

* PROSPECTS FOR FURTHER DEVELOPMENT OF RIS IN UKRAINE



Ministry of Infrastructure of Ukraine

Рус

Укр

Eng

Updating information on the site: 9:00-10:00, 13:00-13:30, 15:30-16:00



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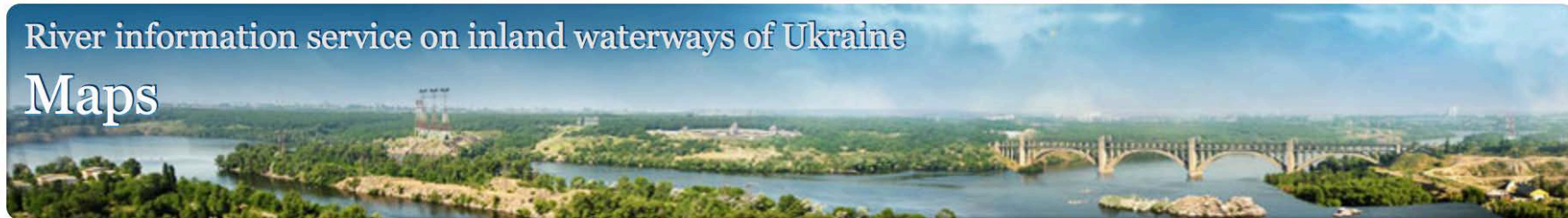
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River information service on inland waterways of Ukraine

Maps



[Главная](#) > [RIS](#) > [Fairway](#) > [Обзорные карты](#)

Info report

Dnipro maps http://charts.gov.ua/dnipro_ua.htm

Danube maps http://charts.gov.ua/danube_ua.htm

Water levels

Path dimensions

Inforeport publication

Information on navigation
conditions

INTRODUCTION

The UkrRIS is charge of the Delta-pilot Branch of the State Enterprise «Ukrainian Sea Ports Authority». The UkrRIS has been established by order of the Ministry of Infrastructure of Ukraine *from 25.02.2011.*

We started of RIS preparations at the beginning of 2000-th years



* Positions RIS on the Danube

Pos. 1 - Reni

*BS AIS, Hydro-meteo station
(with WLS), Server DCP, RP*

Pos. 3 - Izmail

*BS AIS, Hydro-meteo station,
Server DCP, DGNSS, RP*

Pos. 4 - Kislitsa

BS AIS

Pos. 5 - Kiliya

*BS AIS, Hydro-meteo
station, Server DCP, RP*

Pos. 2 - Orlovka

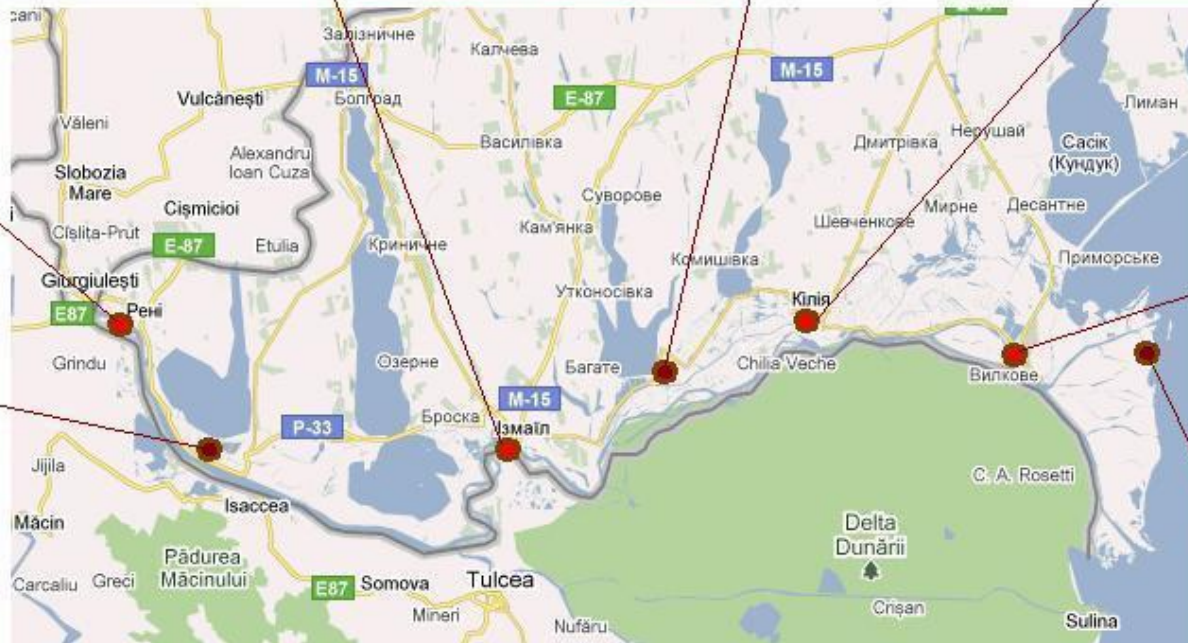
BS AIS

Pos. 6 - Vilkovo

*BS AIS, Hydro-meteo
station (with WLS),
Server DCP, RP*

*Pos. 7 - 0 km
(Mouth Bystroe)*

BS AIS, ARP



* BS AIS - base station AIS

* Server DCP - server data collection and processing

* DGNSS - differential global navigation satellite system

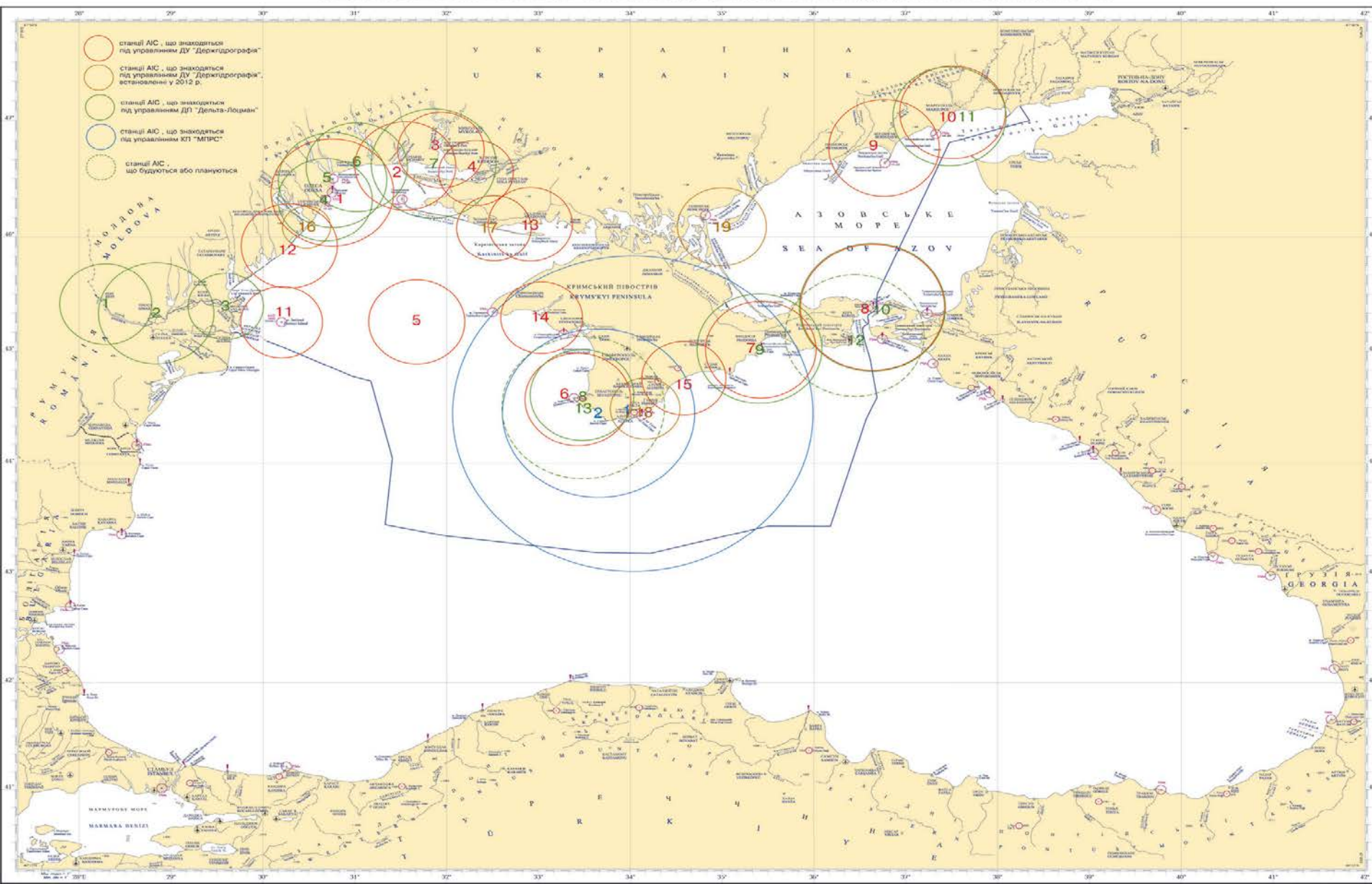
* WLS - water level sensor

* RP - radar post

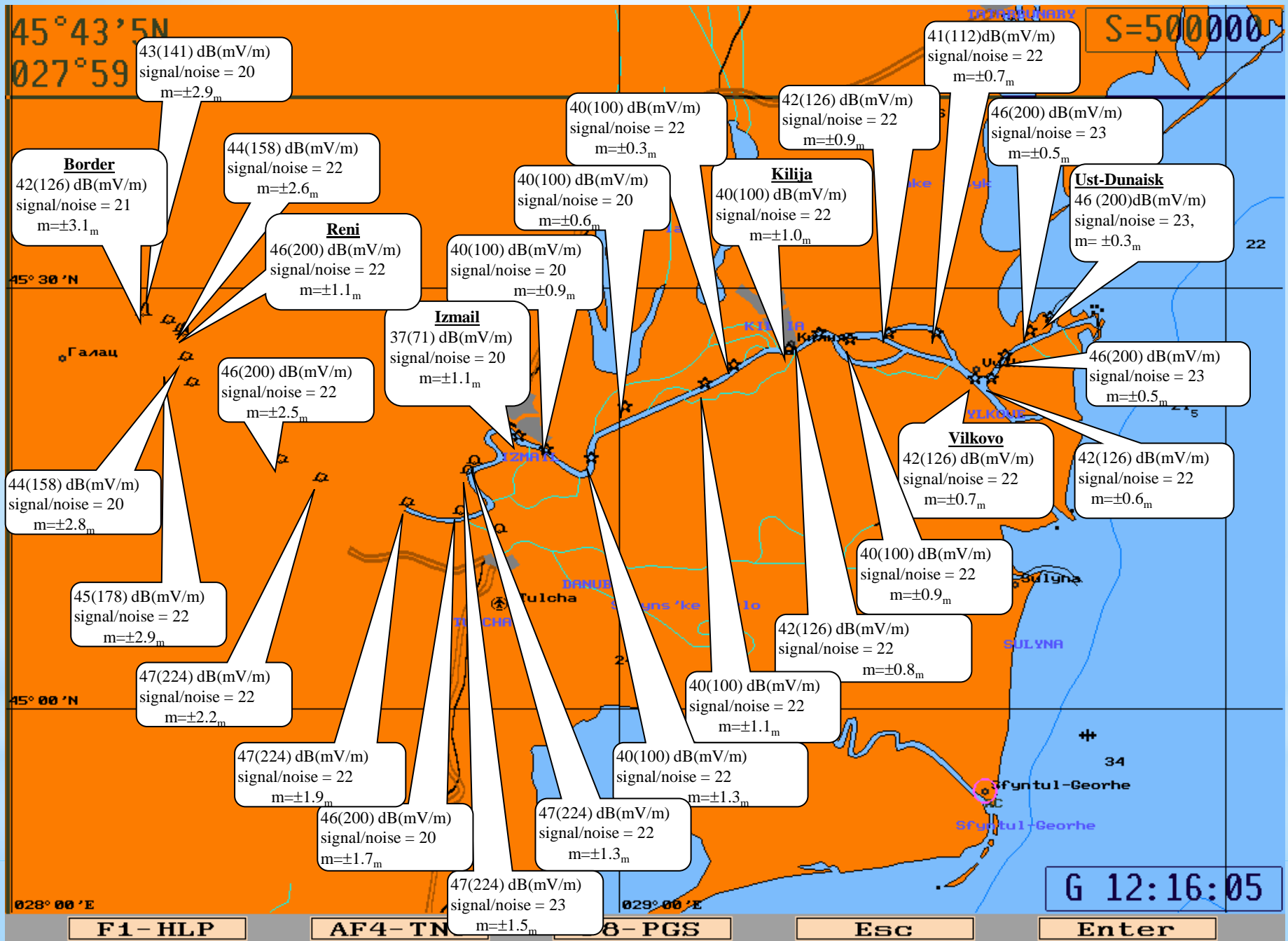
* ARP - automated radar post

* Base AIS stations system on the Black Sea

СХЕМА РОЗТАШУВАННЯ БАЗОВИХ СТАНЦІЙ АІС ДУ "ДЕРЖГІДРОГРАФІЯ", ДП "ДЕЛЬТА-ЛОЦМАН", КП "МПРС"

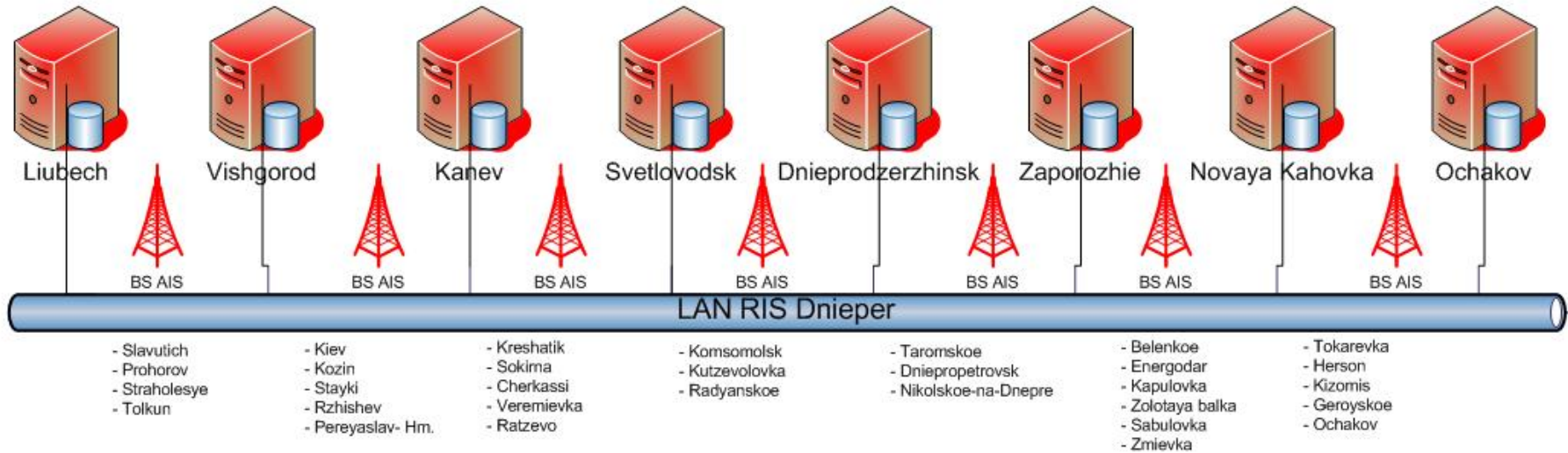






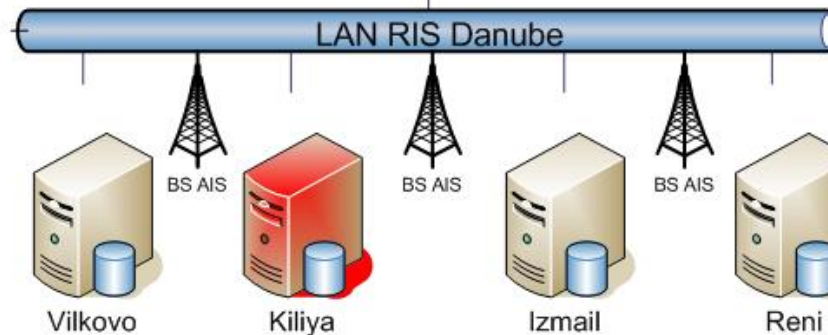
RIS general structure in Ukraine

Data collection and processing information servers on the Dnieper



RIS Center in
Odessa

Data collection and processing information servers on the Danube

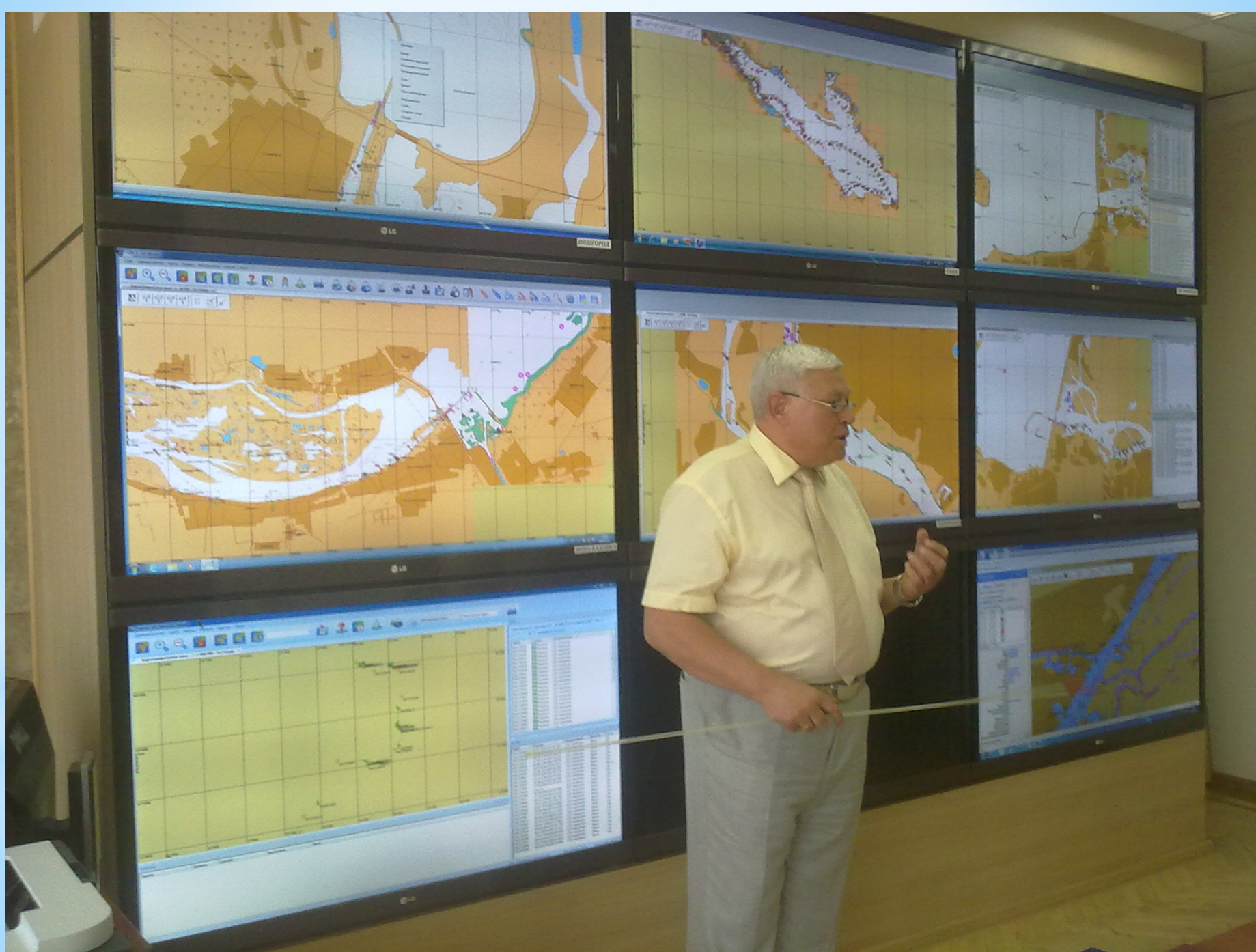


- planned posts

- planned remote intermediate AIS stations



BS AIS
Slavutich





CHALLENGES DURING THE UKRRIS OPERATIONAL

- many ships which is entering from sea to the river and using IMO standards do not perceive RIS standards and boatmasters of these vessels often ignore the possibility of close interaction with RIS centers;
- sometimes we have challenges for create of RIS index of the some objects on the rivers. For instance, it`s some privat area with berths, terminals, bay for yachts, etc;
- the schedule of locks operational is not regulation yet, which does not allow us to calculate the exact ETA for transport vessels;

- In this time, we can with sufficient accuracy control and predict changes in the water level of the river, from gauges, but we still not predict the changes in the relief river bottom at the same level accuracy, during the voyage there can be places on the river where there will be critical depths.
- In the process of UKRRIS operation we encountered yet another problem, it is the need for training RIS operators. We already began to conduct such short training courses with the involvement of leading specialists from NED, AU and BE, but this was our own initiative, which brought good results. Due to objective reasons, we need to suspended this practice and after that we have perceive it. Therefore, we present this as a challenges which is requiring solution.

* 1-st task - RIS EGs make solutions:
IEEG; IEHG; NtS EG; VTT(IAIS) EG; ERI EG.

2-nd task - it`s our national legislation task:
in parlamet still discussion for new law about IWT
development in UA, there considering also UKRRIS in
advance.

3-rd task - this is a solvable problem by improving the
organization of the planning process of cargo transportation
as well.

* 4-th task - on this issue I would like to dwell in more detail

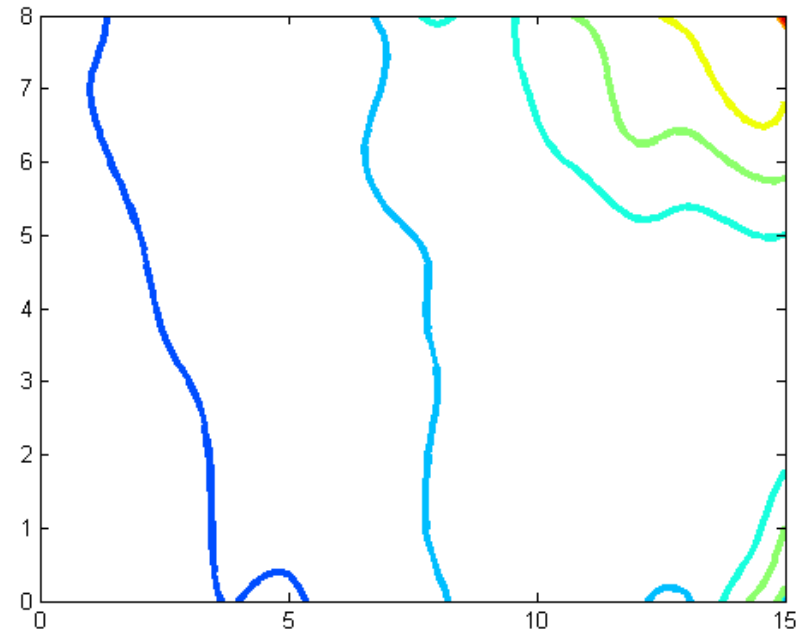
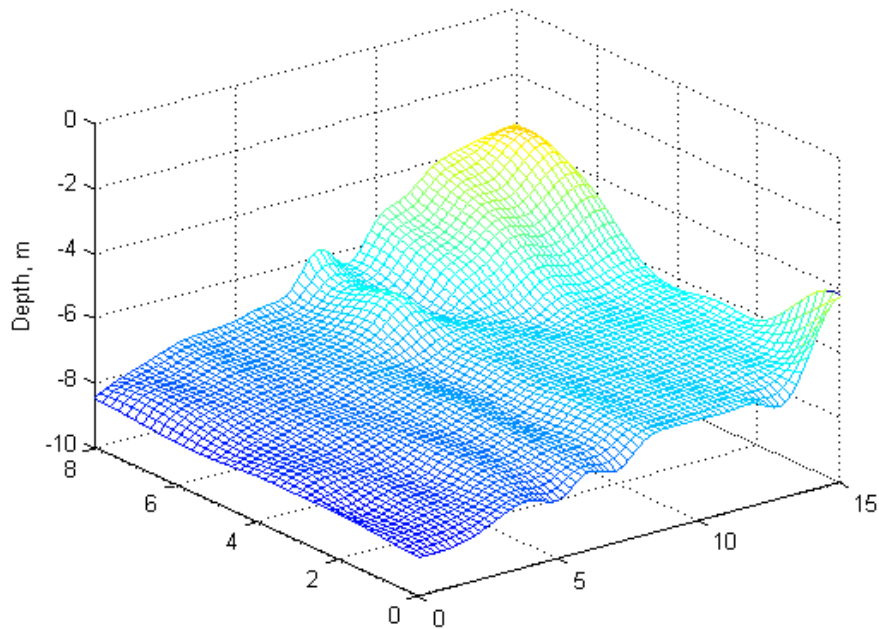
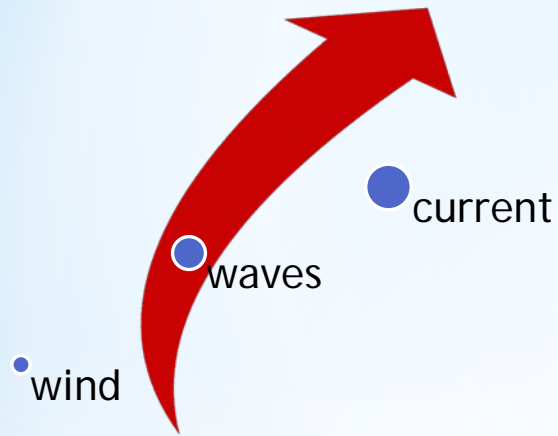
Dynamic components using in IENCs

Trial Pilot project

Depth contours dynamic in chart
2013-2017 years observations

Check out in check points at
2018 derived on

78% probability forecast
confirmation



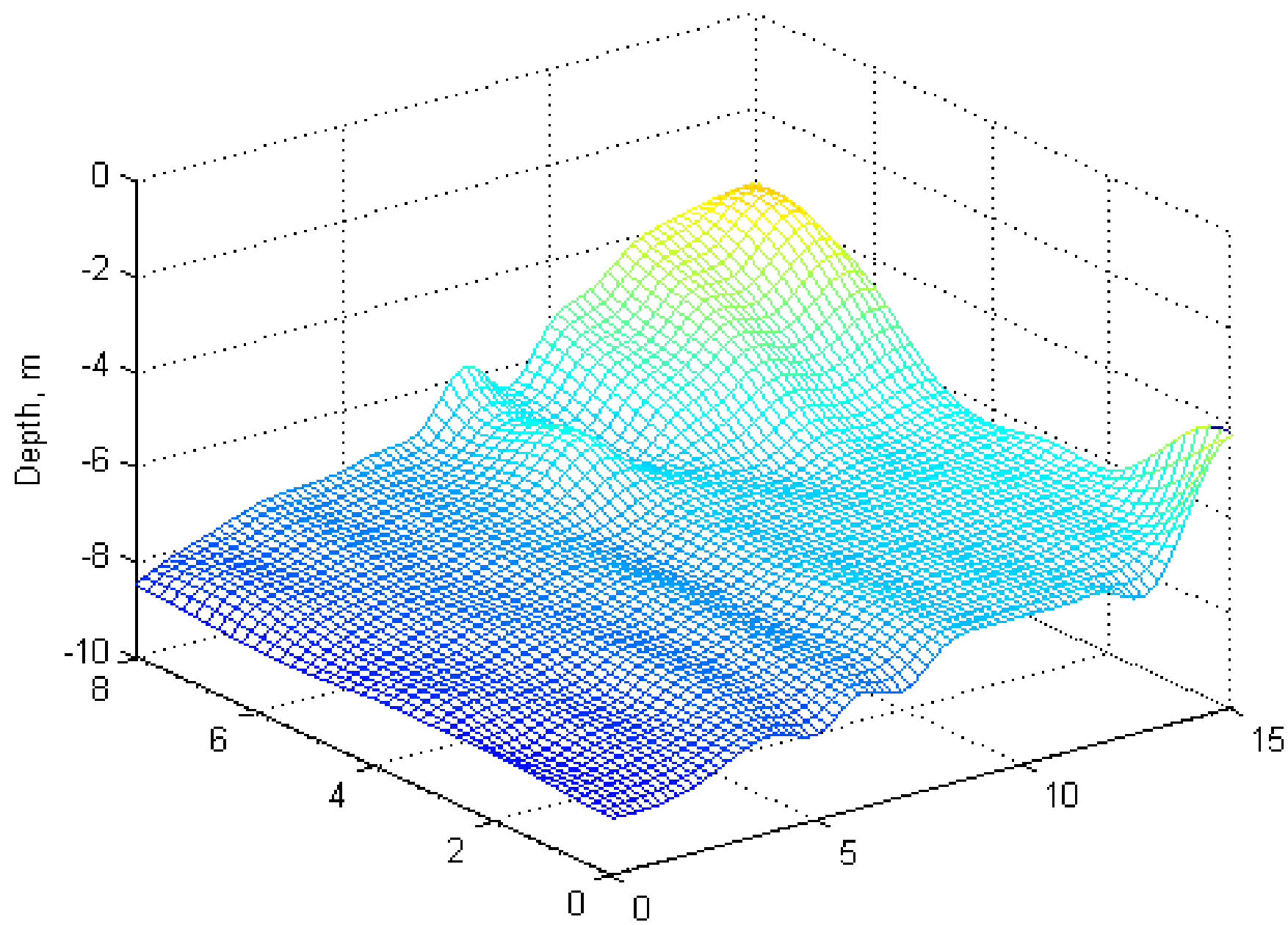
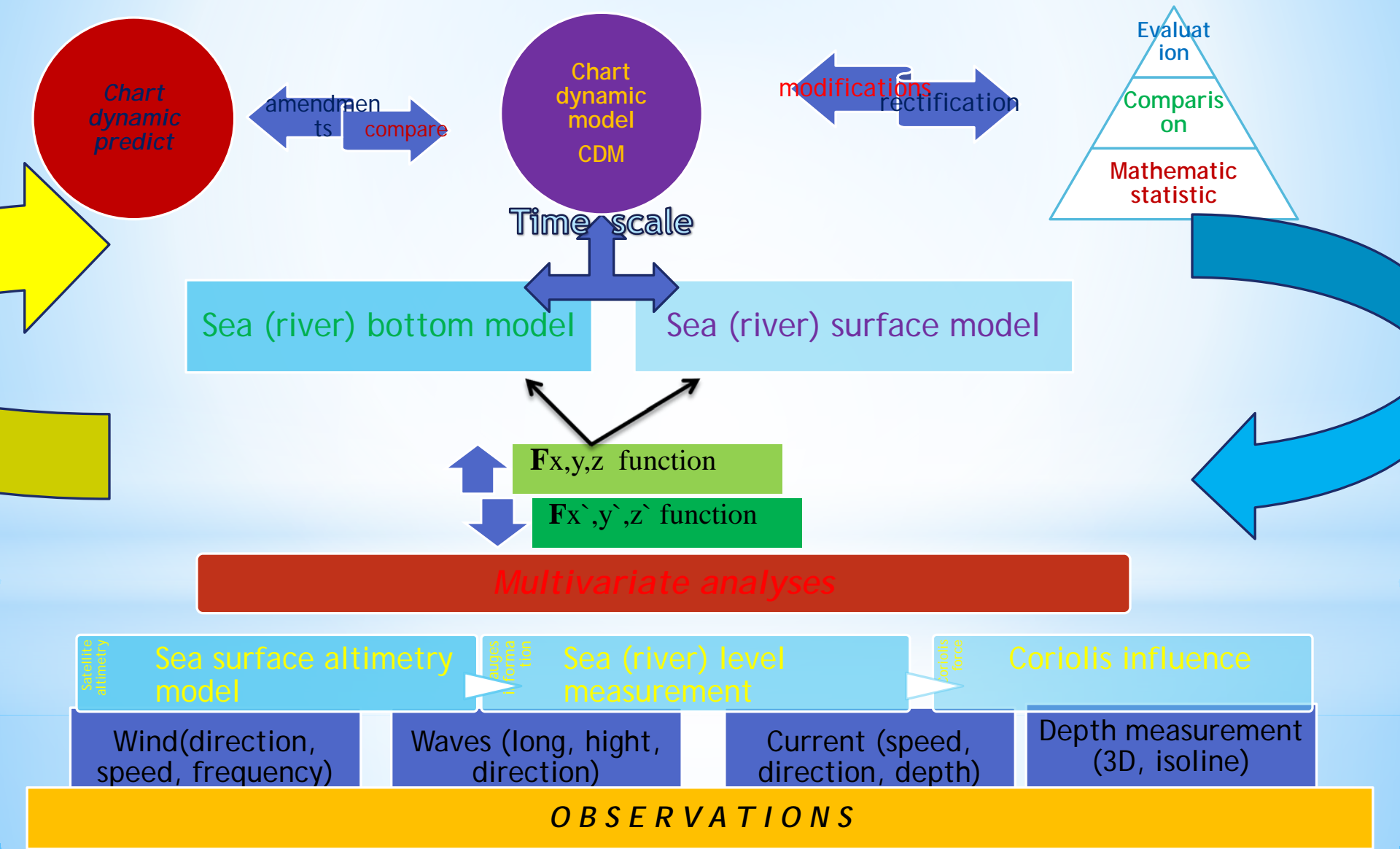
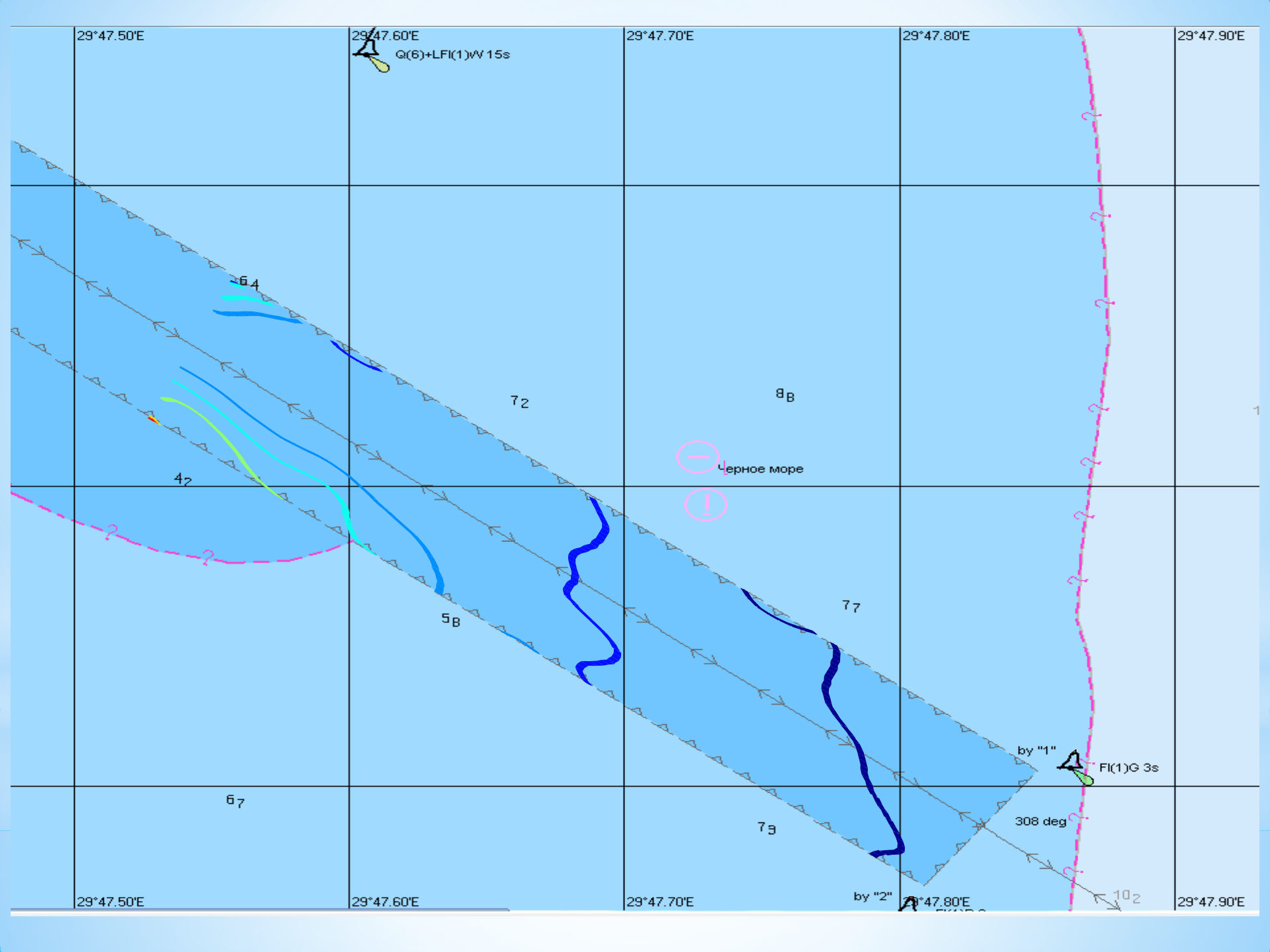
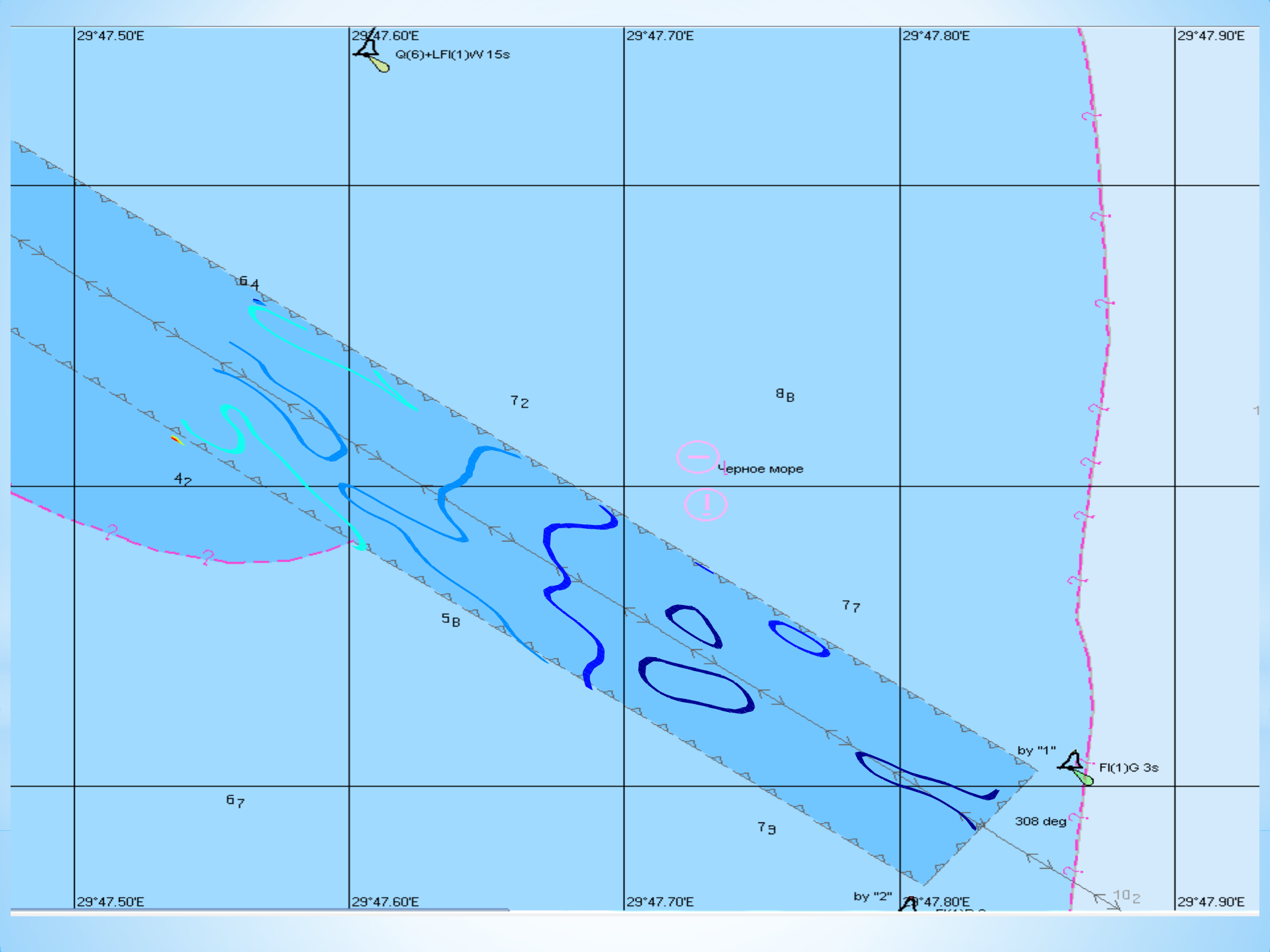
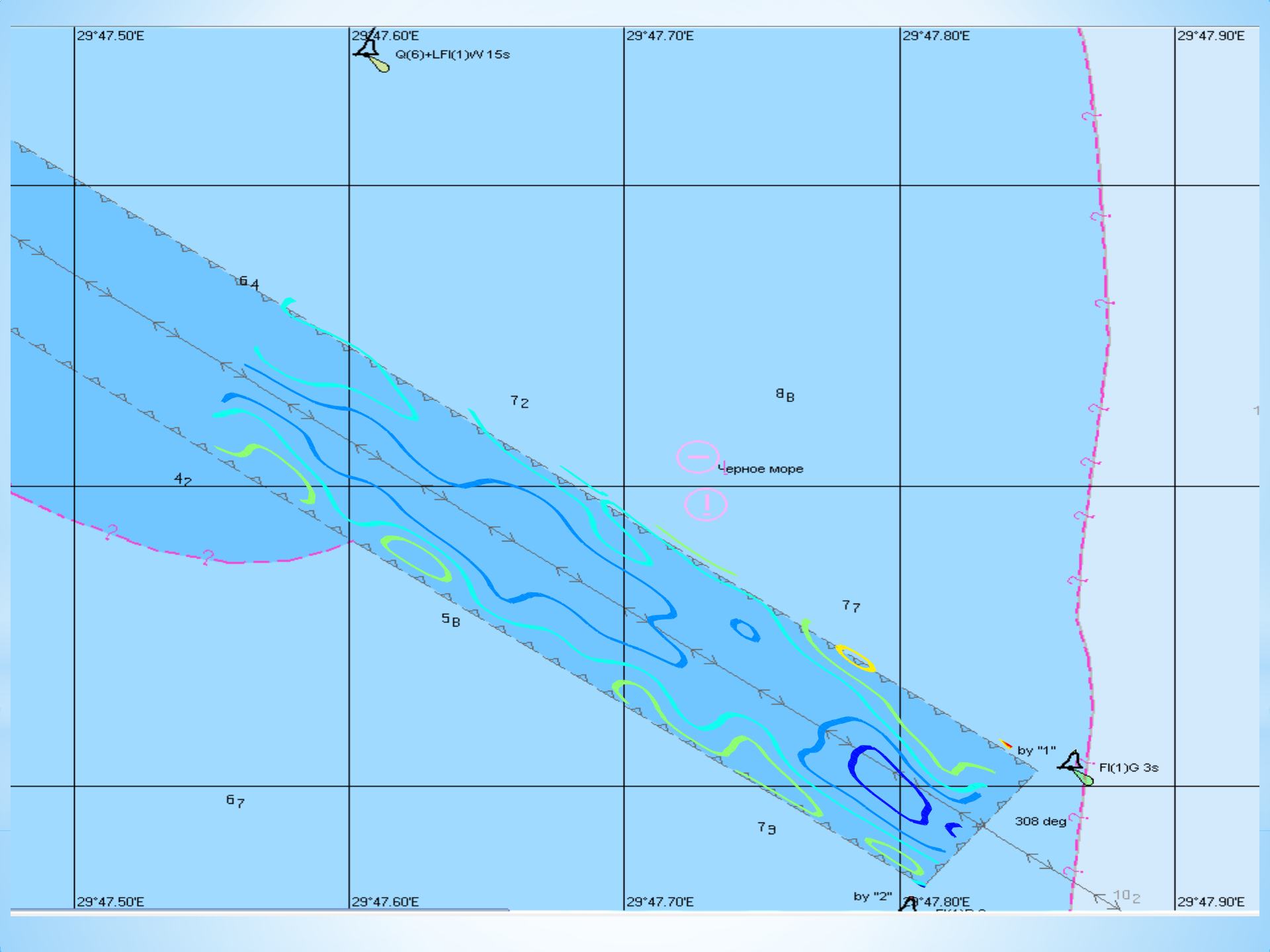


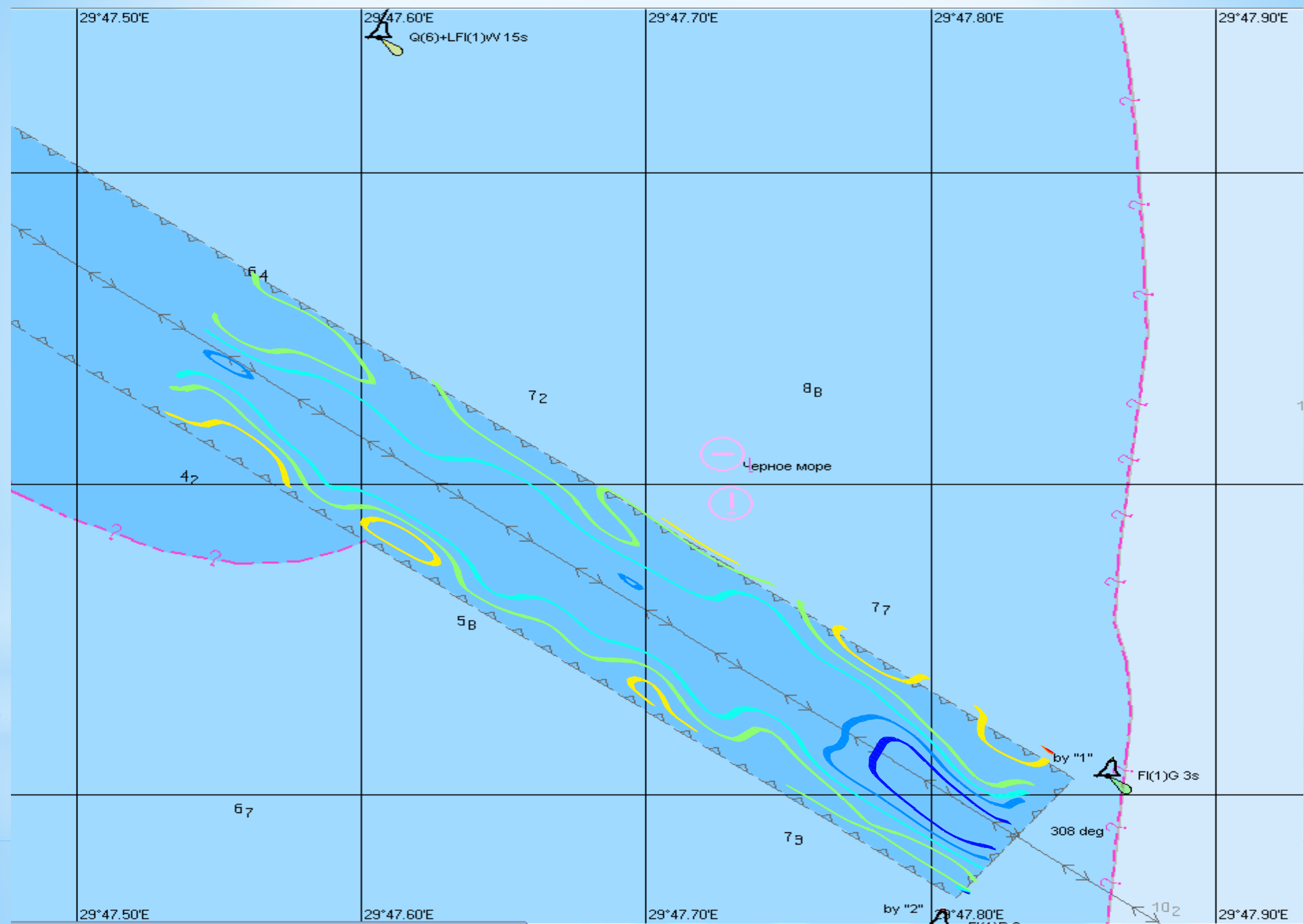
CHART DYNAMIC MODEL

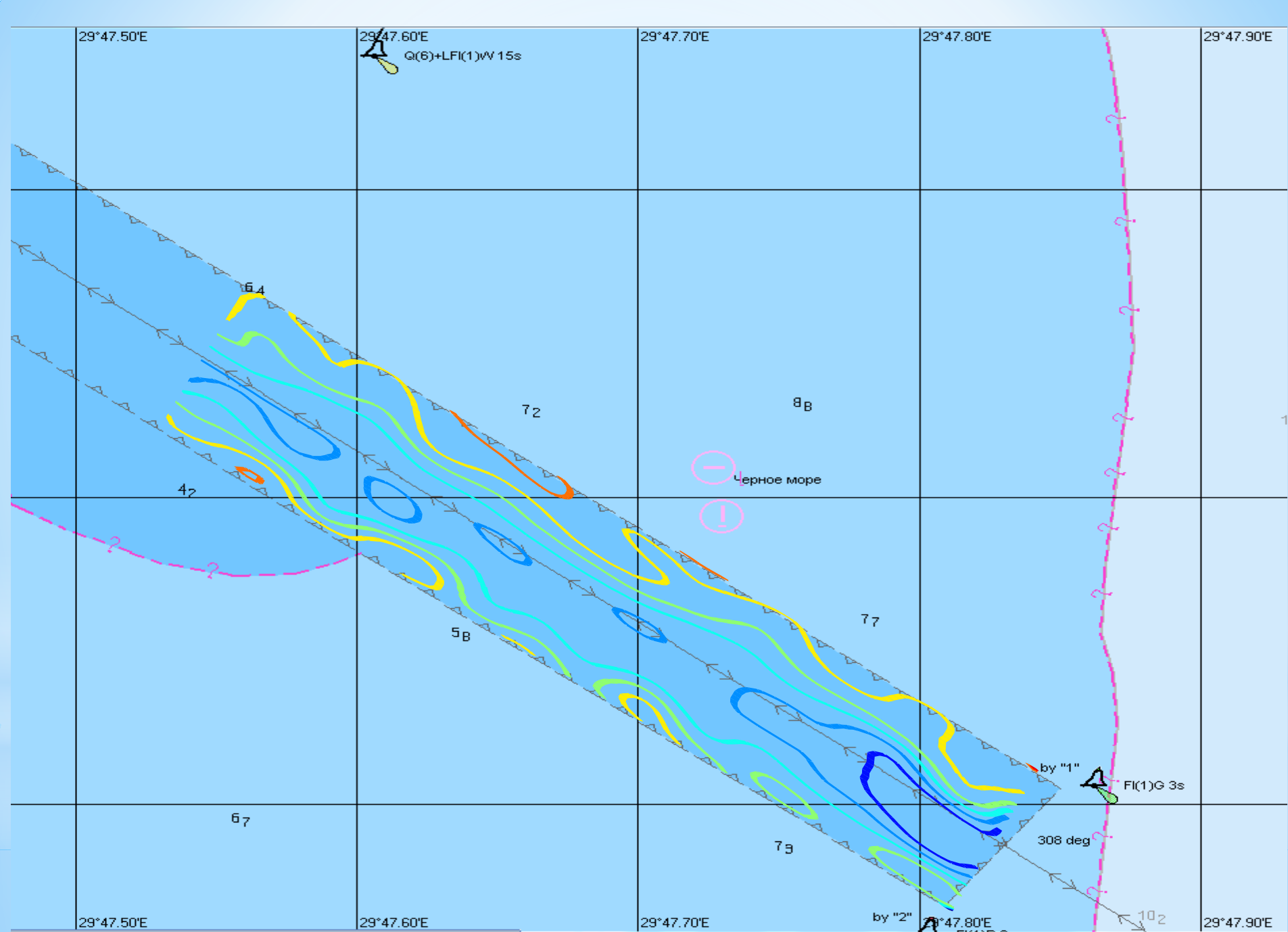


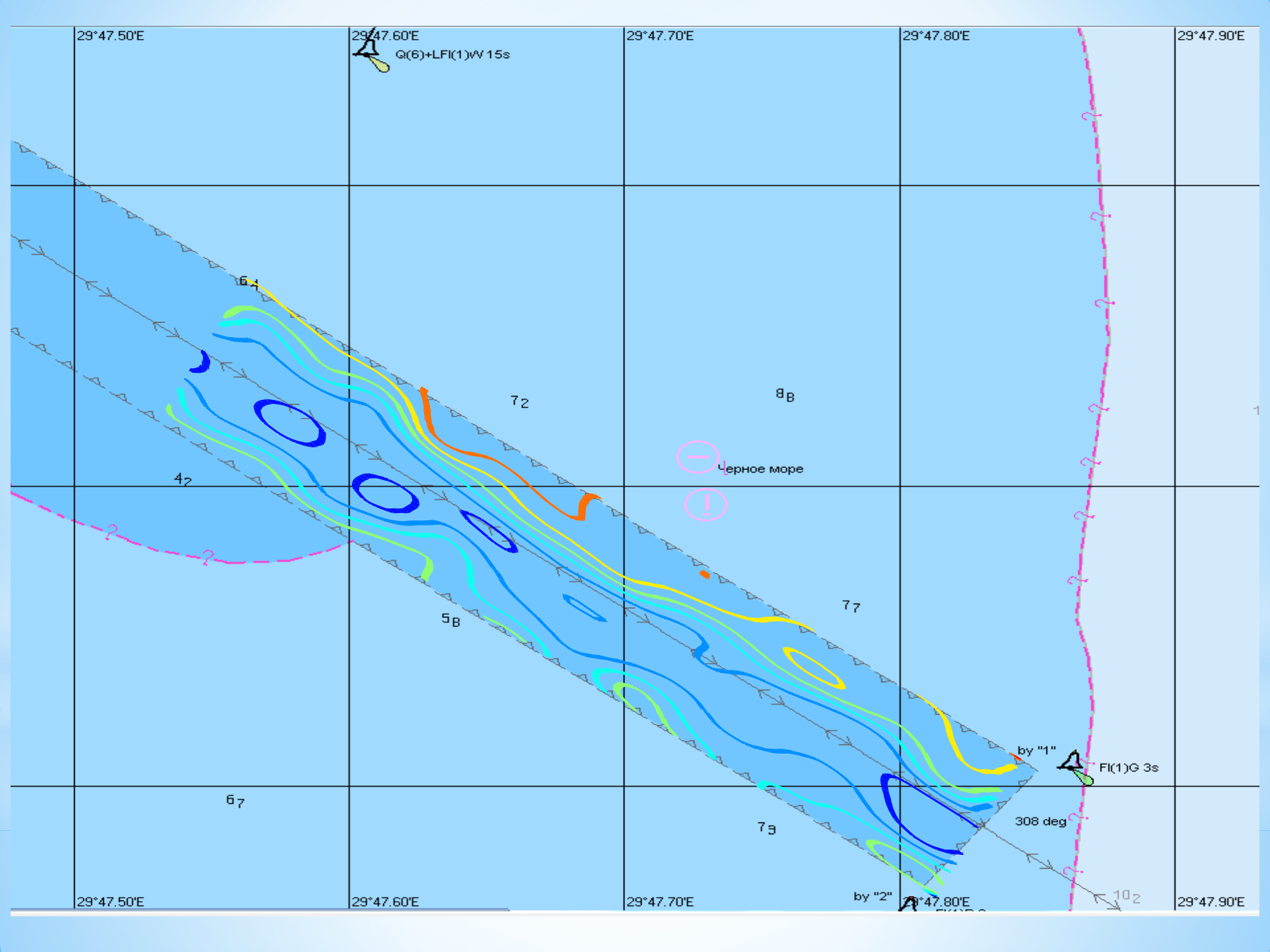


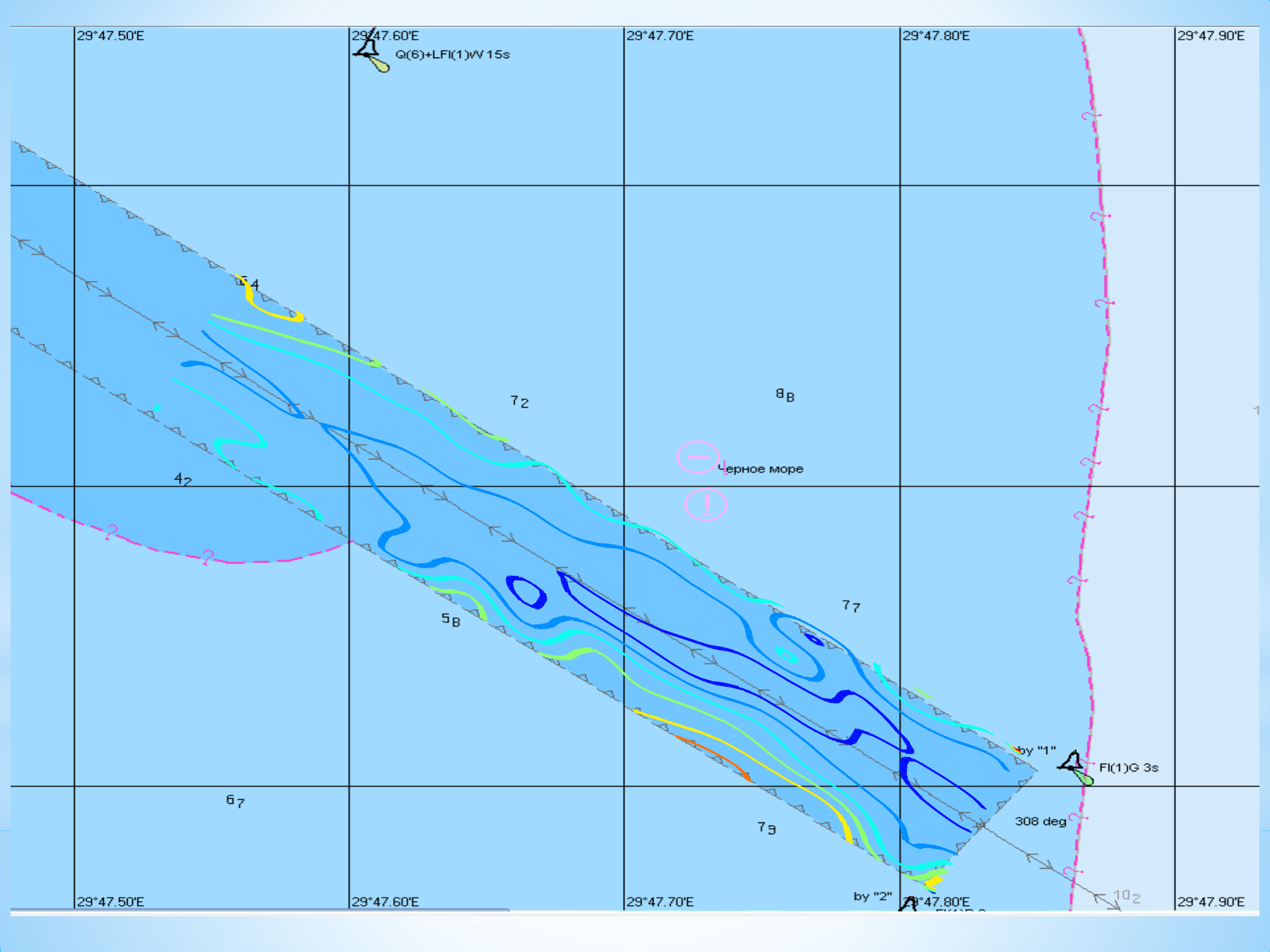




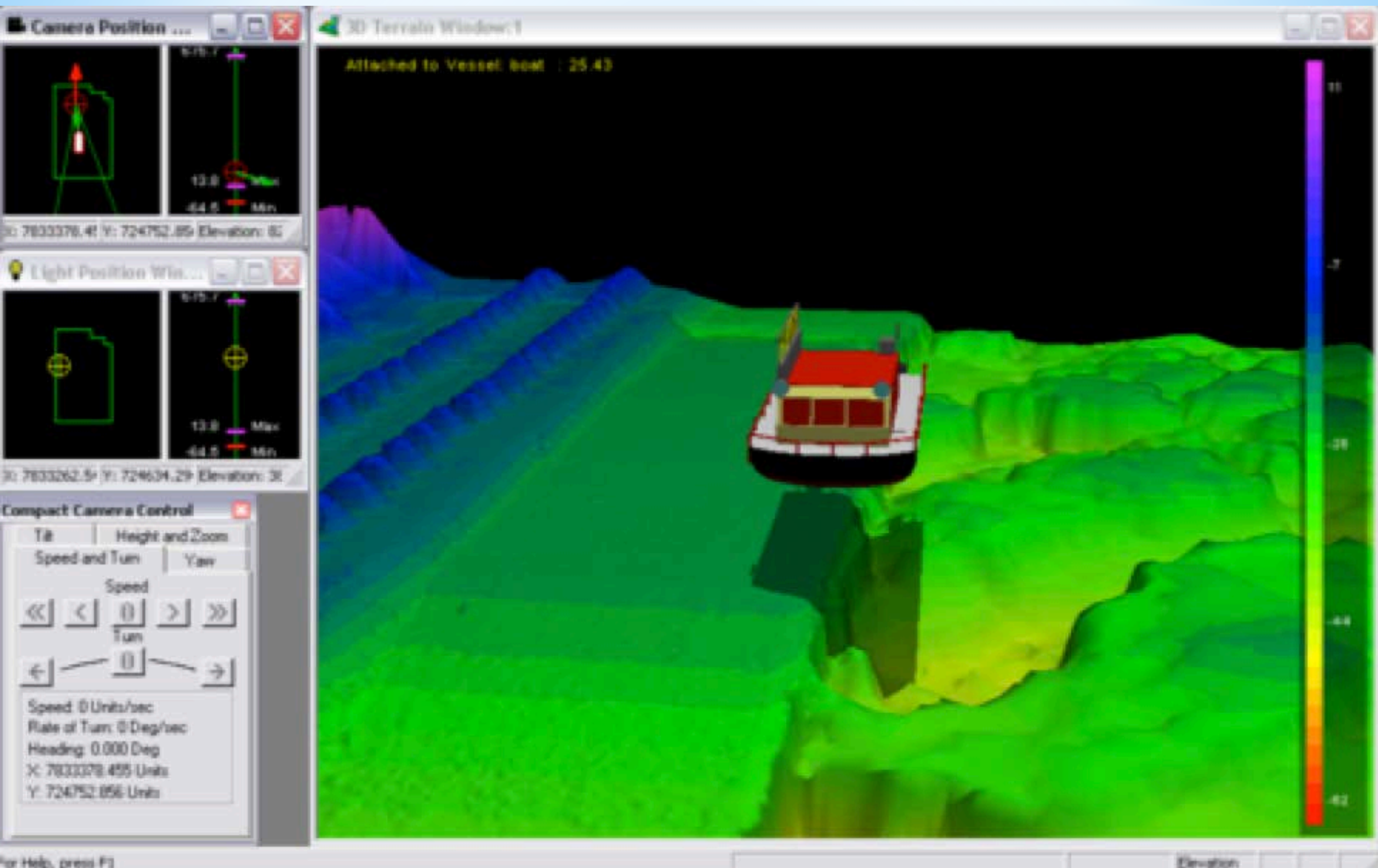


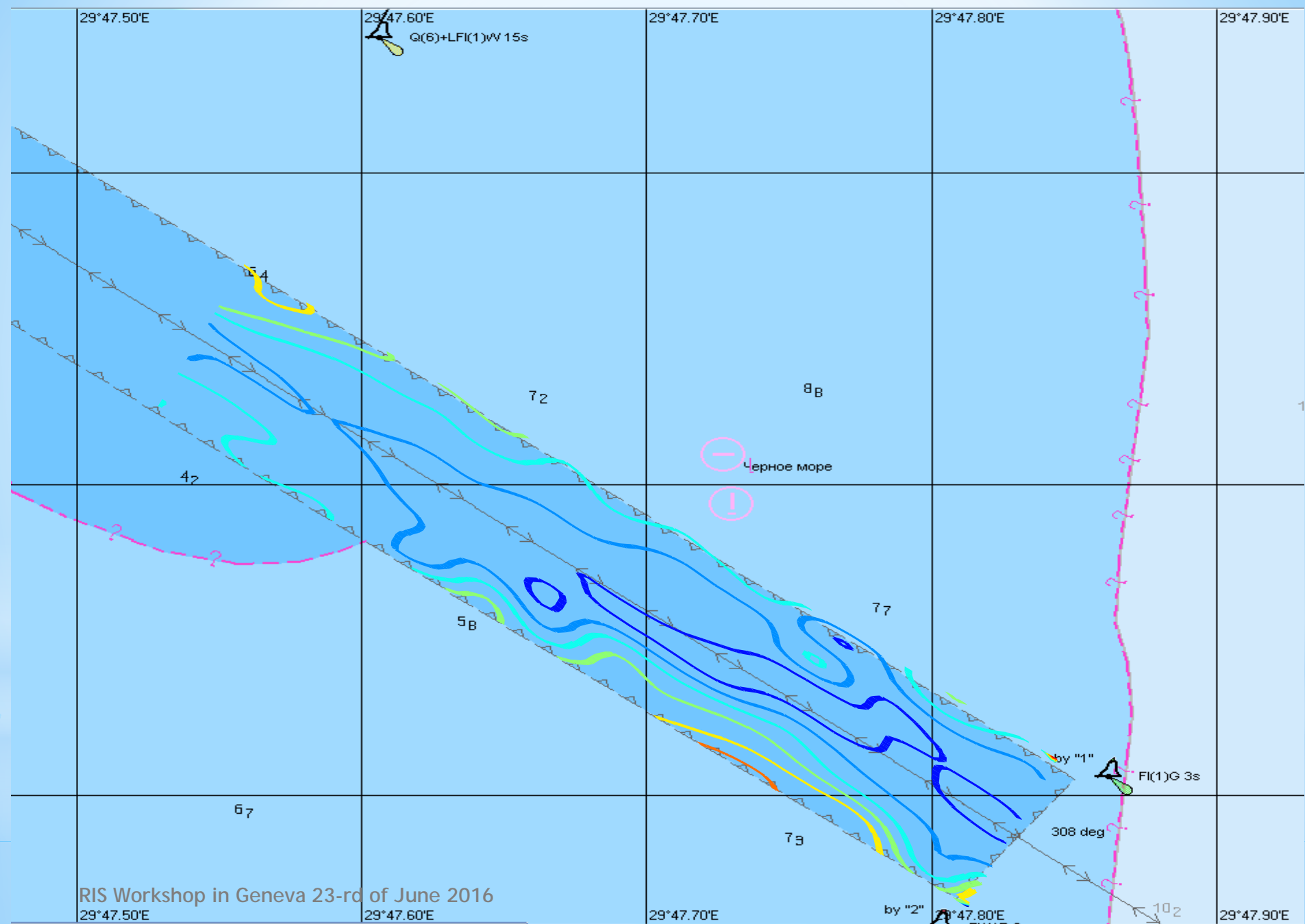


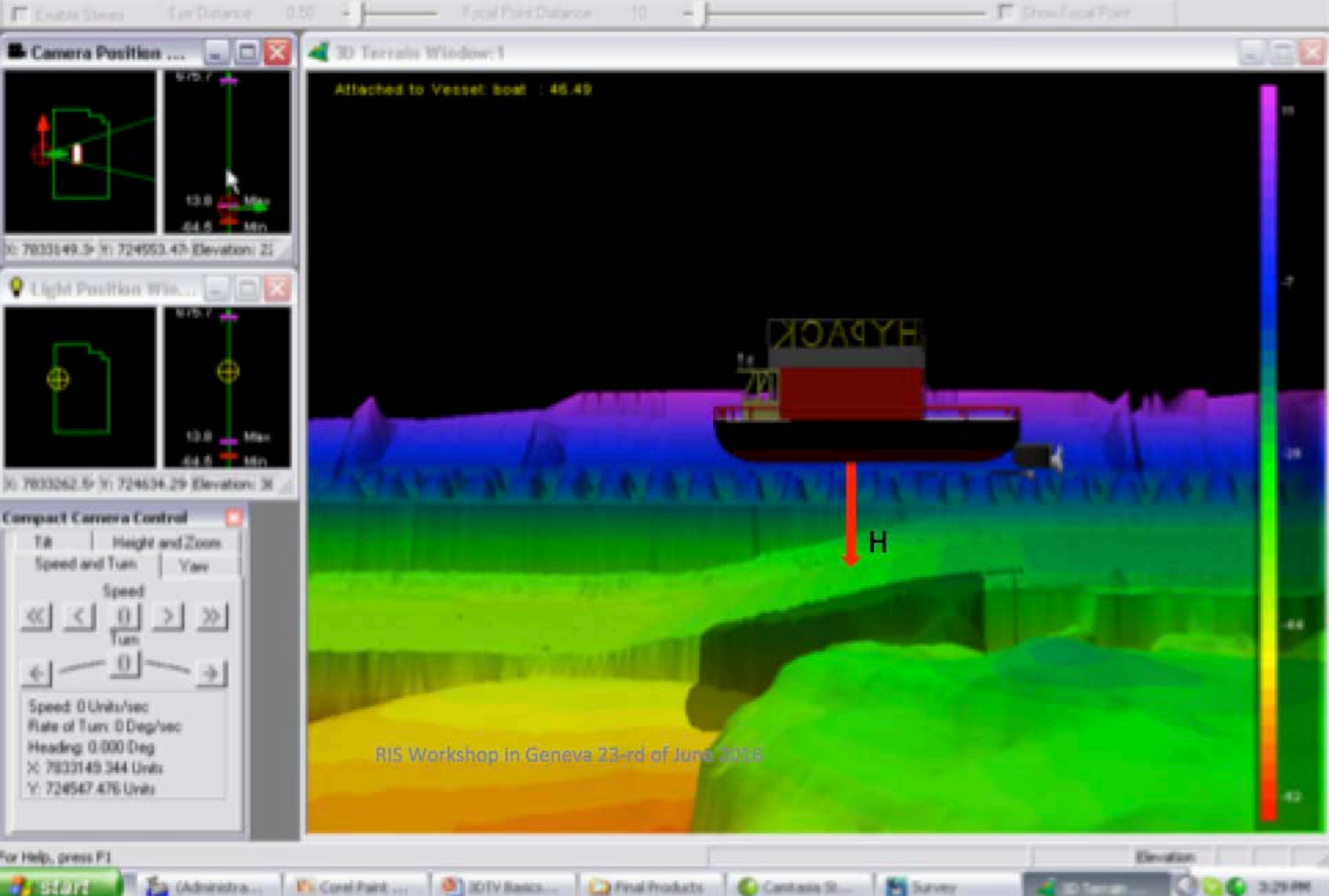


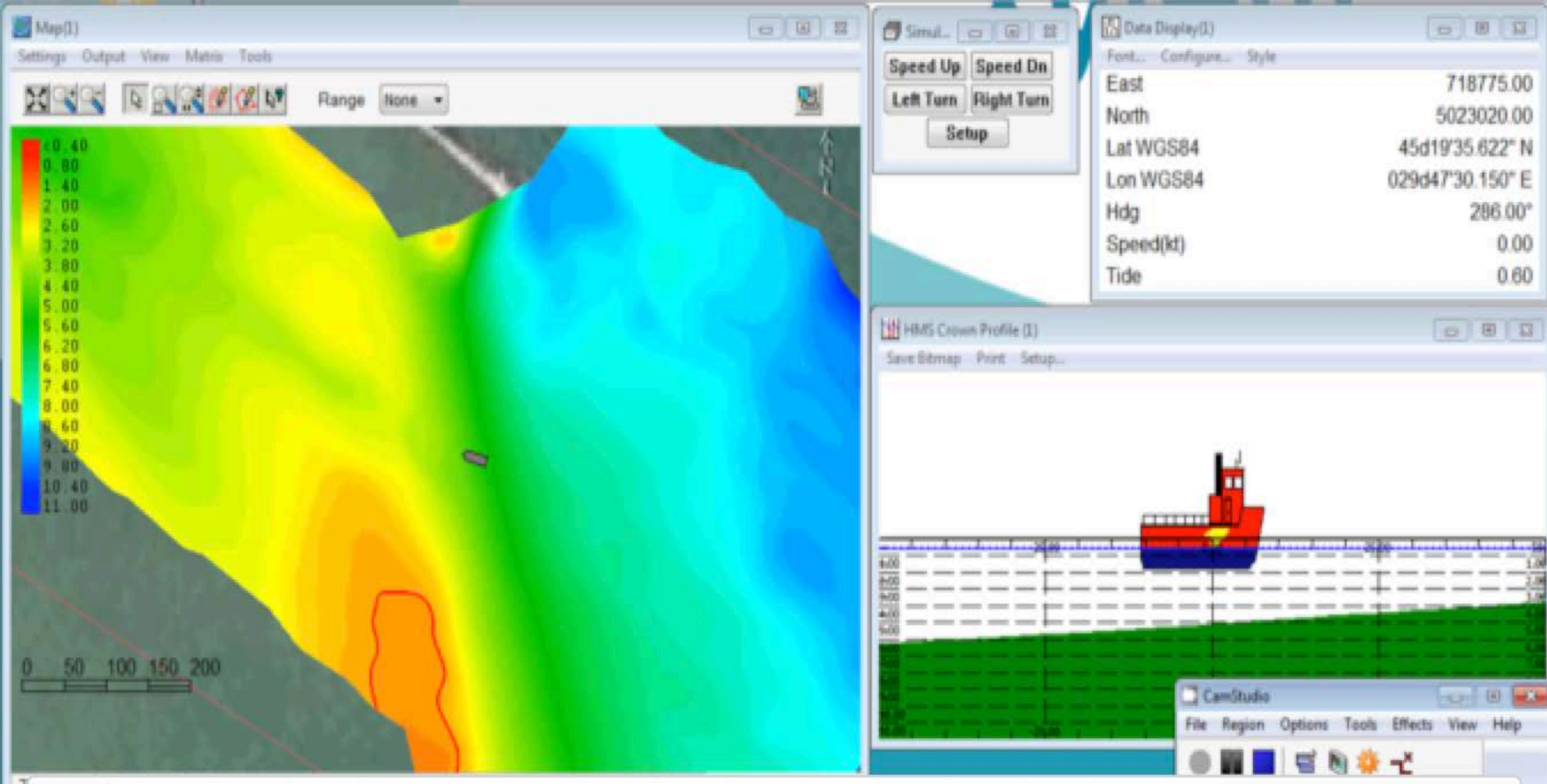


**Skipper has possibility to
take the 3D vessel moving
view in IENS in information
mode**



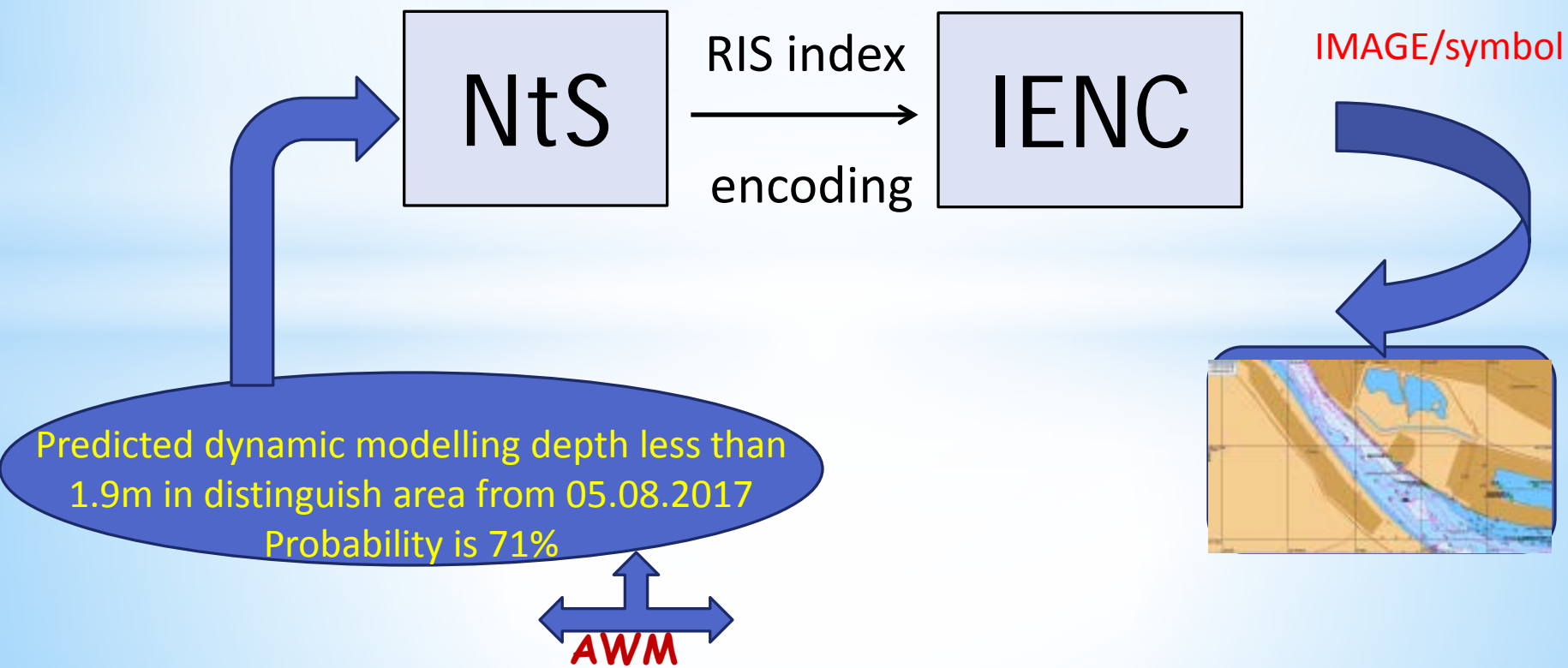


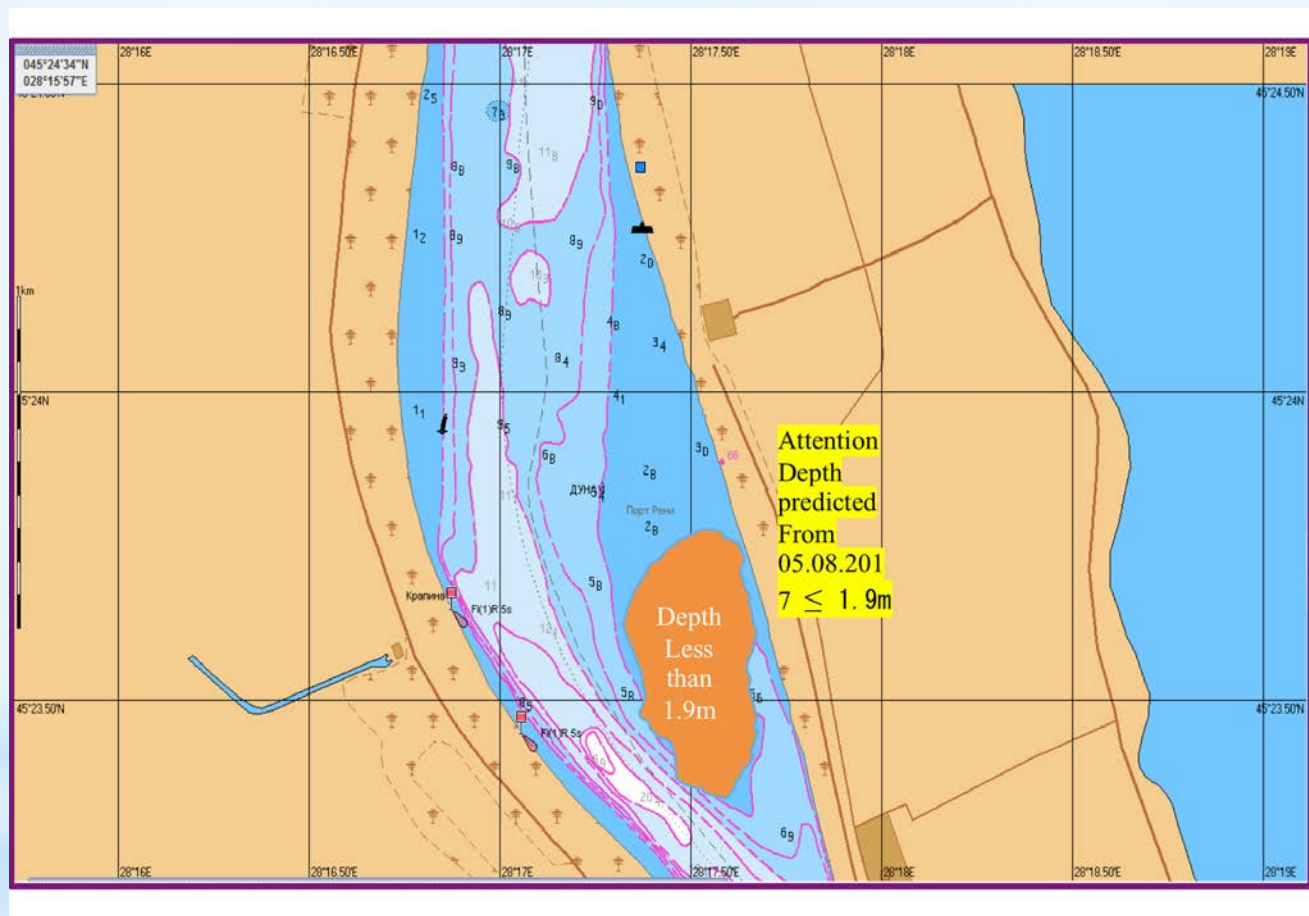




3D view vessel in the chart

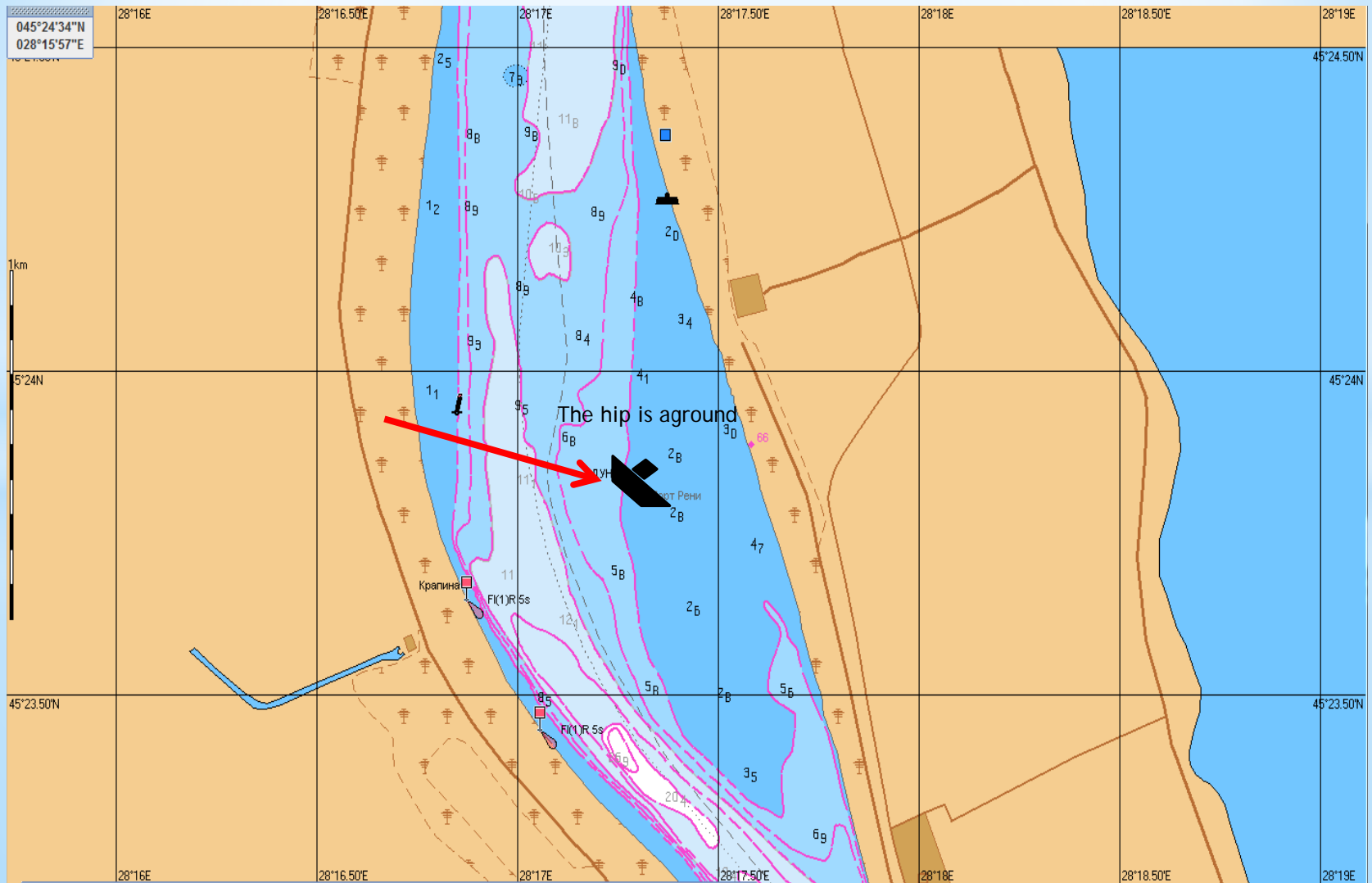






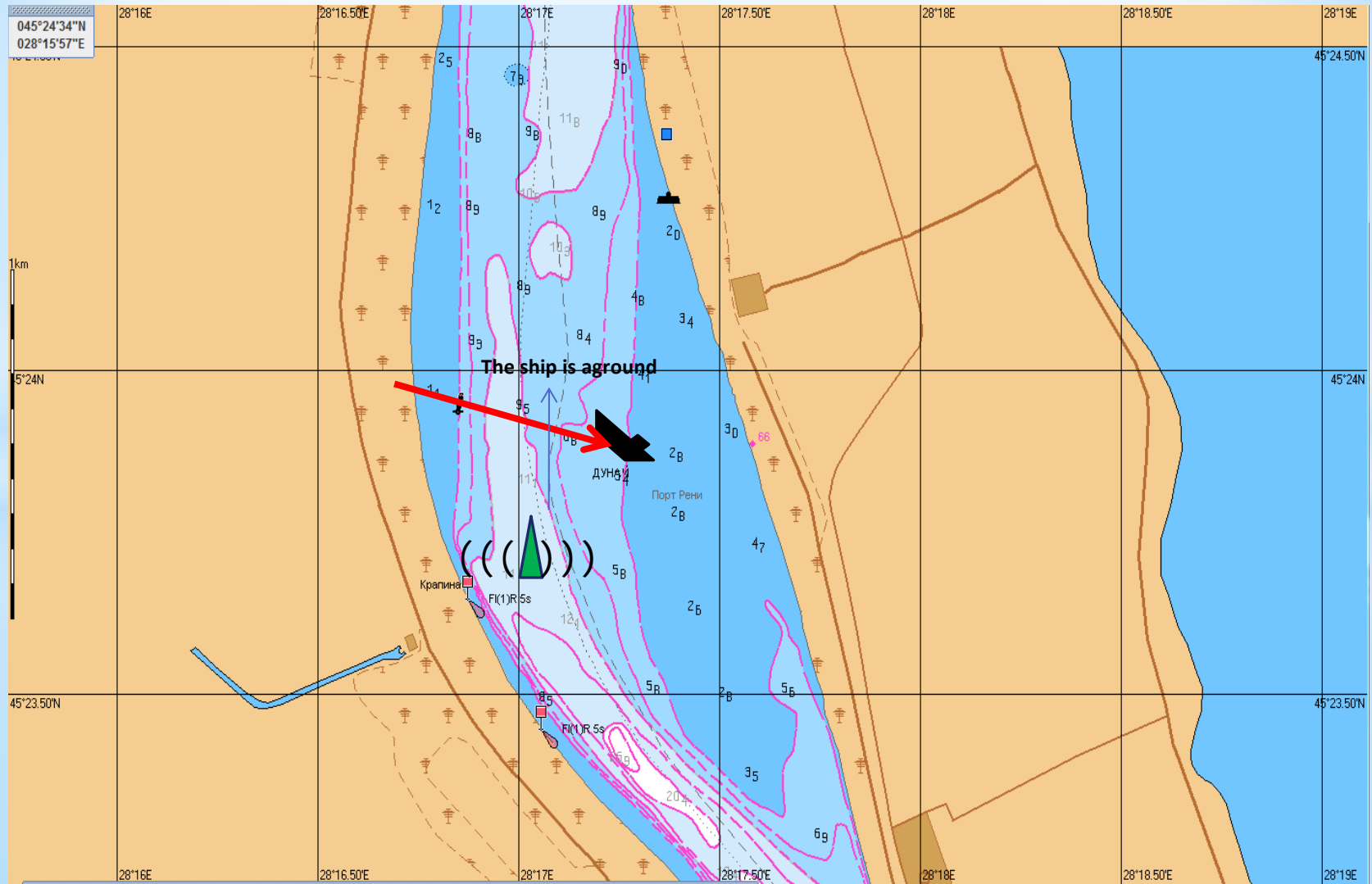
Notices to Skipers

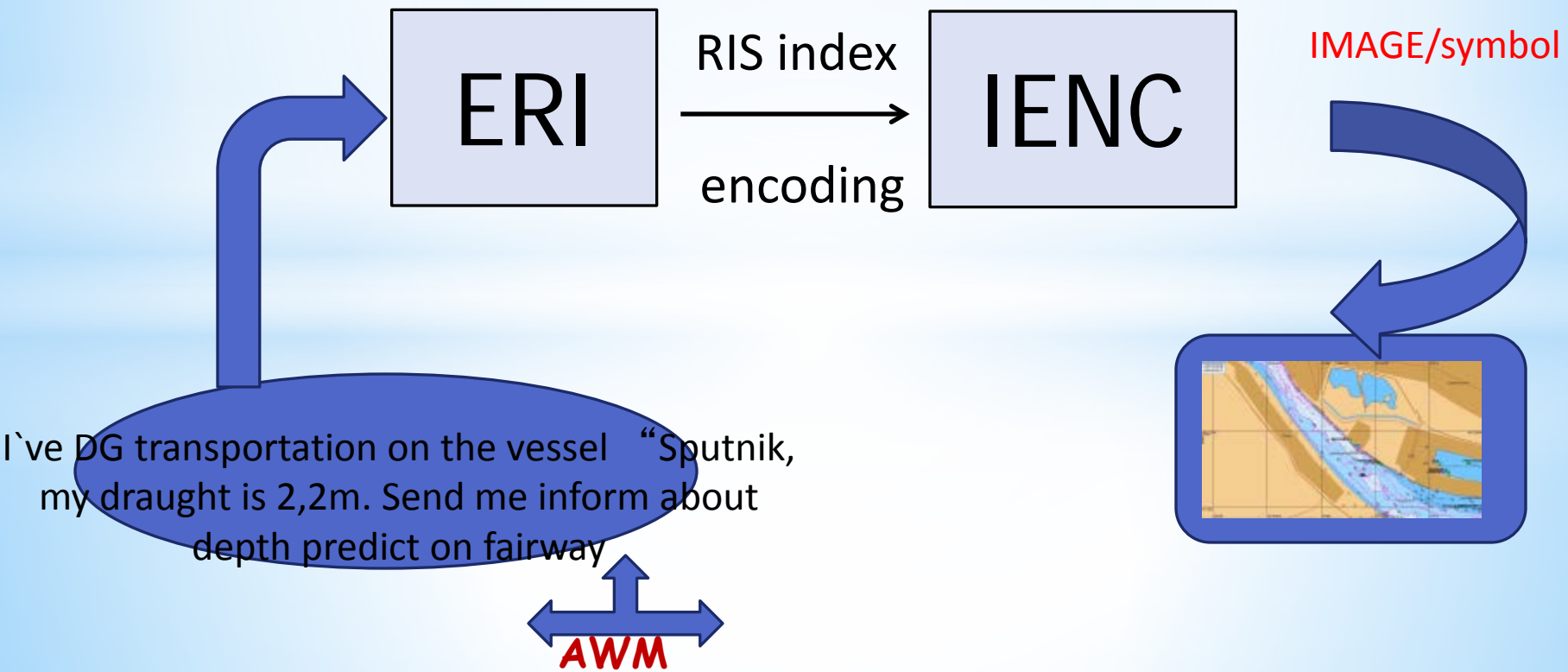
the vessel is aground on the left side of the fairway at the Danube, river-km 66



Notices to Skipers

The vessel is aground in left side of the fairway at the Danube, river-km 66



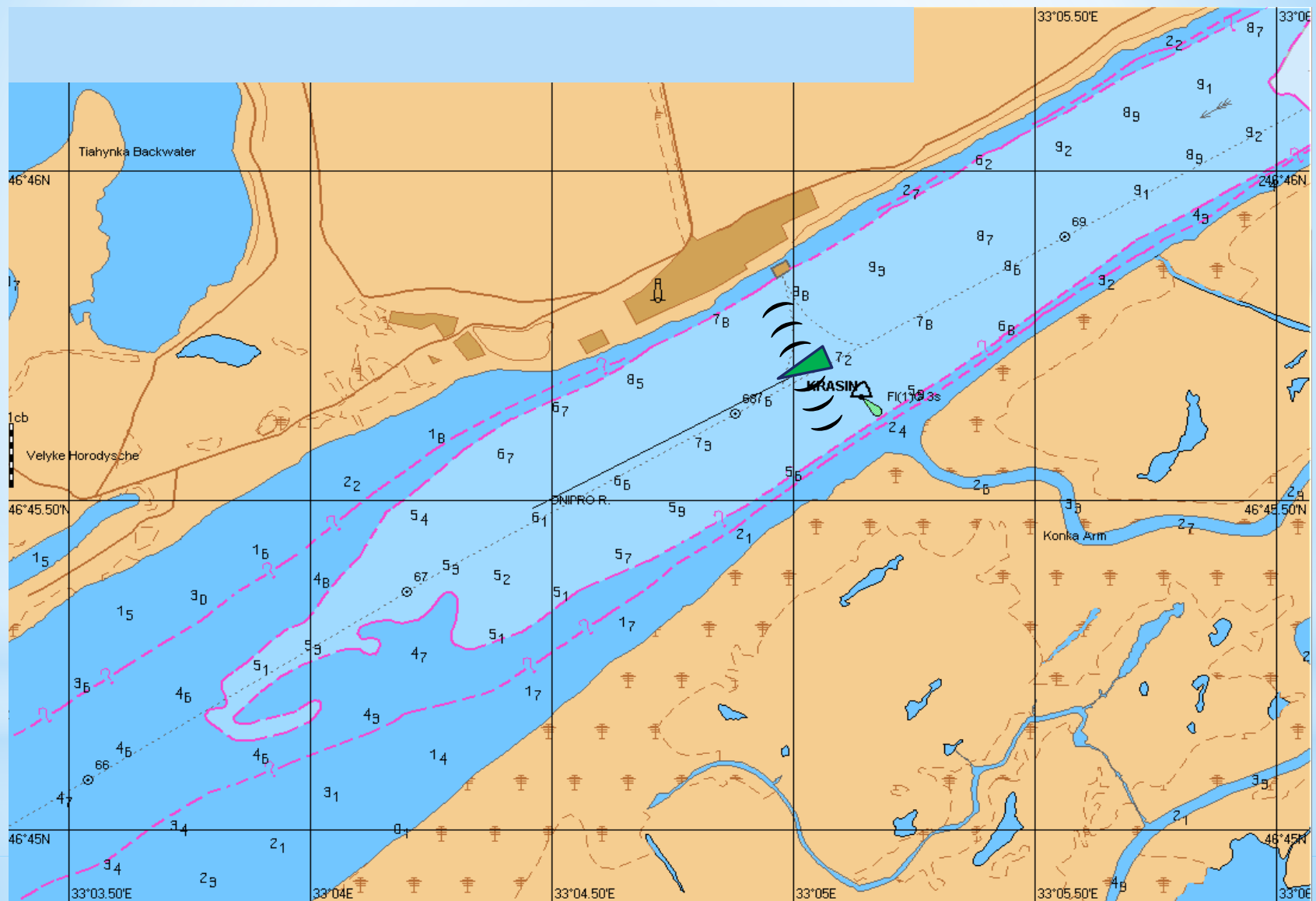


ERI

From RIS center: OK we are sending you up to
ETA



ERI



29°47.50'E

29°47.60'E

29°47.70'E

29°47.80'E

29°47.90'E

Q(6)+LFI(1)W 15s

72

8B

Черное море

42

77

5B

ATTENTION

WITH PREDICTION PROBABILITY 67% FOR DRAUGHT YOUR
VESSEL WILL BE ENOUGH FOR ALL THE VOYAGE. THIS IS
WORST PLACE FOR MENTION DRAUGHT

by "1"

FI(1)G 3s

308 deg

79

by "2" 29°47.80'E

102

29°47.50'E

29°47.60'E

29°47.70'E

29°47.90'E

5-th task - for take the solution we have started some years ago:

- 2006 year -RIS study course in ONMA «Training for trainers». Training was provide together with «PERISKAL» privat company leader(BE), representatives from Netherland IWW authority and representative from «viadonau» (AU);
- 2007 year - familiarisation RIS study course for skippers in UDP (Izmail) «Trainig for navigators» with same representatives provided;
- 2008 year - RIS study course for operator RIS «Training for RIS operators» in «Delta Pilot» enterprise with same representatives provided;

* Next several years we did it of ourselves and collection some experiences that afford us to do next offer:

* STANDARD OF COMPETENCE FOR RIS OPERATORS

Programmes and schemes for RIS operators are defined with respect to the theoretical background and working knowledge of those who successfully graduate from such programmes.

Minimum Standards

Basic Subjects - These are the subjects underlying all aspects of safety navigation in IWW . They contain the knowledge necessary for the ships accident reduction, assessment of current situation and computation from IWW observed data, and for an understanding of the principles ship handling and use the design features of vessels.

Where knowledge of some or all of these subjects to at least the minimum Standards is a pre-requisite of admission to a programme, exemption from the requirement for that programme to cover the relevant subjects may be sought.

Essential subjects - These subjects are considered essential for all information service and, together with the basic subjects, form the nucleus of the academic syllabus within these Standards.

Optional Units

They provide guidance on complementary matters which may be offered by the different programmes. They allow organizations more flexibility in offering different educational and training programmes. It is recommended, but not mandatory, that programmes offer one or more of the optional units.

- Option 1 - **International and National RIS documents** - the collection, assimilation and presentation of content guidelines for RIS documents to support RIS operators.
- Option 2 - **Inland ECDIS standard** - compare with IHO ECDIS standard, charts reading and proofreading.
- Option 3 - **Notices to Skippers standard** - content and application to the navigation information's in appropriate form.
- Option 4 - **Inland AIS standard** - looking for the vessels places and support to safety navigation .
- Option 5 - **ERI messages standard** - contain, combine and application messages using the actual standard.
- Option 6 - **Transport logistic** - considering and using several logistic schemas for IWT.
- Option 7 - **Safety Navigation Management** - safety IWT operations in relation with sea, rivers and lakes.

Knowledge

Two aspects of knowledge are content and level. Three levels of knowledge are defined. For each level, a list of active verbs is provided, which characterize appropriate competencies for that level.

1. **Fundamental** - Basic knowledge of the subject, normally not permitting the candidate to apply it in actual RIS operators work, except in the simplest of cases or under close supervision. Active verbs (indicating recall, recognition and comprehension of materials): define, identify, describe, explain, differentiate, predict.

2. **Practical** - Knowledge of the subject as far as theory and principles are concerned, sufficient to enable their application in practice in all common RIS tasks. Active verbs (indicating application and analysis): apply, use, calculate, solve, classify, analyze.

3. **Detailed** - Thorough knowledge of the subject in all its aspects to enable its application in all RIS activities including the most difficult areas. Active verbs (indicating synthesis and evaluation): evaluate, select, design, specify, plan, create.

INSTRUCTORS

For each instructor in the programme, provide a brief résumé, listing subjects in the programme for which they are responsible; Academic qualifications (degrees, etc.), RIS experience, authorships.

Facilities available to students: Equipment: Provide a list of relevant equipment/systems Software: List specific software (with emphasis on RIS and cartographic software packages) List of training aids (including any e-learning components and associated platforms for their delivery): Laboratories (description): Training centers in practice work(description, photographs): Library List: - total number of volumes held, - approximate number of volumes relevant to RIS - other media available (e.g. charts, maps, audio-visual resources)

Programme structure: The programme may involve a series of modules and formal training sessions as well as additional practicals, tutorials and field experiences. It is important that programme structure is clearly described within the submission and that sufficient detail of the components is provided. As a minimum the submission should include:

a. Total duration of the Programme (in weeks or months or years); b. Table of programme modules (individual courses). For each module, identify where in the sequence of module it is to be taken by students; c. The duration (in days, weeks) of each module; d. The total number of lecture hours, supervised practical exercise hours, unsupervised practical exercise hours (individual or team project hours) and private study time expected from an average student for each module; e. Where distance and e-learning components are used the expected supervised/unsupervised student total working time for each component, e- lecture schedule, tests, exercises, and the way the student self-study time is monitored.

EDUCATION AND TRAINING PROGRAMME FOR FAMILIARISATION RIS OPERATORS of PRINCIPAL HANDLING INLAND NAVIGATION VESSELS

Speciality: **Navigation**

Discipline: **Vessel handling**

Necessary content knowledge: **In-familirian knowledge**

Module course: **“RIS operator behavior recommendation in case the suddenly change of hydro-meteorological conditions”**

1. General

In case when critical hydro-meteorological conditions of navigation is very fast altered (for instant, ice phenomena, flood, shallow water and strong wind) under which navigation is hampered, the boatmasters shall strictly **observe** special temporary requirements of the competent authorities of the countries introduced on the sections of their responsibility according to article 1.22 of the Basic rules of navigation on the Danube (BRND). Special temporary requirements of the competent authorities are timely and sufficiently notified to the crews of the vessels and shipping companies by means of RIS in a form of "Notices to skippers" or VHF technology as was mention before.

2. Ice phenomena

In case of ice phenomena that do not allow vessels to continue their journey, the boatmasters, apart from a strict compliance with the temporary requirements of the competent authorities and Special River Administrations, shall take all measures necessitated by the circumstances to prevent imminent danger, in particular:

- when passing close to big ice floes and ice fields;
- to avoid entering into the ice field;
- if the vessel has yet entered a dangerous zone;
- following the collision with the ice;
- boatmasters of the vessels shall maintain continuous communication with the vessels operating in the ice zones;

- if the vessels pass a natural canal or a canal made in the ice by the icebreaker;
- when passing a lock;
- if, according to "Notice to skippers", the conditions of the open brash ice, up to 10 cm and over in thickness, are expected;
- all vessels getting trapped in the middle of the ice field, in case of a threat to remain blocked or to block the way to other more solid vessels.

3. Flood

When navigating in flood conditions, the boatmasters shall take all measures necessitated by the circumstances to prevent danger, in particular:

- to comply strictly with the articles of "Local rules of navigation on the Danube (Special provisions)" concerning restrictions of navigation or its prohibition in case of high water levels as well as exceeding of the highest navigation level (HNL);
- to comply strictly with the notices to skippers regarding the passage regime with a limited speed on the specific section;
- to pass under the bridges only in case of sufficient clearance and conditions defined by "Local rules of navigation on the Danube (Special provisions)" and "Notices to skippers";
- to undertake manoeuvres and meeting with the vessels at night only after preliminary agreement on the meeting conditions via radiocommunication;

If "Notice to skippers" does not require the concrete passage speed on the concrete section, then it shall be such as not to cause intense wave disturbance, damaging a shoreline and floating equipment moored on the shore.

4. Shallow water

When navigating in shallow water conditions, the boatmasters shall take all measures necessitated by the circumstances to prevent danger, in particular:

- when approaching a shallow water section or ford, to reduce in advance and gradually speed of the vessel to the value which provides a stable steering;
- to undertake meeting and overtaking only when there is enough fairway width for such manoeuvres, while reducing in advance speed to the value that provides stable steering;
- to avoid drastic speed increase;
- to ensure strictly the recommended minimum safety clearance (minimum underkeel clearance).

5. Strong wind

In case of strong wind, which complicates or obstructs navigation, the boatmaster shall strictly observe special temporary requirements of the competent authorities and Special River Administrations and, to ensure safety, manage navigation according to "Notices to skippers" and navigation conditions in the critical sector, and, when navigation is stopped or announced to be interrupted, shall timely and in a proper manner bring the vessels to a safe berth and inform the competent authorities thereon.

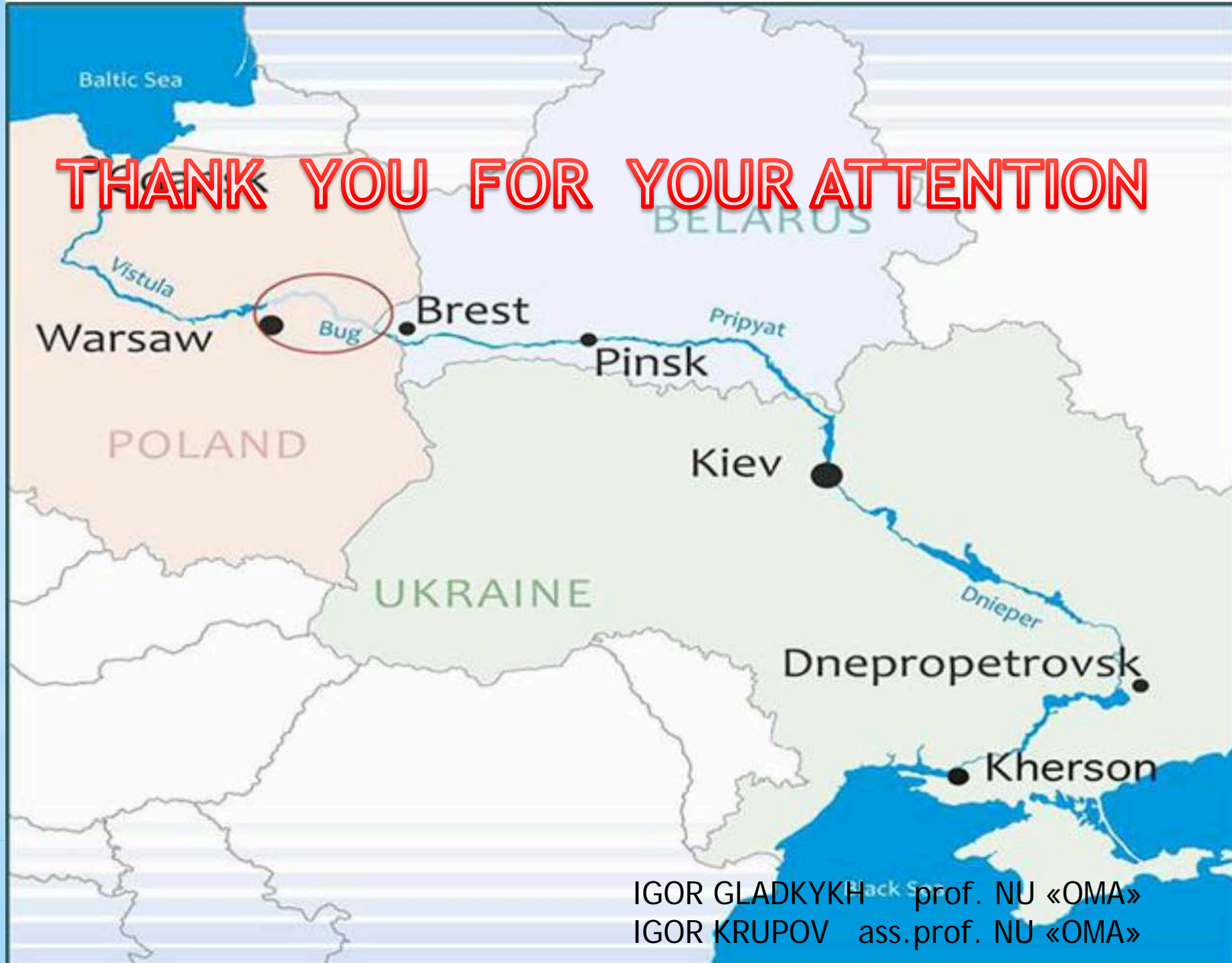
6. Requirements for anchoring and mooring equipment

When berthing the vessel on a narrow section of the riverbed, in shallow water and in places, where both winds blowing in one direction and rapid flow prevail, to ensure safety, double mooring cables and, when anchoring, two anchors, if any, and stern anchor, should be used.

CONCLUSION

In this presentation, we would like to POINT OUT your attention for two, in our point of view an important aspect in the work of the RIS operator. **The first** is to take into account the dynamic processes taking place at the IWT when is shipping in some critical points. This task is still in the process of optimization and gave good results during the validation. There are of some advantages which can be realized only after the adoption of corresponding amendments to ECDIS performance standards. . Autonomous Surface Vehicle (ASV) and Autonomous Underwater Vehicle (AUV) advanced technology has matured in recent years and is readily available to development IECDIS dynamic charts. Both ASVs and AUV are capable of producing automated bathymetric and water surface quality dynamic charts. Certain predict of dynamic in IECDIS charts will allow us to avoid possible trouble during the navigation. The second is the education of RIS operators, which is need to considering is based on requirements of nowadays. We are developing a standard of education based on our own experience and soon future will be ready to present our materials for further discussion.

THANK YOU FOR YOUR ATTENTION



IGOR GLADKYKH prof. NU «OMA»
IGOR KRUPOV ass.prof. NU «OMA»