Tutorial on SAR, InSAR, PSInSAR

SARPROZ

The SAR processing tool by PeriZ

http://ihome.cuhk.edu.hk/~b122066/index_files/download.htm

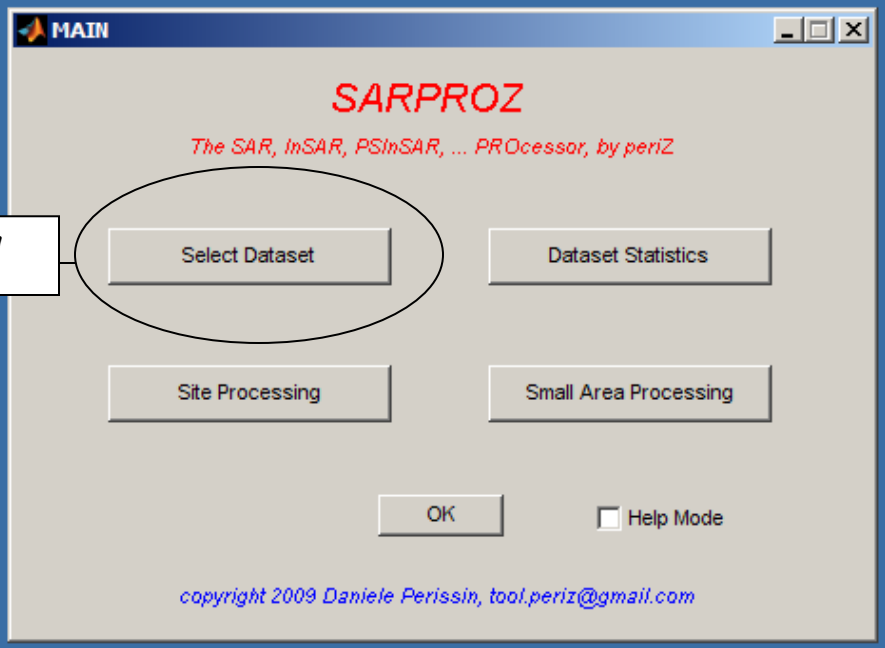
Part III

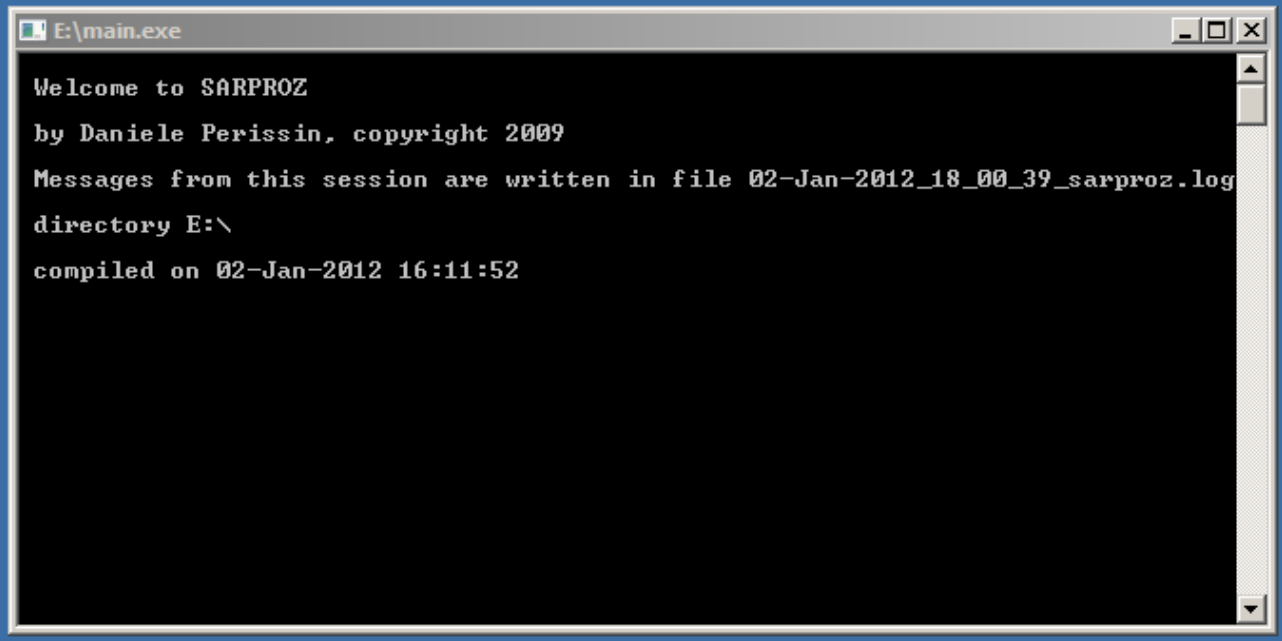
Petronas University of Technology UTP

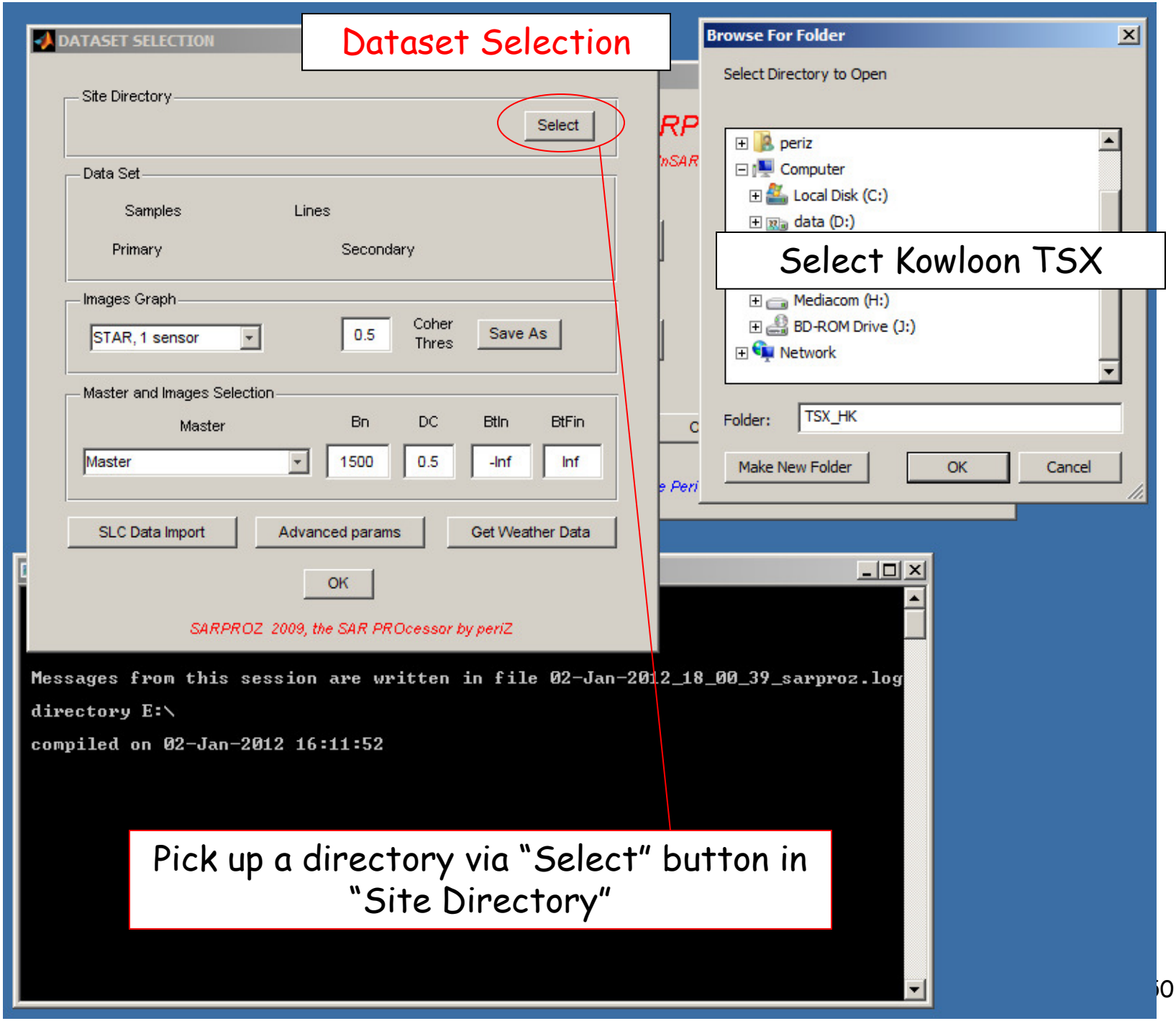
Amplitude Time Series

SARPROZ main window

Load data with "Select Dataset"

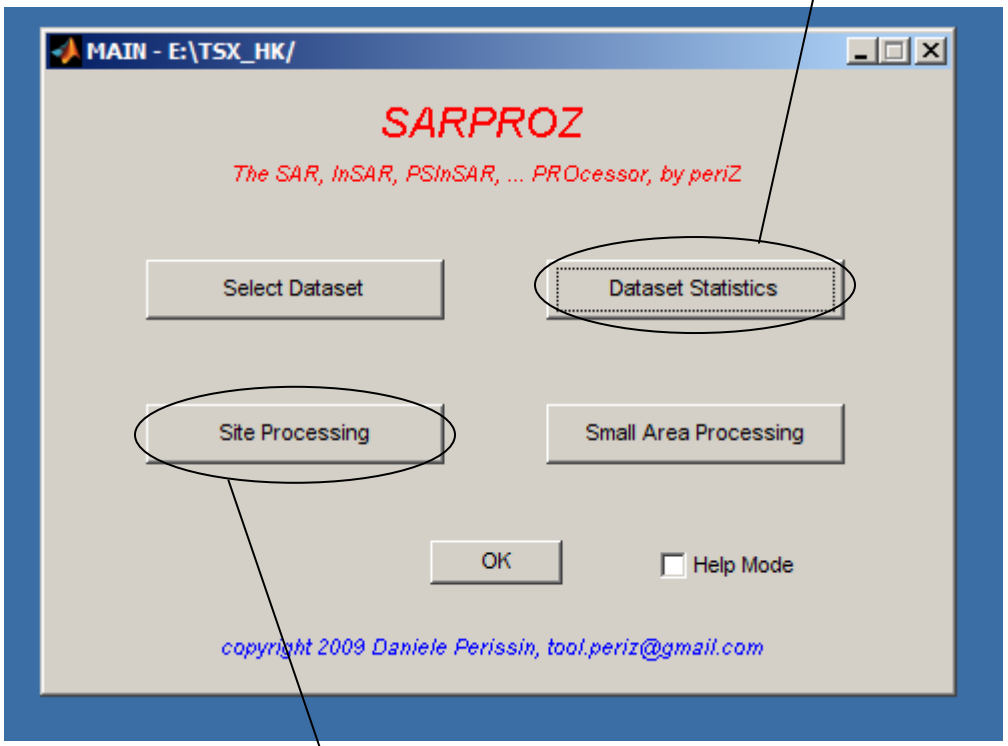





Dataset Selection
DATASET SELECTION
Site Directory
Select
Data Set
Samples
Lines
Primary
Secondary
Images Graph
STAR, 1 sensor
0.5
Coher Thres
Save As
Master and Images Selection
Master
Bn
DC
BtIn
BtFin
Master
1500
0.5
-Inf
Inf
SLC Data Import
Advanced params
Get Weather Data
OK
SARPROZ 2009, the SAR PROcessor by periZ
Browse For Folder
Select Directory to Open
periz
Computer
Local Disk (C:)
data (D:)
Mediacom (H:)
BD-ROM Drive (J:)
Network
Folder:
TSX_HK
Make New Folder
OK
Cancel
Select Kowloon TSX
Messages from this session are written in file 02-Jan-2012_18_00_39_sarproz.log
directory E:\
compiled on 02-Jan-2012 16:11:52
Pick up a directory via "Select" button in "Site Directory"

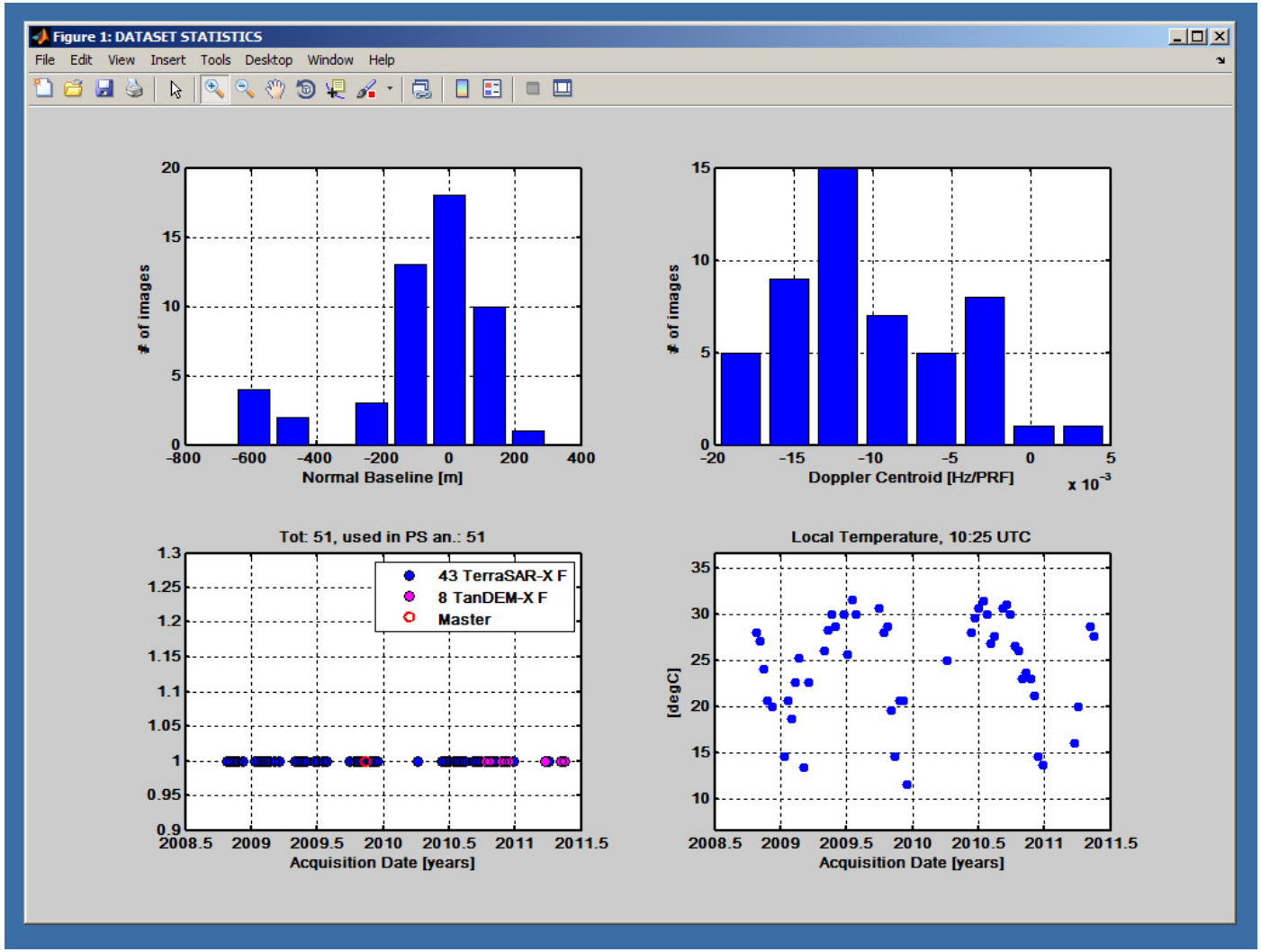
SARPROZ main window

Display the dataset parameters via button "Dataset Statistics"

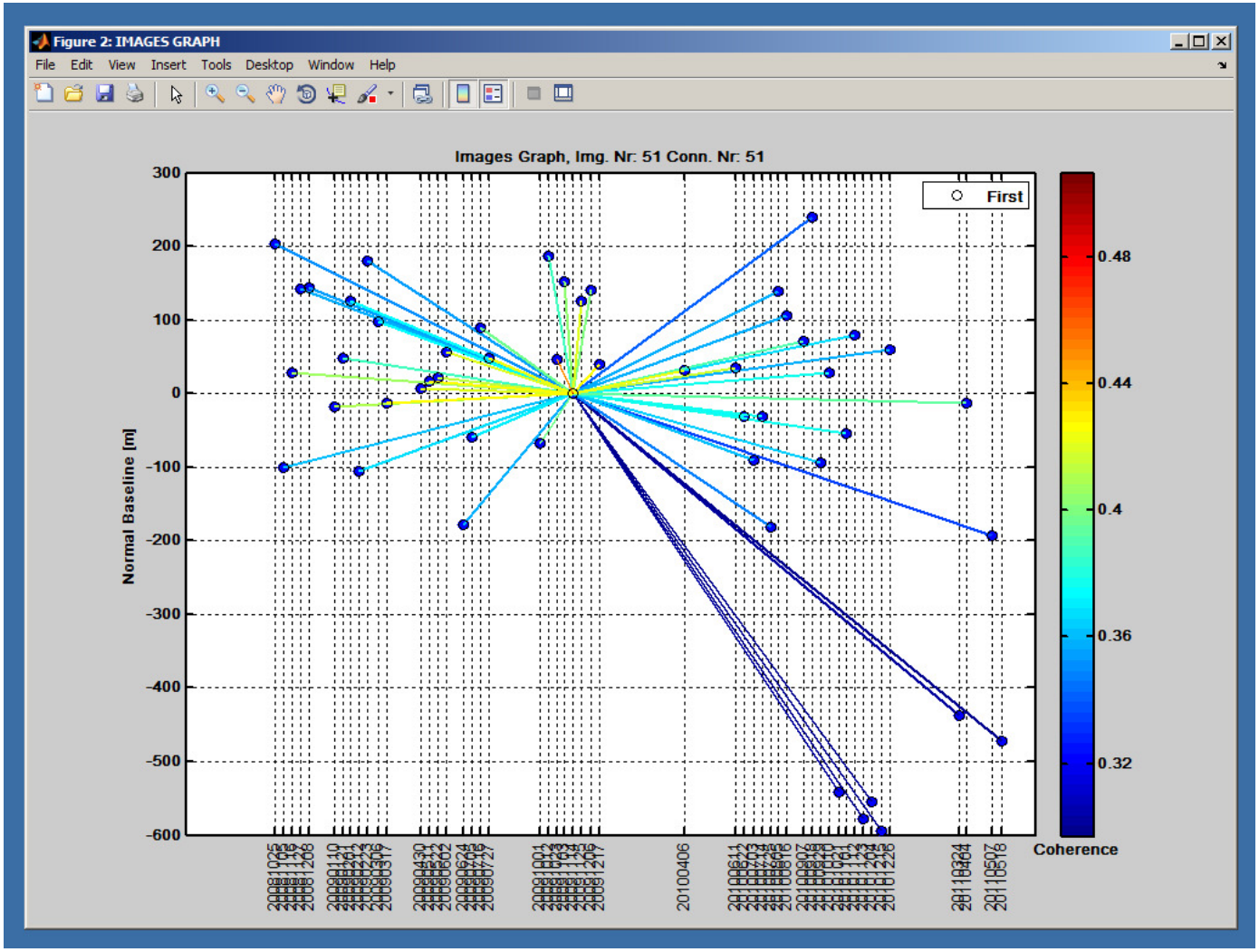


Processing modules are accessed through "Site Processing"

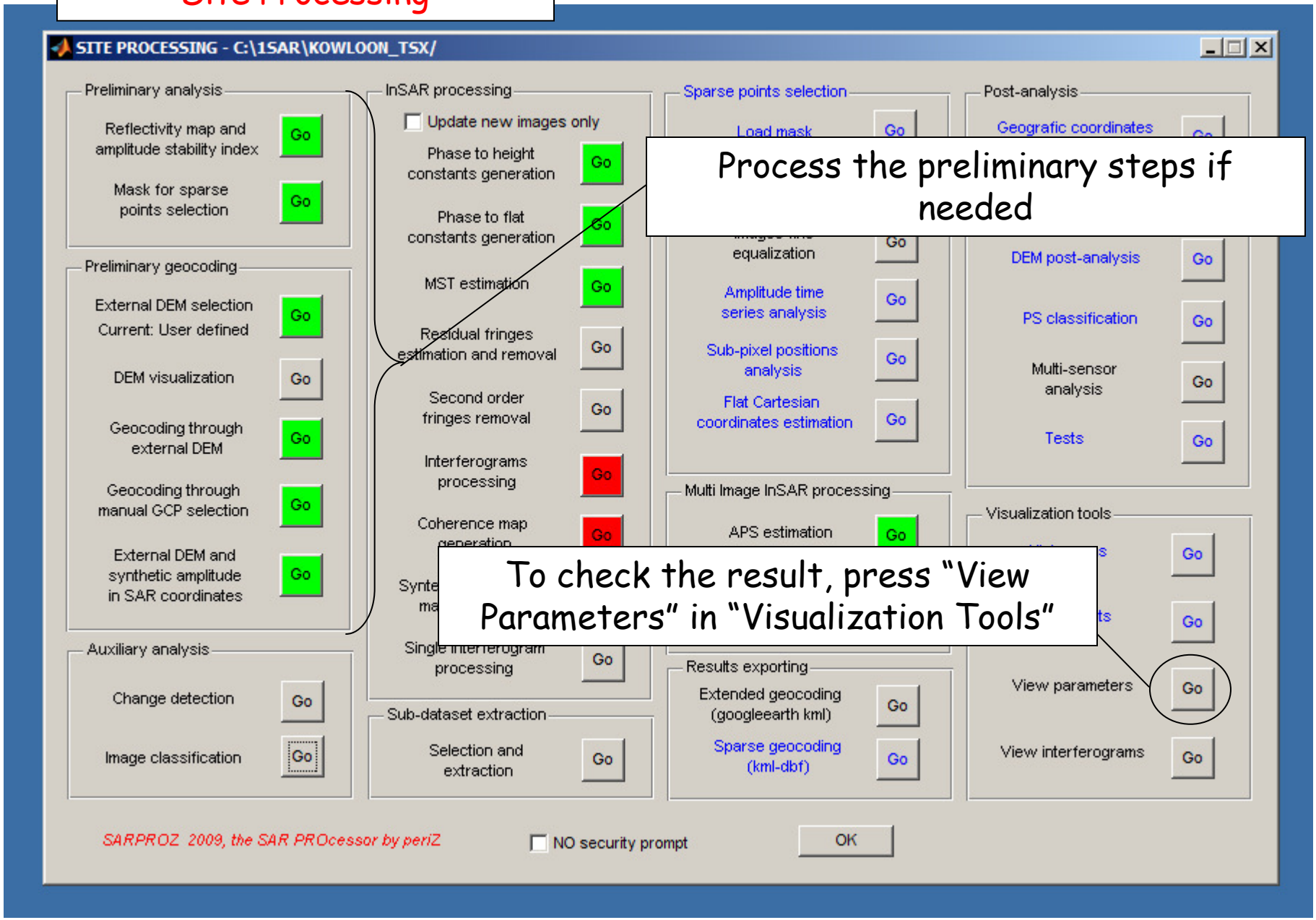
DataSet Parameters



Interferometric configuration



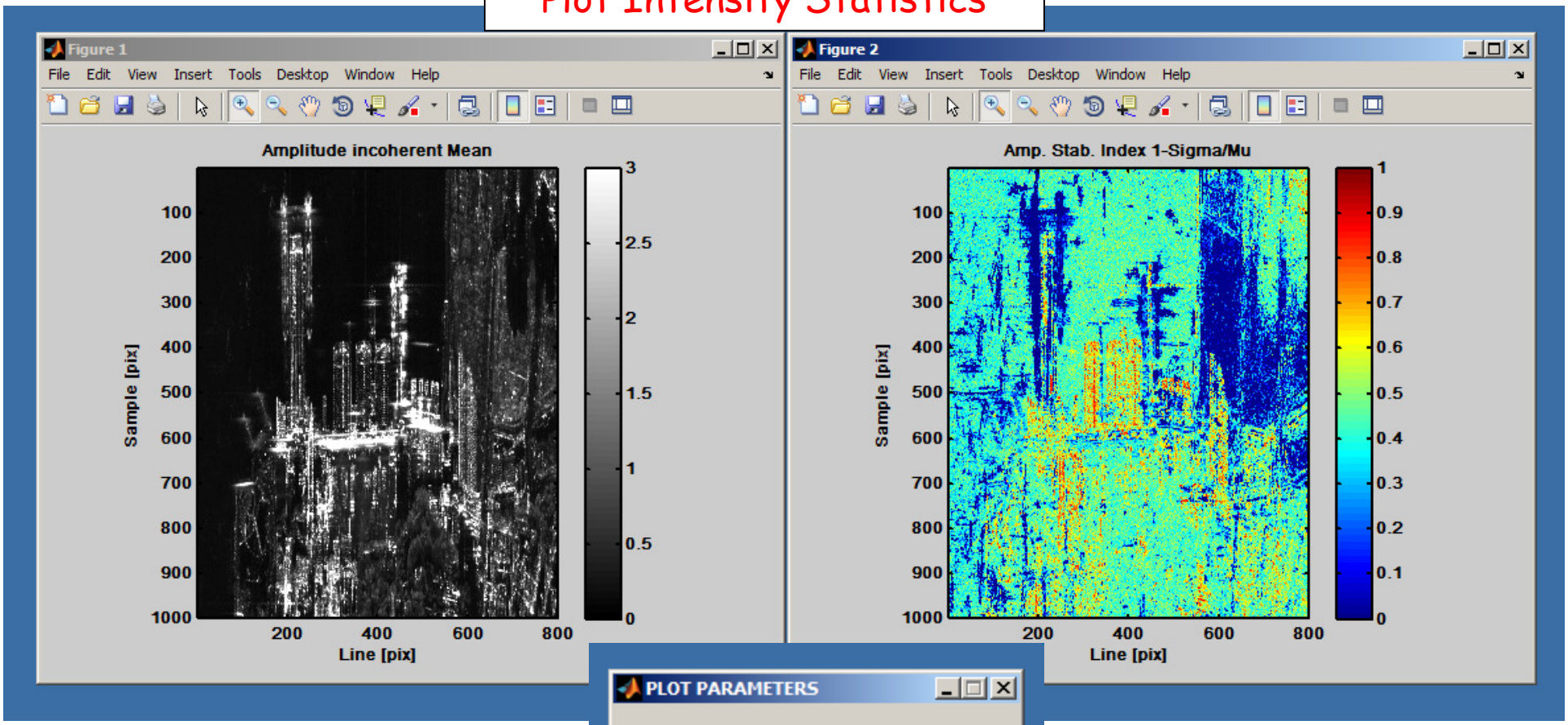
Site Processing

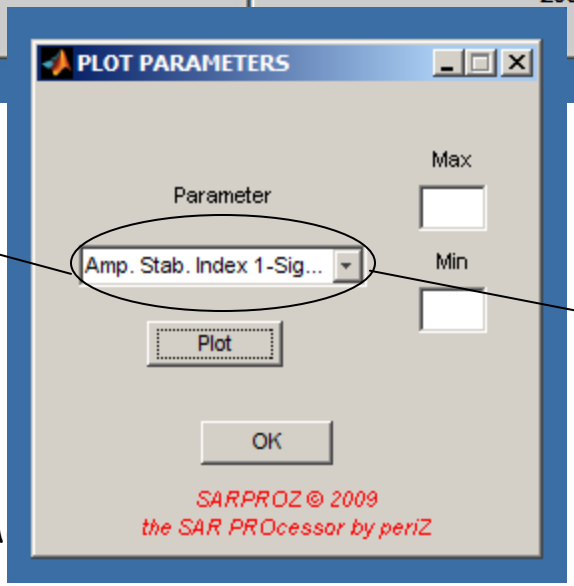


Process the preliminary steps if needed

To check the result, press "View Parameters" in "Visualization Tools"

Plot Intensity Statistics

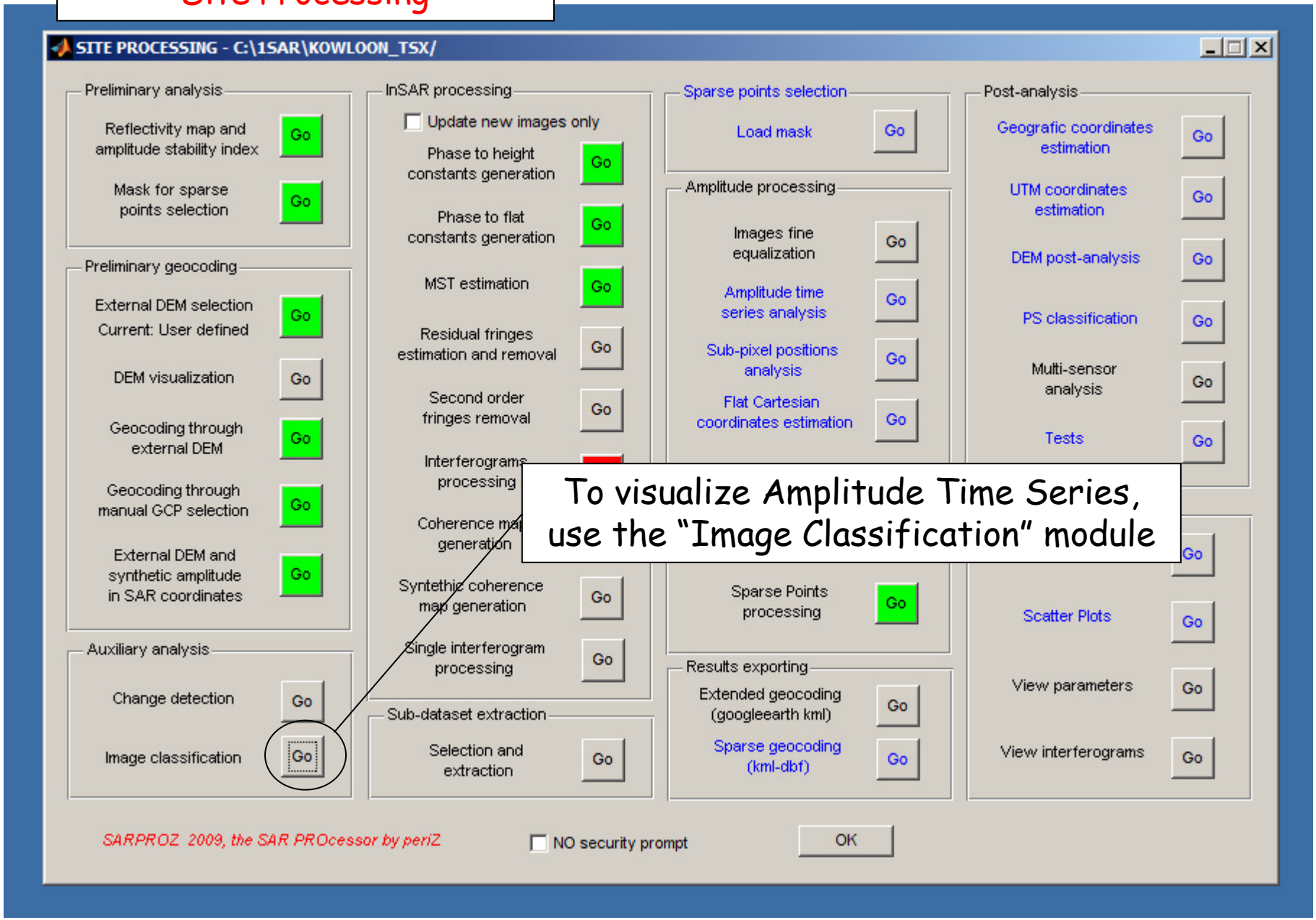




Reflectivity Map

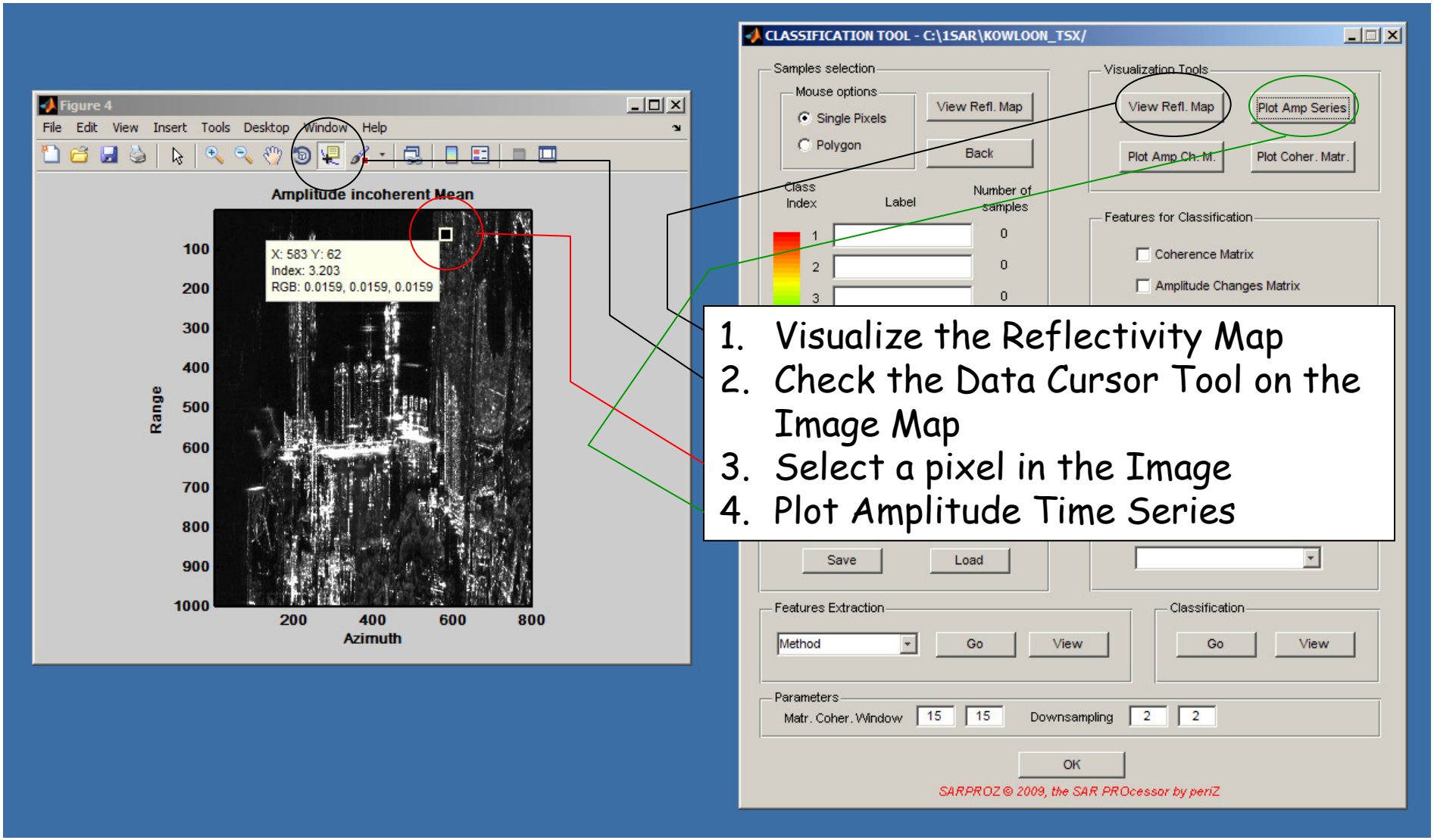
Amplitude Stability Index 1-s/m

Site Processing



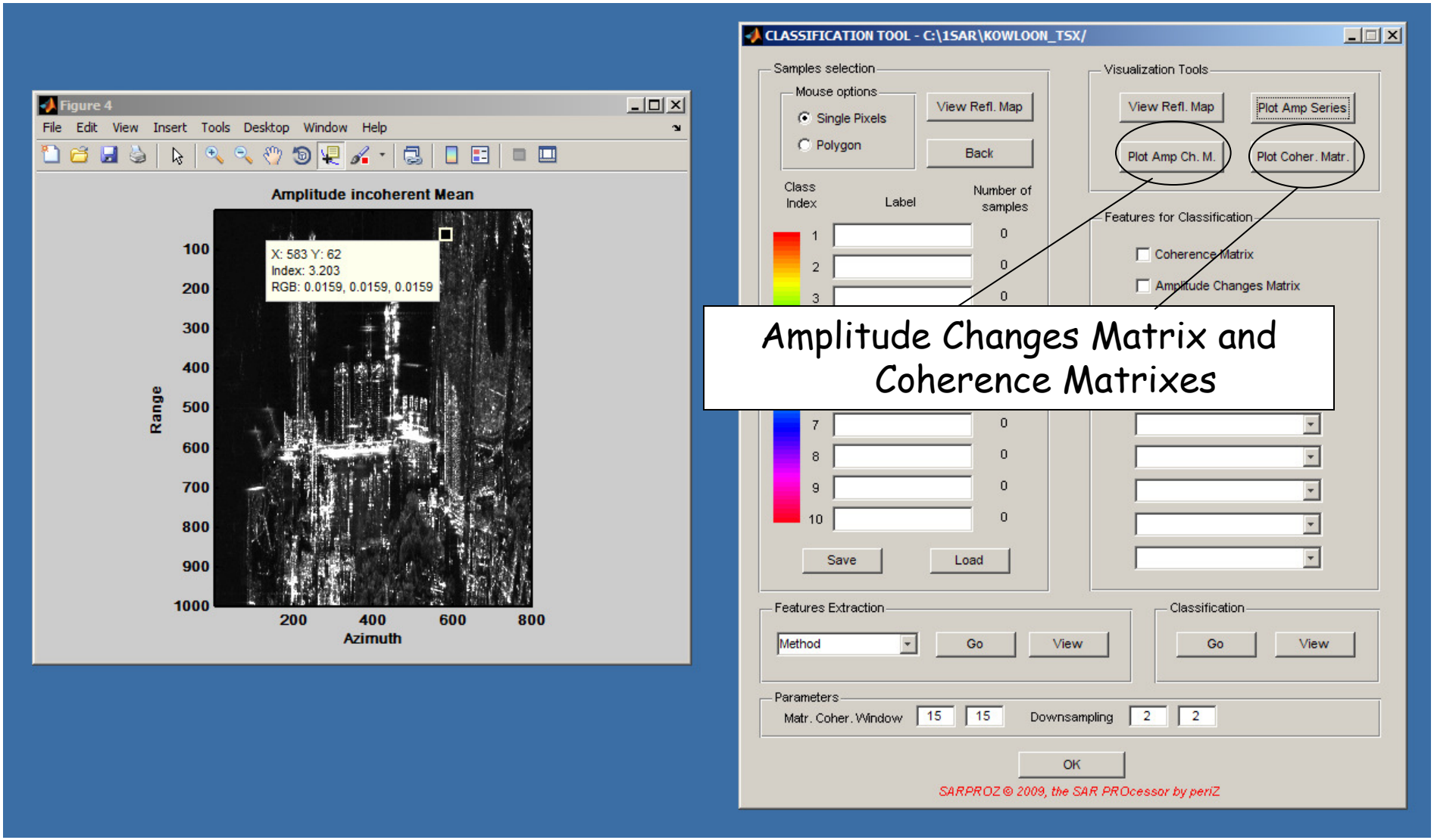
To visualize Amplitude Time Series, use the "Image Classification" module

Amplitude time series via Image Classification



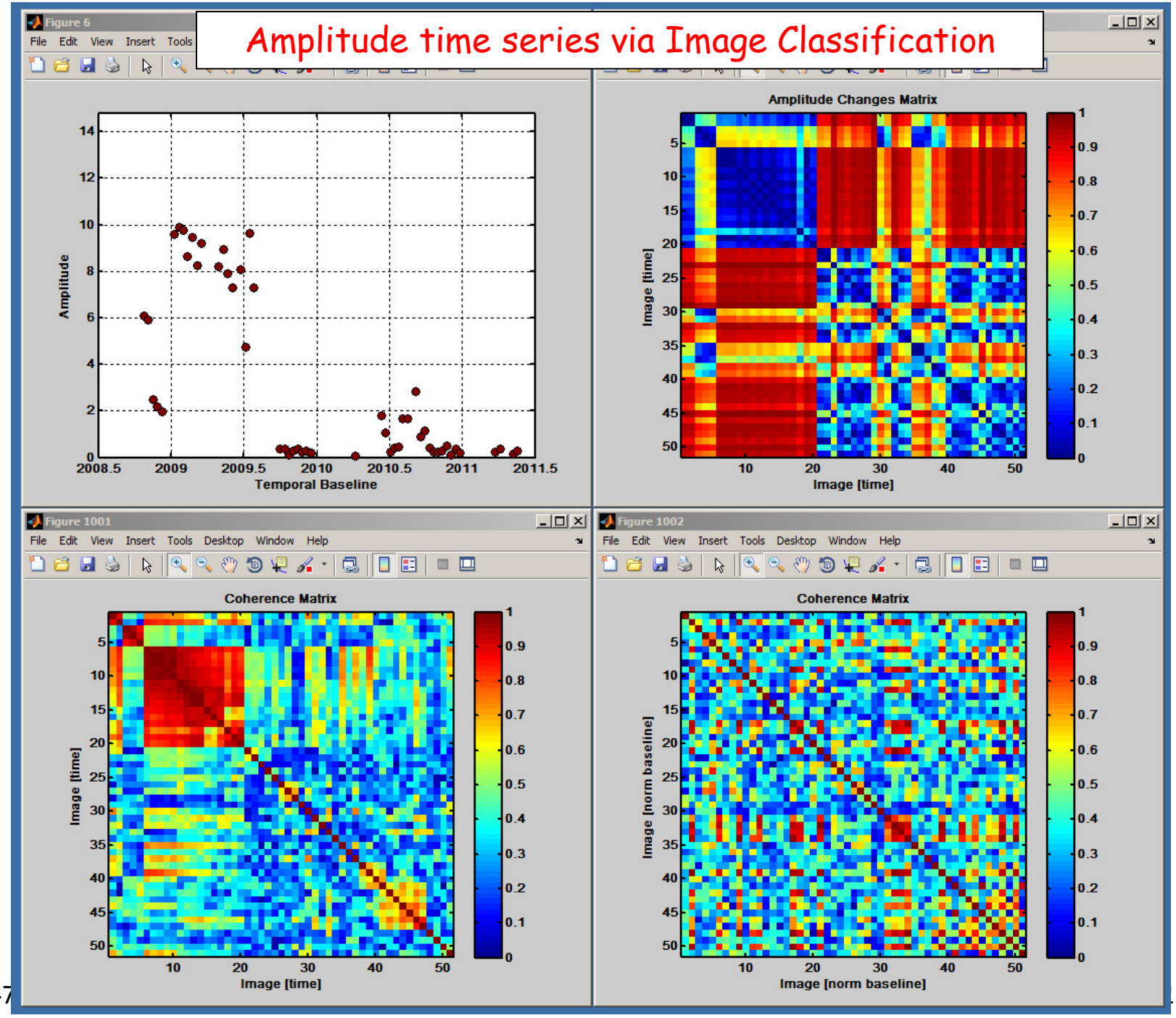
1. Visualize the Reflectivity Map
2. Check the Data Cursor Tool on the Image Map
3. Select a pixel in the Image
4. Plot Amplitude Time Series

Amplitude time series via Image Classification

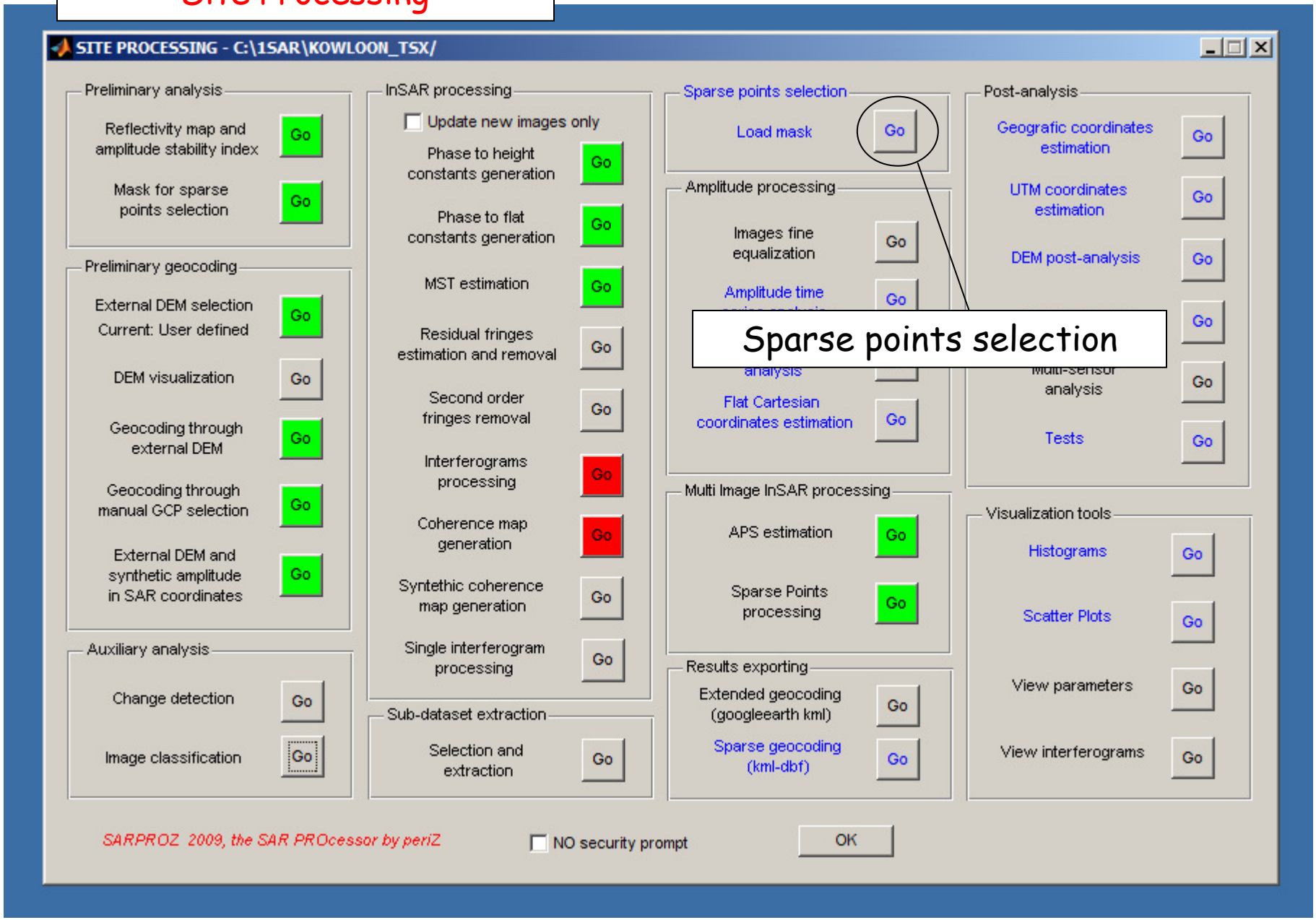


Amplitude Changes Matrix and Coherence Matrixes

Amplitude time series via Image Classification



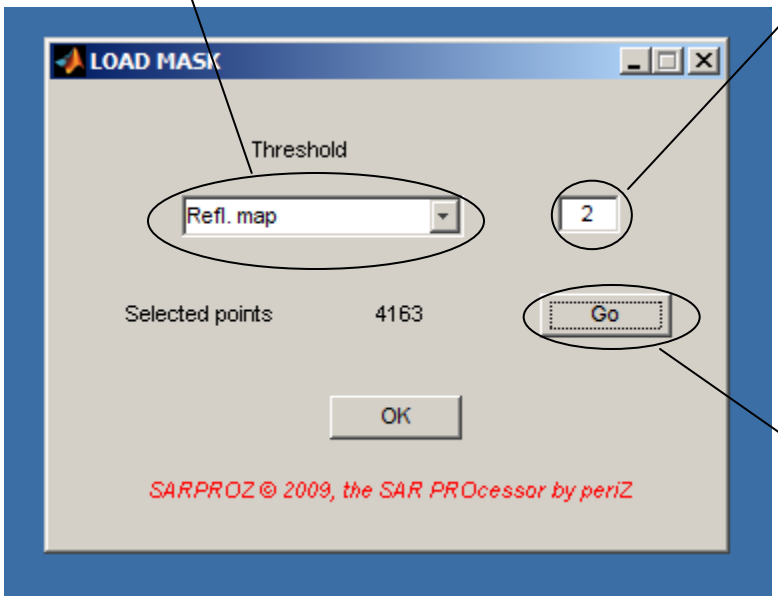
Site Processing



Sparse Points Selection

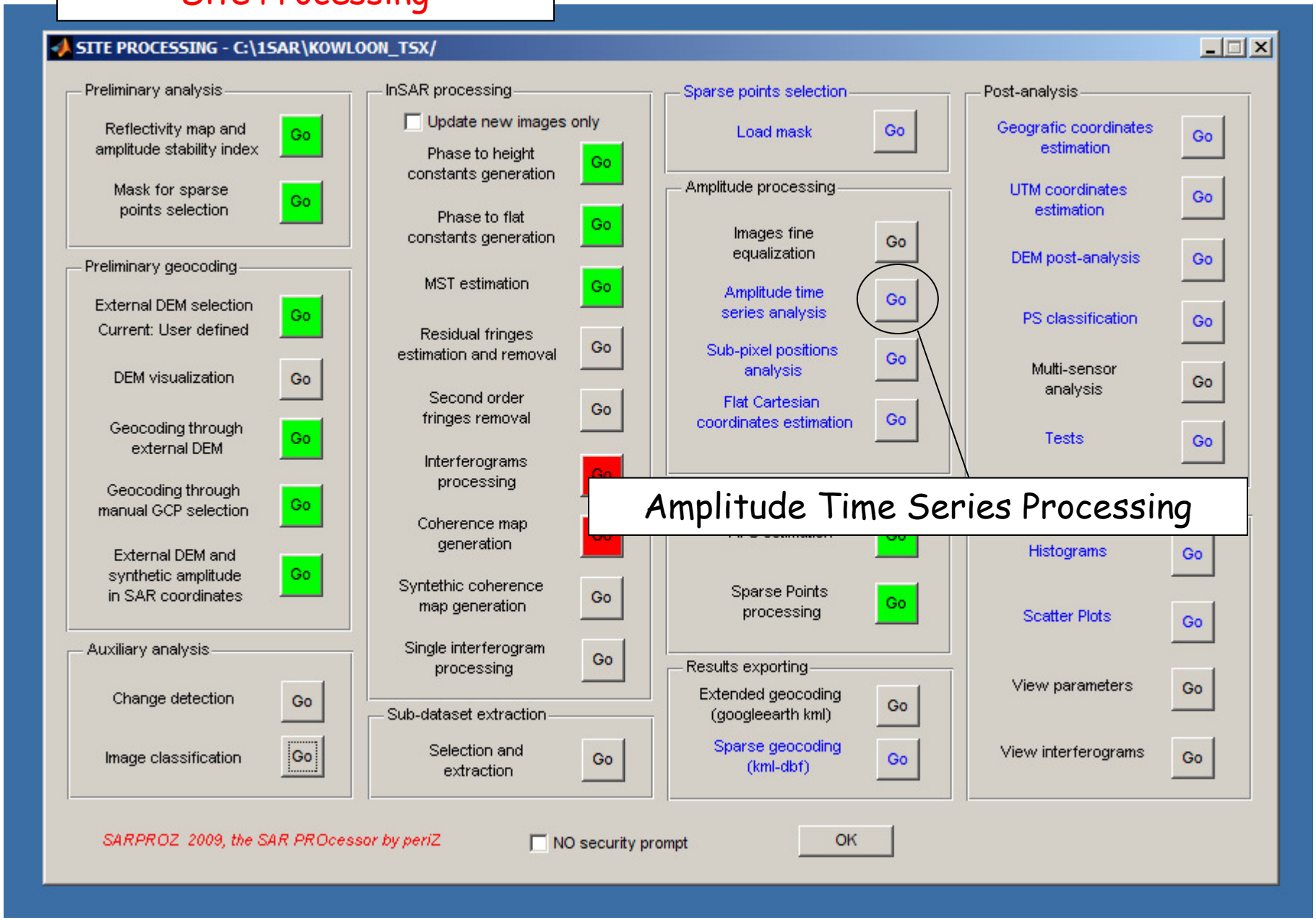
1. Choose a parameter for the selection (e.g. "Reflectivity Map")

2. Apply a value as threshold (e.g. "2")



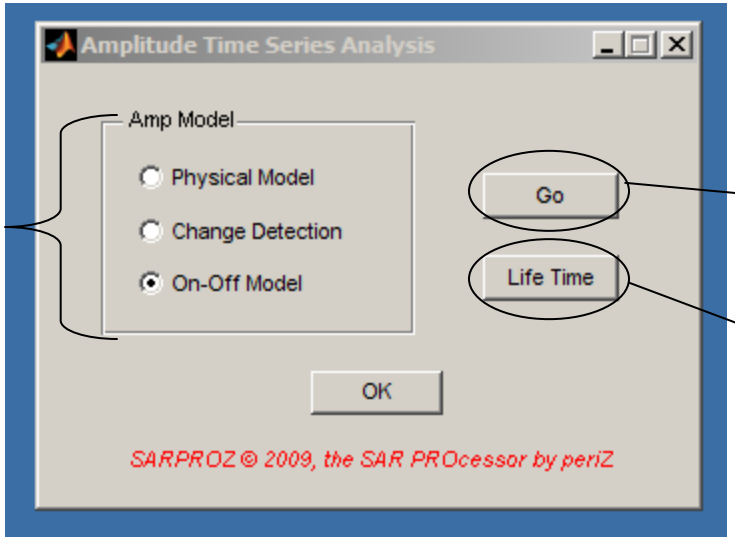
3. Press GO

Site Processing



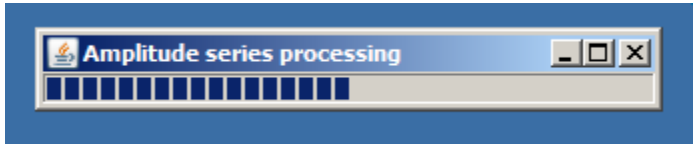
Amplitude Time Series Processing

Choose a Model for the analysis ("On-Off Model")



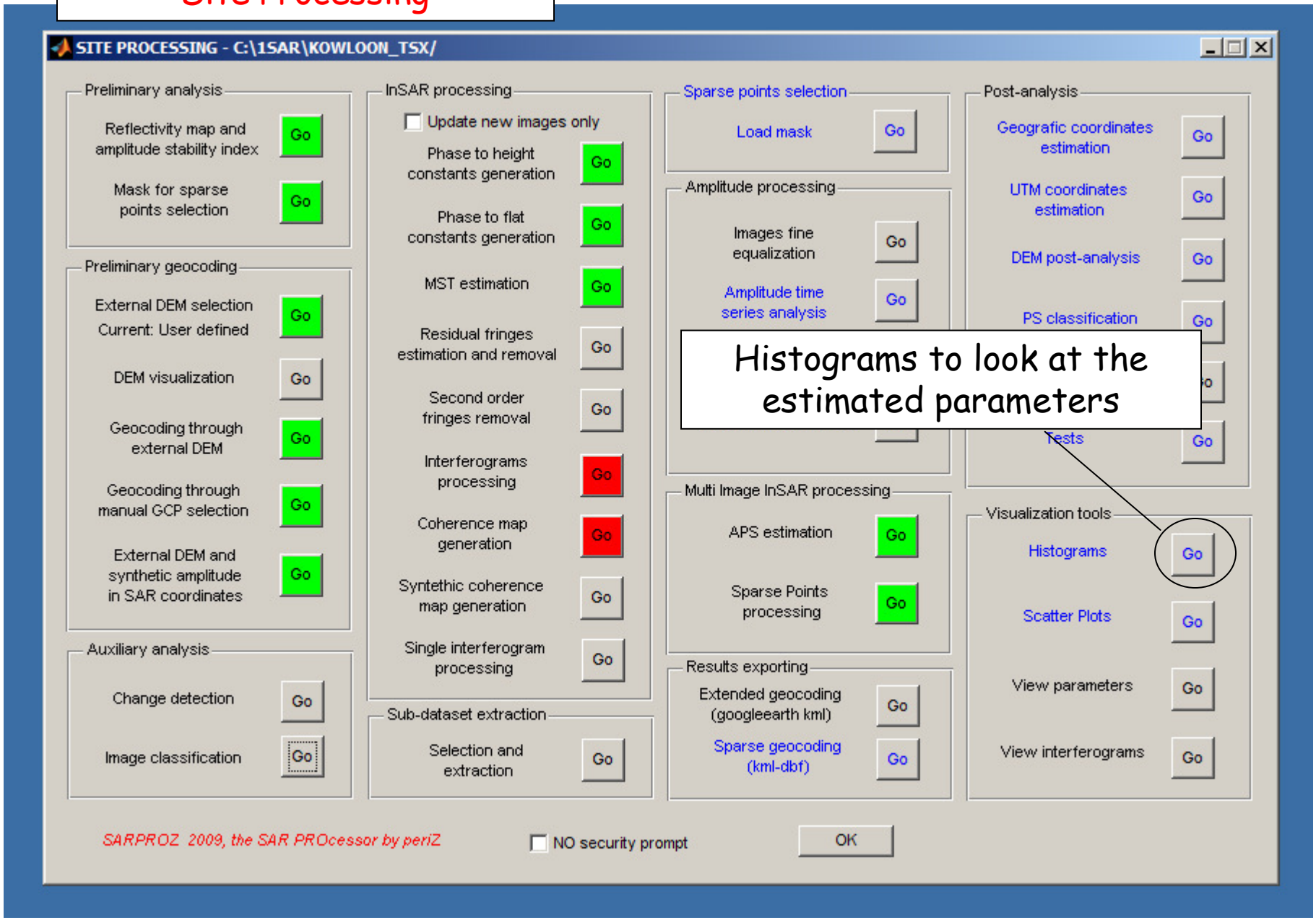
2. Press Go

4. Press "Life Time"



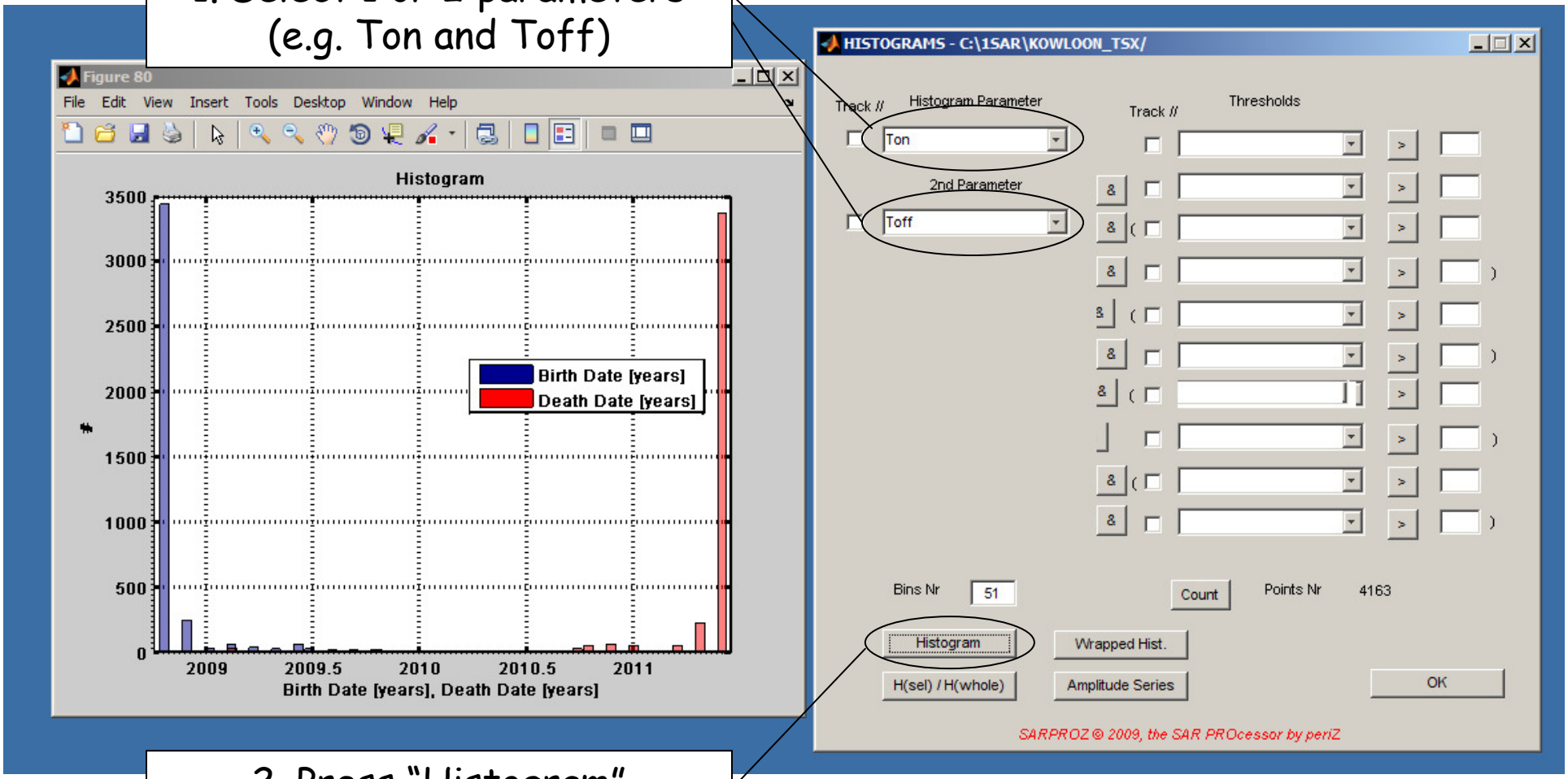
3. Wait patiently…

Site Processing



Histograms

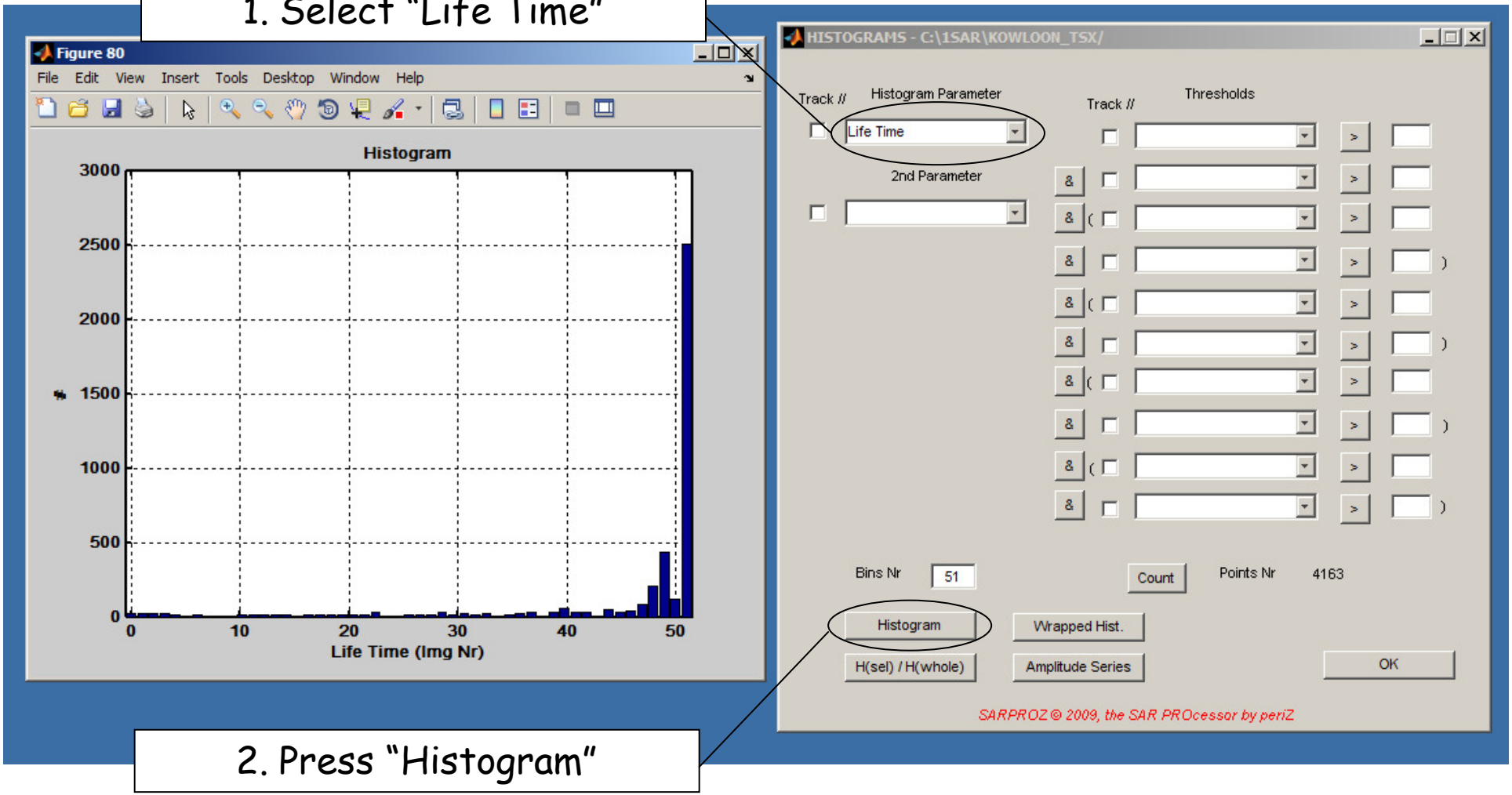
1. Select 1 or 2 parameters (e.g. Ton and Toff)



2. Press "Histogram"

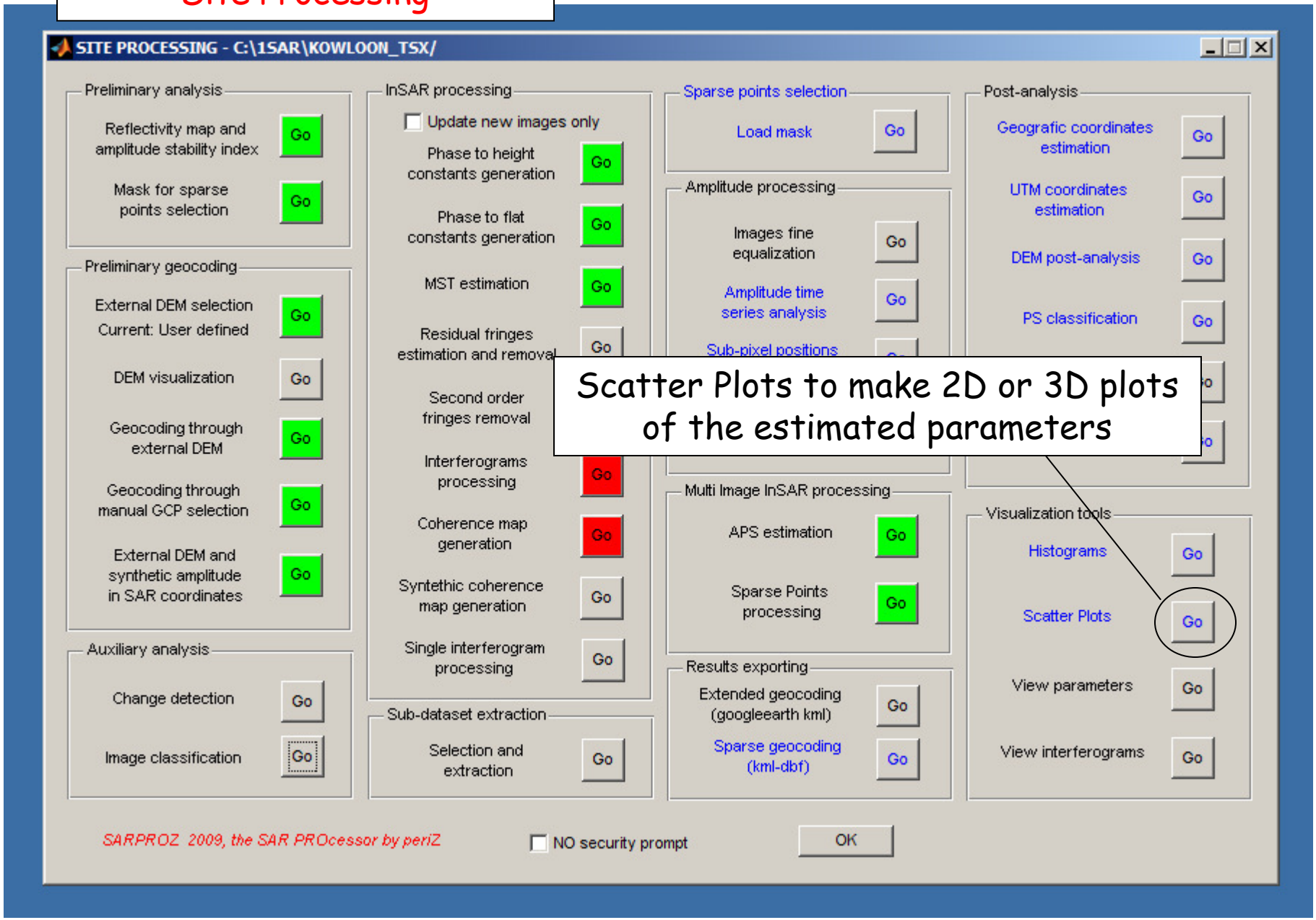
Histograms

1. Select "Life Time"



2. Press "Histogram"

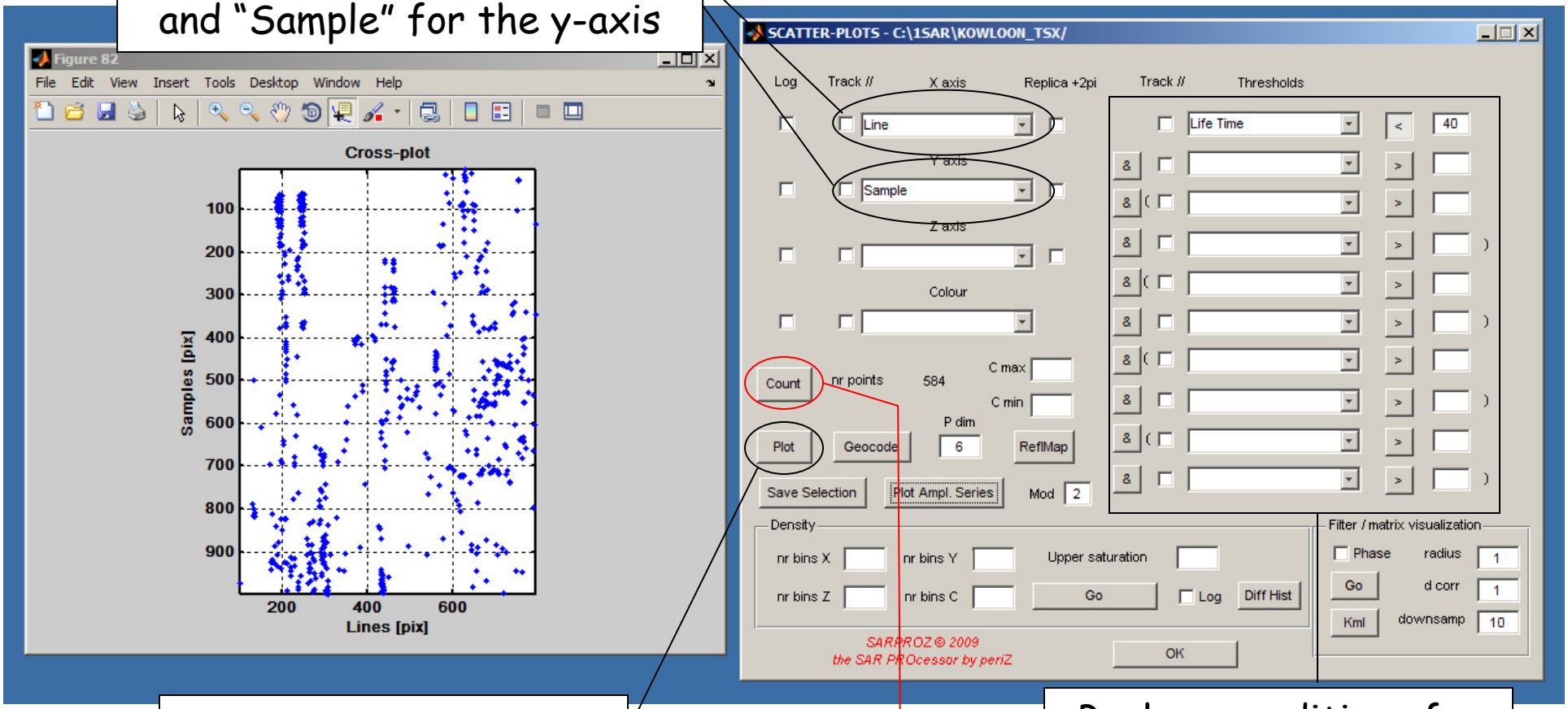
Site Processing



Scatter Plots to make 2D or 3D plots of the estimated parameters

Scatter Plots

1. Select "Line" for the x-axis and "Sample" for the y-axis

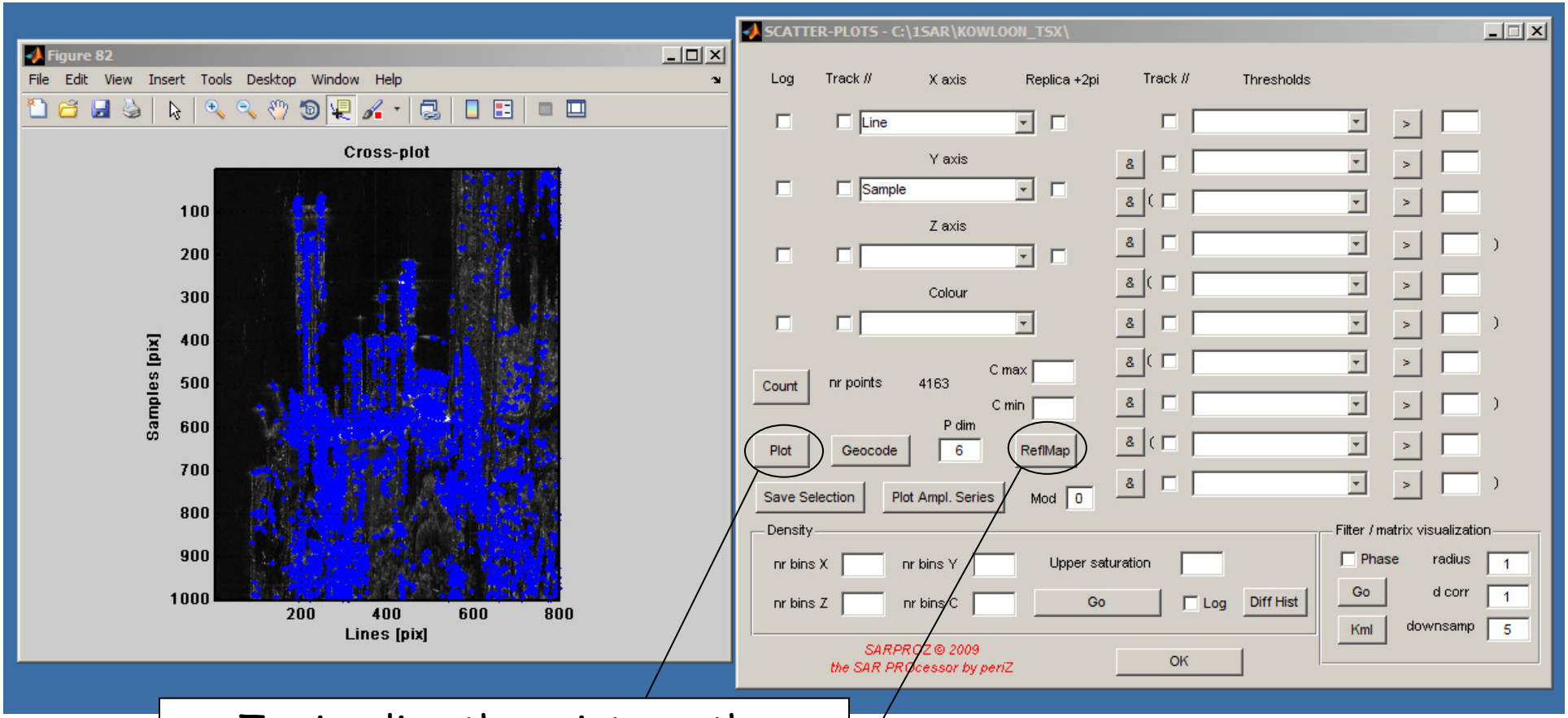


2. Press "Plot"

Boolean conditions for applying a sub-selection

To apply the conditions, press "Count"

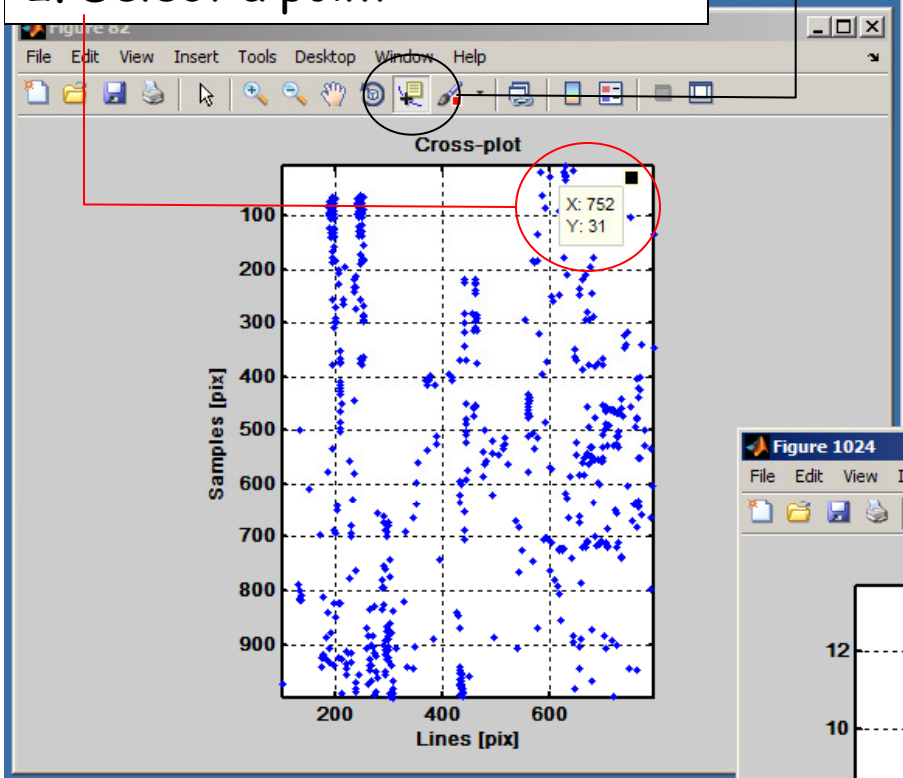
Scatter Plots

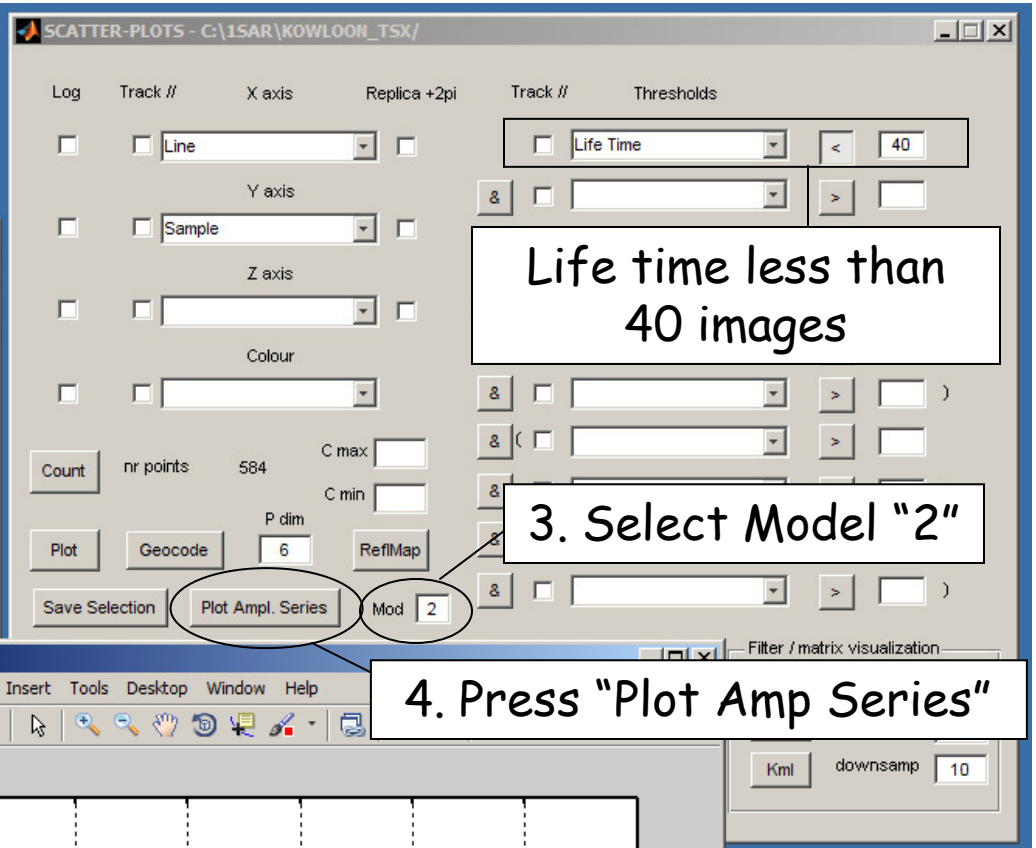


To visualize the points on the Reflectivity Map, use "Refl Map" and then "Plot"

Amplitude tme series

1. Select "Data Cursor" tool
2. Select a point

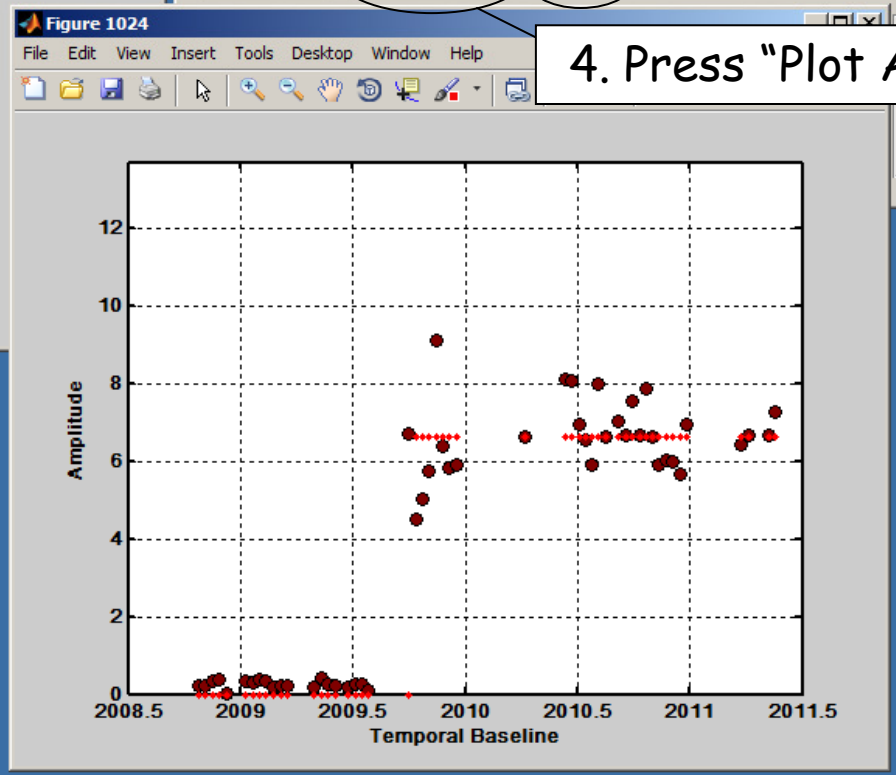




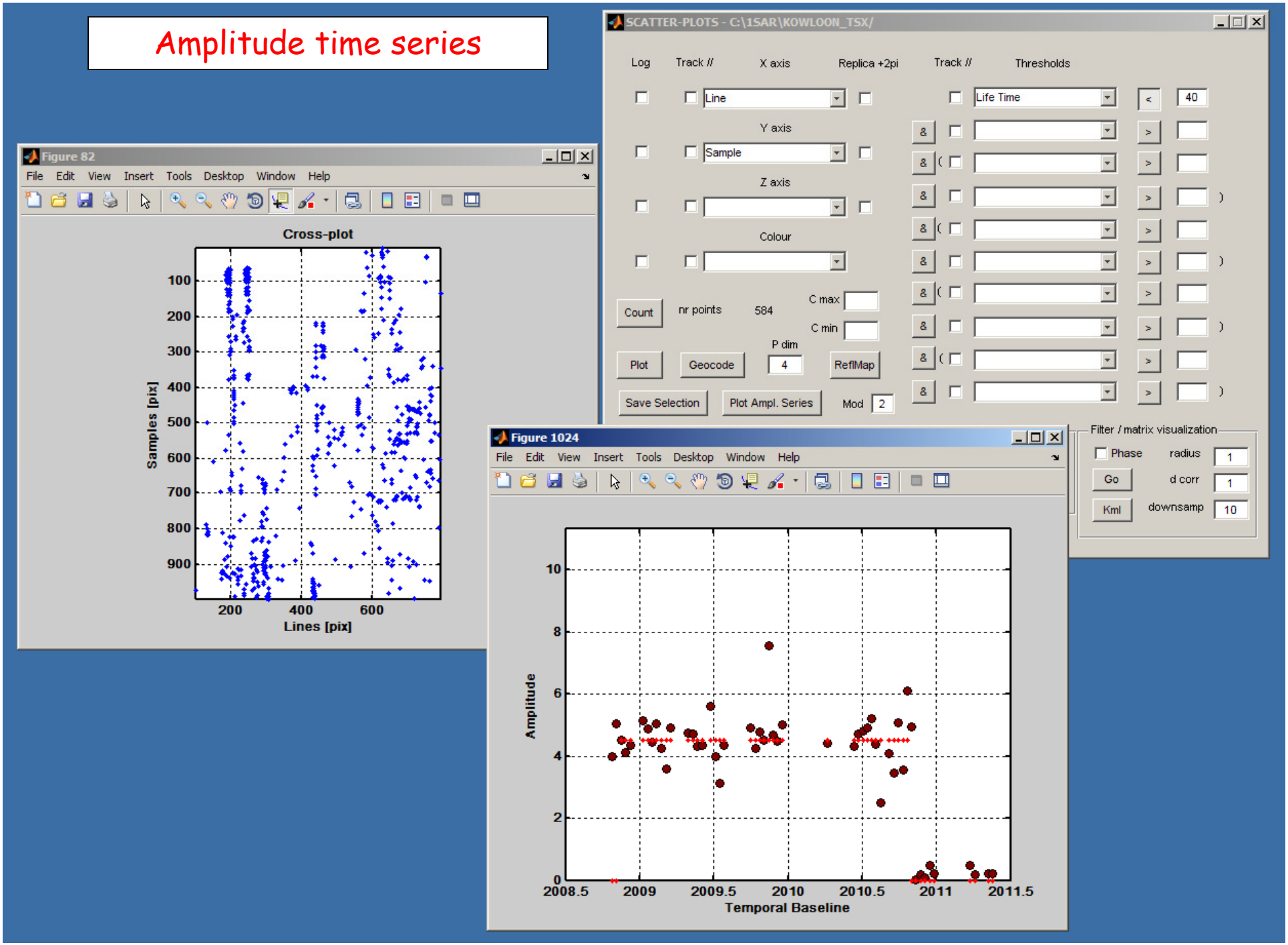
Life time less than 40 images

3. Select Model "2"

4. Press "Plot Amp Series"

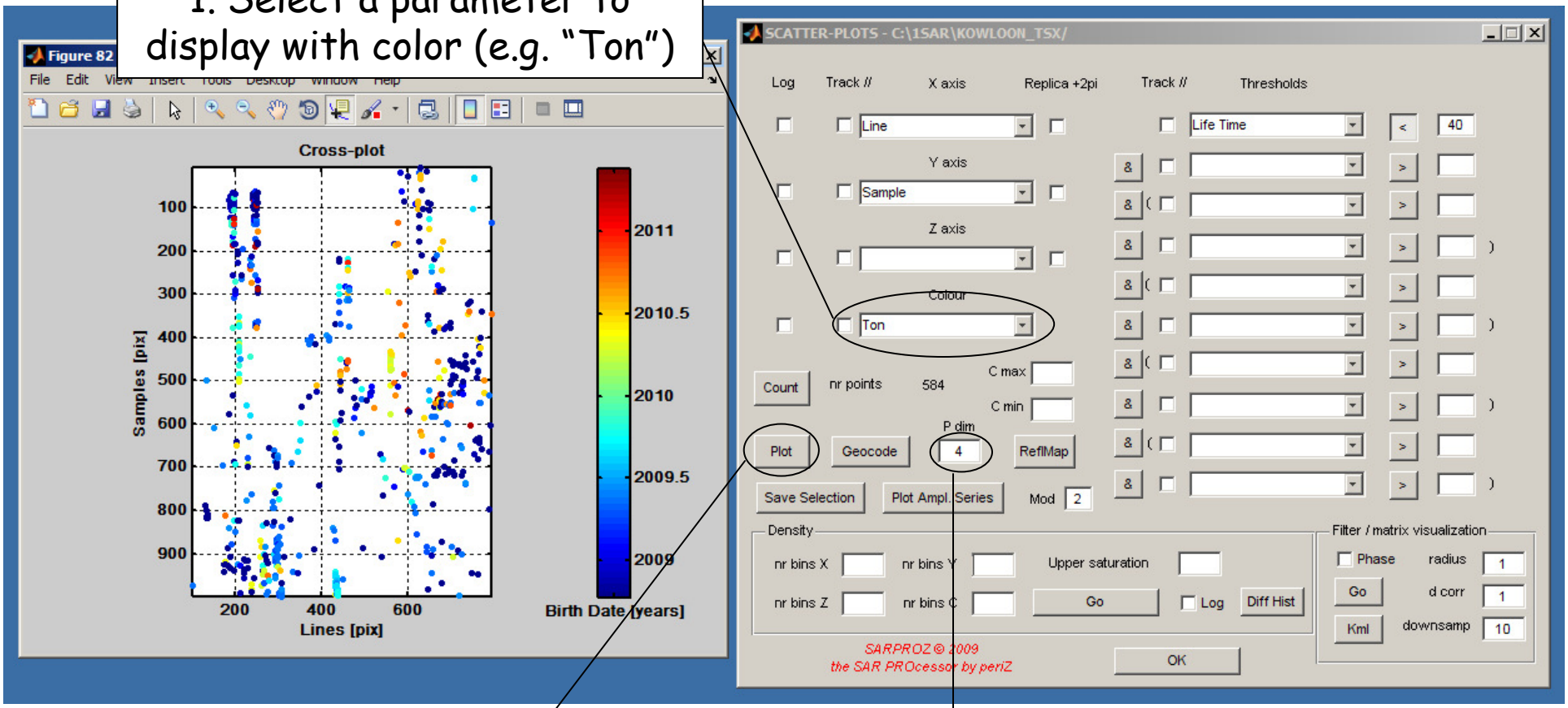


Amplitude time series



Colored Scatter Plots

1. Select a parameter to display with color (e.g. "Ton")

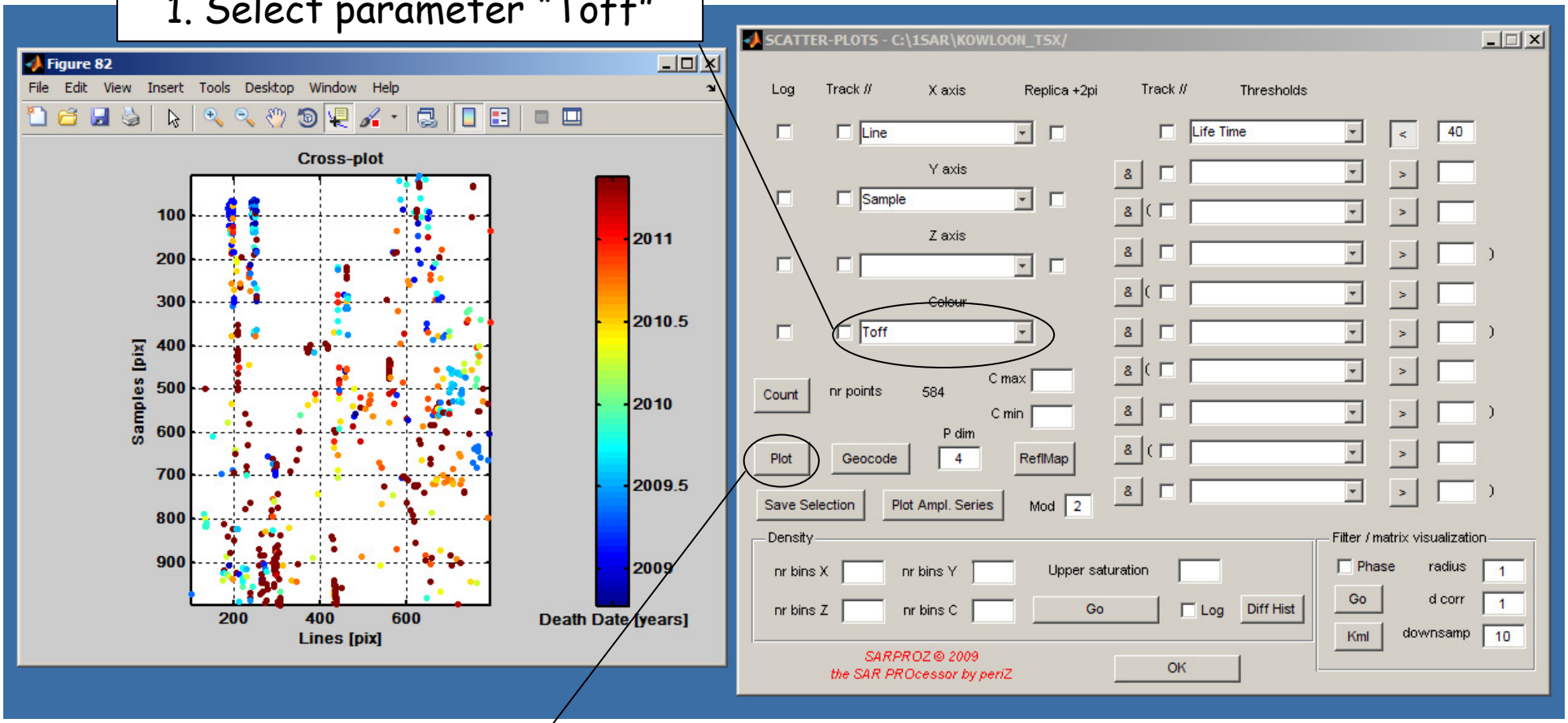


2. Press "Plot"

Adjust the dot size if needed

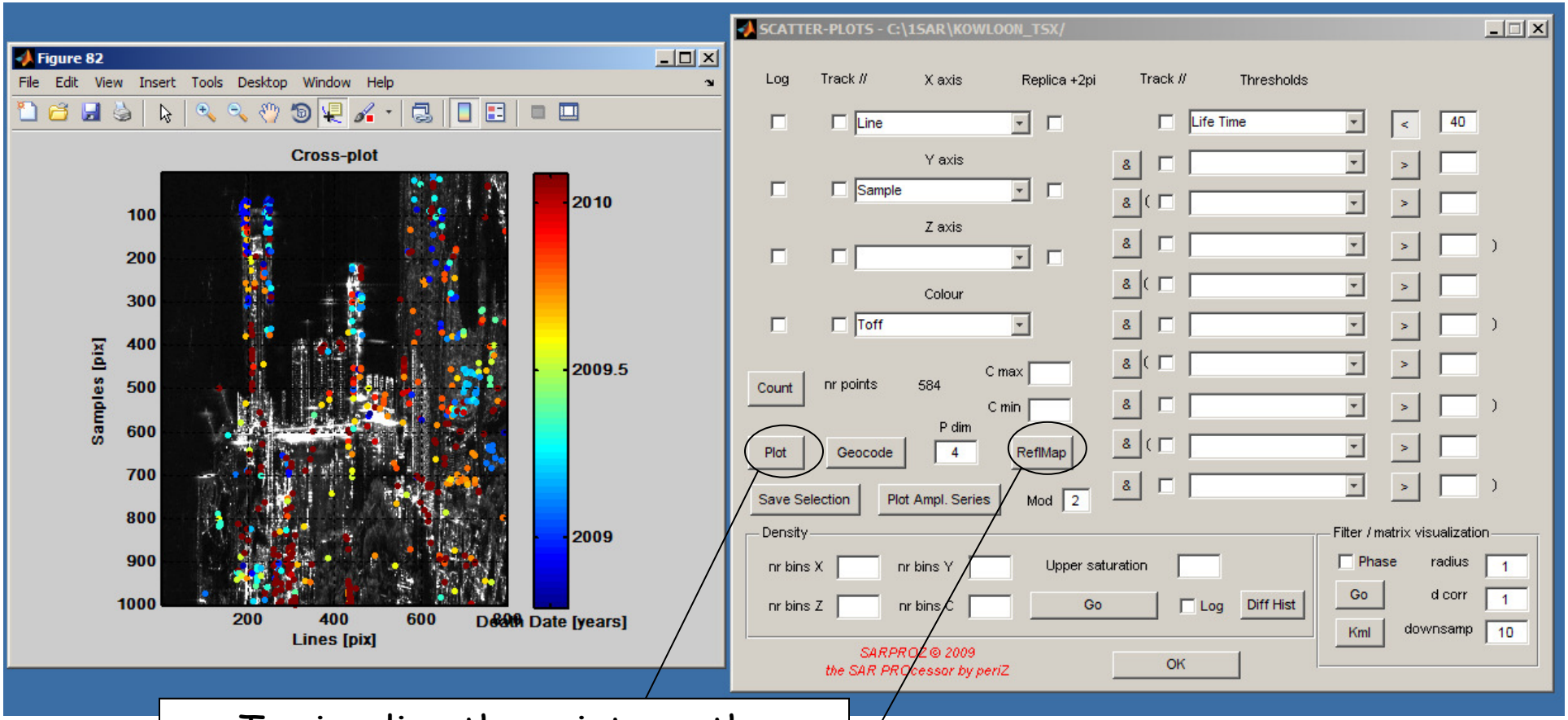
Colored Scatter Plots

1. Select parameter "Toff"



2. Press "Plot"

Colored Scatter Plots



To visualize the points on the Reflectivity Map, use "Refl Map" and then "Plot"

Colored Scatter Plots

Plotting points in geographic coordinates: select Longitude and Latitude