

## **Making electronic navigation chart drafts from a sample area with means of Hydrographic Information System HIS.**

1. Choosing and exploring base area.....	2
1) Survey area neugr1_b1 .....	2
2) exploring neugr_b1 in HIS .....	3
2. GENERATING DRAFTS .....	5
1) DAF .....	5
2) DXF .....	5
3) XYZ.....	6
4) KML.....	6
5) SHAPE .....	7
6) BAG (S-102) .....	7
<i>Guide to explore sample area in HIS.....</i>	<i>8</i>

# 1. Choosing and exploring base area.

NB! The area can be explored in real environment

<https://his.vta.ee:8443/HIS/Avalik?REQUEST=Main&WIDTH=1270&HEIGHT=561>,  
[guidelines](#) are added to the end of this document.

## 1) Survey area neugr1\_b1

Survey Data for neugr1_b1	
Name	neugr1_b1
Insertion date	27.04.2017
Status	3 - valmis
Area	231.28
Survey time	20.04.2017
Measured by	VA
Ship	Jakob Prei
Technique	IXSEA OCTANS gyro, Topcon NET-G3 RTK GPS-VRS, Topcon NET-G3 RTK GPS-VRS, IXSEA OCTANS HRP, RESON 7125 SV2 200_400kHz Laeval JAKOB PREI
Km-s surveyed	50.06
Min depth	7.4
Max depth	68.29
Lines	38
Line distance	lausmoodistus
Cleaning time	26.04.2017
Cleaned by	Vladimir
IHO category	1a
No of points initially	28790272
No of points deleted	3441820
No of points changed	0
No of points finally	25348452
Un-cleaned lines	
Cleaning order	puudub
Checked by	mareti

Standard Deviation [m]	0.14
Arithmetical Mean [m]	0.0
Median [m]	0.01
rms [m]	0.14
Minimum difference [m]	-4.85
Maximum difference [m]	4.87
Difference of depths more than 10 cm [%]	7.3
Difference of depths more than 20 cm [%]	3.3
Difference of depths more than 50 cm [%]	0.9
Quantity of points	25348452
IHO S44 depth test resultat 0.95 probability (Accuracy Class)	1A
IHO S44 Special order depth %	
IHO S44 1a order depth %	96.4
IHO S44 1b order depth %	96.4
IHO S44 II order depth %	99.1
IHO S44 Special order area %	
IHO S44 1a order area %	100.0
IHO S44 1b order area %	100.0
IHO S44 II order area %	100.0
iho_eri_auk_prot	
iho_1a_auk_prot	0.1
iho_1b_auk_prot	0.1
iho_2_auk_prot	0.0
Used cell size (m)	2.5
ala_prot_punkt	
p_ruutm_min	
p_ruutm_max	
p_ruutm_kesk	
Statistic parameters are found by comparing soundings of separate neighbor (located in the same cell) lines.	

2) exploring neugr\_b1 in HIS  
 Lots of stones there, also, some wrecks:

09.04.2018 | Tiit Rebane | administrator

Administration --- Data upload --- Queries ----- Generate measuring plan ---

Map legend

Wreck

id	948
Wreck depth (m)	50.40
Wreck length (m)	18.19
Wreck width (m)	6.0
Wreck height (m)	2.31
Ship length (m)	
Ship width (m)	
Ship name	NIMETU-354
Tonnage (brt)	
Ship type	purjekas
Owner at the time of ship	
Time of	https://his.vta.ee:844...
WATLE	Secure https://his.vta.ee:8443/HIS/Sh
CATWR	
Other	
Wreck images	
Image type: Wreck sonar image	
Image type: Wreck sonar image	

17.2 X 1.1 X 1.2 zone  
 17.7 X 0.7 X 3.1 zone  
 17.9 X 0.9 X 0.9 zone

In this area, there are 4 rocks higher than 2m:

And Or

Query field: Height (m)

Operator: >

Search condition: 2

Add row Delete

Full query: Height (m) > 2

Set search area

471262 6577996  
 472184 6579348  
 474078 6579379  
 474090 6577902  
 473313 6577895

To select area, drag on map with right mouse button, click right mouse button on the map, select file or insert up to four corners

Sort by: Depth (m)

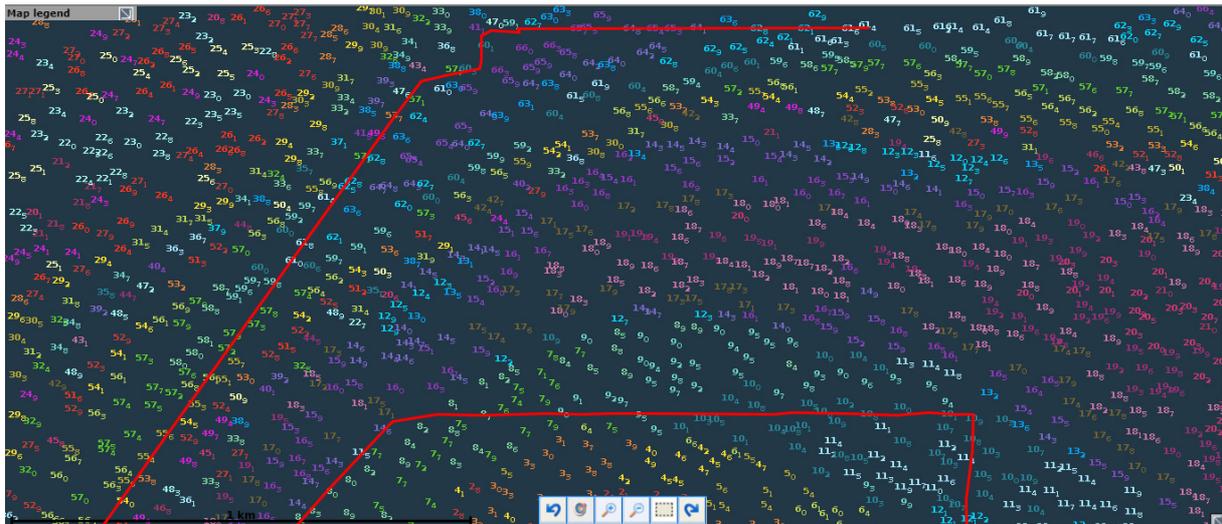
Output format: To the screen

Clean Submit query

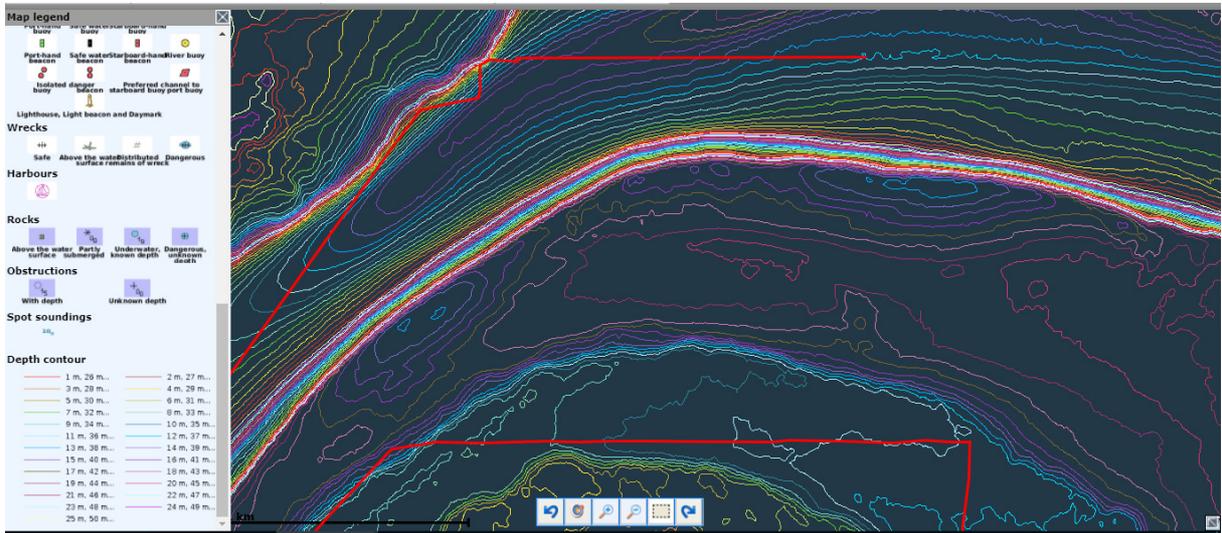
Only first 500 rows show on display, all suitable data go to file

id	Name of Survey	Depth (m)	Height (m)
587530	neugr_c	7.51	2.15
587573	neugr_c	10.28	2.36
622315	neugr_b1	16.35	2.07
622435	neugr_b1	18.30	2.11

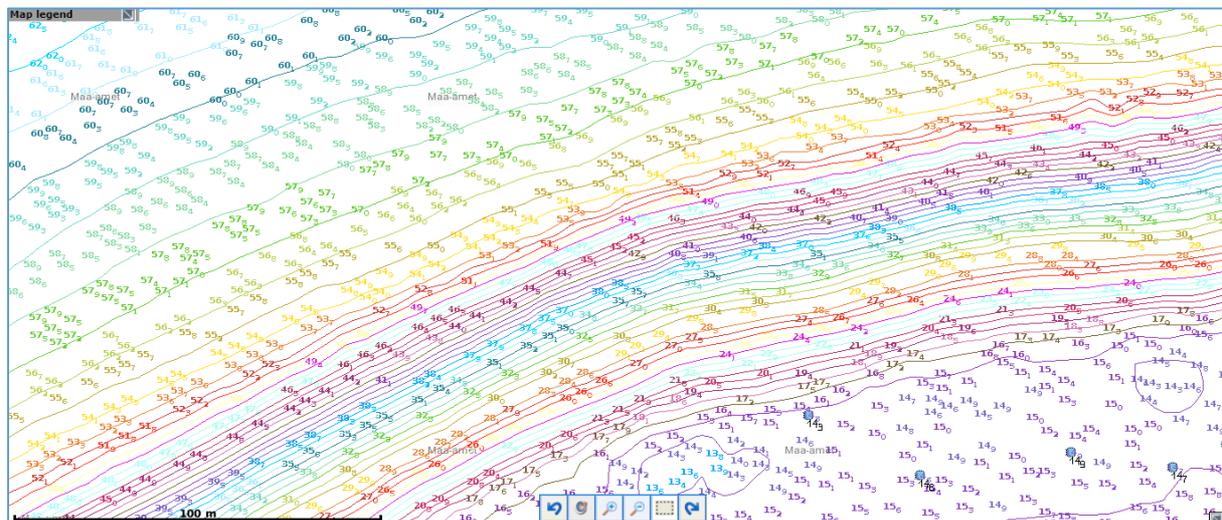
## Depths



## Isobaths:

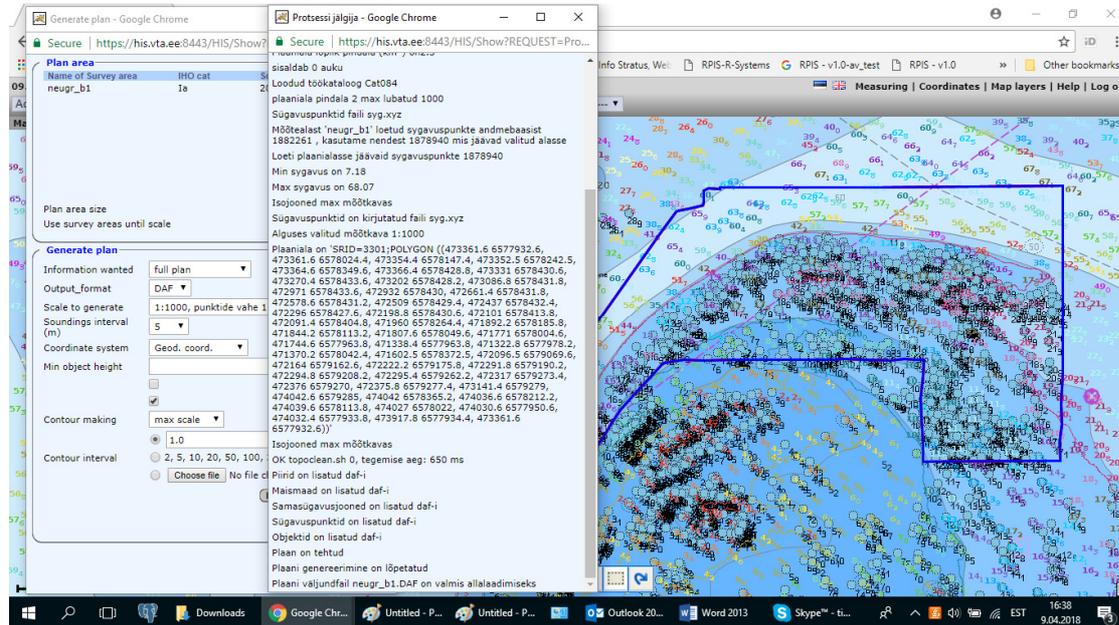


## Depths, isobaths and rocks



## 2. GENERATING DRAFTS

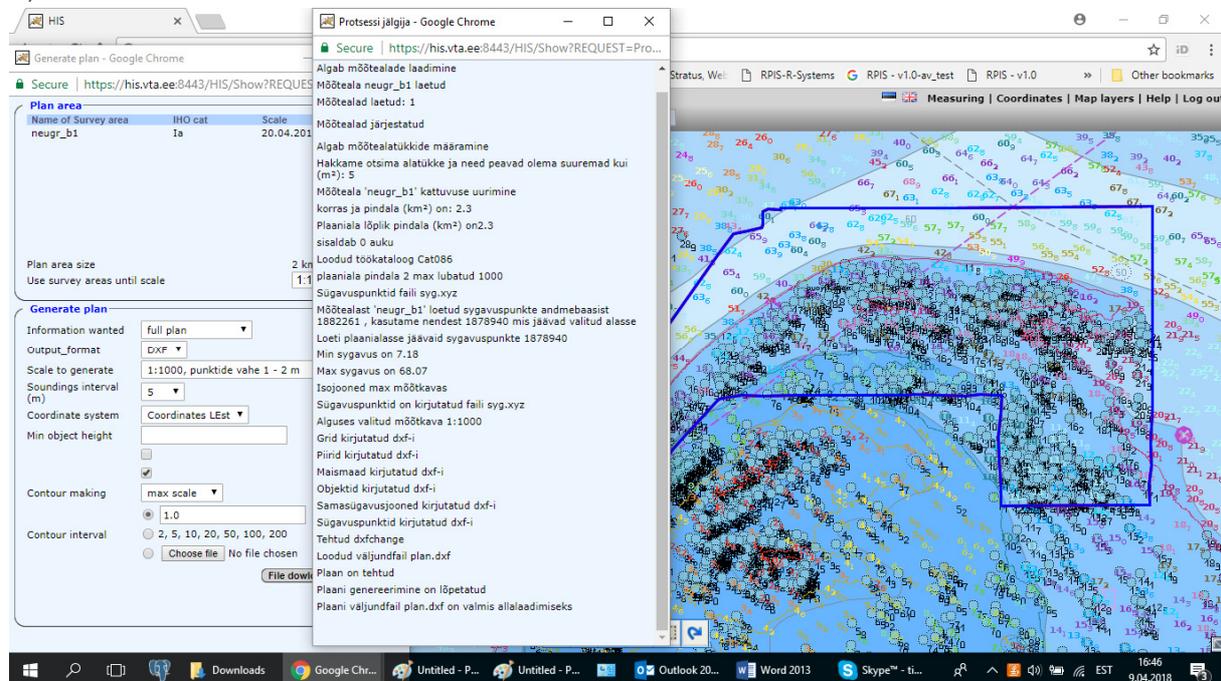
### 1) DAF



Neugr\_b1.DAF

5 534KB generation time: 650ms.

### 2) DXF



Neugr\_b1.DXF

38 227KB generation time: 800ms

### 3) XYZ

**Plan area**

Name of Survey area	IHO cat	Scale	Area
neugr_b1	Ia	20.04.2017	2.3

**Generate plan**

Information wanted: only depth points

Output\_format: XYZ

Scale to generate: 1:1000, punktide vahe 1 - 2 m

Soundings interval (m): 5

Coordinate system: Geod. coord.

Min object height: [input field]

Contour making: max scale

Contour interval: 1.0

2, 5, 10, 20, 50, 100, 200

Choose file No file chosen

File download

**Protsess on lõppenud**

Algab mõõtealade laadimine  
Mõõteala neugr\_b1 laetud  
Mõõtealad laetud: 1  
Mõõtealad järjestatud

Algab mõõtealatuukkide määramine  
Hakkame otsima alatükke ja need peavad olema suuremad kui (m<sup>2</sup>): 5  
Mõõteala 'neugr\_b1' kattuvuse uurimine  
korras ja pindala (km<sup>2</sup>) on: 2.3  
Plaaniaala lõplik pindala (km<sup>2</sup>) on: 2.3  
sisaldab 0 auku  
Loodud töökataloog Cat088  
plaaaniaala pindala 2 max lubatud 1000  
Sügavuspunktid faili syg.xyz  
Mõõtealast 'neugr\_b1' loetud sügavuspunkte andmebaasist 1882261, kasutame nendest 1878940 mis jäävad valitud alasse  
Loeti plaaaniaalasse jäävaid sügavuspunkte 1878940  
Min sügavus on 7.18  
Max sügavus on 68.07  
Isojooned max mõõtkavas  
Sügavuspunktid on kirjutatud faili syg.xyz  
Alguses valitud mõõtkava 1:1000  
Plaan on tehtud  
Plaani genereerimine on lõpetatud  
Plaani väljundfail syg\_out.xyz on valmis allalaadimiseks

**Neugr\_b1.XYZ**

2 449KB generation time: 350ms

### 4) KML

**Generate plan**

Information wanted: full plan

Output\_format: KML

Scale to generate: 1:1000, punktide vahe 1 - 2 m

Soundings interval (m): 5

Coordinate system: Geod. coord.

Min object height: [input field]

Contour making: max scale

Contour interval: 1.0

2, 5, 10, 20, 50, 100, 200

Choose file No file chosen

File download

**Protsess on lõppenud**

Algab mõõtealade laadimine  
Mõõteala neugr\_b1 laetud  
Mõõtealad laetud: 1  
Mõõtealad järjestatud

Algab mõõtealatuukkide määramine  
Hakkame otsima alatükke ja need peavad olema suuremad kui (m<sup>2</sup>): 5  
Mõõteala 'neugr\_b1' kattuvuse uurimine  
korras ja pindala (km<sup>2</sup>) on: 2.3  
Plaaniaala lõplik pindala (km<sup>2</sup>) on: 2.3  
sisaldab 0 auku  
Loodud töökataloog Cat089  
plaaaniaala pindala 2 max lubatud 1000  
DAF piirid salvestatud faili  
Alguses valitud mõõtkava 1:1000  
Plaani tegemine ebaõnnestus  
Samasügavusjooned on lisatud kml-i  
Objektid (kivid,takistused,vrakid) on kirjutatud faili  
Väljundfail on valmis allalaadimiseks

**Neugr\_b1.kml**

2 873KB generation time: 240ms

## 5) SHAPE

**Plan area**

Name of Survey area	IHO cat	Scale
neugr_b1	1a	20.04

Plan area size  
Use survey areas until scale

**Generate plan**

Information wanted: full plan

Output\_format: SHP

Scale to generate: 1:1000, punktide vahe 1 - 2

Soundings interval (m): 5

Coordinate system: Geod. coord.

Min object height: [input field]

Contour making: max scale

Contour interval:  1.0,  2, 5, 10, 20, 50, 100, 200,  Choose file,  No file chosen

**Protsess on lõppenud**

Algab mõttealade laadimine

Mõtteala neugr\_b1 laetud

Mõttealade laetud: 1

Mõttealade järjestatud

Algab mõttealade määramine

Hakkame otsima alatükke ja need peavad olema suuremad kui (m<sup>2</sup>): 5

Mõtteala 'neugr\_b1' kattuvuse uurimine

korras ja pindala (km<sup>2</sup>) on: 2.3

Plaaniala lõplik pindala (km<sup>2</sup>) on: 2.3

sisaldab 0 auku

Loodud töökataloog Cat090

plaaniala pindala 2 max lubatud 1000

Plaaniala on 'SRID=3301;POLYGON ((473361.6 6577932.6, 473361.6 6578024.4, 473354.4 6578147.4, 473352.5 6578242.5, 473364.6 6578349.6, 473366.4 6578428.8, 473331 6578430.6, 473270.4 6578433.6, 473202 6578428.2, 473086.8 6578431.8, 472971 6578433.6, 472932 6578430, 472661.4 6578431.8, 472578.6 6578431.2, 472509 6578429.4, 472437 6578432.4, 472296 6578427.6, 472198.8 6578430.6, 472101 6578413.8, 472091.4 6578404.8, 471960 6578264.4, 471892.2 6578185.8, 471844.2 6578113.2, 471807.6 6578049.6, 471771 6578004.6, 471744.6 6577963.8, 471738.4 6577963.8, 471722.8 6577978.2, 47170.2 6578042.4, 471602.5 6578372.5, 472096.8 6579069.6, 472164 6579162.6, 472222.2 6579175.8, 472291.8 6579190.2, 472294.8 6579208.2, 472295.4 6579262.2, 472317 6579273.4, 472376 6579270, 472375.8 6579277.4, 473141.4 6579279, 474042.6 6579285, 474042 6578365.2, 474036.6 6578212.2, 474039.6 6578113.8, 474027 6578022, 474030.6 6577950.6, 474032.4 6577933.8, 473917.8 6577934.4, 473361.6 6577932.6))

Isojooned max mõõtkavas

OK topoclean.sh 0, tegemise aeg: 563 ms

Alguses valitud mõõtkava 1:1000

Plaani tegemine ebaõnnestus

OK toShp2.sh 0, tegemise aeg: 3.1

Väljundfail on valmis allalaadimiseks

**File download**

**Neugr\_b1.zip** 2 449KB generation time: 563ms

## 6) BAG (S-102)

**Plan area**

Name of Survey area	IHO cat	Scale
neugr_b1	1a	1:1000

Plan area size  
Use survey areas until scale

**Generate plan**

Information wanted: only depth points

Output\_format: BAG (S-102)

Scale to generate: 1:1000, punktide vahe 1 - 2 m

Soundings interval (m): 5

Coordinate system: Geod. coord., EH2000

Min object height: [input field]

Contour making: max scale

Contour interval:  1.0,  2, 5, 10, 20, 50, 100, 200,  Choose file,  No file chosen

**Protsess on lõppenud**

Algab mõttealade laadimine

Mõtteala neugr\_b1 laetud

Mõttealade laetud: 1

Mõttealade järjestatud

Algab mõttealade määramine

Hakkame otsima alatükke ja need peavad olema suuremad kui (m<sup>2</sup>): 5

Mõtteala 'neugr\_b1' kattuvuse uurimine

korras ja pindala (km<sup>2</sup>) on: 2.3

Plaaniala lõplik pindala (km<sup>2</sup>) on: 2.3

sisaldab 0 auku

Loodud töökataloog Cat008

plaaniala pindala 2 max lubatud 1000

Mõttealast 'neugr\_b1' loetud sügavuspunkte andmebaasist 1882261, kasutame nendest 1878940 mis jäävad valitud alasse

Loeti plaanialsse jäävaid sügavuspunkte 1878940

Min sügavus on 7.18

Max sügavus on 68.07

Sügavuspunktid on kirjutatud faili syg.xyz

Alguses valitud mõõtkava 1:1000

Plaani genereerimine on lõpetatud

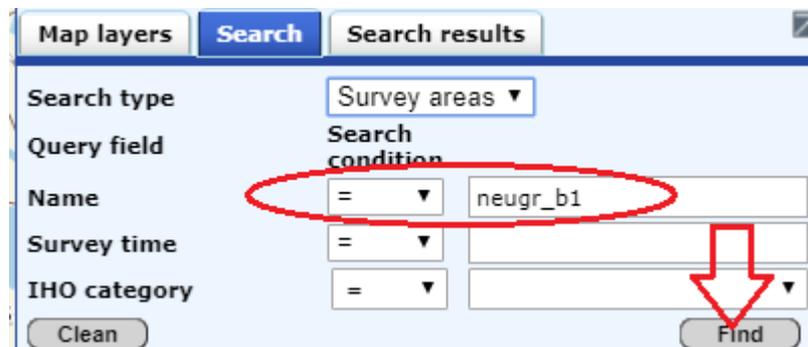
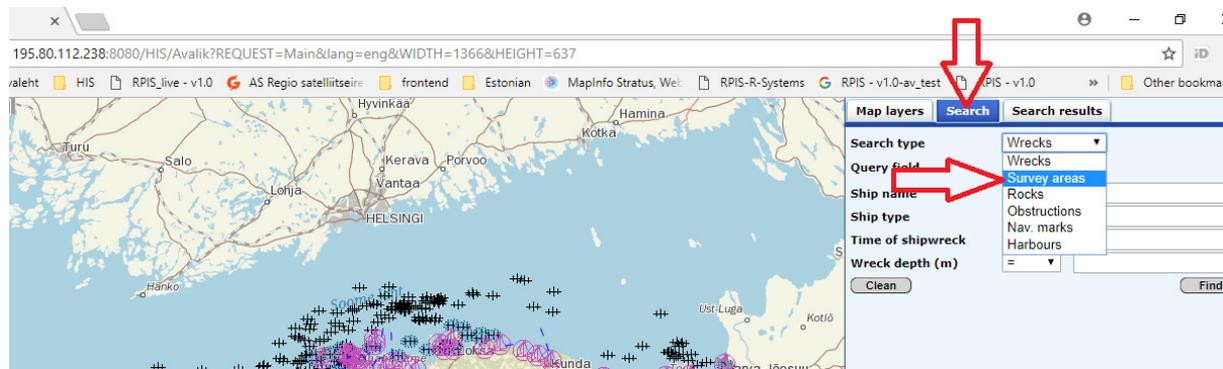
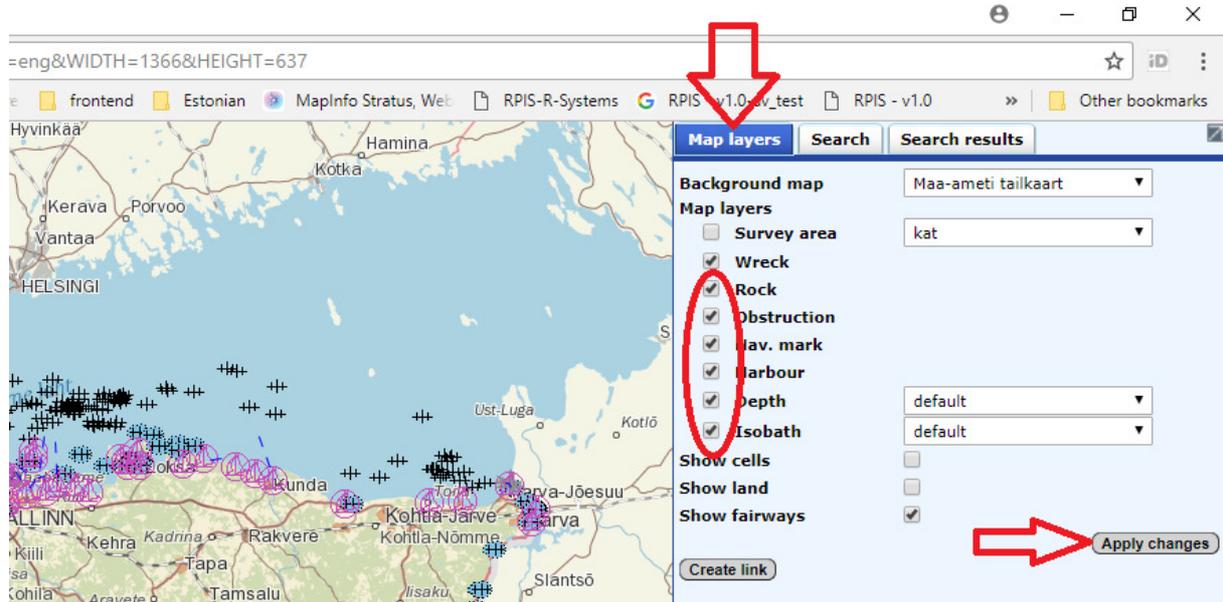
Plaani väljundfail EE\_neugr\_b1\_BAG\_47.bag on valmis allalaadimiseks

**File download**

**EE\_neugr\_b1\_BAG\_47.bag** 2 803KB generation time: 988ms

# Guide to explore sample area in HIS

<http://195.80.112.238:8080/HIS/Avalik?REQUEST=Main&lang=eng&WIDTH=1366&HEIGHT=637>



RPIS-R-Systems | RPIS - v1.0-av\_test | RPIS - v1.0 | Other bookmark

Map layers | Search | **Search results**

List | View data | active

Start Previous 1 Next End

Name	IHO category	Area	Survey time
neugr_b1	Ia	231.28	20.04.2017

klick

RPIS-R-Systems | RPIS - v1.0-av\_test | RPIS - v1.0 | Other bookmark

Map layers | Search | **Search results**

List | **View data**

Show on map

Name	neugr_b1
id	7304
Area	231.28
Lines	38
Km-s surveyed	50.06
Line distance	lausmoodistus
IHO category	Ia
Measured by	VA
Survey time	20.04.2017

AHIS (public HIS) | Not secure | 195.80.112.238:8080/HIS/Availik?REQUEST=Main&lang=eng&WIDTH=1366&HEIGHT=637

Map legend | Map layers | Search | **Search results**

List | View data

Show on map

Name	neugr_b1
id	7304
Area	231.28
Lines	38
Km-s surveyed	50.06
Line distance	lausmoodistus
IHO category	Ia
Measured by	VA
Survey time	20.04.2017

778000 Long 28.5314  
6613240 Lat 59.4043