

RADAR Processing for Opticks v. 1.2

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Supports Opticks 4.3.x, Windows 32-bit OS

RADAR Processing Menu options provides the following functionality

Texture Analysis

3 Texture Measures

Variance

Skewness

Kurtosis

Speckle Reduction Filters

Mean – computes the mean of a moving window (also used in the texture algorithms)

Median – computes the median of a moving window

Regional – computes a value that represents the most homogeneous portion of the window

Updates

06.01.2010

Version 1.2

Changed the RADAR menu title to RADAR Processing.

Added the Texture Analysis and Speckle Reduction Filter sub-menus

Added the filtering routines to the RADAR processing.

05.30.2010

Version 1.1

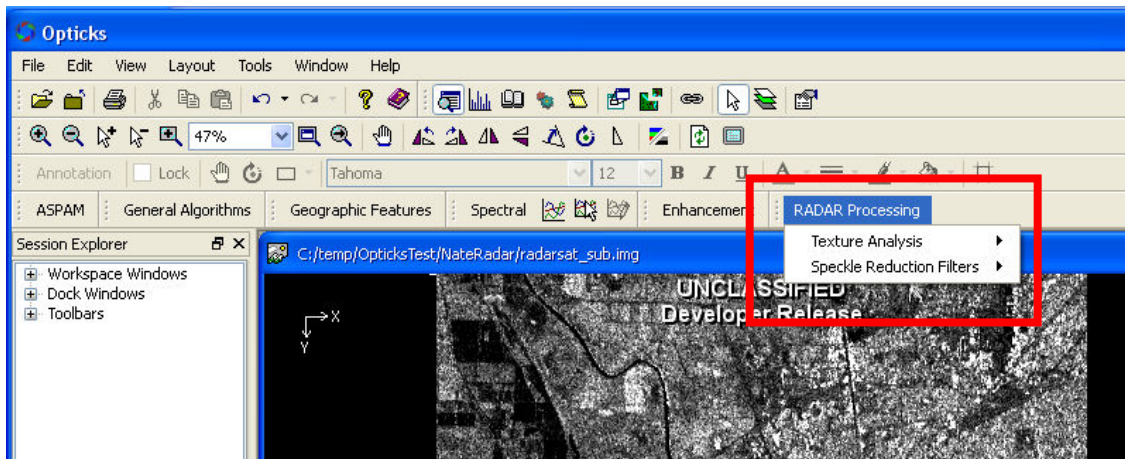
This version implements a generic row/column looping structure to that allows for any size of "window size." Currently, this version has a hard coded 3x3 window size. Future versions will allow for a variety of window sizes. This version also implements an offset that is used to ignore the "edge" rows and columns that are equal to the offset (e.g. 3x3 window has an offset of 1 row and 1 column; 5x5 window has an offset of 2 rows and 2 columns, etc.).

05.25.2010

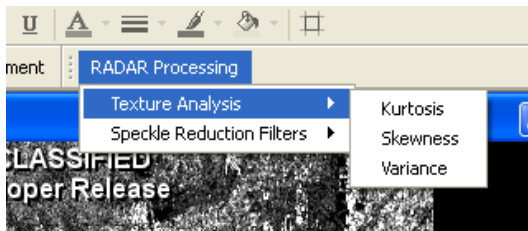
Version 1.0

This version uses the "hard coded" sub window structure to access a neighborhood of pixels within the input image. This version does not allow for flexible use of varying window size.

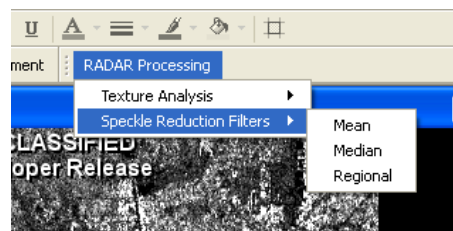
RADAR Processing

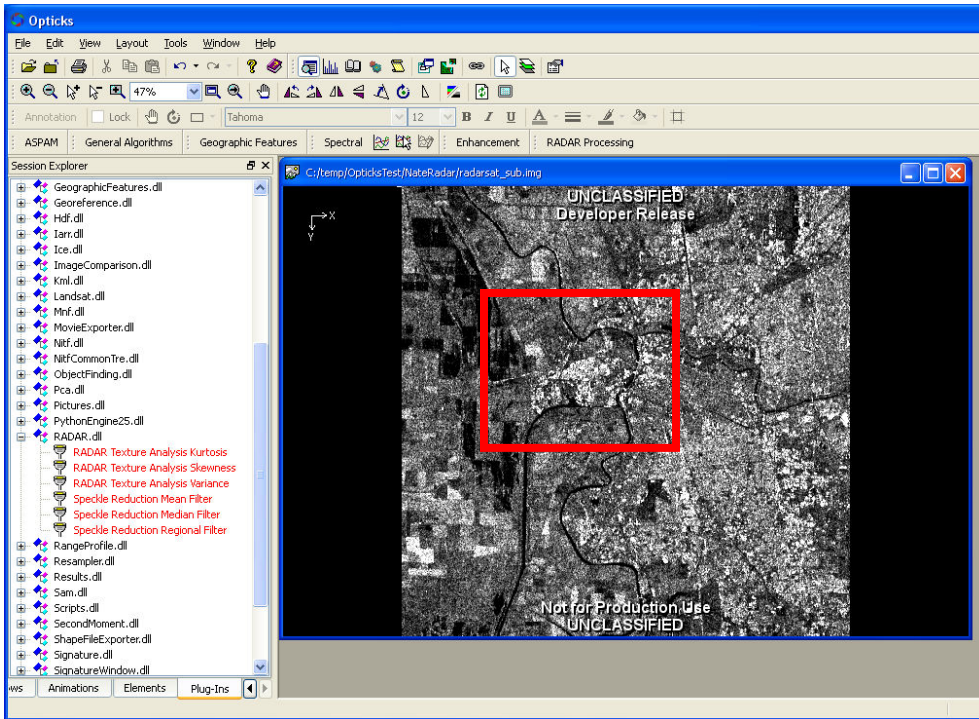


Texture Analysis

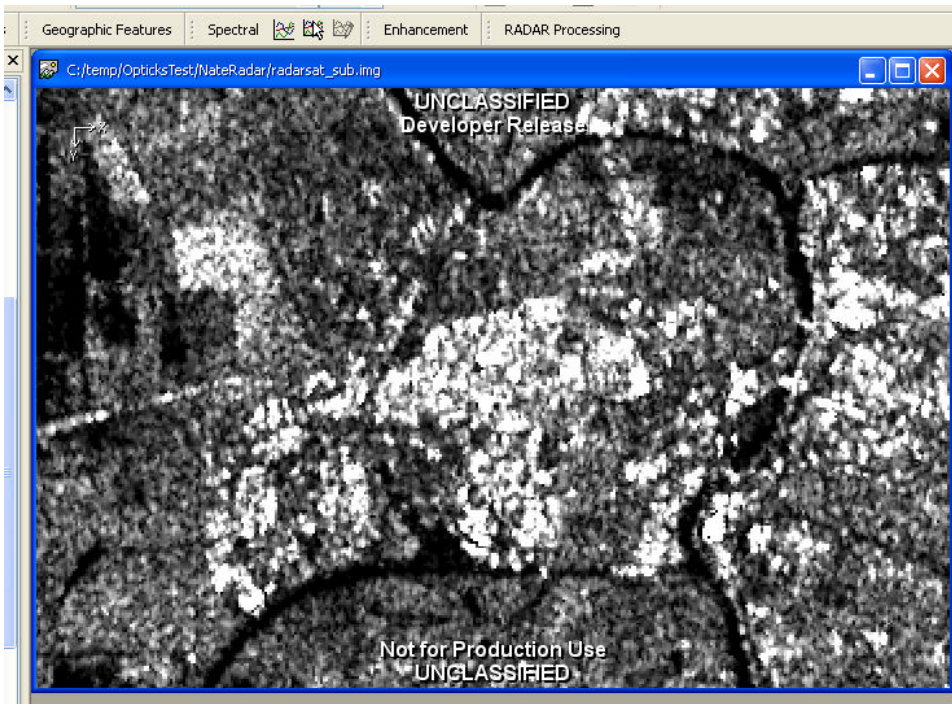


Speckle Reduction





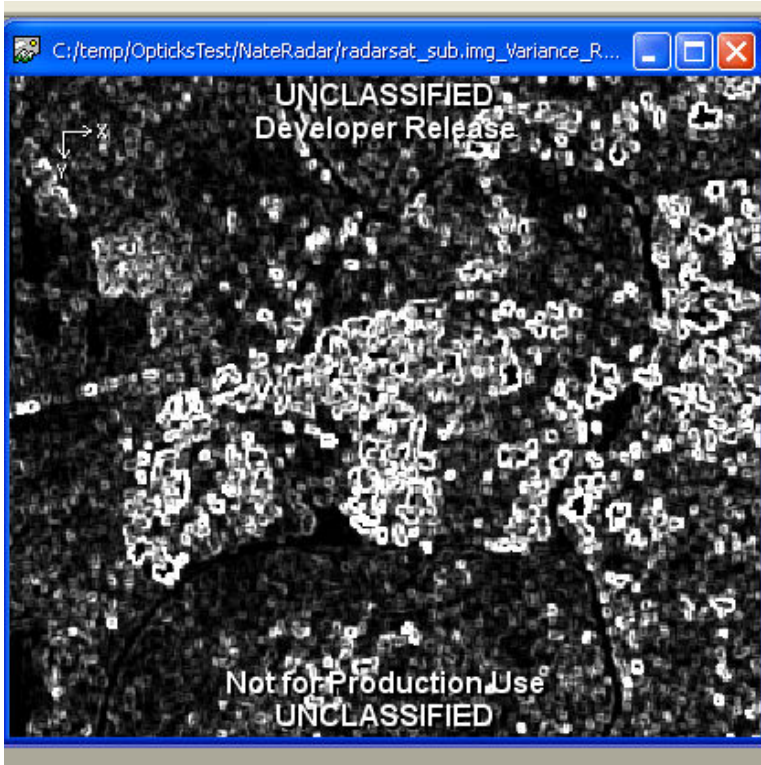
Detail of above.



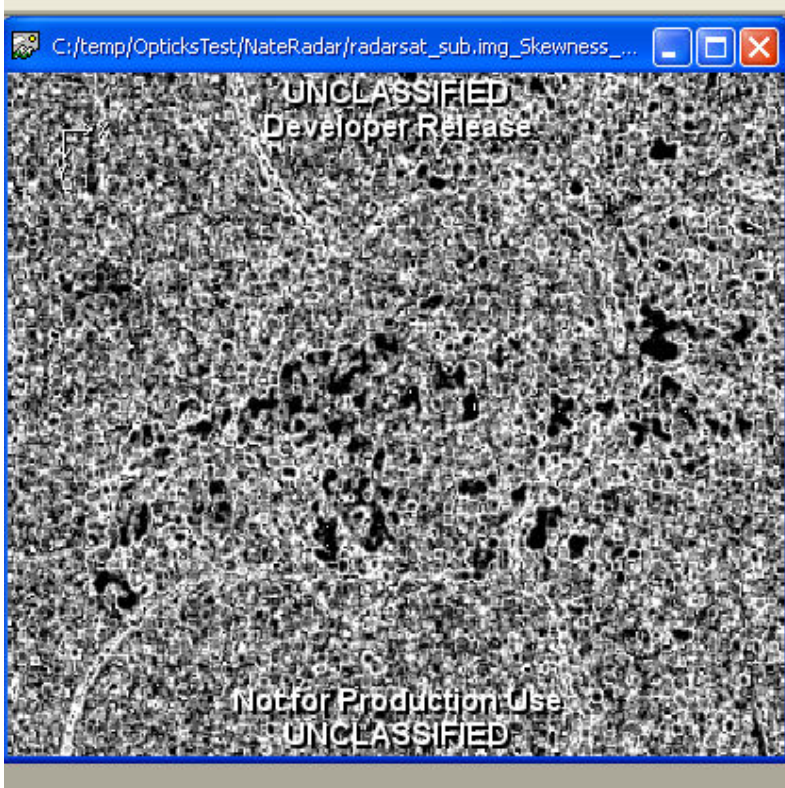
Texture Analysis

The “speckle effect” is typically found within uprocessed RADAR imagery. Several texture measures have been developed to quantify the speckle within a given neighborhood (a moving window size that can range from 3x3 to more than 81x81 pixels). Three texture analysis measures are currently provided in this release. See the RADAR Texture Analysis document for more details on the specific texture algorithms.

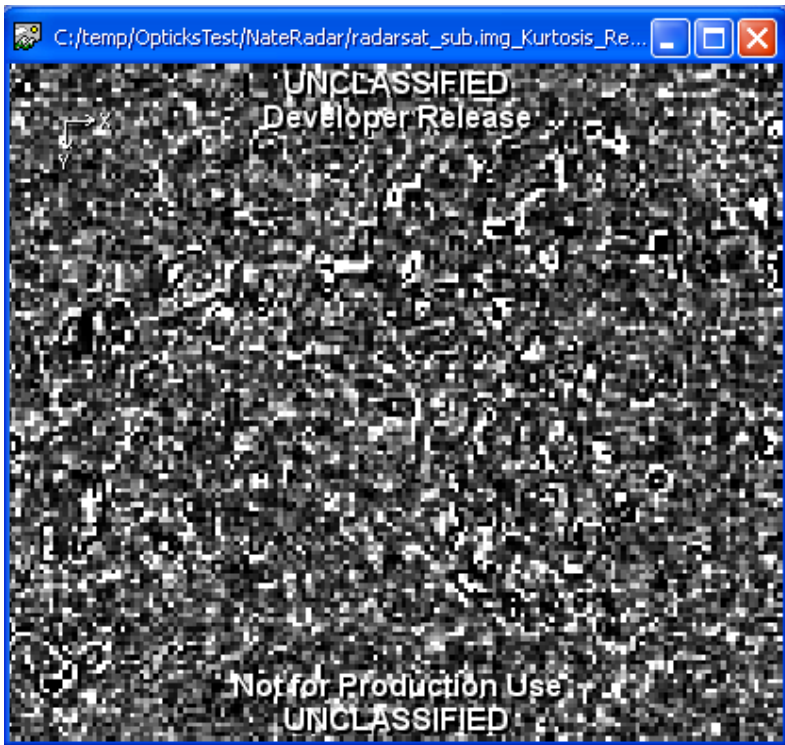
Variance



Skewness



Kurtosis



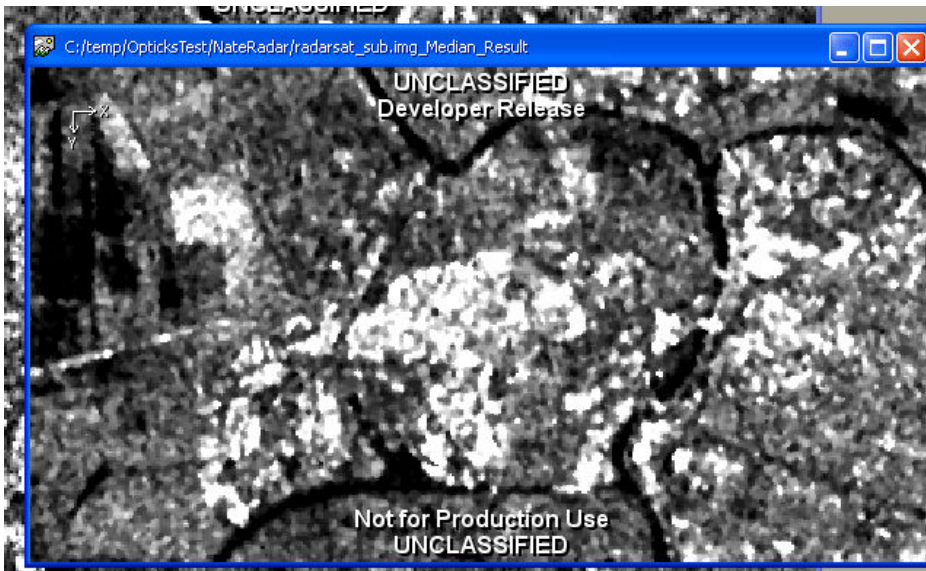
Speckle Reduction Filters

Reduces the “speckle effect” inherently found in RADAR imagery. Three filters are currently provided.

Mean



Median



Regional

