

Quick Start Guide

v1.0



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Quick Start Purpose

The purpose of this document is to familiarize the user by generating example SCoBi output values from the simulator user environment. It is suggested that the user consult the SCoBi User Manual if the user wishes to learn about the physical representation and definitions of the SCoBi simulator's inputs.

Example 1

Forest Analysis

1. Run the script *runSCoBi.m* file located in `.\source\lib\`.
2. Select the **Forest** icon from the **Analysis Selection Window**.
3. Make sure the **default-forest.mat** system input file has been loaded.
 - a. On an initial run this input file should be loaded. If the user has reason to believe SCoBi has previously been run with custom user inputs, the **default-forest.mat** system input file from `.\source\input\system\` using the load inputs action button in the bottom left corner of the GUI.
 - b. If the values have been loaded correctly, the GUI should be filled with the values depicted in **Figure 1**.

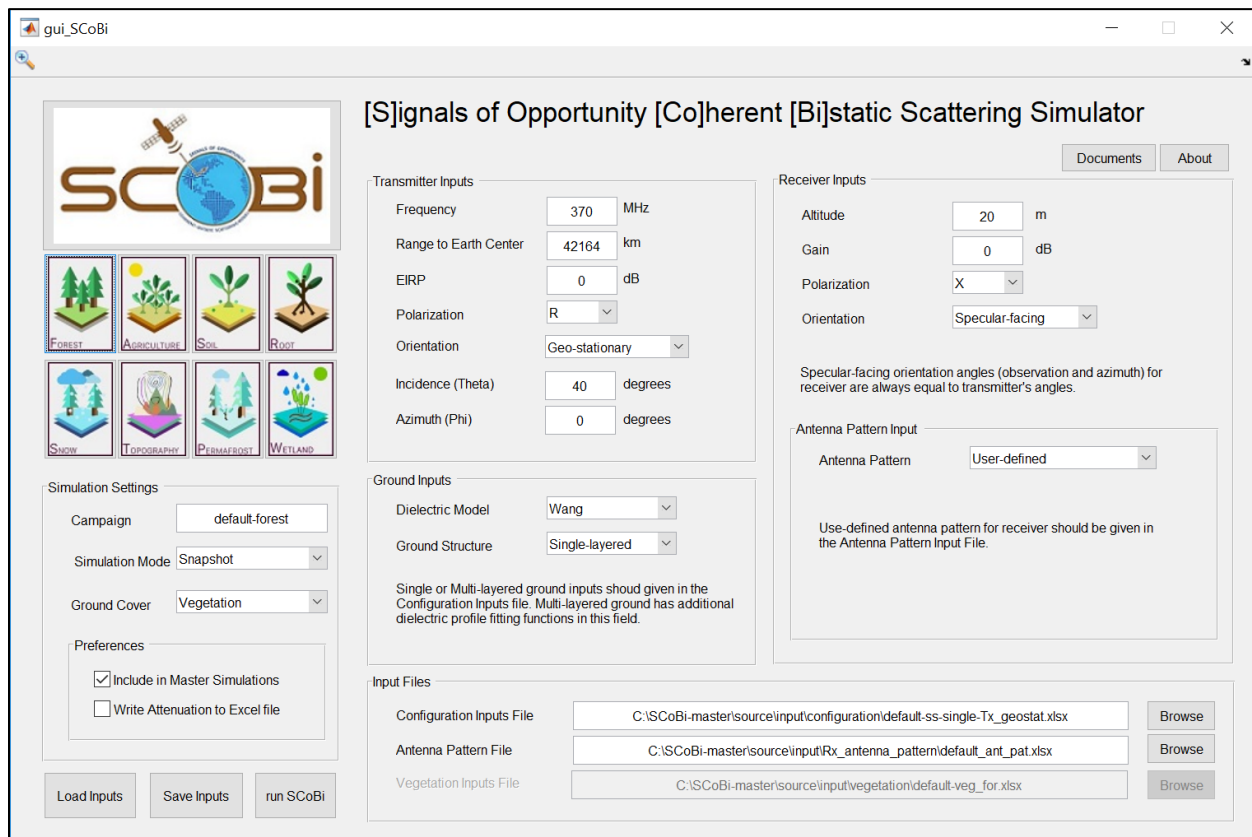


Figure 1: Default Input Files Loaded from default-forest.mat

4. Select the **run SCoBi** button in the bottom left corner of the GUI.
5. After completion, the output files will be located in `.\source\sims\master\` with a timestamp indicating when the program was run and the corresponding campaign title (e.g., "default_forest-16-Aug-2016_05_08_20.")
6. Plot the output product using the script *plotReflectivityVsVSM.m* located in `.\source\lib\scobi\plot\scobi`. It will save the generated plot entitled **Reflectivity_vs_EL-PH_15-VSM_0dot15-RMSH_1.tif** under `.\master\default_forest<time_stamp>\figure\specular\reflectivity\vs_VSM\`

Example 2

Agriculture Analysis

1. Run the script *runSCoBi.m* file located in `.\source\lib\`.
2. Select the **Agriculture** icon from the **Analysis Selection Window**.
3. Make sure the **default-agriculture.mat** system input file has been loaded.
 - a. On an initial run this input file should be loaded. If the user has reason to believe SCoBi has previously been run with custom user inputs, the **default-agriculture.mat** system input file from `.\source\input\system\` using the load inputs action button in the bottom left corner of the GUI.
 - b. If the values have been loaded correctly, the GUI should be filled with the values depicted in **Figure 2**.

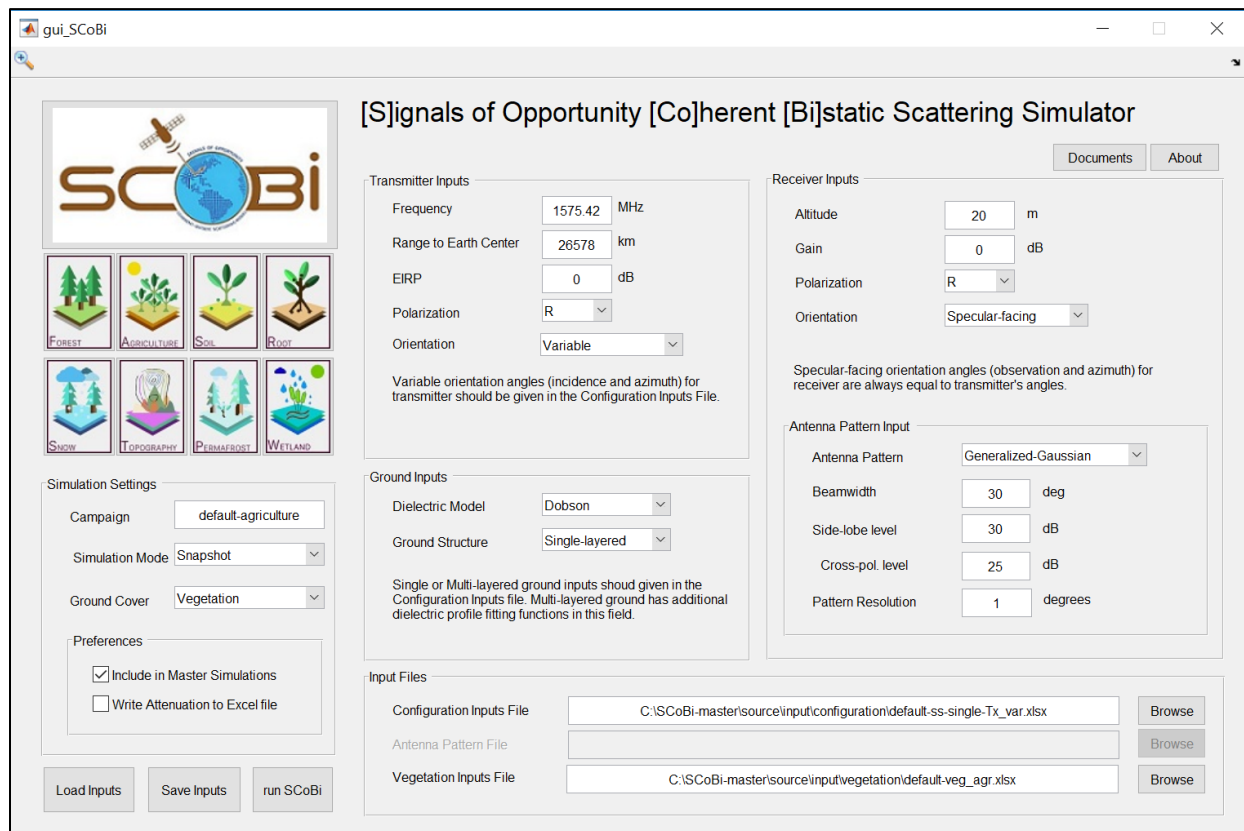


Figure 2: Default Input Files Loaded from *default-agriculture.mat*

4. Select the **run SCoBi** button in the bottom left corner of the GUI.
5. After completion, the output files will be located in `.\source\sims\master\` with a timestamp indicating when the program was run and the corresponding campaign title (e.g., "default_agriculture-16-Aug-2016_05_45_19.")
6. Plot the output product using the scripts located in `.\source\lib\scobi\plot\scobi\`. It will save the generated plot entitled **Reflectivity_vs_VSM-EL_50-PHI_0-RMSH_1dot5.tif** in `.\master\default_agriculture<time_stamp>\figure\specular\reflectivity\vs_VSM\`

Example 3 Soil Analysis

1. Run the script *runSCoBi.m* file located in *.\source\lib*.
2. Select the **Soil** icon from the *Analysis Selection Window*.
3. Make sure the *default-soil.mat* system input file has been loaded.
 - a. On an initial run this input file should be loaded. If the user has reason to believe SCoBi has previously been run with custom user inputs, the *default-soil.mat* system input file from *.\source\input\system* using the load inputs action button in the bottom left corner of the GUI.
 - b. If the values have been loaded correctly, the GUI should be filled with the values depicted in **Figure 3**.

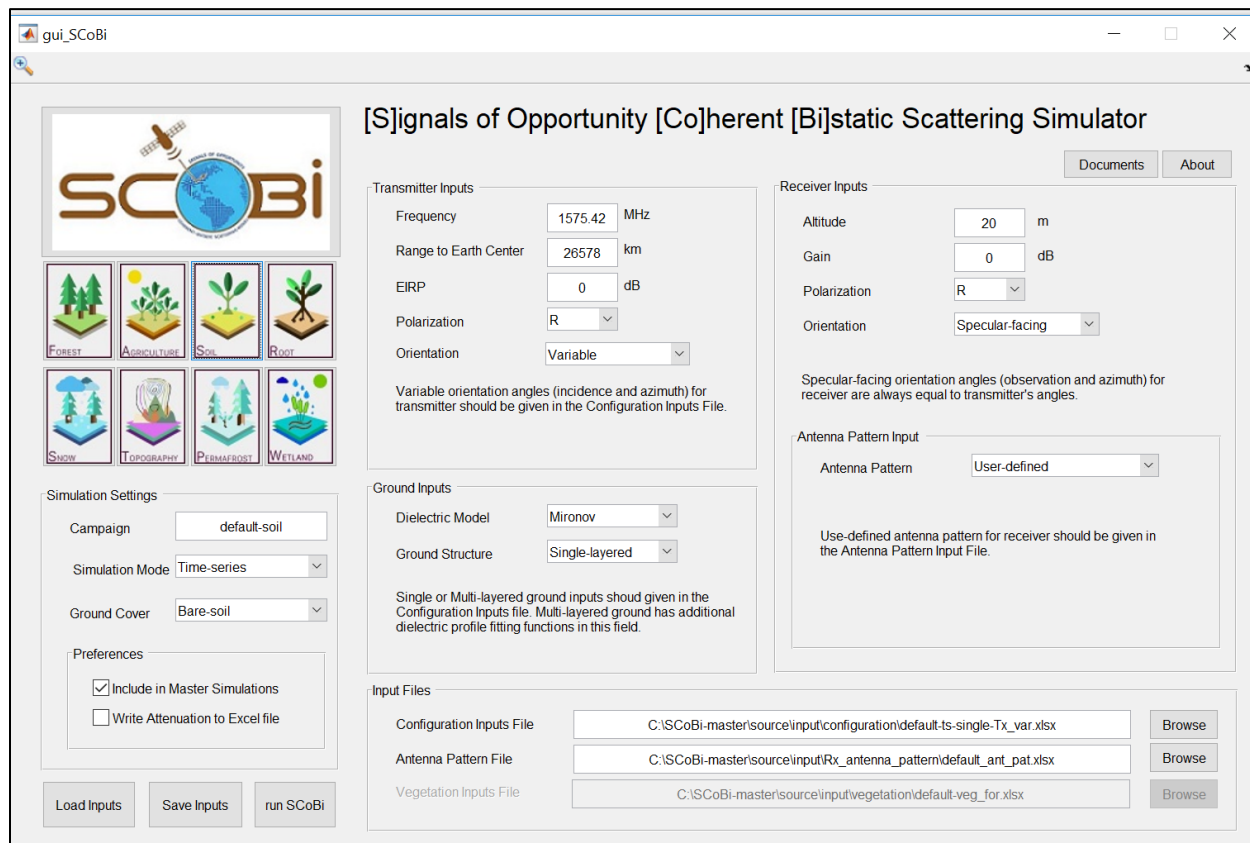


Figure 3: Default Input Files Loaded from *default-soil.mat*

4. Select the *run SCoBi* button in the bottom left corner of the GUI.
5. After completion, the output files will be located in *.\source\simsmaster* with a timestamp indicating when the program was run and the corresponding campaign title (e.g., "default-soil-16-Aug-2016_05_49_19.")
6. Currently, there is no released plotting functions for this type of analysis (Time-series over Multi-layered ground). It will be available in the near-future versions.

Example 4

Root-Zone Analysis

1. Run the script *runSCoBi.m* file located in *.\source\lib*.
2. Select the **Root** icon from the **Analysis Selection Window**.
3. Make sure the **default-root_zone.mat** system input file has been loaded.
 - a. On an initial run this input file should be loaded. If the user has reason to believe SCoBi has previously been run with custom user inputs, the **default-root_zone.mat** system input file from *.\source\input\system* using the load inputs action button in the bottom left corner of the GUI.
 - b. If the values have been loaded correctly, the GUI should be filled with the values depicted in **Figure 4**.

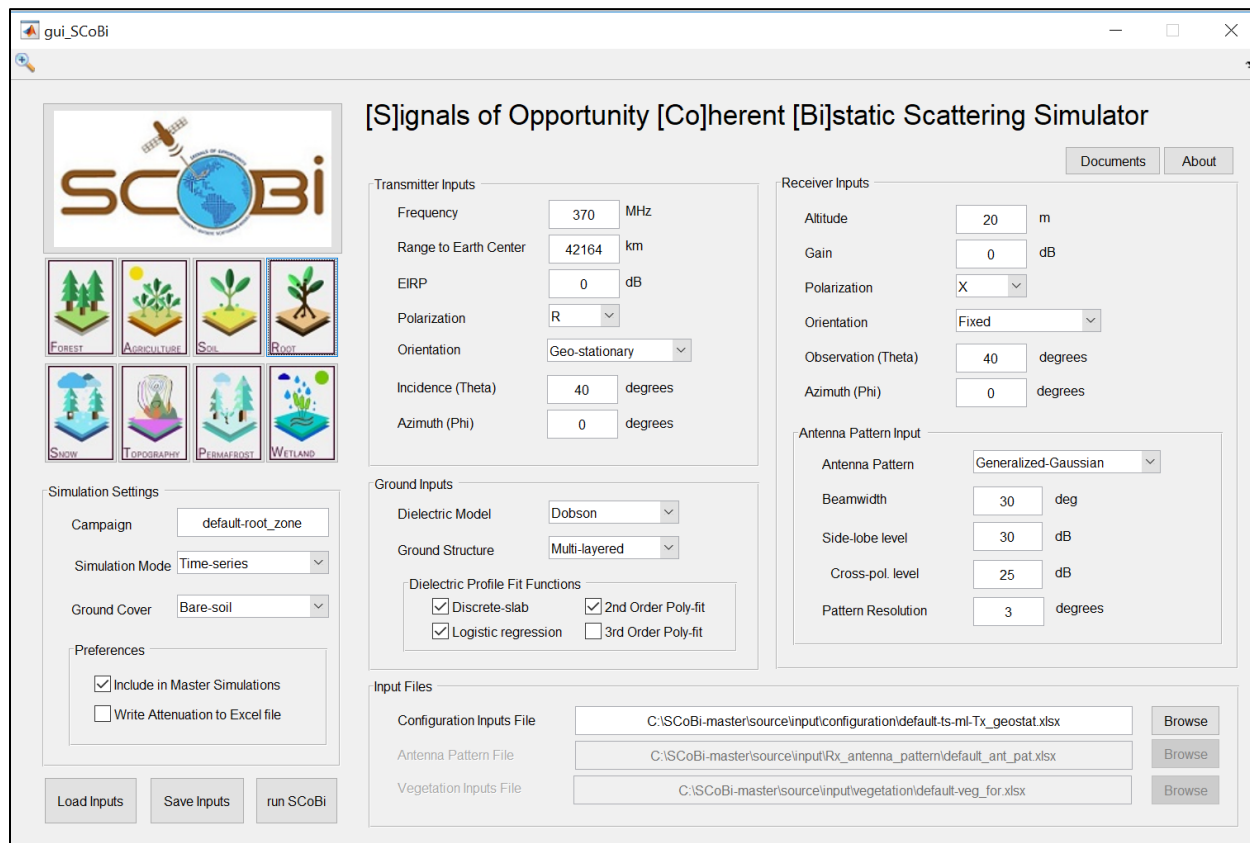


Figure 4: Default Input Files Loaded from *default-root_zone.mat*

4. Select the **run SCoBi** button in the bottom left corner of the GUI.
5. After completion, the output files will be located in *.\source\sim\master* with a timestamp indicating when the program was run and the corresponding campaign title (e.g., "default-root_zone-16-Aug-2016_05_49_19.")
6. Currently, there is no released plotting functions for this type of analysis (Time-series over Multi-layered ground). It will be available in the near-future versions.