



*Water Contingency Management in the Sava River Basin*

**Transnational situational awareness  
tool for flood/accidental pollution  
emergency management**

**Output T2.3**

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**Annex 1: Tutorial of Transnational situational awareness tool**

## 1 Introduction

The lack of a coordinated response to emergencies in case of accidental pollution and floods on transboundary watercourses is a serious challenge in the Sava River basin. For this reason, the WACOM ( Water Contingency Management in the Sava River Basin) project was launched, with the main objective of reducing environmental risks related to accidental pollution and floods, especially those that have or could have transboundary impacts in the Sava River Basin.

The main outcomes of the project will lead to a reduction of risks of transboundary dimension caused by accidental pollution and flooding by strengthening transboundary and cross-sectoral cooperation between institutions, especially between state institutions responsible for flood and accidental pollution preparedness and response phases.

Based on the T1 activities, a comprehensive process to analyse the current status and agreed upon interoperability processes in the area of accidental pollution and flood response was initiated by the project partners and stakeholders in the river basin. As part of this process, the WACOM toolbox features were defined and the design of the anticipated WACOM toolbox itself was determined. The tool was verified with specific exchange protocols with the institutions that will actively participate to provide access to their data (e.g. ISRBC - Sava GIS). This tool will support communication among engaged institutions and sectors and dynamic exchange of relevant information for the decision making process during the emergencies, but also during the preparedness stage (i.e. contingency plans or their components).

The situational awareness tool of the WACOM project provides framework for the exchange of information on the incident among the activated headquarters in the complex transnational event (accidental pollution or floods) on the Sava River Basin. Situational awareness or situation awareness (SA) is the perception of environmental elements and events with respect to time or space, the comprehension of their meaning, and the projection of their future status.

## 2 Situational awareness module requirements

The situational awareness module enables understating of the current situation of the developing disaster (accidental pollution, floods) over a broad territorial, time, organizational scales. One of the challenges in any incident management/response, but especially the transboundary and trans-sectoral response, like addressed in the WACOM project is common understanding of the situation. The situational awareness is, unless otherwise defined, created also by the media (TV, radio, different web services), which could be heavily biased and in this way provide a basis for sub-optimal decisions in the process of coordination of the response.

Situational Awareness is the ability to identify, process, and comprehend the critical information about an incident. More simply, it knows what is going on around you. Situational Awareness requires continuous monitoring of relevant sources of information regarding actual incidents and developing hazards.

Usually the situational awareness in the national systems of the WACOM project is assigned to the emergency operations centers (EOCs) – (In Slovenia: RECO – Regionalni Center Obveščanja, CORS Center Obveščanja Republike Slovenija, Croatia centar 112, Operativno komunikacijski

centar Bosne i Hercegovine -112 and hitna pomoć za celu Srbiju – 112 (connection to Police Department, which, depending on the reported case, automatically informs the Ambulance Service and the Fire Brigade). These centers are gaining, maintaining, and sharing Situational Awareness and developing a Situational Picture (SitPic) that is shared between incident commanders, other emergency operations centres (EOCs), multiagency cooperation groups (MAC Group), and other units participating in the incident on the level of decision making.

In the early stages of activation the emergency operations centers will obtain Situational Awareness. This is important because accurate, timely information will enable more informed, effective decision-making. With the grown complexity of any transnational incident on the Sava river the necessity for the improved transboundary situational awareness is quite clear and requires a tool like the one that shall be developed in the WACOM project (situational awareness module).

The situational awareness module follow in general the guidelines of the ICS – Incident status summary. During the discussion among the WACOM project partners it was realized that as a difference from the organizational chart significant simplification should be made to the NIMS/ICS209 (Incident Status Summary), while retaining its position in the framework of the decision making process as defined by the “P” form defined tasks in the operational period.

### INCIDENT STATUS SUMMARY (ICS 209)

<b>*1. Incident Name:</b>		<b>2. Incident Number:</b>		
<b>*3. Report Version</b> (check one box on left): <input type="checkbox"/> Initial Rpt # _____ <input type="checkbox"/> Update (if used): _____ <input type="checkbox"/> Final		<b>*4. Incident Commander(s) &amp; Agency or Organization:</b> _____		<b>5. Incident Management Organization:</b> _____
<b>*6. Incident Start Date/Time:</b> Date: _____ Time: _____ Time Zone: _____				
<b>7. Current Incident Size or Area Involved</b> (use unit label – e.g., "sq mi," "city block"): _____	<b>8. Percent (%) Contained</b> _____ <b>Completed</b> _____	<b>*9. Incident Definition:</b> _____	<b>10. Incident Complexity Level:</b> _____	<b>*11. For Time Period:</b> From Date/Time: _____ To Date/Time: _____
<b>Approval &amp; Routing Information</b>				
<b>*12. Prepared By:</b> Print Name: _____ ICS Position: _____ Date/Time Prepared: _____			<b>*13. Date/Time Submitted:</b> _____ Time Zone: _____	
<b>*14. Approved By:</b> Print Name: _____ ICS Position: _____ Signature: _____			<b>*15. Primary Location, Organization, or Agency Sent To:</b> _____	
<b>Incident Location Information</b>				
<b>*16. State:</b>		<b>*17. County/Parish/Borough:</b>		<b>*18. City:</b>
<b>19. Unit or Other:</b>		<b>*20. Incident Jurisdiction:</b>		<b>21. Incident Location Ownership</b> (if different than jurisdiction):
<b>22. Longitude</b> (indicate format):		<b>23. US National Grid Reference:</b>		<b>24. Legal Description</b> (township, section, range):
<b>Latitude</b> (indicate format):				
<b>*25. Short Location or Area Description</b> (list all affected areas or a reference point):				<b>26. UTM Coordinates:</b>
<b>27. Note any electronic geospatial data included or attached</b> (indicate data format, content, and collection time information and labels):				

Figure 1: Initial part (page 1 of 4) of the ICS standard report on the status summary.

## 2.1 Purpose

The ICS 209 is used for reporting information on significant incidents, in the case of WACOM project on transboundary incidents. It is not intended for every incident, as most incidents are of short duration and do not require scarce resources, significant mutual aid, or additional support and attention.

The ICS 209 contains basic information elements needed to support decision-making at all levels above the incident to support the incident. Decision-makers may include the agency having jurisdiction, but also all multiagency coordination system (MACS – headquarters on different levels (state, region, municipality)) elements and parties, such as cooperating and assisting agencies/organizations, dispatch centers, emergency operations centers, administrators, elected officials, and local, State agencies (i.e. Direkcija za vode Republike Slovenije – Slovenian Water Agency, Hrvatske vode – Croatian Waters, Vode Srpske – Serbian Waters – as single institution agencies responsible for water management).

Once ICS 209 information has been submitted from the incident, decisionmakers and others at all incident support and coordination points may transmit and share the information (based on its sensitivity and appropriateness) for access and use at local, regional, State, and national levels as it is needed to facilitate support.

Accurate and timely completion of the ICS 209 is necessary to identify appropriate resource needs, determine allocation of limited resources when multiple incidents occur, and secure additional capability when there are limited resources due to constraints of time, distance, or other factors. The information included on the ICS 209 influences the priority of the incident, and thus its share of available resources and incident support.

The ICS 209 is designed to provide a “snapshot in time” to effectively move incident decision support information where it is needed. It should contain the most accurate and up-to-date information available at the time it is prepared. However, readers of the ICS 209 may have access to more up- to-date or real-time information in reference to certain information elements on the ICS 209.

Coordination among communications and information management elements within ICS and among MACS should delineate authoritative sources for more up-to-date and/or real-time information when ICS 209 information becomes outdated in a quickly evolving incident.

**Reporting Requirements.** The ICS 209 is intended to be used when an incident reaches a certain threshold where it becomes significant enough to merit special attention, require additional resource support needs, or cause media attention, increased public safety threat, etc.

Agencies or organizations may set reporting requirements and, therefore, ICS 209s should be completed according to each jurisdiction or discipline’s policies, mobilization guide, or preparedness plans. It is recommended that consistent ICS 209 reporting parameters be adopted and used by jurisdictions or disciplines for consistency over time, documentation, efficiency, trendmonitoring, incident tracking, etc.

For example, an agency or MAC (Multiagency Coordination – “Stožer, Štab CZ on state, regional or municipality level) may require the submission of an initial ICS 209 when a new incident has reached a certain predesignated level of significance, such as when a given number of resources are committed to the incident, when a new incident is not completed within a certain timeframe, or when impacts/threats to life and safety reach a given level.

Typically, ICS 209 forms are completed either once daily or for each operational period – in addition to the initial submission. Jurisdictional or organizational guidance may indicate frequency of ICS 209 submission for particular definitions of incidents or for all incidents. This specific guidance may help determine submission timelines when operational periods are extremely short (e.g., 2 hours) and it is not necessary to submit new ICS 209 forms for all operational periods. Any plans or guidelines should also indicate parameters for when it is appropriate to stop submitting ICS 209s for an incident, based upon incident activity and support levels. Preparation. When an Incident Management Organization (such as an Incident

Management Team) is in place, the Situation Unit Leader or Planning Section Chief prepares the ICS 209 at the incident. On other incidents, the ICS 209 may be completed by a dispatcher in the local communications center, or by another staff person or manager. This form should be completed at the incident or at the closest level to the incident. The ICS 209 should be completed with the best possible, currently available, and verifiable information at the time it is completed and signed.

## **2.2 Distribution**

ICS 209 information is meant to be completed at the level as close to the incident as possible, preferably at the incident. Once the ICS 209 has been submitted outside the incident to a dispatch center or MACS element (civil protection headquarters on different, level), it may subsequently be transmitted to various incident supports and coordination entities based on the support needs and the decisions made within the MACS in which the incident occurs. Coordination with public information system elements and investigative/intelligence information organizations at the incident and within MACS is essential to protect information security and to ensure optimal information sharing and coordination.

## **2.3 Sensitive information**

There may be times in which particular ICS 209s contain sensitive information that should not be released to the public (such as information regarding active investigations, fatalities, etc.). When this occurs, the ICS 209 (or relevant sections of it) should be labeled appropriately, and care should be taken in distributing the information within MACS.

## **1.2 Data requirements – WACOM Situational awareness tool**

The situational awareness tool of the WACOM project provides framework for the exchange of information on the incident among the activated headquarters in the complex transnational event (accidental pollution or floods) on the Sava River Basin. Situational awareness or situation awareness (SA) is the perception of environmental elements and events with respect to time or space, the comprehension of their meaning, and the projection of their future status.

Situation awareness has been recognized as a critical, yet often elusive, foundation for successful decision-making across a broad range of situations, which are related to successful response in the case of complex transnational event of flood or accidental pollution as addressed by the WACOM project.

Lacking or inadequate situation awareness has been identified as one of the primary factors in accidents attributed to human error in many emergencies. Development of adequate situational



awareness with information exchange among the involved/activated institutions and their headquarters is essential in order to have reliable information on the current situation on which adequate decisions could be based. In the absence of well-structured and reliable information on situation the decision makers could rely on biased sources of information (i.e. personal connections, media information, etc.) which usually do not provide the whole spectrum of necessary information covering the entire area and being unbiased by specific intentions (like media).

This should be based upon the situation report, which is confirmed or verified information regarding the specific details relating to an incident and status report - report, such as spot reports, that include vital and/or time-sensitive information. Status reports are typically function-specific, less formal than situation reports, and are not always issued on a specific schedule.

Situation awareness is sometimes confused with the term "situational understanding." In the context of military command and control applications, situational understanding refers to the "product of applying analysis and judgment to the unit's situation awareness to determine the relationships of the factors present and form logical conclusions concerning threats to the force or mission accomplishment, opportunities for mission accomplishment, and gaps in information". Situational understanding is the same as Level 2 SA in the Endsley model—the comprehension of the meaning of the information as integrated with each other and in terms of the individual's goals. It is the "so what" of the data that is perceived.

The ICS approach was agreed upon during the WACOM national workshops in all 4 countries in May 2021 and confirmed at regional workshops organized as crossborder workshops in September 2021 for: Slovenia-Croatia, Croatia-Bosnia and Hercegovina and Bosnia and Hercegovina-Serbia , The ICS approach enables the reporting regarding the situational awareness using ICS form 209 – incident status summary.

The ICS 209 is used for reporting information on significant incidents, having significant transboundary effect on the Sava river basin. It is not intended for every incident, as most incidents are of short duration and do not require scarce resources, significant mutual aid, or additional support and attention.

The ICS 209 contains basic information elements needed to support decisionmaking at all levels above the incident to support the incident. Decisionmakers may include the agency having jurisdiction, but also all multiagency coordination system (MACS) elements and parties, such as cooperating and assisting agencies/organizations, dispatch centers, emergency operations centers, administrators, elected officials, and agencies in different countries and levels.

Once ICS 209 information has been submitted from the incident, decisionmakers and others at all incident support and coordination points may transmit and share the information (based on its sensitivity and appropriateness) for access and use at local, regional, State, and national levels as it is needed to facilitate support. Accurate and timely completion of the ICS 209 is necessary to identify appropriate resource needs, determine allocation of limited resources when multiple incidents occur, and secure additional capability when there are limited resources due to constraints of time, distance, or other factors.

The information included on the ICS 209 influences the priority of the incident, and thus its share of available resources and incident support. The ICS 209 is designed to provide a "snapshot in time" to

effectively move incident decision support information where it is needed. It should contain the most accurate and up-to-date information available at the time it is prepared. However, readers of the ICS 209 may have access to more up-to-date or real-time information in reference to certain information elements on the ICS 209. Coordination among communications and information management elements within ICS and among MACS (headquarters) should delineate authoritative sources for more up-to-date and/or real-time information when ICS 209 information becomes outdated in a quickly evolving incident.

### 1.3 Reporting requirements – WACOM Situational awareness tool

#### First stage:

The ICS 209 is intended to be used when an incident reaches a certain threshold where it becomes significant enough to merit special attention, require additional resource support needs, or cause media attention, increased public safety threat, etc. Agencies or organizations may set reporting requirements and, therefore, ICS 209 should be completed according to each jurisdiction or discipline's policies, mobilization guide, or preparedness plans. It is recommended that consistent ICS 209 reporting parameters were adopted and used by jurisdictions or disciplines for consistency over time, documentation, efficiency, trend monitoring, incident tracking, etc. For example, an agency or MAC (Multiagency Coordination) Group may require the submission of an **initial ICS 209** when a new incident has reached a certain predesignated level of significance, such as when a given number of resources are committed to the incident, when a new incident is not completed within a certain timeframe, or when impacts/threats to life and safety reach a given level.

Typically, ICS 209 forms are completed either once daily or for **each operational period** – in addition to the initial submission. Jurisdictional or organizational guidance may indicate frequency of ICS 209 submission for particular definitions of incidents or for all incidents. This specific guidance may help determine submission timelines when operational periods are extremely short (e.g., 2 hours) and it is not necessary to submit new ICS 209 forms for all operational periods. Any plans or guidelines should also indicate parameters for when it is appropriate to stop submitting ICS 209s for an incident, based upon incident activity and support levels. Preparation. When an Incident Management Organization (such as an Incident Management Team) is in place, the Situation Unit Leader or Planning Section Chief prepares the ICS 209 at the incident.

On other incidents, the ICS 209 may be completed by a dispatcher in the local communications center, or by another staff person or manager. This form should be completed at the incident or at the closest level to the incident. The ICS 209 should be completed with the best possible, currently available, and verifiable information at the time it is completed and signed. This form is designed to serve incidents impacting specific geographic areas that can easily be defined. It also has the flexibility for use on ubiquitous events, or those events that cover extremely large areas and that may involve many jurisdictions and ICS organizations. For these incidents, it will be useful to clarify on the form exactly which portion of the larger incident the ICS 209 is meant to address.

While the standard FEMA ICS 209 form was considered to be over-defined among the WACOM project partners, more flexible approaches have been implemented still enabling structured situational awareness among the partners, but on the other hand easing the reporting requirements in the complex WACOM transnational environment.

Submission of multiple location indicators increases accuracy, improves interoperability, and increases information sharing between disparate systems. Preparers should be certain to follow accepted protocols or standards when entering location information, and clearly label all location information. As with other ICS 209 data, geospatial information may be widely shared and utilized, so accuracy is essential.

If electronic data is submitted with the ICS 209, extremely large data files should not be attached or sent. Incident geospatial data that is distributed with the ICS 209 should be in simple incident geospatial basics, such as the incident perimeter, point of origin, etc. Data file sizes should be small enough to be easily transmitted through dial-up connections or other limited communications capabilities when ICS 209 information is transmitted electronically. Any attached data should be clearly labeled as to format content and collection time, and should follow existing naming conventions and standards. Distribution. ICS 209 information is meant to be completed at the level as close to the incident as possible, preferably at the incident. Once the ICS 209 has been submitted outside the incident to a dispatch center or MACS element, it may subsequently be transmitted to various incident supports and coordination entities based on the support needs and the decisions made within the MACS in which the incident occurs.

Coordination with public information system elements and investigative/intelligence information organizations at the incident and within MACS is essential to protect information security and to ensure optimal information sharing and coordination. There may be times in which particular ICS 209 contain sensitive information that should not be released to the public (such as information regarding active investigations, fatalities, etc.).

When this occurs, the ICS 209 (or relevant sections of it) should be labeled appropriately, and care should be taken in distributing the information within MACS. All completed and signed original ICS 209 forms **MUST** be given to the incident's Documentation Unit and/or maintained as part of the official incident record (under the WACOM toolbox this will be automatically stored, which is also one of the essential functions of the toolbox – supporting the documentation unit).

#### Notes:

- To promote flexibility, only a limited number of ICS 209 blocks are typically required, and most of those are required only when applicable (reason for the simplification of WACOM 209 reporting requirements).
- Most fields are optional, to allow responders to use the form as best fits their needs and protocols for information collection. (Reason for the simplification of WACOM 209 reporting requirements).
- For the purposes of the ICS 209, responders are those personnel who are assigned to an incident or who are a part of the response community as defined by the national legislation of

the WACOM partners' countries. This may include critical infrastructure owners and operators, nongovernmental and nonprofit organizational personnel, and contract employees (such as caterers), depending on local/jurisdictional/discipline practices.

- For additional flexibility reporting bodies can provide upolads as attachements for a more detailed status information.

### Second stage:

Reporting Requirements, based upon the ICS 209 form were verified for the second stage data collection and are defined on the basis of analysis of standard procedures applied and potentially harmonized among the countries in the Sava River Basin.

As anticipated, a more flexible approach was implemented still enabling structured situational awareness among the partners, but on the other hand easing the reporting requirements in the complex WACOM transnational environment, with adaptation to electronic data submission. With the ICS 209, the attachment of report files is enabled, allowing open format (preferably pdf) data exchange.

Following blocks are subject to reporting on the level of second stage data reporting in the situational awareness module:

1. Incident status description in the area of my jurisdiction (at the reporting time) - incident summary.  
In the incident status description each participating headquarters (at each level) provides information on the status of the incident at the area of its jurisdiction. This information, aggregated on all levels and all sectors, provides an adequate background for the situational awareness among the activated headquarters during the transnational incident response.
2. Damage assessment/description (casualties, missing, evacuated) by status (public responders).  
This provides information on the damage on the status of the incident at the area of its jurisdiction. The information on damage occurred in the incident provides information on the severity of the incident and potential requirements for assistance.
3. Notifications issued  
Notifications are official alert/alarming/guidance information published to the general public (or specified target group) via different ways of communication. Information on the notifications by different headquarters is important, as it provides an exact and clear information on the warnings and measures adopted on the level of different jurisdictions of headquarters.
4. Outlook development of events (forecasting) – for the next 24/48/72 hours  
While the fields (1-3) provide information on the current status of the incident development and response in the area of jurisdiction of specific HQ, this reporting information provides a clear picture on the anticipated development of the event in the same jurisdiction of the reporting HQ.
5. Resources actually involved under my headquarter - my own, managed by me, their capacity, man-hours engaged.

This field of reporting information provides insight into activated resources for the response in the incident. This information adds to the description of the event and coping capacity and indirectly also describes the way the incident response is being managed.

6. Critical resources needs (planned) for the next 24/48/72 hours, indication of external help requirements.

This information provides insight into future development of the response activated for the active incident. It also provides information on the potential request for the additional resources necessary to cope with an incident.

### 3 Transnational situational awareness tool

This WACOM tool is used as a management tool. Daily reports are produced at the end of each operational period for each organization headquarters. We distinguish between 201 (handover) and 209 - reporting at the end of the operational period.

**The tool is named WASP and is available at:**

*<http://wasp-dss.apps.vokas.si>*

Users can register and access the tool.

#### 3.1 Incident Status Summary – ICS 209

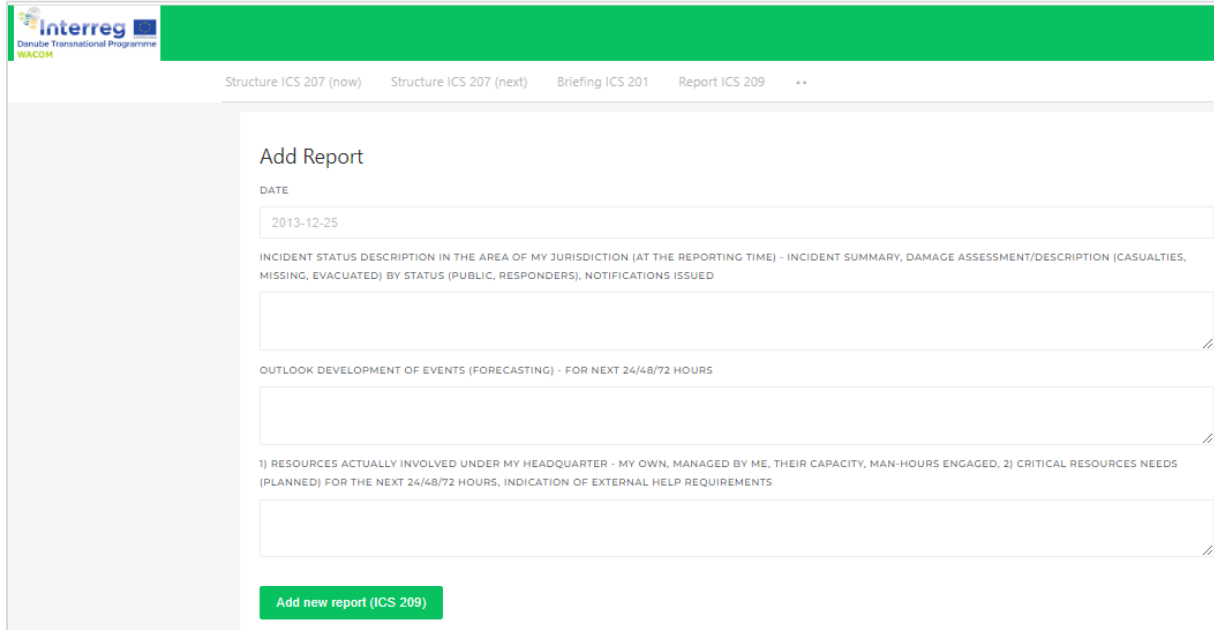
At the end of each day / operational period – each headquarters submits a daily report.

1) Reporting for the past period 209:

- a) Incident status description in the area of my jurisdiction (at the reporting time) – incident summary, damage assessment/description (casualties, missing, evacuated) by status (public, responders), notifications issued
- b) Resources actually involved under my headquarter – my own, other agencies, their capacity, man-hours engaged

2) Planning for the next period 209:

- a) Outlook development of event (forecasting) – for the next 24/48/72 hours
- b) Critical resources needs (planned) for the next 24/48/72 hours, indication of external resources requirements.



Structure ICS 207 (now) Structure ICS 207 (next) Briefing ICS 201 Report ICS 209 ++

### Add Report

DATE  
2013-12-25

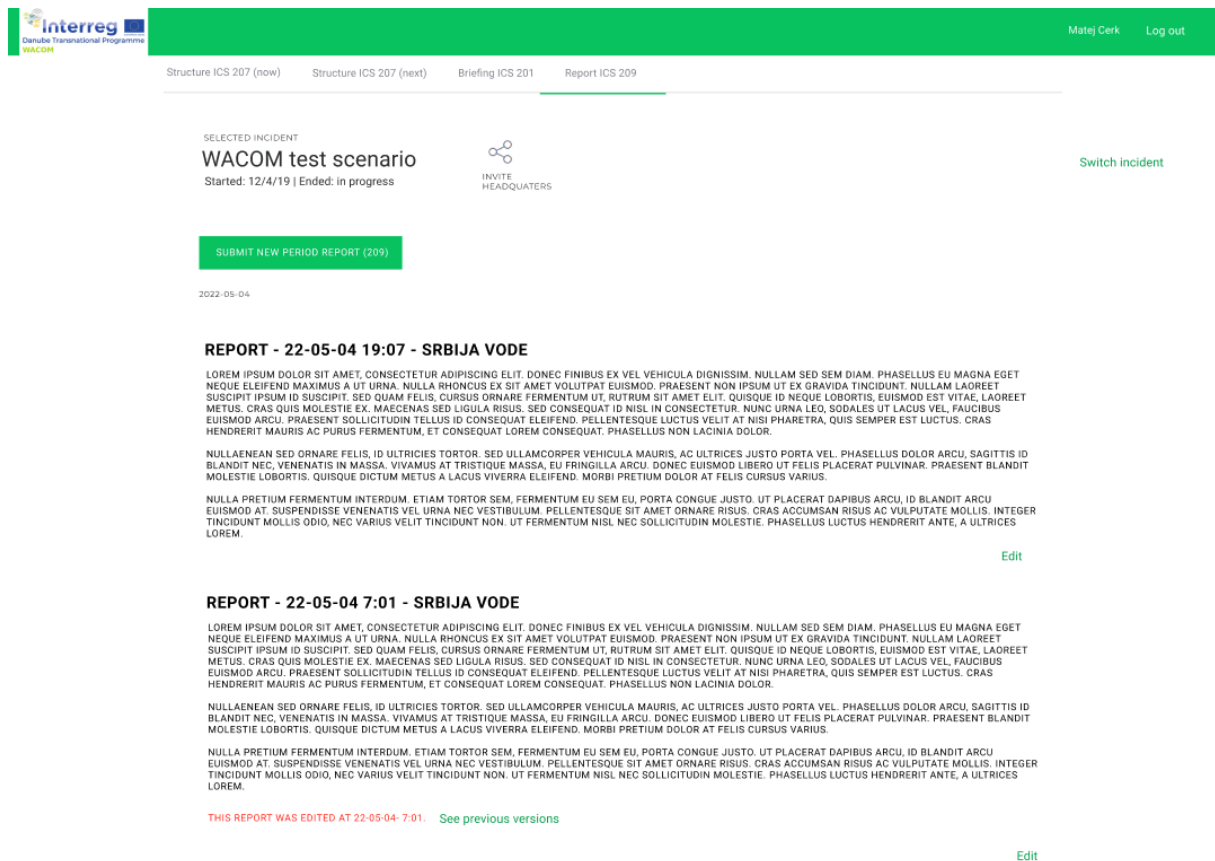
INCIDENT STATUS DESCRIPTION IN THE AREA OF MY JURISDICTION (AT THE REPORTING TIME) - INCIDENT SUMMARY, DAMAGE ASSESSMENT/DESCRIPTION (CASUALTIES, MISSING, EVACUATED) BY STATUS (PUBLIC, RESPONDERS), NOTIFICATIONS ISSUED

OUTLOOK DEVELOPMENT OF EVENTS (FORECASTING) - FOR NEXT 24/48/72 HOURS

1) RESOURCES ACTUALLY INVOLVED UNDER MY HEADQUARTER - MY OWN, MANAGED BY ME, THEIR CAPACITY, MAN-HOURS ENGAGED, 2) CRITICAL RESOURCES NEEDS (PLANNED) FOR THE NEXT 24/48/72 HOURS, INDICATION OF EXTERNAL HELP REQUIREMENTS

[Add new report \(ICS 209\)](#)

Figure 2: WACOM tool - Transnational situational awareness tool - ICS 209



Interreg Danube Transnational Programme WACOM

Matej Cerk Log out

Structure ICS 207 (now) Structure ICS 207 (next) Briefing ICS 201 Report ICS 209

SELECTED INCIDENT  
**WACOM test scenario**  
Started: 12/4/19 | Ended: in progress

[INVITE HEADQUARTERS](#)

[Switch incident](#)

[SUBMIT NEW PERIOD REPORT \(209\)](#)

2022-05-04

**REPORT - 22-05-04 19:07 - SRBIJA VODE**

LOREM IPSUM DOLOR SIT AMET, CONSECTETUR ADIPISCING ELIT, DONEC FINIBUS EX VEL VEHICULA DIGNISSIM, NULLAM SED SEM DIAM, PHASELLUS EU MAGNA EGET NEQUE ELEIFEND MAXIMUS A UT URNA, NULLA RHONCUS EX SIT AMET VOLUTPAT EUISMOD, PRAESENT NON IPSUM UT EX GRAVIDA TINCIDUNT, NULLAM LAOREET SUSCIPIT IPSUM ID SUSCIPIT, SED QUAM FELIS, CURSUS ORNARE FERMENTUM UT, RUTRUM SIT AMET ELIT, QUISSQUE ID NEQUE LOBORTIS, EUISMOD EST VITAE, LAOREET METUS, CRAS QUIS MOLESTIE EX, MACCENAS SED LIGULA RISUS, SED CONSEQUAT ID NISL, IN CONSECTETUR, NUNC URNA LEO, SODALES UT LACUS VEL FAUCIBUS EUISMOD ARCU, PRAESENT SOLLICITUDIN TELLUS ID CONSEQUAT ELEIFEND, PELLENESQUE LUCTUS VELIT AT NISI PHARETRA, QUIS SEMPER EST LUCTUS, CRAS HENDRERIT MAURIS AC PURUS FERMENTUM, ET CONSEQUAT LOREM CONSEQUAT, PHASELLUS NON LACINIA DOLOR.

NULLAENEAN SED ORNARE FELIS, ID ULTRICES TORTOR, SED ULLAMCORPER VEHICULA MAURIS, AC ULTRICES JUSTO PORTA VEL, PHASELLUS DOLOR ARCU, SAGITTIS ID BLANDIT NEC, VENENATIS IN MASSA, VIVAMUS AT TRISTIQUE MASSA, EU FRINGILLA ARCU, DONEC EUISMOD LIBERO UT FELIS PLACERAT PULVINAR, PRAESENT BLANDIT MOLESTIE LOBORTIS, QUISSQUE DICTUM METUS A LACUS VIVERRA ELEIFEND, MORBI PRETIUM DOLOR AT FELIS CURSUS VARIUS.

NULLA PRETIUM FERMENTUM INTERDUM, ETIAM TORTOR SEM, FERMENTUM EU SEM EU, PORTA CONGUE JUSTO, UT PLACERAT DAPIBUS ARCU, ID BLANDIT ARCU EUISMOD AT, SUSPENDISSE VENENATIS VEL URNA NEC VESTIBULUM, PELLENESQUE SIT AMET ORNARE RISUS, CRAS ACCUMSAN RISUS AC VULPUTATE MOLLIS, INTEGER TINCIDUNT MOLLIS ODI, NEC VARIUS VELIT TINCIDUNT NON, UT FERMENTUM NISL, NEC SOLLICITUDIN MOLESTIE, PHASELLUS LUCTUS HENDRERIT ANTE, A ULTRICES LOREM.

[Edit](#)

**REPORT - 22-05-04 7:01 - SRBIJA VODE**

LOREM IPSUM DOLOR SIT AMET, CONSECTETUR ADIPISCING ELIT, DONEC FINIBUS EX VEL VEHICULA DIGNISSIM, NULLAM SED SEM DIAM, PHASELLUS EU MAGNA EGET NEQUE ELEIFEND MAXIMUS A UT URNA, NULLA RHONCUS EX SIT AMET VOLUTPAT EUISMOD, PRAESENT NON IPSUM UT EX GRAVIDA TINCIDUNT, NULLAM LAOREET SUSCIPIT IPSUM ID SUSCIPIT, SED QUAM FELIS, CURSUS ORNARE FERMENTUM UT, RUTRUM SIT AMET ELIT, QUISSQUE ID NEQUE LOBORTIS, EUISMOD EST VITAE, LAOREET METUS, CRAS QUIS MOLESTIE EX, MACCENAS SED LIGULA RISUS, SED CONSEQUAT ID NISL, IN CONSECTETUR, NUNC URNA LEO, SODALES UT LACUS VEL FAUCIBUS EUISMOD ARCU, PRAESENT SOLLICITUDIN TELLUS ID CONSEQUAT ELEIFEND, PELLENESQUE LUCTUS VELIT AT NISI PHARETRA, QUIS SEMPER EST LUCTUS, CRAS HENDRERIT MAURIS AC PURUS FERMENTUM, ET CONSEQUAT LOREM CONSEQUAT, PHASELLUS NON LACINIA DOLOR.

NULLAENEAN SED ORNARE FELIS, ID ULTRICES TORTOR, SED ULLAMCORPER VEHICULA MAURIS, AC ULTRICES JUSTO PORTA VEL, PHASELLUS DOLOR ARCU, SAGITTIS ID BLANDIT NEC, VENENATIS IN MASSA, VIVAMUS AT TRISTIQUE MASSA, EU FRINGILLA ARCU, DONEC EUISMOD LIBERO UT FELIS PLACERAT PULVINAR, PRAESENT BLANDIT MOLESTIE LOBORTIS, QUISSQUE DICTUM METUS A LACUS VIVERRA ELEIFEND, MORBI PRETIUM DOLOR AT FELIS CURSUS VARIUS.

NULLA PRETIUM FERMENTUM INTERDUM, ETIAM TORTOR SEM, FERMENTUM EU SEM EU, PORTA CONGUE JUSTO, UT PLACERAT DAPIBUS ARCU, ID BLANDIT ARCU EUISMOD AT, SUSPENDISSE VENENATIS VEL URNA NEC VESTIBULUM, PELLENESQUE SIT AMET ORNARE RISUS, CRAS ACCUMSAN RISUS AC VULPUTATE MOLLIS, INTEGER TINCIDUNT MOLLIS ODI, NEC VARIUS VELIT TINCIDUNT NON, UT FERMENTUM NISL, NEC SOLLICITUDIN MOLESTIE, PHASELLUS LUCTUS HENDRERIT ANTE, A ULTRICES LOREM.

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Figure 3: WACOM tool - Transnational situational awareness tool - ICS 209

## 4 WACOM Situational awareness tool testing

After the development of the WACOM transnational Situational awareness toolbox, the users: WACOM project partners (PPs), WACOM associated strategic partners (ASPs), and other invited stakeholders – target groups (local, national, utilities, enterprises, international) assessed the functioning of the toolbox. The assessment were performed in two stages:

- (1) testing of the three modules prototypes and
- (2) beta testing of the WACOM toolbox – three modules.

A template form for collecting feedbacks were prepared. A template form (factsheet) was compiled by the PPs and ASPs. The first testing phase was conducted in June 2022 and the second testing phase in September 2022. Comments were collected from all PPs and ASPs in a prepared factsheet.

On the basis of feedback from the testing, reports were prepared describing the comments of the users and ways to improve the tools under development.

### **Compliments on the tool:**

- Useful, easy to use, quick data input
- Transparent, seeing exact headquarters(HQ) location

### **Ideas for improvement:**

- Password recovery is necessary;
- Pre-register all potential organizations (HQ) with names and contacts would facilitate the process of joining to specific accident;
- It could be developed as a specific smart-phone application (i.e. an app on google store). However, it was tested that the application (WACOM toolbox) fully functions on the smart-phone using standard web-browser tool.
- Improved proces for the institutions that want to join the concerted work of transboundary HQs;

### **Analysis:**

- One additional proposal is now to show the location of the incident on the map, including key operational measuras applied. Comment: this would transform the application closer to the NICS toolbox.
- The institutions could be sorted by color according to their country of origin. Advanced filtering of involved institutions (HQs) may be useful in order to support extremely large events. (function was partially added, based upon this comment).



- Data structures for the reports (i.e. ICS 209) could be improved, enabling functionality: file attachments (this function was added later, based upon this comment).
- Improve readability where there is many HQ involved (this function was added later, based upon this comment).



## 5 Beta version of the Transnational situational awareness tool

With the use of the application, especially during the Table-top exercise (TTX) the users were encouraged to provide suggestions, how to improve the applications from different point of views (procedural, technical, user experience and similar). Some minor changes were improved already between the exercises (after the first TTX in Brežice, Slovenia). After the collection of the experiences from all table top exercises following suggestions were aggregated.

The WASP tool is a relatively novel concept aiming at the improved coordination among headquarters from different countries, different type of headquarters (multiagency, singleagency), different levels (national, regional, local) and different sectors (civil protection, water management, navigation, industry etc.). As such it was relatively soon identified that to certain extent it has a similarity to social networks, but it is clearly distinguished from those and relatively clearly defined to be a Multiagency Coordination System (MAC) as defined by the NEMA (National Emergency Management Agency of the USA). A MAC is not simply a physical location or facility. Rather, the MAC System:

- Defines business practices, standard operating procedures, and protocols by which participating agencies will coordinate their interactions.
- Provides support, coordination, and assistance with policy-level decisions to the ICS structure managing an incident.

Cooperating agencies and organizations may develop a MAC System to better define how they will work together and to work together more efficiently.

The WACOM toolbox is addressing both components of the MAC, with specific focus on the second (support, coordination, and assistance). Therefore the integration of the first components (business practices, standard operating procedures, and protocols by which participating agencies will coordinate their interactions), now have to be improved and better integrated in the WACOM toolbox. During the TTX several issues had been revealed which were analysed and will be part of the WACOM strategic guidance documents (WPT4).

The central role of the multiagency cooperation is defined by the primary functions of MACs, which are to:

- Support incident management policies and priorities.
- Facilitate logistics support and resource tracking.
- Make resource allocation decisions based on incident management priorities.
- Coordinate incident-related information.
- Coordinate interagency and intergovernmental issues regarding incident management policies, priorities, and strategies.

Direct tactical and operational responsibility for the conduct of incident management activities rests with the on-scene Incident Commander.

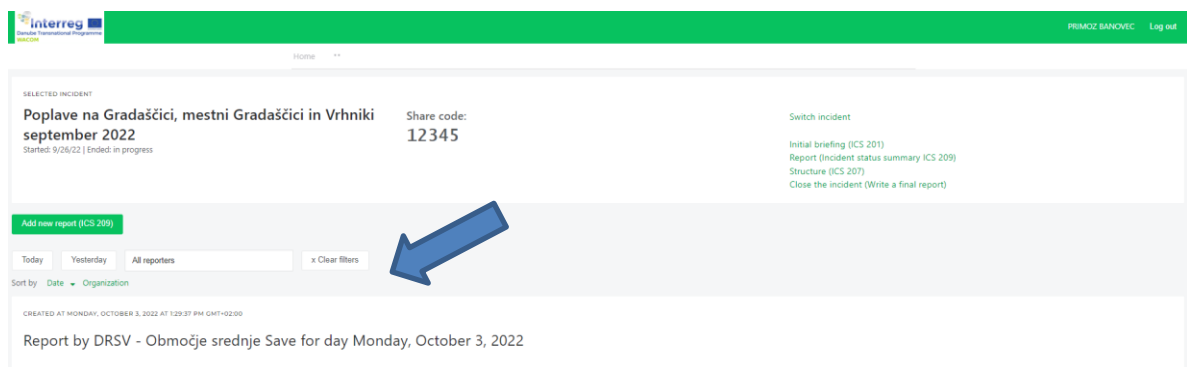
With the table top exercises performed the focus on the final toolbox analysis was suggested to:

Improve the identification (positioning) of the incident area in the toolbox – currently the area of the incident is only defined by:

- Description of the location in the name of the incident and the more detailed description of the location and event
- Description of the event propagation in the reporting system of the participating headquarters (ICS 209 form)

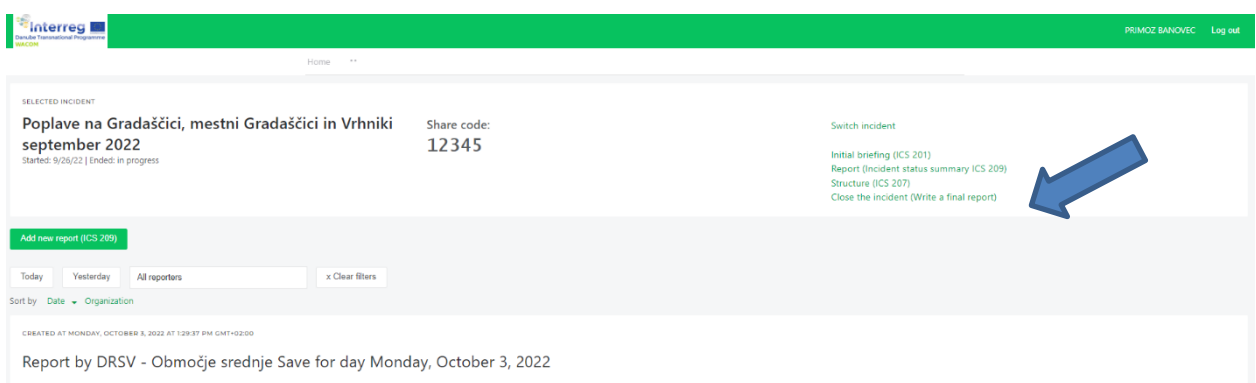
The necessary improvement will enable positioning of the event location and propagation in the map of the WASP tool, and the added possibility of file upload to the ICS 209 reporting providing even more detailed positioning of the event under dynamic development in the spatial context.

Improve the search tools in the toolbox – with the increased number of participants in the TTX it was identified that the number of reports available are heavily limiting the usage, where transparent and rapid search of a specific report (especially by the reporting institution or its headquarters, by time, by country) is necessary. For the management of large scale events this functionality is necessary, enabling effective and efficient access to critically needed information.



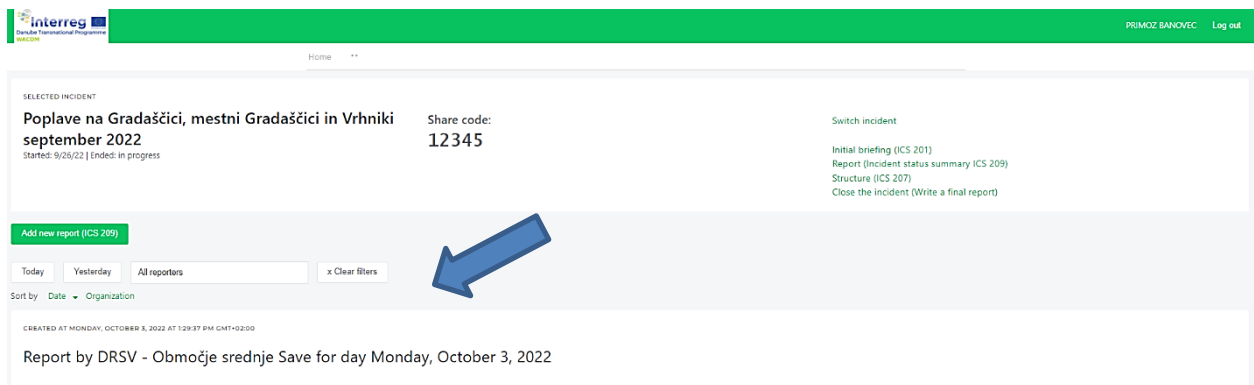
*Figure 4: Improved search and filtering in the ICS 209 reporting process*

Emergency closing protocols – during the TTX exercises it was identified that the closing protocols of the incident is not adequately defined. While on the level of basic information (AEWS) the closing protocols is defined, it was not defined on the level of WASP tool. The closing protocol should be defined on the level of single participating institution providing together with the final ICS 209 report also the confirmation on the closing of its participation in the event, and the institution which has opened the event also eventually closing the entire event afterwards. The event is after that only stored and used for the documentation purpose.



*Figure 5: Improved incident closing procedures*

Management of the participants' access to application – one of the key challenges of the Transnational situational awareness tool is also management of the participants. On one hand it has to be relatively open in order to enable relatively accessible participation of different institution, while on the other hand it has to be close to prevent mis-use and participation of the unwanted participants/persons. This was recognized and discussed. The partnership decided on the invitation based control of participants where a random access code is created together with a new incident, which is subject to MAC. The discussion was open on the potential functionality to omit specific participant/institution (headquarters) from the application, which could be performed only in very rare circumstances (i.e. false entry).



*Figure 6: Improved procedures relative to access protocols*

Management of the participants in the application – with the increased number of participants headquartered in the multiagency coordination it is necessary to better structure their list in the application enabling a better overview of the participating institutions/headquarters. In some TTX exercises it was noted that with the number of headquarters above 20, management and overview of the processes and participants could become difficult. An improved structuring of the partners on the page with participants is necessary. The headquarters are structured according to their level – state/regional/municipality/single institution level.

Graphical and user experience – with the use of the toolbox the positioning of the contents and functions (mouse click buttons) was analysed and suggestions provided. It was suggested to improve the positioning of the icons and contents in the toolbox in order to improve the user experience.

Uploading of the documents in the ICS 209 reports – during the TTX exercise the necessity to integrate the existing (i.e. national) reporting into the WACOM toolbox was recognized. In order to avoid complex adaptation of national and transboundary contents of reporting requirements the reports could be uploaded as-such and used by other headquarters in the MACS.

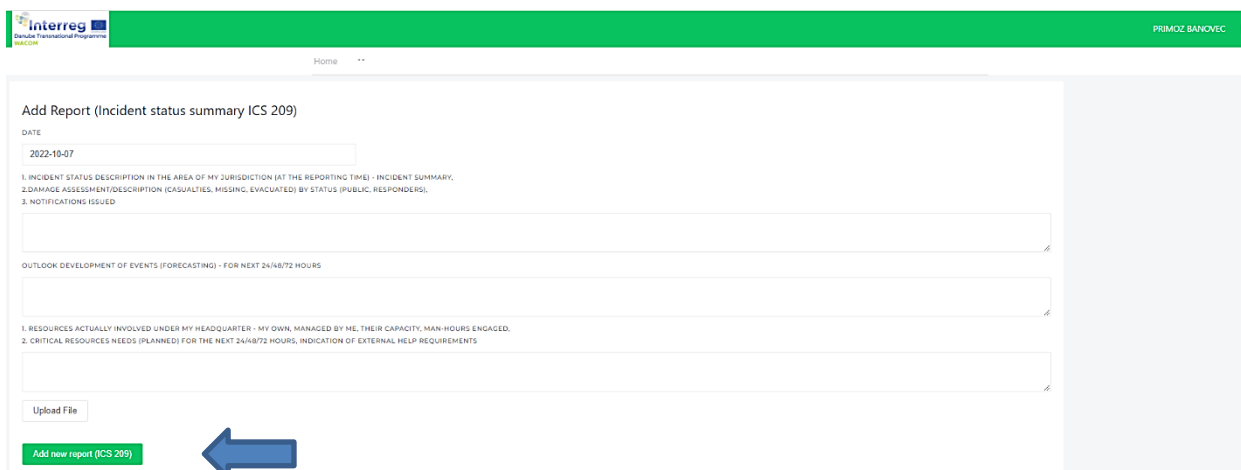


Figure 7: Improved procedures relative to access protocols

## 6 Conclusions

To reduce environmental risks related to accidental pollution and floods, especially those that have or could have transboundary impacts in the Sava River Basin, the headquarters should be able to efficiently and effectively communicate and organize. For this reason, the WACOM project (Water Contingency Management in the Sava River Basin) developed a toolbox for better organization in case of complex incidents. The transnational situational awareness tool enables efficient and effective communication between stakeholders (institutions) involved in flood and/or accidental pollution response. The situational awareness tool includes several components and definitions that follow standard processes that reflect the requirements of the Incident Command System (ICS) theory.

The situational awareness tool follows in general the guidelines of the ICS – Incident status summary. During the discussion among the WACOM project partners it was realized that as a difference from the organizational chart significant simplification should be made to the NIMS/ICS 209 (Incident Status Summary).

The situational awareness tool enables understating of the current situation of the developing disaster (accidental pollution, floods) over a broad territorial, time, organizational scales. One of the challenges in any incident management/response, but especially the transboundary and trans-sectoral response, like addressed in the WACOM project is common understanding of the situation. The situational awareness is, unless otherwise defined, created also by the media (TV, radio, different web services), which could be heavily biased and in this way provide a basis for sub-optimal decisions in the process of coordination of the response.

Situational Awareness is the ability to identify, process, and comprehend the critical information about an incident. More simply, it knows what is going on around you. Situational Awareness requires continuous monitoring of relevant sources of information regarding actual incidents and developing hazards.

Using the application, Transnational situational awareness tool, headquarters will be able to efficiently and effectively communicate with all parties involved in the response on

flood/accidental pollution. In case of emergencies, quick and efficient organisation is crucial and the Transnational situational awareness tool supports that part through the web platform.

According to the stakeholders, the tool WASP is a well-designed and useful tool, but it still has room for improvement. Therefore, we will continue to work on developing this type of tool to support the emergency response.