



View Radiometrically Terrain Corrected (RTC) Images in ArcGIS

This data recipe is for users who wish to view RTC images in ArcGIS.

In this document you will find

- A. Background
- B. Materials List
- C. Steps
- D. Example images

A) Background


The standard output of the RTC process is a gamma0 power image. This format supports statistical assessments of the data. However, when displayed in GIS software, data in power format is dark. There are two common ways to deal with this in a GIS environment: convert the power scale to amplitude or convert it to decibels (dB). A comparison is available in Section D (*Fig. 3*), but dB converted images are generally preferred for visualization.

B) Materials List

- A. Windows PC
- B. RTC Image Source Options:
 - Use this [sample granule](#) (click to download), *OR*
 - Use [Vertex](#) to download an [ALOS PALSAR RTC](#) image, *OR*
 - Process an RTC image from Sentinel data using one of the [ASF Sentinel RTC data tutorials](#)
- C. [ArcGIS](#)

C) Steps

1. Open *ArcMap* in **ArcGIS**.

2. Load an RTC image (.tif file) into ArcGIS
 - a) Drag and drop the file into the *Table of Contents* window, or in the top menu click **File > Add Data > Add Data**.
 - b) Then click on the *Connect to Folder* button  and navigate to the folder that contains the RTC image

Note: Ensure that the *Spatial Analyst* toolbox is checked in the *Extensions* section of the *Customize* tab

3. Open **Raster Calculator** (use search function to find calculator).
 - a) Calculate the following conversions
 - Amplitude (Fig 1): **SquareRoot("RTC filename")**
 - Decibel (dB) (Fig 2): **db = 10. * Log10("RTC filename")**
 - b) Set the Output Raster field to a directory of your choice and select **OK**

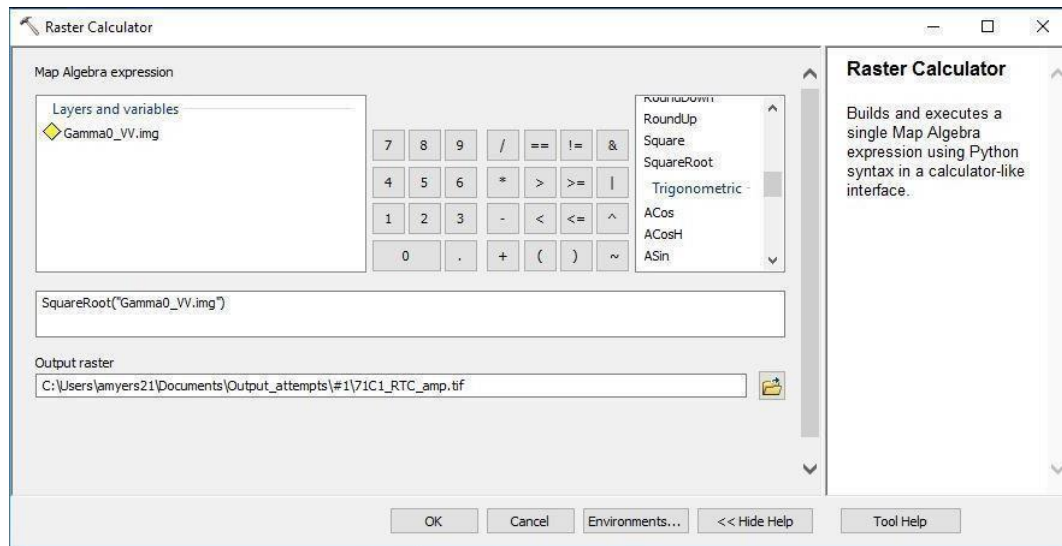


Figure 1: Raster Calculator set-up for amplitude conversion

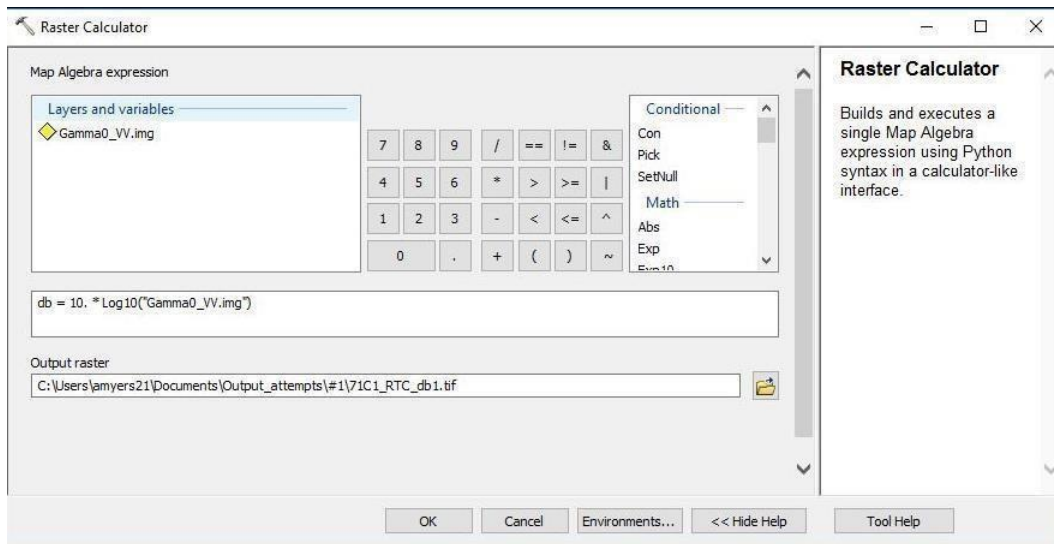


Figure 2: Raster Calculator set-up for dB conversion

D) Example images

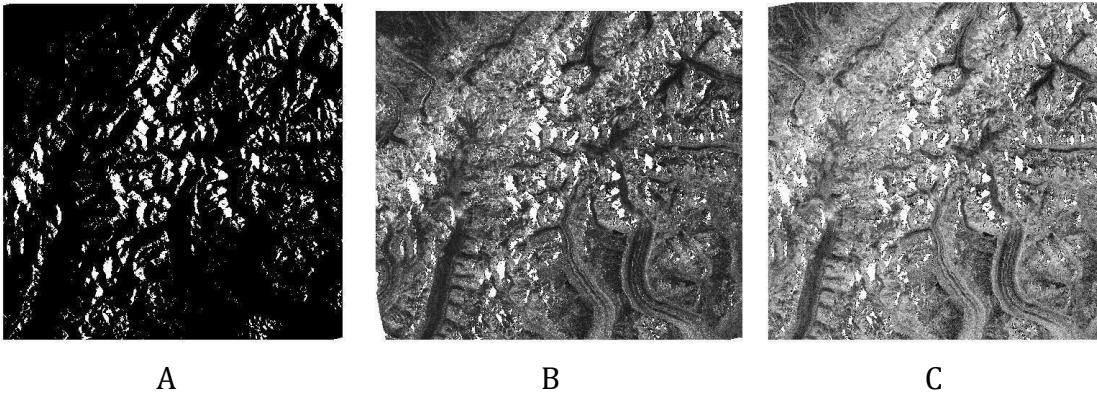


Figure 3: A portion of the Alaska Range in Denali National Park in (A) RTC Gamma0 Image, (B) Amplitude Image, (C) dB Power Image.

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