

FSM Maritime Atlas v40.19 Complete User Guide

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This guide explains how to use the application to design, conduct and analyse maritime exercises in the Black Sea and the Baltic Sea. It is intended for operators, researchers, evaluators and participants examining the relationship between the situation, the FSM concepts, decisions, actions and outcomes.

The application is an open research and exercise tool. The operator examines information, provides reasons for assessments and validates decisions. The program calculates movements and timings, tracks the stages, preserves the history and supports comparison between variants. Scenario data are exercise assumptions.

Access: https://www.forumulsecuritatiimaritime.ro/pages/fsm-maritime-atlas-v40-19/

Quick start

1. Open the application and choose a scenario; check the sea basin and position.
2. Check the map, forces, bases, roles, readiness times and speeds.
3. Validate the initial deployment, then the warning, verification, traffic protection and required order.
4. Monitor movement; examine new reports and adapt the analysis and orders.
5. Validate outcomes; complete any SAR activity, restoration and return to base.
6. Complete the evaluation, compare variants and download the report and session.

Working rule: a checkbox selects a resource, a report supplies information, and a validated order authorises action within the exercise. These operations serve different purposes.

Maps and calculations are intended for study. The application is not an ECDIS and must not be used for actual navigation or automatic determination of jurisdiction.



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In Word, the Navigation pane also provides access to the headings. The application interface is primarily in Romanian. This guide gives Romanian control labels alongside English explanations; English descriptions do not imply that the interface itself has been translated. Some additional tools already display bilingual labels.



1 Access and the main workspace

Opening the application

Open the application address in an up-to-date browser. A desktop or laptop is recommended for initial use because the map and force catalogue contain substantial information. You do not need to enter a device type: the interface adapts its arrangement to the window size.

Click “Start aplicație” (Start application) or “1 · Scenariu” (Scenario). If a saved session is displayed, decide whether to resume it or start a new one. Export the current session before replacing it.

Interface control	Purpose
1 · Scenariu	Select a predefined scenario and start a new session.
2 · Forțe și mijloace	Select and revise the deployment, roles and force parameters.
3 · Ordine și decizii	Validate measures and orders.
Analiză MSE–IMSA	Open the integrated diagnosis and the eight concept records.
Parametri și durate	Change the initial target position and movement, durations and planning margins.
Compară variante	Save and resume points within the same scenario.
Salvare și reluare	Save locally, export or import a session.
Raport comparativ de analiză	Evaluate, compare, preview and download HTML or JSON reports.
Toate instrumentele	Access the atlas, scenario library and additional research modules.

Reading the workspace

The map shows the target, traffic, infrastructure and forces. The right panel indicates the stage, new information, effect reports, options and resource timings. Tables and concept cards appear below. On a smaller screen, some areas move below others; use page scrolling and the right panel’s internal scrollbar.



In editing windows, “Validează și revino” (Validate and return) saves changes. “Anulează” (Cancel), or closing the window, discards changes not yet validated. Some buttons in the Orders menu validate an individual decision immediately; subsequently closing the window does not undo that decision.



2 The Black Sea and the Baltic Sea

Two ways to select the region

In the main simulation, the loaded scenario determines the basin and position. ENV-07 is the predefined Baltic Sea pollution scenario; the other predefined scenarios in the main list use Black Sea study positions. No device selection or map scale entry is needed to calculate movements.

1. Open “1 · Scenariu”.

2. For the Baltic example, choose “ENV-07/2026 · Poluare marină accidentală și cooperare transfrontalieră” (Accidental marine pollution and cross-border cooperation).

3. Click “Încarcă scenariul și continuă la forțe” (Load scenario and continue to forces), unless selection has already opened the next window.

4. Check the proposed positions and bases. In the Baltic, some resources and bases are local and fictional.

5. Validate the deployment and return to the map. Use “Centrează acțiunea” (Centre the action) if the view is unsuitable.

Selecting the basin in the research atlas

1. Open “Toate instrumentele” (All tools).

2. In the tool search, enter “International Research Atlas” or “Marea Neagră”.

3. Open “FSM International Research Atlas · Marea Neagră / Baltic Sea”.

4. Under “Bazin maritim / Sea basin”, choose the Black Sea or the Baltic Sea.

5. Select the port; use “Afișează portul / Focus port” or “Bazinul integral / Full basin”.

This selection controls the research atlas. It does not automatically transfer an active main-map scenario from one sea basin to the other. To run a moving exercise in another region, load or create a scenario with the corresponding basin and coordinates.

Comparing the two sea basins

The atlas and the international comparative laboratory support documentation and comparison of study objects and simulations in the two sea basins. This differs from comparing two action variants of the same scenario through the main variant and report menus.

For an interpretable comparison, record sources, functions under examination and assumptions for each basin. A difference in the number of objects or resources is not, by itself, a finding of effectiveness or superiority.



3 Maps and cartographic layers

The base map

At startup, “Fond” (Base map) is set to “Automat · online / rezervă locală” (Automatic online/local fallback). The application attempts to load OpenStreetMap. If the service is unavailable, the local background remains available. The message below the map controls shows the actual status. An unavailable online background does not automatically mean that the simulation has stalled.

You can choose “Local · fără cereri online” (Local, no online requests). “Reîncearcă fondul online” retries the online map. OpenStreetMap is a general background map, not an official nautical chart.

Adding your own map or layer

1. Click “Hărți și straturi” (Maps and layers).

2. Enter the name, producer or source, and date or edition.

3. Import WGS84 GeoJSON or a PNG, JPG or WebP image. For an image, enter the exact west, east, south and north limits.

4. For WMS, enter the HTTPS service address and layer name, then click “Adaugă serviciul WMS” (Add WMS service). WMS 1.1.1 and EPSG:4326 are supported.

5. Check the layer’s visibility in the catalogue and its alignment with known landmarks, then return to the map.

An image must already have been reprojected to WGS84. Entering four geographical bounds does not reproject a Mercator chart or GeoTIFF. GeoJSON coordinates are normally ordered longitude, latitude; the application’s input fields are labelled separately.

Native S-57 (.000), S-63 and S-101 ENC files are not decoded directly. They require specialised processing and, where applicable, access rights. A compatible layer displayed on the map supports geographical study; it does not turn the simulator into an ECDIS.

Scale and framing

“Zoom automat al acțiunii” (Automatic action zoom) follows the target and active resources. “Centrează acțiunea” reframes the view; “Hartă extinsă” (Expanded map) and “Ecran complet” (Full screen) enlarge the workspace. Manual zooming or panning may temporarily suspend automatic following.

Zoom changes the display, not physical speed or travel time. Do not enter chart scale as a speed multiplier. Distances are geographical; tracks are not calculated as navigable routes that automatically avoid land, obstacles or all actual restrictions.



Cartographic layers and source files are kept separately from the moving exercise session. When changing computers, check the catalogue and reload the necessary files; do not assume that a session export embeds every image or chart.



4 Selecting a scenario and the initial situation

Code	Predefined scenario
USV-01	USV in maritime traffic, including an evolution with two moving contacts.
UAV-02	A UAV observation and unconfirmed information.
COMB-03	A combined navigation and communications incident.
SAR-04	Saving life at sea following a collision.
PORT-05	An interruption of port operations.
OFF-06	A hypothetical offshore incident in the Neptun Deep region.
ENV-07	Accidental pollution and cross-border cooperation in the Baltic.
DRIFT-MINE-08	A drifting object suspected to be a mine.
DRIFT-USV-09	An unidentified drifting maritime drone.
ND-MINE-10	A suspected drifting mine in the Neptun Deep region.
ND-USV-11	A drifting maritime drone in the Neptun Deep region.
FSM-01-SULINA	A suspected drifting mine in the Sulina Exterior area.

Loading and resuming

Choose a scenario under “1 · Scenariu” and load it. Changing the selection may already start loading and open the force window. Always check the header title and displayed time. A previously started scenario may resume from its retained state.

To restart at T+0, use “Începe o sesiune nouă pentru scenariul selectat” (Start a new session for the selected scenario). First save anything you want to preserve. Reloading the page or selecting a scenario again is not equivalent to starting a new session.



The initial situation

The map shows the target or incident, civil traffic, infrastructure and reserves grouped at bases. Intervention forces are not already on a mission merely because their checkboxes are selected. An anchored or stationary vessel has zero speed; vessels in transit have a distinct symbol, course and speed.

The Neptun Deep reference used in scenarios is conventional. Exercise coordinates must not be interpreted as actual installation locations. The predefined timeline provides milestones; displaying it does not constitute execution of orders.



5 Forces and resources

Confirming the deployment

1. Open “2 · Forțe și mijloace” (Forces and resources).

2. Review scenario-proposed forces and reserves. Search by name or base, and use “Numai forțele bifate” (Selected forces only).

3. For each relevant resource, check selection, mission, role, readiness time, speed and base coordinates.

4. Choose the appropriate role: support, confirmation, authorised intervention or SAR. Do not assign a role solely to obtain a faster arrival; justify suitability within the scenario.

5. Enter the decision-making duration and click “Validează și revino”.

A checkbox includes a resource in the deployment; departure requires an order. Unselected or unactivated resources remain available. Deployed resources are shown moving, while the base continues to display available reserves.

Military and civilian resources

The catalogue includes Romanian Naval Forces vessels with EOD teams, an EOD fast boat, reconnaissance and SAR helicopters, an F-16 as an exercise assumption, SAR vessels, a civil SAR helicopter, coastguard, VTS, tugs, pollution-response, technical, medical and logistical resources. Catalogue availability alone does not establish competence or mission suitability.

In the exercise model, FNR vessels at represented ports have a 30-minute readiness time, and the EOD fast boat has a speed of 40 knots. Other values are editable assumptions. In the Baltic basin, local fictional names and bases must be reviewed for the selected study.

Additional resources and revisions

Under “Alt mijloc” (Other resource), enter a name, readiness time and speed. A new resource initially has a generic support role and a fictional position; check its role and base before using it for a specific mission. A resource name alone does not create an automatically modelled technical capability.

You can revise the deployment during the exercise. The window freezes the clock, and validation applies the decision-making duration. Selecting a reserve does not dispatch it to a contact: use the appropriate order. To reallocate resources to additional contacts, use “Reanalizează / modifică acțiunea” (Reanalyse/change the action).



6 Time and movement

Clock and pace

T+ is simulated time since the session began. “Pornește” (Start) continues movement, and “Pauză” (Pause) stops it. The default 1× pace corresponds to real time. “Modifică ritmul” (Change pace) offers 1×, 2×, 10×, 30×, 60× and 300×. Pace accelerates the simulated clock; it does not change a resource’s nominal speed.

“Avansează până la următorul reper” (Advance to the next milestone) moves to a calculated event, such as departure, arrival or completion of a check. Use Start to observe continuous movement; use milestones to test the logic quickly. If a decision is required, validate it before continuing.

Decision-making duration

Opening an editing window freezes the simulation. The operator enters the decision-making duration. Validation adds this time once, calculates evolution over that interval, then applies the new parameters or orders. A new order therefore starts from the position reached after that interval.

The duration may be zero for a technical test, but an analytical exercise should use and justify a realistic assumption. Cancelling unvalidated changes adds no duration. A button that has already validated an individual decision has consumed the duration even if its window is subsequently closed.

Estimates and limits

The panel displays the current estimate, maximum planning time, remaining time and accumulated decision-making time. The maximum depends on resources, distances, readiness, action, inspection, margins and assumptions about future decisions. It is not a deadline that necessarily stops the exercise.

If “nedeterminabil” (indeterminate) appears, check whether unresolved contacts lack suitable assigned resources or interception is infeasible at the declared speed. Do not force a numerical estimate by entering arbitrary speeds.

Course speed and distance

Data flags display course in degrees and speed in knots. One knot is one nautical mile per hour; one nautical mile is 1,852 metres. Without drift or other changes, 20 NM at 40 knots requires approximately 30 minutes of travel, plus readiness and mission stages. For a moving target, the meeting point and arrival time are recalculated.



7 The sequence of decisions

The basic sequence

1. Initial warning. Record the warning and whether the information is confirmed or unconfirmed.

2. Verification. Ordering verification dispatches the selected resource; contact confirmation depends on arrival and the scenario's observation time.

3. Traffic protection. Validate the restrictions, area and routing measures specified for the exercise.

4. Intervention order. Validate an order appropriate to the situation and resource. In continuous operation, it may include interception and action on arrival, subject to confirmation.

5. Movement and action. Monitor resources and timings. Without a new situation, a fresh decision is not required at every clock advance.

6. Outcome. Once action and inspection are complete, explicitly select the outcome observed within the exercise assumption.

7. SAR, where applicable. Validate rescue, followed by evacuation and handover.

8. Restoration and closure. Check effects, return to base and final conditions.

What to monitor on the right

The stage title and continuation button indicate the required action. During movement, consult "Forțe în acțiune · timpi până la țintă" (Forces in action, time to target). "Contact cu ținta" identifies arrived resources and reported times. Arrival for confirmation and completion of neutralisation are different events.

Civil traffic may change course following the warning; a prohibited navigation area causes vessels to leave or reroute according to the model. If you explicitly select the exposed CIV-01 vessel, the scenario's possible-impact exception applies. Vessels stationary at anchorage have zero speed, except where the model requires an exit manoeuvre because of the restricted area.

Options during movement

"Modifică ordinul în curs" (Change the current order) allows additions, suspension or resumed interception. "Alocă alte forțe / revizuiește dispozitivul" opens the force catalogue. "Ordonă anticipativ SAR / revizuiește SAR" allows preparation before a reported incident. Do not repeatedly validate these options if the existing order remains appropriate.

Some civil scenarios use generic labels such as "target" or "neutralisation". Interpret the outcome according to the incident type and document the actual exercise effect: pollution managed, service restored, people rescued or another scenario outcome.



8 New information and changes in the situation

Predefined reports and operator reports

The “Informații noi” (New information) panel is permanent. A scenario report appears when its programmed condition is met. The operator can also introduce a report during an open exercise. A report does not automatically stop movement or issue orders.

1. Click “Adaugă informație” (Add information).

2. Complete “Ce s-a aflat” (What has been learned) and “Sursa informației” (Information source).

3. Choose the status: unconfirmed, confirmed within the exercise assumption, or contradictory.

4. Specify what it affects: target/contact, traffic, infrastructure/functions or forces/availability.

5. Write the operator’s proposal: verification, surveillance, protection, reallocation or another reasoned measure.

6. Only for a new contact, select display on the map and enter its name, latitude, longitude, course and speed.

7. Validate. Examine the report and the flagged concepts before changing orders.

Information about a force becoming unavailable or port access can be entered without a new geographical contact. Creating a contact, however, requires valid coordinates. Do not invent positions merely to complete the form. The course field accepts 0–360 degrees; additional contacts accept speeds of 0–60 knots in this form.

What changes in the analysis

The program updates contextual proposals and flags previously reviewed assessments for re-examination while preserving their history. The operator revisits MSE, the priority argued through MSCoG, MSC mechanisms, MSR continuity, MSEL reconfiguration, MCS uncertainties and the MSCF–IMSA syntheses.

Validating entry of a report does not establish its truth. Confirming a contact’s position does not establish intention, origin or hostile coordination. “Report examined” records acknowledgement, not execution of a measure.

The specific evolution in scenario 1

In USV-01, when the first designated intervention resource approaches approximately 8 NM from the initial target, reconnaissance aircraft report USV-02 and USV-03. The event triggers once. The drifting USV remains a hazard. Before triggering, you can disable the event under “Examinează rapoartele” (Examine reports) to compare a sequence without this evolution.



9 Changing orders and reallocating forces

Reallocating forces to additional contacts

1. Open “Reanalizează / modifică acțiunea” in the New information panel.

2. Revisit the report and set the operational priority. State the reason, conditions and limits of the revised orders.

3. Select only resources whose orders are being changed.

4. For each resource, select its destination: the initial situation or an active additional contact.

5. Choose its role: observation/reporting, simulated intervention or holding position.

6. Check suitability, speed, availability and assumptions about competence. Enter the decision-making duration and validate.

7. Check the new tracks, data flags and arrival times on the map. Consult the log and updated analysis.

Resources not selected continue their missions or remain in reserve. A resource already deployed is replanned from its reached position; it does not return artificially to its original base. A reserve at base begins preparation on receipt of the order. A resource still preparing retains its remaining preparation time.

A resource conducting evacuation or shore handover cannot be reassigned through this window. Choose another available resource and avoid unjustifiably interrupting rescue. If interception is infeasible at the declared speed, revise the resource or solution with reasons; a checkbox does not guarantee mission completion.

Amending an existing order

Use “Modifică ordinul în curs” to record additions, suspension or resumed interception for the selected resource. Enter the order text. Holding position suspends movement towards the objective; resumption requires the appropriate order.

For a newly introduced resource or a change of role, check the force catalogue first. The catalogue does not replace capability justification: a pollution-response, medical or logistical resource must not automatically be treated as suitable for USV neutralisation merely because a generic intervention role is available.

Priority and centre of gravity

The principal threat can change without changing MSCoG. For example, two moving contacts may become the intervention priority while the strategic function to protect remains continuity of a maritime flow. If you consider MSCoG to have changed, justify the function/node, dependencies, consequences and substitutability in its concept record.


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10 FSM concepts and completing the analysis

The eight FSM instruments are interdependent. They are not eight operational approvals that must be ticked sequentially before the map can move. Automatic data and proposals support assessment; the operator provides the arguments and records limitations.

Instrument	What to examine
MSE	Maritime Strategic Ecosystem: scope, functions, actors, flows and dependencies.
MSCoG	Maritime Strategic Centre of Gravity: critical function/node, connectivity, consequences and substitutability.
MSC	Maritime Strategic Convergence: interactions, propagation, cumulative or emergent effects and alternative hypotheses.
MSR	Maritime Strategic Resilience: absorption, continuity and recovery against explicit baselines and thresholds.
MSEL	Maritime Strategic Elasticity: feasible and executed reconfiguration, effects, costs and transferred vulnerabilities.
MCS	Maritime Cognitive Superiority: sources, observations, inferences, uncertainties and reasoned comparison.
MSCF	Maritime Strategic Convergence Framework: integrated diagnosis, alternatives, proposed option and revision conditions.
IMSA	Integrated Maritime Security Architecture: functional levels and conditions for decision, execution and control.

Completing a concept record

1. Open the concept card or “Analiză MSE–IMSA”.
2. Read the definition, analytical question and proposal drawn from the simulated situation.
3. Complete the specific fields, including sources and limitations. Separate observation from inference.
4. State the author/role and reason for revision.
5. Save as a draft or mark the assessment as reviewed. Essential fields are required to mark it reviewed.



“De analizat” (To analyse) indicates work in progress. “Revizuit de operator” (Reviewed by operator) indicates the operator’s review within the exercise. “De reexaminat” (To re-examine) appears after relevant changes without deleting the previous assessment. A clock advance alone must not be confused with a new conclusion.

For MCS, without a comparator and comparable evidence, use a cognitive-capacity assessment. For MSR, returning ships to port does not alone demonstrate recovery of a function. For MSEL, an order to reallocate and an actually executed reconfiguration are distinct records.



11 Integrating MSCF and IMSA

The six MSCF stages

1. Delimit MSE: space, interval, essential functions and dependencies.

2. Justify the MSCoG candidate: why it concentrates dependencies and how substitutable it is.

3. Examine MSC: interaction mechanisms, evidence, competing explanations and contradictions.

4. Assess MSR and MSEL separately: which functions are maintained or recovered, and which reconfiguration is executed.

5. Assess MCS: source quality, the fact–inference distinction, uncertainties and anticipation.

6. Formulate the integrated diagnosis: compare alternatives, propose an option and state which data would change it.

The protocol is iterative. New information may require revisiting ecosystem boundaries or convergence hypotheses without mechanically repeating every operational stage.

The five IMSA levels

- The strategic, geographical, infrastructural and normative environment.
- Actors, interests, competences and responsibilities.
- Convergence, cooperation and interdependencies.
- Resilience, elasticity and adaptation.
- The cognitive and decision-making dimension.

The IMSA record documents the issuing authority/holder of competence, executor, declared basis, objective and limits, transmission and receipt of the order, control and reporting. Marking a basis as documented is the operator's declaration within the exercise, not legal certification by the program.

The relationship with decisions

MSCF supports the proposed option, while constraints and outcomes examined through IMSA may require revising the diagnosis. For example, a fast resource may have a favourable arrival time, but its allocation must also be examined in terms of availability, role, responsibility, protection of other functions and conditions governing the order.

IMSA is a functional model of maritime security, not an institution that issues orders. Institutional proposals discussed in FSM studies acquire no competence merely through inclusion in the simulator.

Use "Sprijin pentru decizie · MSCF–IMSA" (Decision support) for orientation, and open the diagnosis for the full arguments. Do not convert a resource count or shorter time into an automatic finding of superiority or correctness.


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12 Outcomes SAR and restoration

Arrival and the effect report

Arrival of a confirmation resource may be followed by observation; arrival of an intervention resource is followed by action and inspection of the effect. The right panel shows the resource, timing and when the report becomes available. If the report is not yet active, check these durations before treating the application as stalled.

For the initial target, explicitly select DA (YES) or NU (NO) when validation becomes available. For additional contacts, “Raport disponibil” (Report available) opens the outcome form and requires a supporting observation. Neutralisation is not inferred merely from arrival.

Outcome	What follows
Neutralised / action successful	The hazard is resolved according to the exercise declaration; check other contacts, functions and restoration conditions.
Not neutralised	The threat remains; reanalyse and issue the necessary order. For an additional contact, the resource may hold pending a new order.
Reported impact on a vessel	The operator identifies the vessel and supporting report; the SAR branch opens. For additional contacts, this is an exercise inject, not a geometrically inferred collision.

Rescue evacuation and handover

For an incident involving people to rescue, validate SAR allocation and the order. Monitor readiness, travel, rescue and preparation for evacuation. Once conditions are met, validate evacuation ashore. Wait for transport and medical handover, not just arrival at the incident.

Following a reported additional impact, SAR is directed to the indicated vessel’s modelled position. An additional-contact outcome of “not neutralised” alone does not automatically invent casualties; the operator must document the incident or need for SAR.

Restoration and closure

Validate restoration after addressing the threats and, where applicable, rescue and handover. Monitor return to base and completion of the restoration duration. Closure is unavailable while additional contacts remain unresolved or active resources still need to return.



If a new contact appears during restoration, the stage may reopen. Do not regard restrictions as lifted solely because an earlier restoration order was validated. Document functional recovery separately in MSR and the decision to lift measures in IMSA.



13 Evaluating decisions and the final report

How to assess a decision

Assess a decision using the information available when it was taken, not only the outcome known later. A well-reasoned decision can have an unfavourable outcome in an exercise variant; a favourable outcome does not alone demonstrate a complete decision-making process.

- What observations, sources and uncertainties existed at the time?
- Which function required protection, and why was it a priority?
- Which alternatives were compared, using which resources, timings, costs and limits?
- Who could decide, who executed, and how was the order acknowledged?
- What was actually executed, and what functional effect was observed?
- What new information would have justified changing the proposed option?

Opening the report

1. Click “Raport comparativ de analiză” (Comparative analysis report), or the right-panel button for reviewing the exercise.

2. Choose the reference and assessed situations: initial snapshot, current situation or two saved variants of the same scenario.

3. Examine the eight-concept comparison, decisions, links to analytical revisions, outcomes and chronology.

4. Open the operator-conclusions section; enter the author, conclusion, lessons, remaining issues and recommendations.

5. Refresh the preview. Save notes with “Validează și revino” if you want them retained in the session.

You can complete the report after exercise closure without advancing operational time. Adapt notes to the selected snapshots; do not automatically reuse a conclusion from another pair of variants.

Flags and downloads

Coherence flags identify gaps or relationships to examine: for example, an unjustified MSCoG, missing MCS comparator, undocumented MSR recovery, reallocation without a recorded MSEL effect, or unspecified IMSA issuer/limits. These are not automatic grades of decision correctness.

Download HTML for reading and printing; it opens separately in a browser and can be saved as PDF through Print. The report JSON preserves analytical data and detailed history. To resume the exercise itself, use the full session export, not the report JSON.



14 Variants saving and exports

Variants of the same scenario

1. Before a major change, open “Compară variante” (Compare variants).

2. Enter a clear name, such as “Before INFO-1” or “Reallocation with an air reserve”.

3. Click “Salvează punctul curent” (Save the current point). Continue the exercise and save the changed variant separately.

4. “Reia această variantă” (Resume this variant) restores the saved time, orders, resources and analysis. First export or save any current state you want to preserve.

5. To compare without resuming, open the comparative report and select the two variants.

Local saving and session export

“Salvare și reluare” allows immediate saving in the browser, resuming a saved state, exporting a session JSON or importing a checked file. Automatic saving is useful but depends on the browser and page address. Private browsing, clearing data, using another device or changing the address may make local saves unavailable.

File or command	What it preserves or does
Full session JSON	The resumable scenario state, time, resources, orders, analysis, new information, variants and report notes, within the import limitations.
HTML report	A readable analysis document; not a resumption file.
Report JSON	Comparison data, chronology and analytical history; not a substitute for the session.
Scenario library JSON	Scenarios created in the research library; not a main session.
Full atlas project	Study objects, geometries and other atlas-module data; not identical to the main session.
Source maps and images	Archive separately; do not assume that they are embedded in the session.

The main import accepts session files up to 5 MB and checks data before applying them. An invalid file must not replace the session. The scenario library has a separate import and format; use the command matching the file.



At the end of an activity, keep at least the full session, readable report and cartographic sources. For custom scenarios, read the resumption limitation in the next chapter before starting a lengthy activity.



15 Creating new scenarios

Creating a scenario in the research library

1. Save and export the current session. Open “Toate instrumentele”.

2. Find and open “Bibliotecă de scenarii MSCF–IMSA” (Scenario library). Click “Scenariu nou / New scenario”.

3. Enter a unique identifier, title, type and basin: Black Sea or Baltic Sea.

4. Enter the situation’s WGS84 coordinates, study radius and declared timeline duration.

5. Specify the researcher, sources, premise, area, effects/interests and research questions.

6. Enter one timeline entry per line in the form “minute | description”, for example “0 | Initial report” and “60 | Situation review”.

7. Save in the library and display/check the scenario. Export the library to preserve it.

The editor checks the identifier, title, basin and coordinates. The permitted radius is 0.5–100 NM; the declared duration is 1–1,440 minutes, and milestones must fall within it. The library supports up to 100 scenarios. These editor limits do not impose a fixed main-session closure deadline.

Loading it for an exercise

Keep the new scenario selected in the editor. Under All tools, open “Laborator de exerciții MSCF–IMSA · cronologie dinamică” (Exercise laboratory, dynamic timeline), and use “Încarcă scenariul / Load scenario”. Return to the main workspace and check the title, basin, T+0 and deployment. If the interface does not update immediately, allow it to refresh and check again before validating orders.

The “1 · Scenariu” selector is for the predefined list. Saving a scenario in the research library does not automatically add a new template to that selector. Do not load a predefined template when you intend to continue the custom scenario just created.

What to configure and preserve

Manually review the proposed forces, roles, bases, timings and parameters. The editor’s written timeline is descriptive; it does not independently program a manoeuvre, new contact or automatic branch. For developments introduced during the exercise, use New information. The automatic 8 NM event belongs to predefined USV-01.

Limitation in v40.19: the main session import checks the identifier against predefined templates. For a custom identifier, do not rely on resumption through that import. Preserve the library, exercise-laboratory documentation/exports, report and working data. Saving a new scenario does not guarantee full resumption through every module.



16 Additional tools and troubleshooting

Using the additional tools

All tools provides access to the regional and international atlas, study-object editor, scenario library and laboratory, legal/hydrographic documentation, measurement, comparison and evaluation tools. Search by name; selecting a tool opens its panel. Close the window to return to the main map.

Some modules have their own records, clocks and exports. Do not assume that changing a field in an auxiliary module automatically updates every order or main-simulation field. For the main exercise, use the Forces, Orders, Parameters, New information and Analysis menus.

Maritime boundaries and documentation

The 12 and 24 NM layers are illustrative and do not replace official baselines or delimitations. An EEZ is not legally generated from the target's position; documented geometries must be imported for display and study. In maritime-zone tools and the legal/hydrographic record, specify the source, date and boundary type. Geometric inclusion in an imported polygon does not alone certify institutional competence or legal status. For a Baltic study map, you can use compatible WGS84 layers with documented provenance.

Common problems

The map shows the wrong area: Check the scenario title and basin, then Centre the action. Choosing a basin in the auxiliary atlas does not relocate the main scenario.

Forces do not depart: Check deployment confirmation, selected resources, roles, orders and readiness time. Selection alone is not an order.

The target is observed but no outcome appears: Check whether the intervention resource has arrived, not only the confirmation resource, and whether action and inspection times have elapsed.

The simulation seems frozen: Check for an open window, a mandatory decision or a paused clock. At 1×, movement can look slow.

A negative outcome prevents closure: Examine active contacts, the need for a new order, any SAR activity, evacuation and return to base.

Data flags overlap: Enlarge the map area, adjust zoom and consult the resource/timing tables. On small screens, use scrolling.

An import is rejected: Check export type, size and, for custom sessions, the identifier limitation. Preserve the original file and current session.

The report contains many blank fields: Complete concept assessments, author, reasons and sources. Completing movement stages does not automatically generate all analytical arguments.



If a problem persists, record the scenario, stage, time, last command, exact message and browser; export the session where possible. Do not first delete saves or browser data, as this could remove evidence needed to investigate.



17 A complete exercise with a changing threat

Preparing the USV demonstration

Start a new USV-01 session. Keep the predefined 8 NM event enabled. Check the initial target, traffic, confirmation resource, EOD fast boat, intervention reserves and SAR. Complete an initial assessment identifying the protected function and uncertainties.

1. Save an “Initial situation” variant. Validate the warning, verification, traffic protection and initial order.

2. Start movement or advance to milestones. Monitor preparation and travel. At approximately 8 NM, the reconnaissance-aircraft report appears.

3. Examine INFO-1 and the positions of USV-02 and USV-03. Save a “Before reallocation” variant.

4. Re-examine the concepts. Set the operational priority and explicitly retain management of the initial hazard. Do not automatically declare a new MSCoG.

5. Open reallocation. As one exercise variant, you may send the moving fast boat to one contact, assign a rapid reserve to the other and retain or reinforce management of the initial target. Check each order’s suitability and conditions.

6. Validate and monitor tracks from reached positions. Record the reason, duration and changed resources in the log.

7. Explicitly select outcomes when effect reports are available. For a non-neutralised branch, order continued intervention; for an incident involving people, activate SAR and follow rescue/evacuation.

8. Resolve the initial hazard as well. Order restoration and wait for resource returns and completion of the final conditions.

9. Save the final variant, complete conclusions and compare “Before reallocation” with the resulting variant. Download the report and session.

Questions for the final discussion

What information changed the diagnosis? Why was a new allocation needed? Which function remained protected, and which became more exposed? Which reconfiguration was merely ordered and which was executed? Were reserves and SAR capabilities retained? Which part of IMSA needed revision?

This example illustrates use of the program. It is not a mandatory tactical solution and contains no actual engagement procedures. For research, also compare an alternative variant, keeping assumptions comparable and documenting differences.



18 Glossary and final checks

Term	Meaning in application use
MN	Marea Neagră, the Romanian abbreviation for the Black Sea.
USV / UAV	Uncrewed surface vehicle / uncrewed aerial vehicle.
FNR / EOD	Romanian Naval Forces / explosive ordnance disposal team, within the exercise assumption.
SAR / VTS	Search and rescue / vessel traffic service.
Da	Course in degrees shown on the data flag: the direction of movement.
V / Nd	Speed / knots, using the Romanian interface abbreviations.
Mm / NM	Nautical mile, 1,852 m. Distinguish distance from knots, which express speed.
T+	Simulated time since the session began.
ZEE / WGS84	EEZ, exclusive economic zone / the geodetic reference system used for coordinates.
GeoJSON / WMS	A geographical data format / a web map service providing cartographic images.
ENC / ECDIS	Electronic navigational chart / electronic chart display and information system; not equivalent to the simulator's background map.

Before starting

- The scenario, sea basin and position are the intended ones.
- The background or layer is readable, with source and alignment checked.
- Forces, bases, roles, speeds and readiness times have been reviewed.
- Functions to protect, sources and uncertainties have been recorded.

At each significant change

- The report is distinguished from confirmation of information and from an order.
- Relevant concepts are re-examined; the proposed option and IMSA conditions are reasoned.



- The order identifies the resource, destination, mission, limits and control.
- A reference variant is preserved and effects on other functions are examined.

Before closure

- Contacts and incidents have been resolved or documented as required by the stage.
- SAR, evacuation, handover and resource return are complete where required.
- Functional recovery is documented separately from operational closure.
- The report, session and sources are saved in the correct formats.

Correct use preserves the relationship between information, analysis, decision, execution and outcome. Useful conclusions are those that can be traced to recorded data and arguments, including where the result remains uncertain.