

Human Footprint (Northern Appalachian/ Acadian Ecoregion)



Tags

Human Footprint, Human Influence, Human Impact

Summary

To provide a map that measures the extent and relative intensity of human influence (or impact) on the lands surface in the Northern Appalachian/Acadian Ecoregion at a resolution of 90m for landuse and conservation planning purposes.

Description

The Human Footprint (HF) of the Northern Appalachian/Acadian ecoregion measures the extent and relative intensity of human influence on terrestrial ecosystems at a resolution of 90 m using best available data sets on human settlement (population density, dwelling density, urban areas), access (roads, rail lines), landscape transformation (landuse/landcover, dams, mines, watersheds), and electrical power infrastructure (utility corridors). Each 90m grid cell is attributed with a Human Footprint score between 0 and 100, where 0 represents minimum human influence and 100 represents maximum human influence at that location. The Human Footprint scores (0-100) may be interpreted as the percent influence. The Human Footprint is calculated by assigning Human Influence (HI) scores of 0 to 10 to geographic data layers that map features of human activity. Where 0 is no human influence (no conversion from natural state) and 10 is maximum human influence (complete conversion e.g. urban areas, road surfaces). HI scores from assigned to data layers are combined together to calculate the Human Influence Index (HII), that measures total direct human impact. The Human Footprint is a relative measure of human impact - relative to the ecological context. The Human Footprint is calculated by normalizing the Human Influence Index (HII) within ecological subunits within the study area using the equation $HFi = [(HII_i - HII_{min_j}) * 100] / (HII_{ma_j} - HII_{min_j})$ where i represents the cell and j represents the ecologic subunit of which the cell is a member.

Credits

Wildlife Conservaiton Society Canada, 2007

Use limitations

The Wildlife Conservation Society Canada (WCS Canada) created this data set from the manipulation, analysis, and/or synthesis of publicly available data sources. WCS Canada allows copying and distribution of this data set. Commercial use of this data set is prohibited. This data set must be cited on all electronic and hard copy products using the language of the Data Set Credit.

Extent

West -77.119411 East -58.019657
North 49.792023 South 41.635539

Scale Range

There is no scale range for this item.

ArcGIS Metadata

Topics and Keywords

* CONTENT TYPE Downloadable Data

Citation

* TITLE hf_v1_0

PRESENTATION FORMATS * digital map

Resource Details

DATASET LANGUAGES * English (UNITED STATES)

SPATIAL REPRESENTATION TYPE * grid

* PROCESSING ENVIRONMENT Microsoft Windows 7 Version 6.1 (Build 7600) ; ESRI ArcGIS 10.0.4.4000

CREDITS

Wildlife Conservaiton Society Canada, 2007

ARCGIS ITEM PROPERTIES

* NAME hf_v1_0

* LOCATION

* ACCESS PROTOCOL Local Area Network

Extents

EXTENT

GEOGRAPHIC EXTENT

BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

* WEST LONGITUDE -77.119411

* EAST LONGITUDE -58.019657

* NORTH LATITUDE 49.792023

* SOUTH LATITUDE 41.635539

* EXTENT CONTAINS THE RESOURCE Yes

EXTENT IN THE ITEM'S COORDINATE SYSTEM

* WEST LONGITUDE -370700.000000

* EAST LONGITUDE 1020970.000000

* SOUTH LATITUDE 36410.000000

* NORTH LATITUDE 865400.000000

* EXTENT CONTAINS THE RESOURCE Yes

Resource Constraints

CONSTRAINTS

LIMITATIONS OF USE

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Spatial Reference

ARCGIS COORDINATE SYSTEM

- * TYPE Projected
- * GEOGRAPHIC COORDINATE REFERENCE GCS_North_American_1983
- * PROJECTION NAD_1983_Albers
- * COORDINATE REFERENCE DETAILS

PROJECTED COORDINATE SYSTEM

X ORIGIN -15464500
Y ORIGIN -8685600
XY SCALE 291221806.54857868
Z ORIGIN -100000
Z SCALE 10000
M ORIGIN -100000
M SCALE 10000
XY TOLERANCE 0.001
Z TOLERANCE 0.001
M TOLERANCE 0.001
HIGH PRECISION true
WELL-KNOWN TEXT

PROJCS["NAD_1983_Albers",GEOGCS["GCS_North_American_1983",DATUM["D_North_American_1983",SPHEROID["GRS_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Albers"],PARAMETER["False_Easting",0.0],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",72.0],PARAMETER["Standard_Parallel_1",43.0],PARAMETER["Standard_Parallel_2",46.0],PARAMETER["Latitude_Of_Origin",42.0],UNIT["Meter",1.0]]

REFERENCE SYSTEM IDENTIFIER

Spatial Data Properties

GEORECTIFIED GRID

- * NUMBER OF DIMENSIONS 2

AXIS DIMENSIONS PROPERTIES

DIMENSION TYPE column (x-axis)
* DIMENSION SIZE 15463
* RESOLUTION 90.000000 Meter

AXIS DIMENSIONS PROPERTIES

DIMENSION TYPE row (y-axis)
* DIMENSION SIZE 9211
* RESOLUTION 90.000000 Meter

- * CELL GEOMETRY area
- * POINT IN PIXEL center

- * TRANSFORMATION PARAMETERS ARE AVAILABLE Yes

- * CHECK POINTS ARE AVAILABLE No

CORNER POINTS

- * POINT -370700.000000 36410.000000
- * POINT -370700.000000 865400.000000
- * POINT 1020970.000000 865400.000000
- * POINT 1020970.000000 36410.000000

- * CENTER POINT 325135.000000 450905.000000

ARCGIS RASTER PROPERTIES

GENERAL INFORMATION

- * PIXEL DEPTH 8
- * COMPRESSION TYPE RLE
- * NUMBER OF BANDS 1
- * RASTER FORMAT GRID
- * SOURCE TYPE continuous
- * PIXEL TYPE unsigned integer
- * NO DATA VALUE 255
- * HAS COLORMAP No
- * HAS PYRAMIDS Yes

Spatial Data Content

IMAGE DESCRIPTION

- * TYPE OF INFORMATION physical measurement

BAND INFORMATION

- * DESCRIPTION hf_v1_0
- * MAXIMUM VALUE 100.000000
- * MINIMUM VALUE 0.000000

UNITS

- * SYMBOL Meter
- * NUMBER OF BITS PER VALUE 8

Distribution

DISTRIBUTOR

AVAILABLE FORMAT

- * NAME Raster Dataset

TRANSFER OPTIONS

- * TRANSFER SIZE 32.661

ONLINE SOURCE

- * LOCATION
- * ACCESS PROTOCOL Local Area Network
- * DESCRIPTION Downloadable Data

DISTRIBUTION FORMAT

- * NAME Raster Dataset

Fields

DETAILS FOR OBJECT hf_v1_0.vat

- * TYPE Table
- * ROW COUNT 95

FIELD Rowid

- * ALIAS Rowid
- * DATA TYPE OID
- * WIDTH 4
- * PRECISION 0
- * SCALE 0
- * FIELD DESCRIPTION
Internal feature number.

- * DESCRIPTION SOURCE
ESRI

- * DESCRIPTION OF VALUES Sequential unique whole numbers that are automatically generated.

FIELD VALUE

- * ALIAS VALUE
- * DATA TYPE Integer
- * WIDTH 4
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

Human Footprint (HF) Score

FIELD COUNT

- * ALIAS COUNT
- * DATA TYPE Integer
- * WIDTH 4
- * PRECISION 0
- * SCALE 0

Metadata Details

- * METADATA LANGUAGE English (UNITED STATES)
- * METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA * dataset

SCOPE NAME * dataset

* LAST UPDATE 2012-06-18

ARCGIS METADATA PROPERTIES

METADATA FORMAT ESRI-ISO

CREATED IN ARCGIS FOR THE ITEM 2007-08-23 15:42:10

LAST MODIFIED IN ARCGIS FOR THE ITEM 2012-06-18 11:04:47

AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes

LAST UPDATE 2012-06-18 11:04:47

FGDC Metadata (read-only)