENT	These fields are used to code other attributes of cartographic resources.

History

2023	Text edit.