

Appendix 4 - ImageJ

ImageJ is a free, user-friendly application for analyzing color, size, and other attributes within image files. The application can be downloaded at <http://rsbweb.nih.gov/ij/index.html>.

To quantify the land cover indicated in a landscape shown within the **MRLC Consortium Viewer**, make a screen grab of the landscape visualization (using Windows **Snipping Tool**, or the Mac OS see <http://www.wikihow.com/Take-a-Screenshot-in-Mac-OS-X>) to copy the section of the land use image you intend to analyze. In **ImageJ**, select the scroll-down menu **File > New > Image**. Name the file if you intend to save it, modify the **Type** if you wish, then paste the screen grab into the panel.

Click the **Square Icon** to select area to analyze. After selecting the area of the image that indicates land use, select the scroll-down menu **Analyze > Histogram**. This will provide a figure showing a pixel count of each color class. In the **Histogram** panel, click **List**. This will provide a text list of each color class, and the count of pixels at that pixel class. Select the scroll-down menu **File > Save as..** Save this file, which can be opened in **Excel** (or other spreadsheet program) to calculate the proportional coverage of each land use class (see Appendix 5).

Button to select image section for analysis

Analysis scroll-down, contains option histogram

The screenshot shows the ImageJ application window with a landscape image loaded. Red arrows point to the following elements:

- Image view**: Points to the main image area.
- Color histogram**: Points to the 'Histogram of Clipboard' window, which displays a bar chart and statistics: Count: 1011840, Min: 61, Max: 217, StdDev: 23.544, Mode: 127 (879412).
- To list histogram data**: Points to the 'List' button in the histogram window.
- List of histogram data**: Points to the 'Histogram...' window, which displays a table of pixel counts for each color class.

| value | count |
|-------|-------|
| 0 | 0 |
| 1 | 0 |
| 2 | 0 |
| 3 | 0 |
| 4 | 0 |
| 5 | 0 |
| 6 | 0 |
| 7 | 0 |
| 8 | 0 |
| 9 | 0 |
| 10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
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| 88 | 0 |
| 89 | 0 |
| 90 | 0 |
| 91 | 0 |
| 92 | 0 |
| 93 | 0 |
| 94 | 0 |
| 95 | 0 |
| 96 | 0 |
| 97 | 0 |
| 98 | 0 |
| 99 | 0 |
| 100 | 0 |