APPLICATION STAGE / PREDICTION PHASE: 2. ALLOCATED RISK MAPPING

The second step of the application stage prediction phase creates a new modeling region map from the cross-classification of the vulnerability map for the Validity Period (VP) with the map of administrative divisions. The modeling regions created are then assigned the relative frequencies determined for the corresponding regions in the Historical Reference Period (HRP) (as tabulated in the saved ".csv" table). These relative frequencies are now predicted probabilities. This is then used, in combination with information of expected deforestation activity determined through sampling, to create an adjusted predicted deforestation density map for the VP. Unlike previous maps, this final output is expressed, at the pixel level, in ha/pixel/year based on supplied information about the length of the VP.

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 x 100 = 3000 modeling regions in the output.

HRP RELATIVE FREQUENCY TABLE

This is the relative frequency table determined for the HRP and saved as a ".csv" table.

VULNERABILITY FOR THE VP (PREVIOUS STEP)

This is the vulnerability map created in Step 1.

EXPECTED JURISDICTIONAL ACTIVITY (HA)

This is a value, in hectares, for the expected deforestation activity in the VP as determined from sampling. Note that the figure should represent the total expected over the entire VP.

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.

LENGTH OF THE VP IN YEARS

Enter the length of the VP in years. This is used to determine the expected annual rate of forest loss.

OUTPUTS

MODELING REGIONS IN THE VP

This is the map created by cross-classifying the vulnerability map for the VP 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.

ANNUAL DENSITY IN THE VP (HA/PIXEL/YEAR)

This is the map of the annual predicted VP density, adjusted to match the expected activity determined through sampling. The units are ha/pixel/year.