

Identification\_Information:

Citation:

Citation\_Information:

Originator: Delaware Geological Survey, University of Delaware

Publication\_Date: May 2007

Title: BayRawDlg

Geospatial\_Data\_Presentation\_Form: vector digital data

Publication\_Information:

Publisher: Delaware Geological Survey, University of Delaware

Publication\_Place: Newark, Delaware

Online\_Linkage: <http://www.dgs.udel.edu/data>

Description:

Abstract:

Digital watershed and bay polygons for use in geographic information systems (GIS) were created for Rehoboth Bay, Indian River, and Indian River Bay in southeastern Delaware. The watersheds cover the entire Inland Bays watershed, are defined based on hydrologic boundary conditions at their downstream ends, incorporate a coastline coincident to coastlines on published topographic maps, and are appropriate for use at map scales as large as 1:24,000. Methodologies used to create the layers are described in McKenna, T.E., A.S. Andres, and K.P. Lepp, 2007, Digital Watershed and Bay Boundaries for Rehoboth Bay, Indian River Bay and Indian River: Delaware Geological Survey Open File Report 47, 8p.

This layer is the fundamental layer for the bays in the hierarchy.

Purpose: The layers enable unambiguous calculations of watershed and bay surface areas.

Time\_Period\_of\_Content:

Time\_Period\_Information:

Single\_Date/Time:

Calendar\_Date: 1984-1992 (range of dates of topographic base maps)

Currentness\_Reference: ground condition

Status:

Progress: Complete

Maintenance\_and\_Update\_Frequency: None planned

Spatial\_Domain:

Bounding\_Coordinates:

West\_Bounding\_Coordinate: -75.291717

East\_Bounding\_Coordinate: -75.061381

North\_Bounding\_Coordinate: 38.717551

South\_Bounding\_Coordinate: 38.531839

Keywords:

Theme:

Theme\_Keyword\_Thesaurus: none

Theme\_Keyword: inlandWaters

Theme\_Keyword: watershed

Theme\_Keyword: coastline

Theme\_Keyword: shoreline

Theme\_Keyword: bay

Theme\_Keyword: estuary

Theme\_Keyword: coastal

Place:

Place\_Keyword: United States

Place\_Keyword: mid-Atlantic  
Place\_Keyword: Delaware  
Place\_Keyword: Inland Bays  
Place\_Keyword: Rehoboth Bay  
Place\_Keyword: Indian River  
Place\_Keyword: Indian River Bay  
Place\_Keyword\_Thesaurus: USGS GNIS

Access\_Constraints: None. Please give proper credit to T. E. McKenna. A.S. Andres, K.P. Lepp, May 2007, BayRawDlg: Delaware Geological Survey.

Use\_Constraints: This digital polygon layer depicting watershed and/or bay boundaries in the area of Delaware's Inland Bays was constructed at a scale of 1:24,000. Using these layers at scales greater than 1:24,000 is a misuse of the information. Reasonable efforts have been made by DGS to verify that the layers provided herein accurately interpret the boundaries as determined by methodologies in McKenna, T.E., A.S. Andres, and K.P. Lepp, 2007, Digital Watershed and Bay Boundaries for Rehoboth Bay, Indian River Bay and Indian River: Delaware Geological Survey Open File Report 47, 8p. This digital polygon layer may also contain omissions and errors in scale, resolution, rectification, positional accuracy, development methodology, interpretations of source data, and other circumstances. This digital information is also date specific and as additional data become available and as verification of source data continues, this watershed information contained herein may be reinterpreted and updated by DGS without notification. These data should not be used for navigational, engineering, legal, or any other site-specific use. Nothing contained herein shall be deemed an expressed or implied waiver of the sovereign immunity of the University of Delaware and the State of Delaware or their duly authorized representatives, agents, or employees.

Point\_of\_Contact:

Contact\_Information:

Contact\_Address:

Address\_Type: mailing and physical address

City: Newark

State\_or\_Province: Delaware

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Country: USA

Address: Delaware Geological Survey, University of Delaware

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Contact\_Voice\_Telephone: 302-831-2833

Contact\_Organization\_Primary:

Contact\_Organization: Delaware Geological Survey

Contact\_Person: Digital Data Coordinator

Contact\_Position: Digital Data Coordinator

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Hours\_of\_Service: Mon - Fri; 8:00am to 4:30pm EST

Native\_Data\_Set\_Environment: Microsoft Windows XP Version 5.1 (Build 2600) Service Pack 3; ESRI ArcCatalog 9.3.1.1850

Data\_Quality\_Information:

Positional\_Accuracy:

Horizontal\_Positional\_Accuracy:

Quantitative\_Horizontal\_Positional\_Accuracy\_Assessment:

Horizontal\_Positional\_Accuracy\_Value: 60 meters

Horizontal\_Positional\_Accuracy\_Explanation: Sixty-meter accuracy reflects the error estimate for the process of digitizing watershed boundaries on 1:24,000 topographic maps published by the United States Geological Survey that meet national map accuracy standards. The delineations are consistent with the topographic contours except where authors had other knowledge of altered drainage patterns (mostly along roadways). Unique watershed delineations are difficult in flat areas such as the Inland Bays watershed and especially in the southern part of the watershed where ditching is ubiquitous. In areas where a clear watershed boundary definition was not possible (mostly ditches and low-lying areas south of Indian River), a generalized boundary was drawn as recommended by the NRCS (1997) guidelines.

Vertical\_Positional\_Accuracy:

Quantitative\_Vertical\_Positional\_Accuracy\_Assessment:

Vertical\_Positional\_Accuracy\_Value: not applicable

Lineage:

Process\_Step:

Process\_Description: Metadata imported.

Source\_Used\_Citation\_Abbreviation:

C:\DOCUME~1\mckennat\LOCALS~1\Temp\xml9C.tmp

Time\_of\_Day: 15510100

Spatial\_Data\_Organization\_Information:

Direct\_Spatial\_Reference\_Method: Vector

Point\_and\_Vector\_Object\_Information:

SDTS\_Terms\_Description:

SDTS\_Point\_and\_Vector\_Object\_Type: G-polygon

Point\_and\_Vector\_Object\_Count: 0

Spatial\_Reference\_Information:

Horizontal\_Coordinate\_System\_Definition:

Planar:

Planar\_Coordinate\_Information:

Planar\_Coordinate\_Encoding\_Method: coordinate pair

Coordinate\_Representation:

Abscissa\_Resolution: 0.000000

Ordinate\_Resolution: 0.000000

Planar\_Distance\_Units: meters

Grid\_Coordinate\_System:

Grid\_Coordinate\_System\_Name: Universal Transverse Mercator

Universal\_Transverse\_Mercator:

UTM\_Zone\_Number: 18

Transverse\_Mercator:

Scale\_Factor\_at\_Central\_Meridian: 0.999600

Longitude\_of\_Central\_Meridian: -75.000000

Latitude\_of\_Projection\_Origin: 0.000000

False\_Easting: 500000.000000

False\_Northing: 0.000000

Geodetic\_Model:

Horizontal\_Datum\_Name: North American Datum of 1983

Ellipsoid\_Name: Geodetic Reference System 80

Semi-major\_Axis: 6378137.000000

Denominator\_of\_Flattening\_Ratio: 298.257222

Vertical\_Coordinate\_System\_Definition:

Altitude\_System\_Definition:

Altitude\_Resolution: 0.000010

Altitude\_Encoding\_Method: Explicit elevation coordinate included with horizontal coordinates

Entity\_and\_Attribute\_Information:

Detailed\_Description:

Attribute:

Attribute\_Label: Shape

Attribute\_Definition: Feature geometry.

Attribute\_Definition\_Source: ESRI

Attribute\_Domain\_Values:

Unrepresentable\_Domain: Coordinates defining the features.

Attribute:

Attribute\_Label: FID

Attribute\_Definition: Internal feature number.

Attribute\_Definition\_Source: ESRI

Attribute\_Domain\_Values:

Unrepresentable\_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute\_Label: Shape\_Area

Attribute\_Definition: Area of feature in internal units squared.

Attribute\_Definition\_Source: ESRI

Attribute\_Domain\_Values:

Unrepresentable\_Domain: Positive real numbers that are automatically generated.

Attribute:

Attribute\_Label: MAJOR1

Attribute\_Definition:

USGS DLG Code.

Code	Data Category
50	hydrography
0	undefined
-99999	no data

Attribute:

Attribute\_Label: MINOR1

Attribute\_Definition:

USGS DLG Code.

Code	Feature
111	Marsh, wetland, swamp, or bog
115	Flat (tidal, sand, gravel, mud, etc.)
116	Bay, estuary, gulf, ocean, or sea
122	Gut
412	Stream
419	Channel
0	undefined
-99999	no data

Attribute:

Attribute\_Label: MAJOR2

Attribute\_Definition:

USGS DLG Code.

Code	Data Category
50	hydrography

0 undefined  
-99999 no data

Attribute:

Attribute\_Label: MINOR2

Attribute\_Definition:

USGS DLG code.

Code	Feature
115	Flat (tidal, sand, gravel, mud, etc.)
116	Bay, estuary, gulf, ocean, or sea
122	Gut
419	Channel
0	undefined
-99999	no data

Attribute:

Attribute\_Label: FLAG

Attribute\_Definition:

The FLAG attribute was used to cull asperities in the coastline. Polygons with small area to perimeter ratios (A:P) were selected for culling via visual inspection and assigned a FLAG value of "1" to facilitate creation of a simplified coastline.

Value	Feature
0	keep
1	cull

Attribute:

Attribute\_Label: MINOR1A

Attribute\_Definition:

LEVEL\_0 facilitates polygon selection for dissolving of polygon boundaries. Dissolving boundaries between polygons with equivalent LEVEL\_0 values results in four features each having multiple polygons. The differentiation of water types in the original DLG MINOR1a code is preserved (bay, gut, stream, marsh).

Value	Feature
B	bay
G	gut
S	stream
M	marsh

Attribute:

Attribute\_Label: LEVEL\_0

Attribute\_Definition:

LEVEL\_0 facilitates polygon selection for dissolving of polygon boundaries. Dissolving boundaries between polygons with equivalent LEVEL\_0 values results in four features each having multiple polygons. The differentiation of water types in the original DLG MINOR1a code is preserved (bay, gut, stream, marsh).

Value	Feature
B	bay
G	gut
S	stream
M	marsh

Attribute:

Attribute\_Label: FINAL\_CODE

Attribute\_Definition:

Values for FINAL\_CODE attributes (BF0, BF1, GSF0, GSF1, M) recode MINOR1A values into bay, marsh, or gut/stream descriptors (M =111, B=116, GS = 122 and 412) and FLAG values (F0=0 and F1=1).

FINAL\_CODE combines the FLAG value and the MINOR1A value into a code to enable creation of different representations of the coastline (referred to as "levels"). Values for FINAL\_CODE attributes (BF0, BF1, GSF0, GSF1, M) recode MINOR1A values into bay, marsh, or gut/stream descriptors (M =111, B=116, GS = 122 and 412) and FLAG values (F0=0 and F1=1). The LEVEL\_0, LEVEL\_1, LEVEL\_2, and LEVEL\_3 attribute vales were populated based on the FINAL\_CODE attribute values and desired output of the dissolve function.

Entity\_Type:

Entity\_Type\_Label: BayRawDlg

Attribute:

Attribute\_Label: LEVEL\_1

Attribute\_Definition:

LEVEL\_1 facilitates polygon selection for dissolving of polygon boundaries. Dissolving boundaries between polygons with equivalent LEVEL\_1 values results in one feature with one polygon representing the open water of the bays using a simplified coastline definition.

Value Feature

BAY bay

Attribute:

Attribute\_Label: LEVEL\_2

Attribute\_Definition:

LEVEL\_2 facilitates polygon selection in the hierarchy for dissolving of polygon boundaries. Dissolving boundaries between polygons with equivalent LEVEL\_2 values results in one feature with one polygon representing the open water of the bays using the original DLG coastline.

Value Feature

BAY Bay

Attribute:

Attribute\_Label: Shape\_Leng

Attribute:

Attribute\_Label: LEVEL\_3

Attribute\_Definition:

LEVEL\_3 facilitates polygon selection in the hierarchy for dissolving of polygon boundaries. Dissolving boundaries between polygons with equivalent LEVEL\_3 values results one feature with a single polygon representing the open water of the bays and a second feature with multiple polygons representing adjacent marsh.

Value Feature

BAY Bay

MARSH Marsh

Distribution\_Information:

Distributor:

Contact\_Information:

Contact\_Address:

Address\_Type: mailing and physical address  
City: Newark  
State\_or\_Province: Delaware  
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Contact\_Organization: Delaware Geological Survey, University of Delaware

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Hours\_of\_Service: Mon - Fri; 8:00am to 4:30pm EST  
Resource\_Description: Downloadable Data  
Standard\_Order\_Process:  
Digital\_Form:  
Digital\_Transfer\_Information:  
Transfer\_Size: 0.000

Metadata\_Reference\_Information:  
Metadata\_Date: 20090731  
Metadata\_Contact:  
Contact\_Information:  
Contact\_Organization\_Primary:  
Contact\_Organization: Delaware Geological Survey, University of Delaware

Delaware

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Country: USA  
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Hours\_of\_Service: Mon - Fri; 8:00am to 4:30pm EST

Metadata\_Standard\_Name: FGDC Content Standards for Digital Geospatial Metadata

Metadata  
Metadata\_Standard\_Version: FGDC-STD-001-1998  
Metadata\_Time\_Convention: local time  
Metadata\_Extensions:  
Online\_Linkage: <http://www.esri.com/metadata/esriprof80.html>  
Profile\_Name: ESRI Metadata Profile

Metadata\_Extensions:  
Online\_Linkage: <http://www.esri.com/metadata/esriprof80.html>  
Profile\_Name: ESRI Metadata Profile