

Shoreline10 (Ranta10) and River network (uomaverkosto)

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The Shoreline10 (Ranta10) is a topologically correct spatial dataset containing data on Finnish water bodies. The dataset is based on the topographic database of the National Land Survey of Finland in scale of 1:5 000-1:10 000 from years 2000-2008. The dataset contains lakes as well as most of human-made lakes over 200 m² and more than 5 m wide rivers (polygons). Also included are the main flow paths of 2-5 m wide and less than 2 m wide streams (lines). The dataset has been reclassified and topologically corrected by Finnish Environment Institute (SYKE).

The continuous network has been created by combining rivers to the central lines through polygon rivers and lakes. The dataset includes also unique river codes and lake codes.

The river network includes all river segments with catchment areas larger than 10 km². Also other, smaller rivers with smaller catchment areas are included in case they are considered significant for water management tasks (e.g. WFD). Ranta10 does not represent the water bodies defined in the new water act. The change from one river segment to another, with unique river code and information, is located at the junction of the river network. The river code also changes at a connection point of a river segment and a lake. The river network has been created such a way that all parts of the network are linked topologically to each other and have a correct flow direction so that the dataset can be used for analyzing the network.

1. Feature Attribute Descriptions

Ranta10 Feature Attribute	Shoreline10 Description
Uoma10	Rivers included in the river network as line features
UomaLoppupiste10	The end point of the river segment included in the river network
Jarvi10	Lakes described as polygon features
JokiViiva10	Rivers described as polyline features (includes all features, also rivers that are not included in the river network).
JokiAlue10	Rivers described as polygon features

Uoma10

UomaNro	Unique river segment identification number (River code). The river code changes always when one river segment meets another river segment (river junction) or a lake. The dataset includes the rivers with a catchment area larger than 10 km ² .
UomaLuokka	River/lake classification 1 = river (river or pseudoriver) 2 = lake (pseudolake)
Paareitti	The main water course of the river segment. Bifurcating routes are always identified, when the river branches downstream. 1= main water course 2= first bifurcating river segment
Pituus_m	Length of the river segment in meters
Korkeus_m	The elevation (m) from the sea level of the end point of the river segment based on the national elevation model (DEM25) from National Land Survey of Finland
ValuYlaPa_km2	Size (km ²) of the upper catchment area calculated from the end point of the river segment based on the national elevation model (DEM25) of The National Land Survey of Finland
ValuLuokka	The size class of the upper catchment area from the end point of the river segment 1 = under 10 km ² 2 = 10 -100 km ² 3 = 100 -200 km ² 4 = 200 -1000 km ² 5 = 1000 -10 000 km ² 6 = over 10 000 km ²
PaaJakoNro	Number of the main river basin where the river is located
VirtausSuunta	inDirection = river's flow direction, (all river segments run towards digitizing direction)
VhaTunnus	Number of the river basin district where the river is located
Valtio	Country where the river is located RU = Russia SE = Sweden NO = Norway FIRU= Border between Finland and Russia FINO= Border between Finland and Norway FISE= Border between Finland and Sweden FINOSE= Border between Finland, Sweden and Norway FINORU= Border between Finland, Norway and Russia

RajaTieto	<p>Border information</p> <p>71 = water element at border (lake or river at the border)</p> <p>72 = river runs from abroad (river's starting point is outside Finnish borders and ending point in Finland)</p> <p>73 = river runs to abroad (river's starting point is in Finland and ending point outside Finnish borders)</p> <p>74 = River runs abroad (river's starting point and ending point are in Finland)</p> <p>75 = River runs in Finland (river's starting point and ending point are abroad)</p>
KvNro	International code for the rivers crossing the Finnish border
MuutosPvm	Date when the dataset has been updated in SYKE
UomaLoppupiste10	
SolmupisteNro system	Unique identification number for a node belonging to the river network system
UomaSolmupiste	<p>Node classification</p> <p>1 = starting or ending point of the river segment</p>
MuutosPvm	Date when the dataset has been updated in SYKE
Jarvi10	
JarviNro	Unique identification number for the lake included in the Ranta10 dataset
JarviTunnus (Järvirekisteri)	Unique identification code of lake included in the lake register
J_Jarvi_Id	Unique identification number of lake included in the lake register
Nimi	Name of the lake in the topographic database of the National Land Survey of Finland
PAIa_Ha	Size of the lake in hectares
Valtio	<p>Country where the river is located</p> <p>RU = Russia</p> <p>SE = Sweden</p> <p>NO = Norway</p> <p>FIRU= Border between Finland and Russia</p> <p>FINO= Border between Finland and Norway</p> <p>FISE= Border between Finland and Sweden</p> <p>FINOSE= Border between Finland, Sweden and Norway</p> <p>FINORU= Border between Finland, Norway and Russia</p>
Rajatiето	71 = water element at border (lake or river at the border)

KvNro International code for rivers crossing the Finnish border

MuutosPvm Date when the dataset has been updated in SYKE

JokiViiva10

Tyyppi Line feature classes
436 = river segment width under 5 m (classified by NLS)
438 = pipe
439 = crossing river segments
736 = added river segment abroad

UomaTyyppi River segment classification II
1 = narrow river segment included in the river network, described as a
polyline
4 = river segment not included in a river network, described as a polyline

LeveysLuokka River segment wide class
1 = narrow, less than 5 m wide rivers
9 = other lines

UomaNro Unique river segment identification number (River code). River segments
described as lines and included in the river network

MuutosPvm Date when the dataset has been updated in SYKE

JokiAlue10

JokiNro Unique identification code for a polygon river

Valtio Country where the river is located
RU = Russia
SE = Sweden
NO = Norway
FIRU= Border between Finland and Russia
FINO= Border between Finland and Norway
FISE= Border between Finland and Sweden
FINOSE= Border between Finland, Sweden and Norway
FINORU= Border between Finland, Norway and Russia

Rajatieto 71 = water element at border (lake or river at the border)

KvNro International code for the rivers crossing the Finnish border

MuutosPvm Date when the dataset has been updated in SYKE

«Polyline» Uoma10
«Field»
+ UomaNro: esriFieldTypeDouble
+ UomaLuokka: Ranta10UomaLuokka
+ Paareitti: Ranta10Paareitti
+ Pituus_m: esriFieldTypeDouble
+ Korkeus_m: esriFieldTypeDouble
+ ValuYlaPa_km2: esriFieldTypeDouble
+ ValuLuokka: Ranta10ValuLuokka
+ PaaJakoNro: esriFieldTypeInteger
+ VirtausSuunta: esriFieldTypeString
+ VhaTunnus: esriFieldTypeString
+ Valtio: Ranta10Valtio
+ RajaTieto: Ranta10RajaTieto
+ KvNro: esriFieldTypeDouble
+ MuutosPvm: esriFieldTypeDate
+ Shape.len: esriFieldTypeDouble

«Point» UomaLoppupiste10
«Field»
+ SolmupisteNro: esriFieldTypeDouble
+ UomaSolmupiste: Ranta10UomaSolmupiste
+ MuutosPvm: esriFieldTypeDate

«Polygon» Jarvi10
«Field»
+ JarviNro: esriFieldTypeDouble
+ JarviTunnus: esriFieldTypeString
+ J_Jarvi_Id: esriFieldTypeInteger
+ Nimi: esriFieldTypeString
+ PAIa_Ha: esriFieldTypeDouble
+ Valtio: Ranta10Valtio
+ RajaTieto: Ranta10RajaTieto
+ KvNro: esriFieldTypeDouble
+ MuutosPvm: esriFieldTypeDate
+ Shape.area: esriFieldTypeDouble
+ Shape.len: esriFieldTypeDouble

«Polygon» JokiAlue10
«Field»
+ JokiNro: esriFieldTypeDouble
+ Valtio: Ranta10Valtio
+ RajaTieto: Ranta10RajaTieto
+ KvNro: esriFieldTypeDouble
+ MuutosPvm: esriFieldTypeDate
+ Shape.area: esriFieldTypeDouble
+ Shape.len: esriFieldTypeDouble

«Polyline» JokiViiva10
«Field»
+ Tyyppi: Ranta10Tyyppi
+ UomaTyyppi: Ranta10UomaTyyppi
+ LeveysLuokka: Ranta10LeveysLuokka
+ UomaNro: esriFieldTypeDouble
+ MuutosPvm: esriFieldTypeDate
+ Shape.len: esriFieldTypeDouble