

MATHEMATICAL AND OTHER MATERIAL SPECIFIC DETAILS AREA (SCALE INFORMATION ONLY)

Introduction

Here is the area within bibliographic records for maps that causes the most consternation and suffering to those new to map cataloging. And, although the three primary parts of information housed in the 255 field are scale, projection, and coordinates, other mathematical data/information can also be placed here, if needed. This additional information can be about the location of meridians used or that the scale only applies at the Equator, or would be for data about declination and zenith on maps showing the heavens. But, in the vast majority of cases scale, projection, and coordinates will adequately fill this space in the bibliographic record.

The other problematic part of dealing with the 255 and its related 034 field, and the information placed within them, is that it takes time to understand the correct way to record and display the information shown. (*See the documents [Examples of Correct Scale and Coordinates Notation in the 255 Field with Matching Examples in the 034 Field under AACR2 and RDA](#) and [Geographic Coordinates – Manner of Recording Them](#)*) Punctuation and spacing, and in particular the diacritics used in the coordinates data, all have specific meaning and/or assist in readability and understanding of the information. Again, practice and time makes this aspect much more palatable and meaningful to the cataloger, who must provide this information accurately so that our patrons can use it to assist in deciding whether to pursue the actual map, and in the case of coordinates, so our static cartographic resources can be dynamically used in the online environment.

Scale Information

Scale is given on a map in a multiplicity of ways, or not at all! This includes by showing it as a mathematical formula, which is known as a “representative fraction” (RF), by simply describing the scale using words or a mixture of words and numbers, commonly known as a “verbal scale,” or by using some form of segmented line, known as a “bar scale” or “graphic scale.” At other times a combination of the above is employed in the creation of the map, i.e., you may see both a RF stated and also a bar scale. In addition, a scale that is given on a map can be an accurate scale, such as “1:24,000” or “one inch equals eight miles”; or given as an approximation, usually by using the word “approximately” or one of its abbreviations, “ca.” or “approx.” Sometimes, the use of words such as “nearly” or “about” also indicates an approximate scale in a verbal scale statement. None of this has changed with the introduction and use of RDA.

Note that a “scale statement” may include the situation of no scale given on the map in any form, the simplest of all situations. Other situations include a phrase that explicitly states that the map was not drawn according to any scale; having a map in which the scale varies from its center going towards its outer area; having multiple maps on one sheet each with its own scale or a combination of no scale and specific scales; and having multiple maps on separate sheets, each with its own scale, with a consistent scale for all of the maps, or a combination of no scale and different scales.

RDA Practice:

The Scale statement is a Core element in RDA, including both horizontal and vertical scale types; you must provide a scale statement in either its representative fraction form or via a textual phrase, just as we did in AACR2. Instructions for supplying scale (and projection and coordinates, covered elsewhere in this documentation) are found in Chapter 7 of RDA instead of Chapter 2 because this is an Expression element and not a Manifestation element. Specifically, see instruction **7.25** with sub-parts of **7.25.1 – 7.25.5**.

You will note that little has changed from the practical considerations involving adding scale data to your record from the AACR2 practices. We still provide a scale statement in representative fraction form unless it is already given in that manner on the resource, or if we need to employ one of the four phrases as needed we still do that (outlined in the section on AACR2 practice below). This is stated in **7.25.1.3**. and its subparts BUT, there *are* two major changes relating to scale statements when using RDA:

- A. we no longer use square brackets to share that we converted a verbal scale to a RF or that we used a Natural Scale Indicator to figure out a RF from a bar scale, and more prominently,
- B. we spell out the supplied “ca.” as the full word “approximately”

Specifically, **7.25.1.3** covers the use of RFs and supplying “approximately” plus the phrases *Scale not given* and *Not drawn to scale*; and **7.25.1.4** covers the use of *Scale varies* and *Scales differ*. Instruction **7.25.1.5** covers those nonlinear scale map situations (maps of celestial bodies), and **7.25.4** covers vertical scale. The last instructional area, **7.25.5** gives guidance on what to do with notable “other scale information” statements.

A final point to raise here is that RDA does not specify starting a scale statement with the word “Scale” as was explicitly stated to do in AACR2, nor does it show this in any of its examples. Perhaps this is due in part to the 255 \$a and \$c elements not falling under the rules of transcription in RDA (see instruction **1.7** and note the lack of explicit instruction for transcribing information in these areas in 7.25). This may be changed in time, but for now cartographic materials catalogers agree in principle that the “Best Practice” for putting scale information in the 255 field is to start this statement with the word “Scale” (with the one notable exception of *Not drawn to scale*) so it has meaningful connotation to our users reading this line of data.

AACR2 Practice:

Rule 3.3B1 of AACR2R says that we must provide a scale statement for each map that we catalog and that *IF* a scale is given it must be in the form of a representative fraction, i.e., 1:XX,XXX. Just as important, but with the singular exception of “Not drawn to scale,” the scale statement always starts with the word “Scale...” or “Scales...” as the case may be, as delineated in this same rule. Therefore, the “scale statement” is a combination of the word “Scale(s)” and the representative fraction that follows it, e.g., Scale [ca. 1:175,000] or Scale 1:1,000,000, or the word “Scale” followed by the rest of a worded statement, with the single exception noted above.

Rule 3.3B1 is subdivided according to the several possible circumstances involved, giving you instructions on how to handle each. As noted above, this starts with using a Representative Fraction (RF) as found on the map(s). Next is the case with a verbal scale statement that needs to be converted to a RF. In this case, the RF is placed in square brackets to indicate that the cataloger supplied this based on a calculation. Then there is a statement about handling scale information taken from outside the chief source of information. Following this is the situation for what to do when converting a bar scale into an RF – this is where the Natural Scale Indicator as a tool is most handy – in which case we not only put the result into square brackets but we also supply the abbreviation “ca.” to indicate that what our eyes see is not an exact result but an approximation.

Following the three cases noted above where there is a scale shown on the map in some form are the four cases when we need to supply a phrase indicating a specific situation:

- A. If there is no scale to be found use *Scale not given* (includes the situation for an electronic resource and a couple of other unusual ones)
- B. Rule 3.3B3 says “If the scale within one item varies and the outside values are known, give both scales connected by a hyphen” BUT if those values are NOT known, then give the phrase *Scale varies*. KEY phrase here is ...within *one* item...
- C. Rule 3.3B4 says “In describing a cartographic item in which the main maps, etc. are of more than one scale, give *Scales differ*.” In practical terms however, we always give the scales involved if there are two of them (one for each main map), each in their own 255 field, but if there are three or more of them THEN we use the phrase. There is also an option to handle this set of circumstances differently as well, see “A New Method of Supplying Multiple Scales in the Bibliographic Record” below for details.

D. Finally, rule 3.3B5 says “If an item is not drawn to scale, give *Not drawn to scale*. Most usually there will be a statement similar to “map not to scale” or “map not at scale” to guide you in using this phrase, or in the case of subway line maps where there isn’t a specific statement these are never drawn to scale and you still use this phrase.

The last two rules for scale in AACR2 cover items with nonlinear scales such as celestial charts, rule 3.3B6; and the case of three-dimensional cartographic items such as relief models or a two-dimensional representation of a three-dimensional item such as a geologic block diagram where the vertical scale is also given, rule 3.3B7.