

READ ME:
IVC Macrogroup and Ecological Systems Data for the Americas
July 24, 2020

Below, we describe data provided by NatureServe depicting the potential and existing distribution on IVC macrogroups and ecological systems in the Americas. All data referenced in this document can be found here: https://tranxfer.natureserve.org/download/Longterm/Ecosystem_Americas/Maps/

These data depict International Vegetation Classification (IVC) Macrogroups for South America and IVC Macrogroups and NatureServe Terrestrial Ecological Systems for Temperate and Tropical North America. Macrogroups describe vegetation composition as expressed at continental scales. There are 315 Macrogroups mapped across the Americas, provided here in separate files for North and South America. Ecological Systems are mid- to local- scale ecological units useful for standardized mapping and conservation assessments of habitat diversity and landscape conditions. Each ecological system type describes complexes of plant communities influenced by similar physical environments and dynamic ecological processes (like fire or flooding). There are 624 Ecological Systems mapped for Temperate and Tropical North America.

Attributes allow display by the potential and existing distribution of each Macrogroup type, percent loss (as calculated using recent land conversion), and percent protected using land management classes (I-VI) from the IUCN (International Union for the Conservation of Nature). Potential distribution is defined as the distribution of the type where it would be today had there not been prior land conversion (i.e. had there been no intensive human land uses in recent centuries). Data on the existing distribution incorporates common land use classes for modified vegetation.

For more on these datasets, see:

Comer PJ, Hak JC, Josse C, Smyth R (2020) Long-term loss in extent and current protection of terrestrial ecosystem diversity in the temperate and tropical Americas. PLoS ONE 15(6): e0234960. <https://doi.org/10.1371/journal.pone.0234960>

The provided data includes the following:

Raster Maps of Potential and Existing Vegetation-Type Extent

Raster maps of IVC Macrogroups and Terrestrial Ecological System distributions are provided in separate zip files for North and South America.

[NorthAmerican_Ecosystems_and_Macrogroups.zip](#)

Includes four 90-meter resolution raster tiff files (numbered) and eight layer files (lettered) that can be used to symbolize the data in different ways in ArcMap, as listed below. PDF tables describing the raster attribute fields are also provided.

1. NorthAmerica_IVC_Ecosystems_potential_NatureServe_v846.tif = **Potential extent** of ***Ecological Systems*** in North America
 - a. To symbolize by distribution of unique Ecological Systems, use layer file:

- North America Potential Ecosystems – Distribution
 - b. To symbolize by percent loss, use layer file:
North America Potential Ecosystems - Percent Loss
 - c. To symbolize by percent protected, use layer file:
North America Potential Ecosystems - Percent Protected
- 2. NorthAmerica_IVC_Macrogroup_potential_Ecosystems_NatureServe_v846.tif = **Potential extent** (Biophysical Setting) of *IVC Macrogroups* in North America
 - d. To symbolize by distribution of unique Macrogroups, use layer file:
North America Potential Macrogroups – Distribution
 - e. To symbolize by percent loss, use layer file:
North America Potential Macrogroups - Percent Loss
 - f. To symbolize by percent protected, use layer file:
North America Potential Macrogroups - Percent Protected
- 3. NorthAmerica_IVC_Ecosystems_existing_NatureServe_v846.tif = **Current extent** (Existing Vegetation Type) for *Ecological Systems* in North America
 - g. To symbolize by the distribution of unique ecological systems, use layer file:
North America Existing Ecosystems - Distribution
- 4. NorthAmerica_IVC_Macrogroup_existing_NatureServe_v846.tif = **Current extent** (Existing Vegetation Type) for *IVC Macrogroups* in North America
 - h. To symbolize by the distribution of unique Macrogroups, use layer file:
North America Existing Macrogroups – Distribution

[SouthAmerican_Macrogroups.zip](#)

Includes two raster (tiff) files (numbered) and four layer files (lettered) that can be used to symbolize the data in different ways in ArcMap, as listed below. A PDF table describing the raster attribute fields are also provided.

- 1. SouthAmerica_IVC_MacroGroups_potential_NatureServe_v7.tif = Potential extent (Biophysical Setting) of *IVC Macrogroups* in South America
 - a. To symbolize by the distribution of unique Macrogroups, use layer file:
South America Potential Macrogroups – Distribution
 - b. To symbolize by percent loss, use layer file:
South America Potential Macrogroups - Percent Loss
 - c. To symbolize by percent protected, use layer file:
South America Potential Macrogroups - Percent Protected
- 2. SouthAmerica_IVC_MacroGroups_existing_NatureServe_v7.tif = **Current extent** (Existing Vegetation Type) for *IVC macrogroups* in South America
 - a. To symbolize by the distribution of unique Macrogroups, use layer file:
South America Existing Macrogroups – Distribution

For more information on attribute fields contained in the raster files, see Supporting Materials for Comer et al. 2020.

Type-Specific Range Maps (hexagons)

Hexagon-based range-maps for each vegetation type are also available. These data can be symbolized by estimated extent in hectares for each hexagon using the provided layer files for each type and the "HA" field.

[NAEcosystemsPotential_Rangemaps.zip](#)

[SA_Current_MG_range.zipx](#)

[SA_Potential_MG_range.zipx](#)