

TESTING STAGE / PREDICTION PHASE: 2. ALLOCATED RISK MAPPING

The second step of the testing prediction phase creates a new modeling region map from the cross-classification of the vulnerability map for the CNF with the map of administrative divisions. The modeling regions created are then assigned the relative frequencies determined for the corresponding regions in the CAL (as tabulated in the saved “.csv” table). These relative frequencies are now predicted probabilities. This is then used to create a predicted deforestation density map for the CNF, where pixels are measured in ha/pixel.

INPUTS

WORKING FOLDER

The computer folder where inputs are expected and outputs are written.

ADMINISTRATIVE DIVISIONS IMAGE

This is a raster map where each pixel contains an integer identifier (ID) of the administrative region it belongs to within the jurisdiction. ID's should start with 1 and be numbered consecutively. A typical map will have 10-200 regions. This map will be cross-classified with the vulnerability map to yield unique combinations. For example, a map with 100 regions will yield $30 \times 100 = 3000$ modeling regions in the output.

CAL RELATIVE FREQUENCY TABLE

This is the relative frequency table determined for the CAL and saved as a “.csv” table. Be sure to include the file extension.

VULNERABILITY FOR THE CNF (PREVIOUS STEP)

This is the vulnerability map created in Step 1, or an alternative 30-class vulnerability map independently created.

DEFORESTATION IN THE CNF

This is also a binary map (contains 0's and 1's) where the 1's indicate areas that were deforested during the CNF and 0's indicate areas of forest persistence or non-forest at the start of the CAL.

MAXIMUM ITERATIONS FOR SOLUTION CONVERGENCE

In rare circumstances, it's possible that the predicted density of deforestation for a pixel exceeds the maximum possible pixel density. For example, at a resolution of 30m, the maximum possible density is 0.09 ha (the area of a pixel with a predicted probability of 1.0). This is unlikely to happen, but if it does, this software undertakes an iterative solution as described in the official documentation. This parameter sets the maximum number of iterations for convergence on a solution. The default value of 5 is generally sufficient.

OUTPUTS

MODELING REGION IN THE CNF

This is the map created by cross-classifying the vulnerability map with the administrative divisions map. Pixel values will be integer ID's that are created as a compound of the vulnerability zone times 1000 + the administrative division ID. For example, a region that is the intersection of vulnerability zone 28 and administrative region 15 will be identified as 28015.

PREDICTED DENSITY IN CNF

This is the predicted density map for the CNF adjusted to match the actual deforestation that happened in the CNF. The units are ha/pixel.