

# Benthic Health Mapping - Biotic Indices Prediction Model, August 2019 - NC Department of Transportation

## File Geodatabase Feature Class



### Tags

Benthic macroinvertebrates, Biotic Index, Benthos, water quality, NC Department of Environmental Quality, NC DEQ, US Environmental Protection Agency, EPA, streamCAT, National Hydrography Dataset, NHD, catchments, National Land Cover Dataset, NLCD, prediction model, Quantile Random Forest, Streams, Biota, Inland Waters, Transportation, NCDOT, Environment, Location, North Carolina, ATLAS

### Summary

This dataset was originally created in January 2019 as part of the Project ATLAS initiative at NCDOT to support the Sweeping Environmental Group with project delivery in the development phase. This dataset supports the creation of the NRTR and Jurisdictional Determination reports produced by the Sweeping Environmental Group

This is a planning-level dataset intended to predict the Biotic Indices in waters that have not been directly sampled in order to provide data for general project planning and indicate areas in which further documentation could potentially affect mitigation ratios due to stream quality.

### Description

The Benthic Health Prediction Model dataset is a statewide polygon layer depicting results of the Benthic Health Prediction Model results per catchment area. This is a planning-level tool designed to identify areas in which specific stream assessment could affect mitigation ratios and assist in Natural Resource Technical Report documentation and Jurisdictional Determination approvals. The objective of this modelling effort is to predict the expected mean and quantile range values for Biotic Index for all North Carolina stream catchments. The model was based on both catchment characteristics and watershed characteristics. The catchment characteristics describe the immediate surroundings, and watershed characteristics include the local catchment plus all upstream catchment characteristics.

Datasets developed under Project ATLAS do not replace any Sweeping Environmental field work for future projects and may not be used as a replacement for site visits / field surveys by licensed professionals and hence should be used only as a supporting platform for decision making. Use of this dataset for project scoping or screening is merely pre-decisional.

### Credits

The ATLAS Sweeping Environmental Group within NCDOT was tasked to create this dataset.

Annual maintenance of this dataset is handled by the Sweeping Environmental Group. Support and maintenance of the enterprise spatial database where this data resides is handled by NCDIT's Transportation GIS Unit.

### Use limitations

The North Carolina Department of Transportation shall not be held liable for any errors in this data. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. This data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information contained in this data.

Datasets developed under Project ATLAS do not replace any Sweeping Environmental field work for future projects and may not be used as a replacement for site visits / field surveys by licensed professionals and hence

should be used only as a supporting platform for decision making. Use of this dataset for project scoping or screening is merely pre-decisional.

## Extent

**West** -84.422111 **East** -75.416034  
**North** 36.617257 **South** 33.730557

## Scale Range

**Maximum (zoomed in)** 1:5,000  
**Minimum (zoomed out)** 1:625,000

## ArcGIS Metadata ▶

## Topics and Keywords ▶

THEMES OR CATEGORIES OF THE RESOURCE [biota, environment, inlandWaters, location, transportation](#)

\* CONTENT TYPE [Downloadable Data](#)  
EXPORT TO FGDC CSDGM XML FORMAT AS RESOURCE DESCRIPTION [No](#)

PLACE KEYWORDS [North Carolina](#)

### THESAURUS ▶

TITLE [User](#)  
CREATION DATE [2019-01-01 00:00:00](#)  
PUBLICATION DATE [2019-08-28 00:00:00](#)

[Hide Thesaurus ▲](#)

THEME KEYWORDS [Benthic macroinvertebrates, Biotic Index, Benthos, water quality, NC Department of Environmental Quality, NC DEQ, US Environmental Protection Agency, EPA, streamCAT, National Hydrography Dataset, NHD, catchments, National Land Cover Dataset, NLCD, prediction model, Quantile Random Forest, Streams, Biota, Inland Waters, Transportation, NCDOT, Environment, Location, North Carolina, ATLAS](#)

### THESAURUS ▶

TITLE [User](#)  
PUBLICATION DATE [2019-08-28 00:00:00](#)  
CREATION DATE [2019-01-01 00:00:00](#)

[Hide Thesaurus ▲](#)

[Hide Topics and Keywords ▲](#)

## Citation ▶

TITLE [Benthic Health Mapping - Biotic Indices Prediction Model, August 2019 - NC Department of Transportation](#)

CREATION DATE [2019-01-01 00:00:00](#)  
PUBLICATION DATE [2019-08-28 00:00:00](#)

PRESENTATION FORMATS [\\* digital map](#)  
FGDC GEOSPATIAL PRESENTATION FORMAT [vector digital data](#)

[Hide Citation ▲](#)

## Citation Contacts ▶

### RESPONSIBLE PARTY

ORGANIZATION'S NAME North Carolina Department of Transportation - Sweeping Environmental Group  
CONTACT'S POSITION Environmental Program Consultant  
CONTACT'S ROLE originator

### CONTACT INFORMATION ▶

#### PHONE

VOICE 919-707-6136

#### ADDRESS

TYPE physical

DELIVERY POINT Century Center Building B, 1020 Birch Ridge Drive

CITY Raleigh

ADMINISTRATIVE AREA NC

POSTAL CODE 27610

COUNTRY US

E-MAIL ADDRESS [ATLAS@ncdot.gov](mailto:ATLAS@ncdot.gov)

#### HOURS OF SERVICE

9:00am – 5:00pm Monday - Friday

#### CONTACT INSTRUCTIONS

Please send an email with any issues, questions or comments regarding the ATLAS Data Search Tool, ATLAS Screening Tool or ATLAS Workbench. If it is an immediate need, please call the contact number or indicate as such in the subject line in an email.

[Hide Contact information ▲](#)

### RESPONSIBLE PARTY

ORGANIZATION'S NAME North Carolina Department of Transportation - EAU Mitigation and Modeling Unit  
CONTACT'S POSITION Environmental Program Consultant  
CONTACT'S ROLE point of contact

### CONTACT INFORMATION ▶

#### PHONE

VOICE 919-707-6136

#### ADDRESS

TYPE physical

DELIVERY POINT Century Center Building B, 1020 Birch Ridge Drive

CITY Raleigh

ADMINISTRATIVE AREA NC

POSTAL CODE 27610

COUNTRY US

E-MAIL ADDRESS [ATLAS@ncdot.gov](mailto:ATLAS@ncdot.gov)

#### HOURS OF SERVICE

9:00am – 5:00pm Monday - Friday

#### CONTACT INSTRUCTIONS

Please send an email with any issues, questions or comments regarding the ATLAS Data Search Tool, ATLAS Screening Tool or ATLAS Workbench. If it is an immediate need, please call the contact number or indicate as such in the subject line in an email.

[Hide Contact information ▲](#)

### RESPONSIBLE PARTY

ORGANIZATION'S NAME North Carolina Department of Transportation - EAU Mitigation and Modeling Unit  
CONTACT'S POSITION Environmental Program Consultant  
CONTACT'S ROLE resource provider

CONTACT INFORMATION ►

PHONE

VOICE 919-707-6136

ADDRESS

TYPE physical

DELIVERY POINT Century Center Building B, 1020 Birch Ridge Drive

CITY Raleigh

ADMINISTRATIVE AREA NC

POSTAL CODE 27610

COUNTRY US

E-MAIL ADDRESS ATLAS@ncdot.gov

HOURS OF SERVICE

9:00am – 5:00pm Monday - Friday

CONTACT INSTRUCTIONS

Please send an email with any issues, questions or comments regarding the ATLAS Data Search Tool, ATLAS Screening Tool or ATLAS Workbench. If it is an immediate need, please call the contact number or indicate as such in the subject line in an email.

*Hide Contact information ▲*

*Hide Citation Contacts ▲*

## Resource Details ►

DATASET LANGUAGES \* English (UNITED STATES)

DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

STATUS completed

SPATIAL REPRESENTATION TYPE \* vector

\* PROCESSING ENVIRONMENT Version 6.2 (Build 9200) ; Esri ArcGIS 10.8.1.14362

CREDITS

The ATLAS Sweeping Environmental Group within NCDOT was tasked to create this dataset.

Annual maintenance of this dataset is handled by the Sweeping Environmental Group. Support and maintenance of the enterprise spatial database where this data resides is handled by NCDIT's Transportation GIS Unit.

*Hide Resource Details ▲*

## Extents ►

EXTENT

DESCRIPTION

Data collection is complete.

GEOGRAPHIC EXTENT

BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

WEST LONGITUDE -84.422111

EAST LONGITUDE -75.416034

NORTH LATITUDE 36.617257  
SOUTH LATITUDE 33.730557  
\* EXTENT CONTAINS THE RESOURCE Yes

TEMPORAL EXTENT

BEGINNING DATE 2019-01-01 00:00:00  
ENDING DATE 2019-01-01 00:00:00

EXTENT IN THE ITEM'S COORDINATE SYSTEM

\* WEST LONGITUDE 406832.667400  
\* EAST LONGITUDE 3052383.531143  
\* SOUTH LATITUDE 34987.916111  
\* NORTH LATITUDE 1043624.438204  
\* EXTENT CONTAINS THE RESOURCE Yes

[Hide Extents ▲](#)

## Resource Points of Contact ►

POINT OF CONTACT

ORGANIZATION'S NAME North Carolina Department of Transportation - Sweeping Environmental Group  
CONTACT'S POSITION Environmental Program Consultant  
CONTACT'S ROLE originator

CONTACT INFORMATION ►

PHONE  
VOICE 919-707-6136

ADDRESS

TYPE physical  
DELIVERY POINT Century Center Building B, 1020 Birch Ridge Drive  
CITY Raleigh  
ADMINISTRATIVE AREA NC  
POSTAL CODE 27610  
COUNTRY US  
E-MAIL ADDRESS [ATLAS@ncdot.gov](mailto:ATLAS@ncdot.gov)

HOURS OF SERVICE

9:00am – 5:00pm Monday - Friday

CONTACT INSTRUCTIONS

Please send an email with any issues, questions or comments regarding the ATLAS Data Search Tool, ATLAS Screening Tool or ATLAS Workbench. If it is an immediate need, please call the contact number or indicate as such in the subject line in an email.

[Hide Contact information ▲](#)

[Hide Resource Points of Contact ▲](#)

## Resource Maintenance ►

RESOURCE MAINTENANCE

UPDATE FREQUENCY annually

SCOPE OF THE UPDATES dataset

OTHER MAINTENANCE REQUIREMENTS

This data is most suitable for updates after each new NLD (and StreamCAT derivatives) product, expected approximately every 3-5 years or earlier.

Maintenance of this dataset is handled by the Sweeping Environmental Group. Support and maintenance of the enterprise spatial database where this data resides is handled by NCDIT's Transportation GIS Unit.

#### MAINTENANCE CONTACT

ORGANIZATION'S NAME North Carolina Department of Transportation - Sweeping Environmental Group  
CONTACT'S POSITION Environmental Program Consultant  
CONTACT'S ROLE originator

#### CONTACT INFORMATION ►

##### PHONE

VOICE 919-707-6136

##### ADDRESS

TYPE physical

DELIVERY POINT Century Center Building B, 1020 Birch Ridge Drive

CITY Raleigh

ADMINISTRATIVE AREA NC

POSTAL CODE 27610

COUNTRY US

E-MAIL ADDRESS [ATLAS@ncdot.gov](mailto:ATLAS@ncdot.gov)

##### HOURS OF SERVICE

9:00am – 5:00pm Monday - Friday

##### CONTACT INSTRUCTIONS

Please send an email with any issues, questions or comments regarding the ATLAS Data Search Tool, ATLAS Screening Tool or ATLAS Workbench. If it is an immediate need, please call the contact number or indicate as such in the subject line in an email.

[Hide Contact information ▲](#)

[Hide Resource Maintenance ▲](#)

## Resource Constraints ►

#### CONSTRAINTS

##### LIMITATIONS OF USE

The North Carolina Department of Transportation shall not be held liable for any errors in this data. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. This data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information contained in this data.

Datasets developed under Project ATLAS do not replace any Sweeping Environmental field work for future projects and may not be used as a replacement for site visits / field surveys by licensed professionals and hence should be used only as a supporting platform for decision making. Use of this dataset for project scoping or screening is merely pre-decisional.

#### LEGAL CONSTRAINTS

##### LIMITATIONS OF USE

The North Carolina Department of Transportation shall not be held liable for any errors in this data. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. This data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information contained in this data.

#### SECURITY CONSTRAINTS

CLASSIFICATION unclassified  
CLASSIFICATION SYSTEM None

#### LIMITATIONS OF USE

The North Carolina Department of Transportation shall not be held liable for any errors in this data. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. This data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information contained in this data.

[Hide Resource Constraints ▲](#)

## Spatial Reference ►

#### ARCGIS COORDINATE SYSTEM

- \* TYPE Projected
- \* GEOGRAPHIC COORDINATE REFERENCE GCS\_North\_American\_1983
- \* PROJECTION NAD\_1983\_StatePlane\_North\_Carolina\_FIPS\_3200\_Feet
- \* COORDINATE REFERENCE DETAILS

#### PROJECTED COORDINATE SYSTEM

WELL-KNOWN IDENTIFIER 102719  
X ORIGIN -121841900  
Y ORIGIN -93659000  
XY SCALE 36365718.124241434  
Z ORIGIN -100000  
Z SCALE 10000  
M ORIGIN -100000  
M SCALE 10000  
XY TOLERANCE 0.0032808333333333331  
Z TOLERANCE 0.001  
M TOLERANCE 0.001  
HIGH PRECISION true  
LATEST WELL-KNOWN IDENTIFIER 2264

#### WELL-KNOWN TEXT

PROJCS["NAD\_1983\_StatePlane\_North\_Carolina\_FIPS\_3200\_Feet",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["Lambert\_Conformal\_Conic"],PARAMETER["False\_Easting",2000000.002616666],PARAMETER["False\_Northing",0.0],PARAMETER["Central\_Meridian",-79.0],PARAMETER["Standard\_Parallel\_1",34.33333333333334],PARAMETER["Standard\_Parallel\_2",36.16666666666666],PARAMETER["Latitude\_Of\_Origin",33.75],UNIT["Foot\_US",0.3048006096012192],AUTHORITY["EPSG",2264]]

#### REFERENCE SYSTEM IDENTIFIER

- \* VALUE 2264
- \* CODESPACE EPSG
- \* VERSION 6.12(9.0.0)

[Hide Spatial Reference ▲](#)

## Spatial Data Properties ►

#### VECTOR ►

- \* LEVEL OF TOPOLOGY FOR THIS DATASET geometry only

#### GEOMETRIC OBJECTS

FEATURE CLASS NAME BenthicHealthMapping  
\* OBJECT TYPE composite  
\* OBJECT COUNT 69223

[Hide Vector ▲](#)

ARCGIS FEATURE CLASS PROPERTIES ▶

FEATURE CLASS NAME BenthicHealthMapping  
\* FEATURE TYPE Simple  
\* GEOMETRY TYPE Polygon  
\* HAS TOPOLOGY FALSE  
\* FEATURE COUNT 69223  
\* SPATIAL INDEX TRUE  
\* LINEAR REFERENCING FALSE

[Hide ArcGIS Feature Class Properties ▲](#)

[Hide Spatial Data Properties ▲](#)

## Data Quality ▶

SCOPE OF QUALITY INFORMATION ▶

RESOURCE LEVEL dataset

[Hide Scope of quality information ▲](#)

DATA QUALITY REPORT - CONCEPTUAL CONSISTENCY ▶

MEASURE DESCRIPTION

The dataset is converted to file geodatabase (FGDB) format using tools in ArcGIS. The geometry is checked, and if needed repaired.

CONFORMANCE TEST RESULTS

TEST PASSED Yes

RESULT EXPLANATION

Pass

PRODUCT SPECIFICATION ▶

TITLE NCDOT Geospatial Data Specifications

PUBLICATION DATE 2019-08-28 00:00:00

CREATION DATE 2019-01-01 00:00:00

[Hide Product specification ▲](#)

[Hide Data quality report - Conceptual consistency ▲](#)

DATA QUALITY REPORT - COMPLETENESS COMMISSION ▶

MEASURE DESCRIPTION

After processing, the dataset is checked for drawing display and number of records and file sizes compared with source materials.



CONFORMANCE TEST RESULTS

TEST PASSED **Yes**  
RESULT EXPLANATION  
**Pass**

PRODUCT SPECIFICATION ▶

TITLE **NCDOT Geospatial Data Specifications**  
PUBLICATION DATE **2019-08-28 00:00:00**  
CREATION DATE **2019-01-01 00:00:00**

*Hide Product specification ▲*

*Hide Data quality report - Completeness commission ▲*

DATA QUALITY REPORT - QUANTITATIVE ATTRIBUTE ACCURACY ▶

MEASURE DESCRIPTION

Geometry checks were conducted using ESRI's Data Reviewer tool.

CONFORMANCE TEST RESULTS

TEST PASSED **Yes**  
RESULT EXPLANATION  
**Pass**

PRODUCT SPECIFICATION ▶

TITLE **NCDOT Geospatial Data Specifications**  
CREATION DATE **2019-01-01 00:00:00**  
PUBLICATION DATE **2019-08-28 00:00:00**

*Hide Product specification ▲*

*Hide Data quality report - Quantitative attribute accuracy ▲*

*Hide Data Quality ▲*

## Lineage ▶

LINEAGE STATEMENT

The North Carolina Division of Water Resources Bioassessment Branch has been collecting and analyzing over 6500 benthic macroinvertebrate samples since 1978. The presence or absence of the benthic macroinvertebrates is a general indicator of the health of the stream, and the assessment for each survey yields a score ranging from 0-10, the Biotic Index (BI). BI is inversely related to water quality (High BIs tend to indicate poor water quality and low BIs indicate high water quality). This sample data was used to support a quantile random forest model to predict the BI value for each North Carolina stream catchment using National Hydrography Dataset (NHD) catchments. The predictor data for the model was sourced from Environmental Protection Agency (EPA) published StreamCAT data. These data are statewide, based on the NHD catchments, and include hundreds of metrics compiled primarily from multiple years of National Land Cover Dataset (NLCD) data. NLCD data was selected to match the sampling dates of measured BIs (training data) for the multiple years of data available. Level 4 ecoregions were also taken into account to produce a region-specific

predictive BI range for the Blue Ridge, Piedmont, and Coastal Plain Level III ecoregions. The results of the modeling effort found patterns useful to generate accurate, but not precise estimates of BI values.

PROCESS STEP ▶

DESCRIPTION

NLCD data was selected to match the sampling dates of measured (BI) Biotic Index (training data) for the multiple years of data available. Level 4 ecoregions were also taken into account to produce a region-specific predictive BI range for the Blue Ridge, Piedmont, and Coastal Plain Level III ecoregions. The results of the modeling effort found patterns useful to generate accurate, but not precise estimates of BI values.

PROCESS CONTACT

ORGANIZATION'S NAME North Carolina Department of Transportation - Sweeping Environmental Group

CONTACT'S POSITION Environmental Program Consultant

CONTACT'S ROLE originator

CONTACT INFORMATION ▶

PHONE

VOICE 919-707-6136

ADDRESS

TYPE physical

DELIVERY POINT Century Center Building B, 1020 Birch Ridge Drive

CITY Raleigh

ADMINISTRATIVE AREA NC

POSTAL CODE 27610

COUNTRY US

E-MAIL ADDRESS [ATLAS@ncdot.gov](mailto:ATLAS@ncdot.gov)

HOURS OF SERVICE

9:00am – 5:00pm Monday - Friday

CONTACT INSTRUCTIONS

Please send an email with any issues, questions or comments regarding the ATLAS Data Search Tool, ATLAS Screening Tool or ATLAS Workbench. If it is an immediate need, please call the contact number or indicate as such in the subject line in an email.

[Hide Contact information ▲](#)

[Hide Process step ▲](#)

PROCESS STEP ▶

DESCRIPTION

Point data was reviewed in ESRI's Data Reviewer tool to verify geometry.

PROCESS CONTACT

ORGANIZATION'S NAME North Carolina Department of Transportation - Sweeping Environmental Group

CONTACT'S POSITION Environmental Program Consultant

CONTACT'S ROLE originator

CONTACT INFORMATION ▶

PHONE

VOICE 919-707-6136

ADDRESS

TYPE physical

DELIVERY POINT Century Center Building B, 1020 Birch Ridge Drive

CITY Raleigh

ADMINISTRATIVE AREA NC

POSTAL CODE 27610

COUNTRY US

E-MAIL ADDRESS [ATLAS@ncdot.gov](mailto:ATLAS@ncdot.gov)

HOURS OF SERVICE

9:00am – 5:00pm Monday - Friday

CONTACT INSTRUCTIONS

Please send an email with any issues, questions or comments regarding the ATLAS Data Search Tool, ATLAS Screening Tool or ATLAS Workbench. If it is an immediate need, please call the contact number or indicate as such in the subject line in an email.

[Hide Contact information ▲](#)

[Hide Process step ▲](#)

PROCESS STEP ►

DESCRIPTION

Geodatabase was forwarded on to the GIS Unit for publishing as part of data for project ATLAS.

PROCESS CONTACT

ORGANIZATION'S NAME North Carolina Department of Transportation - Sweeping Environmental Group

CONTACT'S POSITION Environmental Program Consultant

CONTACT'S ROLE originator

CONTACT INFORMATION ►

PHONE

VOICE 919-707-6136

ADDRESS

TYPE physical

DELIVERY POINT Century Center Building B, 1020 Birch Ridge Drive

CITY Raleigh

ADMINISTRATIVE AREA NC

POSTAL CODE 27610

COUNTRY US

E-MAIL ADDRESS [ATLAS@ncdot.gov](mailto:ATLAS@ncdot.gov)

HOURS OF SERVICE

9:00am – 5:00pm Monday - Friday

CONTACT INSTRUCTIONS

Please send an email with any issues, questions or comments regarding the ATLAS Data Search Tool, ATLAS Screening Tool or ATLAS Workbench. If it is an immediate need, please call the contact number or indicate as such in the subject line in an email.

[Hide Contact information ▲](#)

[Hide Process step ▲](#)

[Hide Lineage ▲](#)

## Distribution ►

DISTRIBUTOR ►

CONTACT INFORMATION

ORGANIZATION'S NAME North Carolina Department of Transportation - EAU Mitigation and Modeling Unit  
CONTACT'S POSITION Environmental Program Consultant  
CONTACT'S ROLE distributor

CONTACT INFORMATION ►

PHONE

VOICE 919-707-6136

ADDRESS

TYPE physical

DELIVERY POINT Century Center Building B, 1020 Birch Ridge Drive

CITY Raleigh

ADMINISTRATIVE AREA NC

POSTAL CODE 27610

COUNTRY US

E-MAIL ADDRESS [ATLAS@ncdot.gov](mailto:ATLAS@ncdot.gov)

HOURS OF SERVICE

9:00am – 5:00pm Monday - Friday

CONTACT INSTRUCTIONS

Please send an email with any issues, questions or comments regarding the ATLAS Data Search Tool, ATLAS Screening Tool or ATLAS Workbench. If it is an immediate need, please call the contact number or indicate as such in the subject line in an email.

[Hide Contact information ▲](#)

[Hide Distributor ▲](#)

DISTRIBUTION FORMAT

\* NAME File Geodatabase Feature Class

VERSION 10.5

[Hide Distribution ▲](#)

## Fields ►

DETAILS FOR OBJECT [BenthicHealthMapping ►](#)

\* TYPE Feature Class

\* ROW COUNT 69223

DEFINITION

These polygons represent the results of the Benthic Health Prediction Model.

DEFINITION SOURCE

NCDOT

FIELD OBJECTID ►

\* ALIAS OBJECTID

\* 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.

*Hide Field OBJECTID ▲*

FIELD Shape ►

\* ALIAS Shape

\* DATA TYPE Geometry

\* WIDTH 0

\* PRECISION 0

\* SCALE 0

\* FIELD DESCRIPTION

Feature geometry.

\* DESCRIPTION SOURCE

Esri

\* DESCRIPTION OF VALUES

Coordinates defining the features.

*Hide Field Shape ▲*

FIELD Feature ►

ALIAS FeatureID

\* DATA TYPE Double

\* WIDTH 8

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

NHD catchment ID number

DESCRIPTION SOURCE

NCDOT

*Hide Field Feature ▲*

FIELD CoordX ►

ALIAS XCoordinate

\* DATA TYPE Double

\* WIDTH 8

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Easting of catchment centroid, NAD83, NC State Plane, feet

DESCRIPTION SOURCE

NCDOT

[Hide Field CoordX ▲](#)

FIELD CoordY ►

ALIAS YCoordinate

\* DATA TYPE Double

\* WIDTH 8

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Northing of catchment centroid, NAD83, NC State Plane, feet

DESCRIPTION SOURCE

NCDOT

[Hide Field CoordY ▲](#)

FIELD USL3NA ►

ALIAS Level3Ecoregion

\* DATA TYPE String

\* WIDTH 80

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Level III ecoregion

DESCRIPTION SOURCE

NCDOT

[Hide Field USL3NA ▲](#)

FIELD PFLWR10 ►

ALIAS PctForestCovLoss

\* DATA TYPE Double

\* WIDTH 8

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

% Forest cover loss (Tree canopy cover change) for \*\*\*\* within watershed and within 100-m buffer of NHD stream lines

DESCRIPTION SOURCE

NCDOT

[Hide Field PFLWR10 ▲](#)

FIELD PctUrHC ►

ALIAS PctCatArea  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of catchment area classified as developed, high-intensity land use (NLCD \*\*\*\* class 24)

DESCRIPTION SOURCE

NCDOT

*Hide Field PctUrHC ▲*

FIELD PctUrHW ►

\* ALIAS PctUrHW  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as developed, high-intensity land use (NLCD \*\*\*\* class 24)

DESCRIPTION SOURCE

NCDOT

*Hide Field PctUrHW ▲*

FIELD PUHWR10 ►

\* ALIAS PUHWR10  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as developed, high-intensity land use (NLCD \*\*\*\* class 24) within a 100-m buffer of NHD streams

DESCRIPTION SOURCE

NCDOT

*Hide Field PUHWR10 ▲*

FIELD PUMWR10 ►

\* ALIAS PUMWR10  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as developed, medium-intensity land use (NLCD \*\*\*\* class 23) within a 100-m buffer of NHD streams

DESCRIPTION SOURCE  
NCDOT

*Hide Field PUMWR10 ▲*

FIELD PctUrLC ►

\* ALIAS PctUrLC  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of catchment area classified as developed, low-intensity land use (NLCD \*\*\*\* class 22)

DESCRIPTION SOURCE  
NCDOT

*Hide Field PctUrLC ▲*

FIELD PULWR10 ►

\* ALIAS PULWR10  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as developed, low-intensity land use (NLCD \*\*\*\* class 22) within a 100-m buffer of NHD streams

DESCRIPTION SOURCE  
NCDOT

*Hide Field PULWR10 ▲*

FIELD PctUrOC ►

\* ALIAS PctUrOC  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of catchment area classified as developed, open space land use (NLCD \*\*\*\* class 21)

DESCRIPTION SOURCE  
NCDOT

*Hide Field PctUrOC ▲*

FIELD PctUrOW ►

\* ALIAS PctUrOW  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION



% of watershed area classified as developed, open space land use (NLCD \*\*\*\* class 21)

DESCRIPTION SOURCE

NCDOT

[Hide Field PctUrOW ▲](#)

FIELD PctCrpC ►

- \* ALIAS PctCrpC
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

% of catchment area classified as crop land use (NLCD \*\*\*\* class 82)

DESCRIPTION SOURCE

NCDOT

[Hide Field PctCrpC ▲](#)

FIELD PCWR100 ►

- \* ALIAS PCWR100
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as crop land use (NLCD \*\*\*\* class 82) within a 100-m buffer of NHD streams

DESCRIPTION SOURCE

NCDOT

[Hide Field PCWR100 ▲](#)

FIELD PctHyWs ►

- \* ALIAS PctHyWs
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as as lithology type: hydric, peat and muck

DESCRIPTION SOURCE

NCDOT

[Hide Field PctHyWs ▲](#)

FIELD PHWR100 ►

- \* ALIAS PHWR100
- \* DATA TYPE Double
- \* WIDTH 8

\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as herbaceous wetland land cover (NLCD \*\*\*\* class 95) within a 100-m buffer of NHD streams

DESCRIPTION SOURCE

NCDOT

[Hide Field PHWR100 ▲](#)

FIELD PctCnfC ►

\* ALIAS PctCnfC  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of catchment area classified as evergreen forest land cover (NLCD \*\*\*\* class 42)

DESCRIPTION SOURCE

NCDOT

[Hide Field PctCnfC ▲](#)

FIELD PctCnfW ►

\* ALIAS PctCnfW  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as evergreen forest land cover (NLCD \*\*\*\* class 42)

DESCRIPTION SOURCE

NCDOT

[Hide Field PctCnfW ▲](#)

FIELD PCCR100 ►

\* ALIAS PCCR100  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as evergreen forest land cover (NLCD \*\*\*\* class 42) within a 100-m buffer of NHD streams

DESCRIPTION SOURCE

NCDOT

[Hide Field PCCR100 ▲](#)

FIELD PctMxFC ►

- \* ALIAS PctMxFC
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

% of catchment area classified as mixed deciduous/evergreen forest land cover (NLCD \*\*\*\* class 43)

DESCRIPTION SOURCE

NCDOT

[Hide Field PctMxFC ▲](#)

FIELD PctMxFW ►

- \* ALIAS PctMxFW
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as mixed deciduous/evergreen forest land cover (NLCD \*\*\*\* class 43)

DESCRIPTION SOURCE

NCDOT

[Hide Field PctMxFW ▲](#)

FIELD PMFWR10 ►

- \* ALIAS PMFWR10
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as mixed deciduous/evergreen forest land cover (NLCD \*\*\*\* class 43) within a 100-m buffer of NHD streams

DESCRIPTION SOURCE

NCDOT

[Hide Field PMFWR10 ▲](#)

FIELD PctOwWs ►

- \* ALIAS PctOwWs
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as open water land cover (NLCD \*\*\*\* class 11)

DESCRIPTION SOURCE

NCDOT

[Hide Field PctOwWs ▲](#)

FIELD POWR100 ►

- \* ALIAS POWR100
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as open water land cover (NLCD \*\*\*\* class 11) within a 100-m buffer of NHD streams

DESCRIPTION SOURCE

NCDOT

*Hide Field POWR100 ▲*

FIELD PctWdWC ►

- \* ALIAS PctWdWC
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

% of catchment area classified as woody wetland land cover (NLCD \*\*\*\* class 90)

DESCRIPTION SOURCE

NCDOT

*Hide Field PctWdWC ▲*

FIELD PctWdWW ►

- \* ALIAS PctWdWW
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as woody wetland land cover (NLCD \*\*\*\* class 90)

DESCRIPTION SOURCE

NCDOT

*Hide Field PctWdWW ▲*

FIELD PWWWR10 ►

- \* ALIAS PWWWR10
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as woody wetland land cover (NLCD \*\*\*\* class 90) within a 100-m buffer of NHD streams

DESCRIPTION SOURCE  
NCDOT

[Hide Field PWWWR10 ▲](#)

FIELD **PctShrC** ▶

\* ALIAS PctShrC  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of catchment area classified as shrub/scrub land cover (NLCD \*\*\*\*\* class 52)

DESCRIPTION SOURCE  
NCDOT

[Hide Field PctShrC ▲](#)

FIELD **PctShrW** ▶

\* ALIAS PctShrW  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as shrub/scrub land cover (NLCD \*\*\*\*\* class 52)

DESCRIPTION SOURCE  
NCDOT

[Hide Field PctShrW ▲](#)

FIELD **PSWR100** ▶

\* ALIAS PSWR100  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as shrub/scrub land cover (NLCD \*\*\*\*\* class 52) within a 100-m buffer of NHD streams

DESCRIPTION SOURCE  
NCDOT

[Hide Field PSWR100 ▲](#)

FIELD **PctGrsc** ▶

\* ALIAS PctGrsc  
\* DATA TYPE Double  
\* WIDTH 8  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

% of catchment area classified as grassland/herbaceous land cover (NLCD \*\*\*\* class 71)

DESCRIPTION SOURCE

NCDOT

[Hide Field PctGrsc ▲](#)

FIELD PctGrsw ►

- \* ALIAS PctGrsw
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as grassland/herbaceous land cover (NLCD \*\*\*\* class 71)

DESCRIPTION SOURCE

NCDOT

[Hide Field PctGrsw ▲](#)

FIELD PGWR100 ►

- \* ALIAS PGWR100
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

% of watershed area classified as grassland/herbaceous land cover (NLCD \*\*\*\* class 71) within a 100-m buffer of NHD streams

DESCRIPTION SOURCE

NCDOT

[Hide Field PGWR100 ▲](#)

FIELD WASKR10 ►

- \* ALIAS WASKR10
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Watershed area (square km) within a 100-m buffer of NHD streams

DESCRIPTION SOURCE

NCDOT

[Hide Field WASKR10 ▲](#)

FIELD WtDepCt ►

- \* ALIAS WtDepCt
- \* DATA TYPE Double
- \* WIDTH 8

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Mean seasonal water table depth (cm) of soils (STATSGO) within catchment

DESCRIPTION SOURCE

NCDOT

[Hide Field WtDepCt ▲](#)

FIELD OmCat ►

\* ALIAS OmCat

\* DATA TYPE Double

\* WIDTH 8

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Mean organic matter content (% by weight) of soils (STATSGO) within catchment

DESCRIPTION SOURCE

NCDOT

[Hide Field OmCat ▲](#)

FIELD OmWs ►

\* ALIAS OmWs

\* DATA TYPE Double

\* WIDTH 8

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Mean organic matter content (% by weight) of soils (STATSGO) within watershed

DESCRIPTION SOURCE

NCDOT

[Hide Field OmWs ▲](#)

FIELD PermCat ►

\* ALIAS PermCat

\* DATA TYPE Double

\* WIDTH 8

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Mean permeability (cm/hour) of soils (STATSGO) within catchment

DESCRIPTION SOURCE

NCDOT

[Hide Field PermCat ▲](#)

FIELD PermWs ►

\* ALIAS PermWs

\* DATA TYPE Double

- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean permeability (cm/hour) of soils (STATSGO) within watershed

DESCRIPTION SOURCE

NCDOT

[Hide Field PermWs ▲](#)

FIELD RckDpCt ►

- \* ALIAS RckDpCt
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean depth (cm) to bedrock of soils (STATSGO) within catchment

DESCRIPTION SOURCE

NCDOT

[Hide Field RckDpCt ▲](#)

FIELD ClayCat ►

- \* ALIAS ClayCat
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean % clay content of soils (STATSGO) within catchment

DESCRIPTION SOURCE

NCDOT

[Hide Field ClayCat ▲](#)

FIELD DmDnsWs ►

- \* ALIAS DmDnsWs
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Density of georeferenced dams within watershed (dams/ square km)

DESCRIPTION SOURCE

NCDOT

[Hide Field DmDnsWs ▲](#)

FIELD DmNrmSW ►

- \* ALIAS DmNrmSW



- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Volume all reservoirs (NORM\_STORA in NID) per unit area of watershed (cubic meters/square km)  
Data derived from National Inventory of Dams (NID).

DESCRIPTION SOURCE

NCDOT

[Hide Field DmNrmSW ▲](#)

FIELD DmNIDSW ►

- \* ALIAS DmNIDSW
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Volume all reservoirs (NID\_STORA in NID) per unit area of watershed (cubic meters/square km)  
Data derived from National Inventory of Dams (NID).

DESCRIPTION SOURCE

NCDOT

[Hide Field DmNIDSW ▲](#)

FIELD RdDnsCt ►

- \* ALIAS RdDnsCt
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Density of roads (2010 Census Tiger Lines) within catchment (km/square km)

DESCRIPTION SOURCE

NCDOT

[Hide Field RdDnsCt ▲](#)

FIELD RdDnsWs ►

- \* ALIAS RdDnsWs
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Density of roads (2010 Census Tiger Lines) within watershed (km/square km)

DESCRIPTION SOURCE

NCDOT

[Hide Field RdDnsWs ▲](#)

FIELD RDWR100 ►

- \* ALIAS RDWR100
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Density of roads (2010 Census Tiger Lines) within watershed and within a 100-m buffer of NHD stream lines (km/square km)

DESCRIPTION SOURCE

NCDOT

*Hide Field RDWR100 ▲*

FIELD RdCrSws ►

- \* ALIAS RdCrSws
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Density of roads-stream intersections (2010 Census Tiger Lines-NHD stream lines) within watershed (crossings/square km)

DESCRIPTION SOURCE

NCDOT

*Hide Field RdCrSws ▲*

FIELD RdCrSWC ►

- \* ALIAS RdCrSWC
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Density of roads-stream intersections (2010 Census Tiger Lines-NHD stream lines) multiplied by NHDPlusV21 slope within catchment (crossings\*slope/square km)

DESCRIPTION SOURCE

NCDOT

*Hide Field RdCrSWC ▲*

FIELD RdCrSww ►

- \* ALIAS RdCrSww
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Density of roads-stream intersections (2010 Census Tiger Lines-NHD stream lines) multiplied by NHDPlusV21 slope within watershed (crossings\*slope/square km)

DESCRIPTION SOURCE

NCDOT

[Hide Field RdCrSWW ▲](#)

FIELD Pstc97W ►

- \* ALIAS Pstc97W
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean pesticide use (kg/km2) in yr. 1997 within watershed

DESCRIPTION SOURCE

NCDOT

[Hide Field Pstc97W ▲](#)

FIELD AgKffcC ►

- \* ALIAS AgKffcC
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean soil erodibility (Kf) factor (unitless) of soils within catchment on agricultural land. The Kffactor is used in the Universal Soil Loss Equation (USLE) and represents a relative index of susceptibility of bare, cultivated soil to particle detachment and transport by rainfall.

DESCRIPTION SOURCE

NCDOT

[Hide Field AgKffcC ▲](#)

FIELD AgKffcW ►

- \* ALIAS AgKffcW
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean soil erodibility (Kf) factor (unitless) of soils within watershed on agricultural land. The Kffactor is used in the Universal Soil Loss Equation (USLE) and represents a relative index of susceptibility of bare, cultivated soil to particle detachment and transport by rainfall.

DESCRIPTION SOURCE

NCDOT

[Hide Field AgKffcW ▲](#)

FIELD NABDNS ►

ALIAS NABDNS

- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Volume all reservoirs (NORM\_STORA in NID) per unit area of watershed (cubic meters/square km)  
Data derived from National Anthropogenic Barrier Dataset (NABD)

DESCRIPTION SOURCE

NCDOT

*Hide Field NABDNS ▲*

FIELD NABDNI ►

- \* ALIAS NABD\_NI
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Volume all reservoirs (NID\_STORA in NID) per unit area of watershed (cubic meters/square km)  
Data derived from National Anthropogenic Barrier Dataset (NABD)

DESCRIPTION SOURCE

NCDOT

*Hide Field NABDNI ▲*

FIELD K2OWs ►

- \* ALIAS K2OWs
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean % of lithological potassium oxide (K<sub>2</sub>O) content in surface or near surface geology within watershed

DESCRIPTION SOURCE

NCDOT

*Hide Field K2OWs ▲*

FIELD Na2OCat ►

- \* ALIAS Na2OCat
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean % of lithological sodium oxide (Na<sub>2</sub>O) content in surface or near surface geology within catchment

DESCRIPTION SOURCE

NCDOT

[Hide Field Na2OCat ▲](#)

FIELD Na2OWs ►

- \* ALIAS Na2OWs
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean % of lithological sodium oxide (Na2O) content in surface or near surface geology within watershed

DESCRIPTION SOURCE

NCDOT

[Hide Field Na2OWs ▲](#)

FIELD P2O5Cat ►

- \* ALIAS P2O5Cat
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean % of lithological phosphorous oxide (P2O5) content in surface or near surface geology within catchment

DESCRIPTION SOURCE

NCDOT

[Hide Field P2O5Cat ▲](#)

FIELD P2O5Ws ►

- \* ALIAS P2O5Ws
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean % of lithological phosphorous oxide (P2O5) content in surface or near surface geology within watershed

DESCRIPTION SOURCE

NCDOT

[Hide Field P2O5Ws ▲](#)

FIELD NCat ►

- \* ALIAS NCat
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean % of lithological nitrogen (N) content in surface or near surface geology within catchment

DESCRIPTION SOURCE

NCDOT

[Hide Field NCat ▲](#)

FIELD NWS ►

- \* ALIAS NWS
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean % of lithological nitrogen (N) content in surface or near surface geology within watershed

DESCRIPTION SOURCE

NCDOT

[Hide Field NWS ▲](#)

FIELD HydrICC ►

- \* ALIAS HydrICC
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean lithological hydraulic conductivity (micrometers per second) content in surface or near surface geology within catchment

DESCRIPTION SOURCE

NCDOT

[Hide Field HydrICC ▲](#)

FIELD HydrICW ►

- \* ALIAS HydrICW
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean lithological hydraulic conductivity (micrometers per second) content in surface or near surface geology within watershed

DESCRIPTION SOURCE

NCDOT

[Hide Field HydrICW ▲](#)

FIELD CmpStrC ►

- \* ALIAS CmpStrC
- \* DATA TYPE Double

- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean lithological uniaxial compressive strength (megaPascals) content in surface or near surface geology within catchment

DESCRIPTION SOURCE

NCDOT

[Hide Field CmpStrC ▲](#)

FIELD FertCat ►

- \* ALIAS FertCat
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean rate of synthetic nitrogen fertilizer application to agricultural land in kg N/ha/yr, within the catchment

DESCRIPTION SOURCE

NCDOT

[Hide Field FertCat ▲](#)

FIELD FertWs ►

- \* ALIAS FertWs
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean rate of synthetic nitrogen fertilizer application to agricultural land in kg N/ha/yr, within watershed

DESCRIPTION SOURCE

NCDOT

[Hide Field FertWs ▲](#)

FIELD CBNFCat ►

- \* ALIAS CBNFCat
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean rate of biological nitrogen fixation from the cultivation of crops in kg N/ha/yr, within catchment

DESCRIPTION SOURCE

NCDOT

[Hide Field CBNFCat ▲](#)

FIELD CBNFWs ►

- \* ALIAS CBNFWs
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean rate of biological nitrogen fixation from the cultivation of crops in kg N/ha/yr, within watershed

DESCRIPTION SOURCE

NCDOT

*Hide Field CBNFWs ▲*

FIELD ManurCt ►

- \* ALIAS ManurCt
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean rate of manure application to agricultural land from confined animal feeding operations in kg N/ha/yr, within catchment

DESCRIPTION SOURCE

NCDOT

*Hide Field ManurCt ▲*

FIELD ManurWs ►

- \* ALIAS ManurWs
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

Mean rate of manure application to agricultural land from confined animal feeding operations in kg N/ha/yr, within watershed

DESCRIPTION SOURCE

NCDOT

*Hide Field ManurWs ▲*

FIELD PcNAIMVW ►

- \* ALIAS PcNAIMVW
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

% Non-agriculture nonnative introduced or managed vegetation landcover type reclassified from LANDFIRE Existing Vegetation Type (EVT), within catchment



DESCRIPTION SOURCE

NCDOT

[Hide Field PcNAIMVW ▲](#)

FIELD PNAIMVWR ►

\* ALIAS PNAIMVWR

\* DATA TYPE Double

\* WIDTH 8

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

% Non-agriculture nonnative introduced or managed vegetation landcover type reclassified from LANDFIRE Existing Vegetation Type (EVT), within catchment and within 100-m buffer of NHD stream lines

DESCRIPTION SOURCE

NCDOT

[Hide Field PNAIMVWR ▲](#)

FIELD WtIndxC ►

\* ALIAS WtIndxC

\* DATA TYPE Double

\* WIDTH 8

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Mean Composite Topographic Index (CTI)[Wetness Index] within catchment

DESCRIPTION SOURCE

NCDOT

[Hide Field WtIndxC ▲](#)

FIELD Q10 ►

\* ALIAS Q10

\* DATA TYPE Double

\* WIDTH 8

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

The 10th percentile value (Q10) demarking the lowest Biotic Index (highest water quality) of the confidence interval.

DESCRIPTION SOURCE

NCDOT

[Hide Field Q10 ▲](#)

FIELD Q50 ►

\* ALIAS Q50

\* DATA TYPE Double

- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

The median predicted value (Q50) of the expected Biotic Index value for the catchment given the available observed Biotic Index data and the relationship of these values to the environmental data (recommended value for general use).

DESCRIPTION SOURCE  
NCDOT

[Hide Field Q50 ▲](#)

FIELD Q90 ►

- \* ALIAS Q90
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0

FIELD DESCRIPTION

The 90th percentile value (Q90) demarking the highest Biotic Index (lowest water quality) of the confidence interval.

DESCRIPTION SOURCE  
NCDOT

[Hide Field Q90 ▲](#)

FIELD Shape\_Length ►

- \* ALIAS Shape\_Length
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0
- \* FIELD DESCRIPTION

Length of feature in internal units.

\* DESCRIPTION SOURCE  
Esri

\* DESCRIPTION OF VALUES  
Positive real numbers that are automatically generated.

[Hide Field Shape\\_Length ▲](#)

FIELD Shape\_Area ►

- \* ALIAS Shape\_Area
- \* DATA TYPE Double
- \* WIDTH 8
- \* PRECISION 0
- \* SCALE 0
- \* FIELD DESCRIPTION

Area of feature in internal units squared.

\* DESCRIPTION SOURCE  
Esri

\* DESCRIPTION OF VALUES  
Positive real numbers that are automatically generated.

[Hide Field Shape\\_Area ▲](#)

[Hide Details for object BenthicHealthMapping ▲](#)

[Hide Fields ▲](#)

## 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 2024-01-29

### ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0  
STANDARD OR PROFILE USED TO EDIT METADATA ISO19139  
METADATA STYLE ISO 19139 Metadata Implementation Specification

CREATED IN ARCGIS FOR THE ITEM 2024-02-01 16:07:55  
LAST MODIFIED IN ARCGIS FOR THE ITEM 2024-01-29 16:26:29

### AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes  
LAST UPDATE 2024-01-29 16:26:29

[Hide Metadata Details ▲](#)

## Metadata Contacts ►

### METADATA CONTACT

ORGANIZATION'S NAME North Carolina Department of Transportation - EAU Mitigation and Modeling Unit  
CONTACT'S POSITION Environmental Program Consultant  
CONTACT'S ROLE point of contact

### CONTACT INFORMATION ►

PHONE  
VOICE 919-707-6136

### ADDRESS

TYPE physical  
DELIVERY POINT Century Center Building B, 1020 Birch Ridge Drive  
CITY Raleigh  
ADMINISTRATIVE AREA NC  
POSTAL CODE 27610  
COUNTRY US  
E-MAIL ADDRESS ATLAS@ncdot.gov

#### HOURS OF SERVICE

9:00am – 5:00pm Monday - Friday

#### CONTACT INSTRUCTIONS

Please send an email with any issues, questions or comments regarding the ATLAS Data Search Tool, ATLAS Screening Tool or ATLAS Workbench. If it is an immediate need, please call the contact number or indicate as such in the subject line in an email.

[Hide Contact information ▲](#)

[Hide Metadata Contacts ▲](#)

## Metadata Maintenance ►

#### MAINTENANCE

UPDATE FREQUENCY as needed

#### OTHER MAINTENANCE REQUIREMENTS

Annual maintenance of this dataset is handled by the Sweeping Environmental Group. Support and maintenance of the enterprise spatial database where this data resides is handled by NCDIT's Transportation GIS Unit.

#### MAINTENANCE CONTACT

ORGANIZATION'S NAME North Carolina Department of Transportation - Sweeping Environmental Group

CONTACT'S POSITION Environmental Program Consultant

CONTACT'S ROLE originator

#### CONTACT INFORMATION ►

##### PHONE

VOICE 919-707-6136

##### ADDRESS

TYPE physical

DELIVERY POINT Century Center Building B, 1020 Birch Ridge Drive

CITY Raleigh

ADMINISTRATIVE AREA NC

POSTAL CODE 27610

COUNTRY US

E-MAIL ADDRESS [ATLAS@ncdot.gov](mailto:ATLAS@ncdot.gov)

#### HOURS OF SERVICE

9:00am – 5:00pm Monday - Friday

#### CONTACT INSTRUCTIONS

Please send an email with any issues, questions or comments regarding the ATLAS Data Search Tool, ATLAS Screening Tool or ATLAS Workbench. If it is an immediate need, please call the contact number or indicate as such in the subject line in an email.

[Hide Contact information ▲](#)

[Hide Metadata Maintenance ▲](#)

## Metadata Constraints ►

#### CONSTRAINTS

LIMITATIONS OF USE

The North Carolina Department of Transportation shall not be held liable for any errors in this metadata. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. This data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information contained in this data.

Datasets developed under Project ATLAS do not replace any Sweeping Environmental report work for future projects and may not be used as a replacement for site visits / field surveys by licensed professionals and hence should be used only as a supporting platform for decision making. Use of this dataset for project scoping or screening is merely pre-decisional.

#### SECURITY CONSTRAINTS

CLASSIFICATION unclassified

CLASSIFICATION SYSTEM None

#### LIMITATIONS OF USE

The North Carolina Department of Transportation shall not be held liable for any errors in this metadata. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. This data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information contained in this data.

Datasets developed under Project ATLAS do not replace any Sweeping Environmental field work for future projects and may not be used as a replacement for site visits / field surveys by licensed professionals and hence should be used only as a supporting platform for decision making. Use of this dataset for project scoping or screening is merely pre-decisional.

[Hide Metadata Constraints ▲](#)