User Manual on the Incident Management System Prototype for Regional WIGOS Centres

WIGOS Data Quality Monitoring System

(Version 0.1, October 2020)

2021 edition

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NOTE

CONTENTS

1. INTRODUCTION

The Incident Management System (IMS) prototype for Regional WIGOS Centres (RWCs) is provided and configured at the European Centre for Medium-Range Weather Forecasts (ECMWF), based on JIRA software, an online tool for issue tracking. The IMS for RWCs is a project under ECMWF JIRA, designed as a global system, that is intended for RWCs to perform one of their mandatory functions, the WIGOS Data Quality Monitoring System (WDQMS) incident management function.

This user manual is organized in six chapters. A general overview of the system, including its workflow, is explained in chapters 1 and 2, while chapter 3 provides the first step of the Incident Management Procedure (IMP), that is issue identification. The RWCs response to a new ticket is explained in chapter 4, and chapter 5 provides guidance for WDQMS NFPs on how to acknowledge a ticket and propose corrective actions, as well as guidance for RWCs on how to confirm proposed corrective actions provided by WDQMS NFPs. The last chapter (6) contains explanations on incident rectification.

Logging in to the IMS for RWCs allows users to access other projects available in the ECMWF JIRA, but users of the IMS for RWCs are requested to explore only the IMS for the RWCs project. This user manual provides guidance on how to perform the IMP in the IMS prototype for RWCs, while guidance on other functions is available from the JIRA software online help.

2. OVERVIEW OF THE INCIDENT MANAGEMENT SYSTEM FOR RWC REGIONAL WIGOS CENTRES

The IMS for RWCs is a dynamic system developed according to the IMP specified/described in the *Technical Guidelines for Regional WIGOS Centres on the WIGOS Data Quality Monitoring System* (WMO-No. 1224).

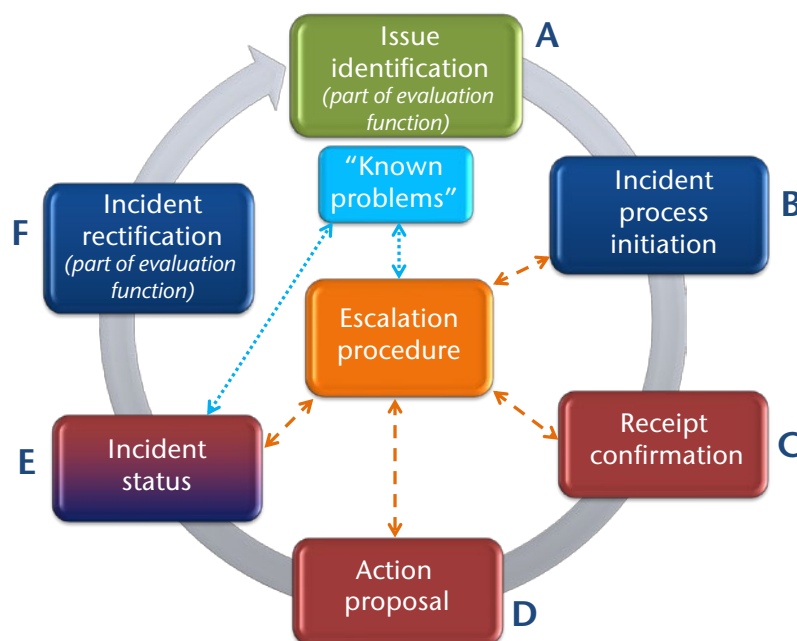Figure 1 below shows the steps of the Incident Management Procedure starting with issue identification.

Figure 1. The steps of the Incident Management Procedure (IMP)

Source: *Technical Guidelines for Regional WIGOS Centres on the WIGOS Data Quality Monitoring System* (WMO-No. 1224).

The IMS prototype for RWCs project is organized in various components, each one representing a different RWC. There are three user levels in the system, the RWCs, the WDQMS National Focal Points (NFPs) and the WIGOS Monitoring Centres (Global NWP Centres contributing to WDQMS). Users of this system will be able to follow up on the issues according to the *Technical Guidelines for Regional WIGOS Centres on the WIGOS Data Quality Monitoring System* (WMO-No. 1224). RWCs are responsible for managing the issues according to the workflow of the IMP, for stations in their area of responsibility. RWCs, end users and suppliers of observational data build their clear communication through this system to ensure that they take suitable precautions for each issue as a key to the success of the incident management function.

2.1   IMS for RWCs workflow

Figure 2 below shows the current workflow configured in the IMS for RWCs. The process starts by an issue raised by any user, also called a ticket. RWCs are responsible for managing most of the process in the system. Any user can raise an issue, by opening a ticket, but only RWCs have permission to update/change the ticket's status. RWCs will consider which issues will be converted into an incident and close it if the issue has been resolved. In some cases, RWCs will change the status of an incident into "escalated" or "won't fix".
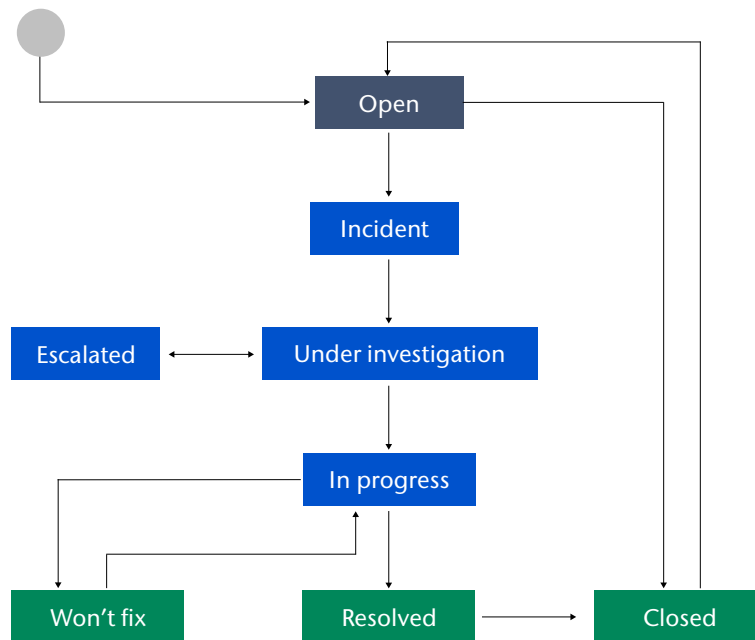

Figure 2. IMS for RWCs workflow

2.2   **Users Roles and Permissions**

All three user levels of the system, RWCs, WDQMS NFPs and WIGOS Monitoring Centres, will have one registered account in the IMS. WDQMS NFPs normally represent the respective WMO Member in the system. Their details are listed in the WMO Community (previously Profile Data Base (CPDB)). It is necessary for Members to keep their experts and NFP nominations updated in the WMO Experts Database all the time. In case of any difficulties in accessing the Community Platform, Members should contact the WMO Secretariat for assistance. The details of users' roles and permissions in terms of the IMP are shown in the table.

Table. Users roles and permissions

Users	Open ticket/raise issue	Add comments	Update ticket status	Close ticket	Reopen closed ticket
RWCs	yes	yes	yes	yes	yes
WDQMS NFPs	yes	yes	no	no	no
WIGOS Monitoring Centres	yes	yes	no	no	no

2.3   **Login to the IMS for RWCs**

To create/open a new ticket a user must first log on to the system, *https://jira.ecmwf.int/ projects/RWC/*.

Figure 3 below shows a login page of the system. The username and password must be filled in according to the user account.
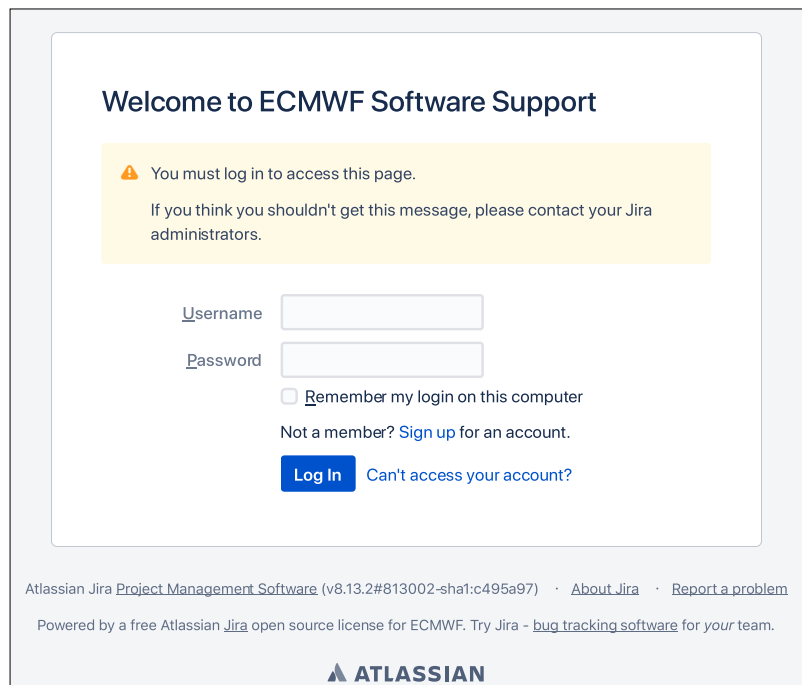

Figure 3. Login page of the IMS for RWCs

3.   ISSUE IDENTIFICATION

The first step of the IMP is issue identification. It is normally a result from a WDQMS evaluation function performed by RWCs, based on the monitoring results that are available on the WDQMS web tool. However, any user registered in the IMS may raise an issue by creating a new ticket.

3.1   Raise a new issue/ticket

By raising an issue, i.e. by creating/opening a ticket in the IMS for RWCs, a user begins the incident management procedure in the system. Once logged on, the user will find the main page, Figure 4, that shows the list of all tickets created. Details of an existing ticket can be seen when selecting one of the tickets from the list, by clicking on it.
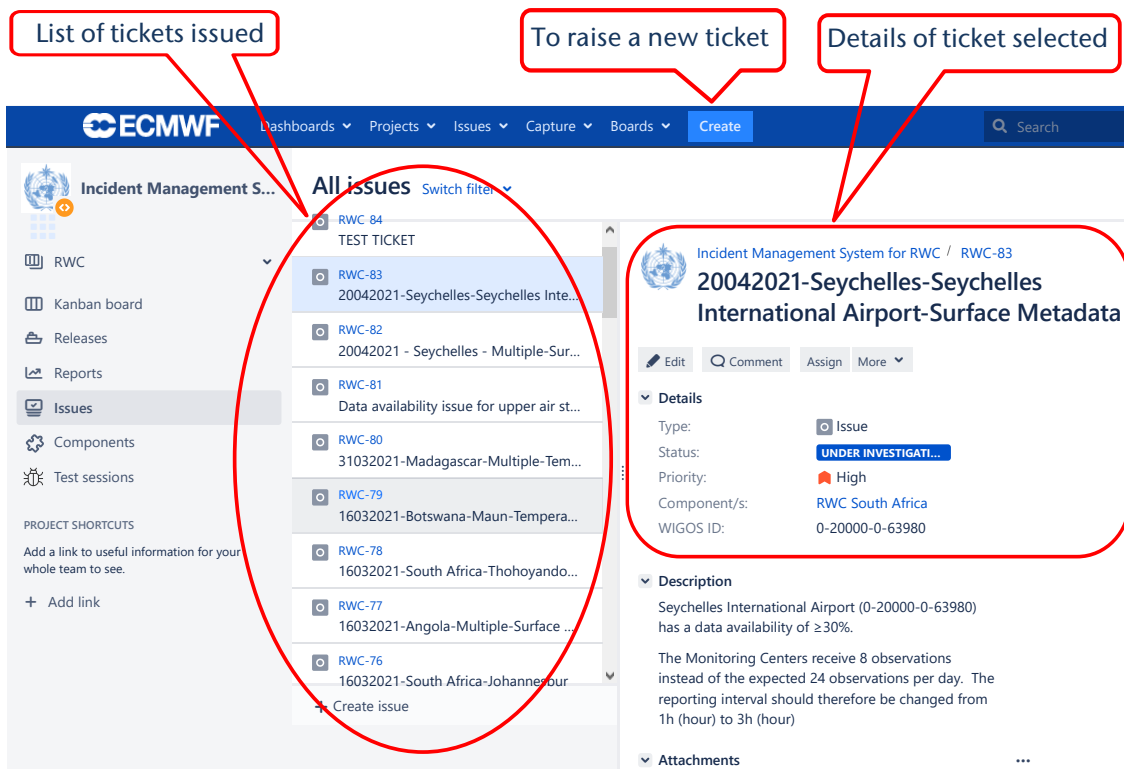

Figure 4. IMS for RWCs main page

To create a new ticket, click on the "Create" button in the header. Users will see a "create issue" page that contains a ticket form that must be filled in. It includes the fields listed below, each of them should be filled in with the details of the new issue.

Some fields as shown in Figure 5, such as "Project" and "Issue type", contain default values automatically inserted that cannot be changed. On the other hand, the fields marked with a red star (*) are mandatory. Here are the details for each field:

- *Project*: "Incident Management System for RWC" (by default);

- *Issue type*: "Issue" (by default);

- Summary*: a brief explanation of the new issue being raised using a text structured in four blocks according to the following format:

  ddmmyyyy-country-station/location-issue,
  where "ddmmyyyy": day, month and year when ticket is created
  country: country where the station is located
  station/location: station name
  issue: keyword of the issue,

Figure 5. "Create issue" page

Example: "04032020-Chile-Tamuco-suspicious pressure values" means that on March 4, 2020, a ticket related to air pressure data in Tamuco Station in Chile was created.

If more than one station of a country shows the same non-compliance, the **station/ location** text could be used to describe such cases, e.g. by inserting **three stations or stations.**

- Assignee*: a default RWC is automatically assigned, according to the project component, for non-RWCs users. A user of a RWC account will be able to assign this ticket to Members (WDQMS NFPs) if RWCs decides to convert the ticket from issue status into an incident status;

- Component: RWC responsible for the station where the issue arises, to be selected from a dropdown list;

- Description: Free text to describe in detail the reasons for raising the issue, including the possible cause(s) of the issue, as well as any suggestions on how to solve it, if possible;

- Priority: a priority level according to the *Technical Guidelines for Regional WIGOS Centres on the WIGOS Data Quality Monitoring System* (WMO-No. 1224). The default value shown ("Medium") can be changed by selecting a different one from a dropdown list;

- Linked issues: select an existing ticket from a dropdown list if the issue is related to any previously registered issues. This is if the ticket opened is related to an existing ticket;

- WIGOS ID*: WIGOS Station Identifier (WSI) as registered in OSCAR/surface. If more than one station is reported in this ticket, use one of their WSIs (details about the other WSIs will go into the description field);

- WIGOS issue category: combination of a type of observation and performance category, for example surface availability, to select from a dropdown list.

4.   **INCIDENT PROCESS INITIATION**

The RWCs are responsible for a review and evaluation of the tickets assigned to them. Each time a new issue is raised, its ticket receives the status "open". One of the two options must be performed by RWCs when receiving a new ticket, either converting it into an incident (changing its status), or closing it without initiating a incident process, according to their assessment.

Figure 6 shows how a RWC can convert a ticket status from "open" into "incident", if it is considered that the issue merits to be declared as such and assign this incident to the respective Member (WDQMS NFP). In some cases, the RWCs may find that the issue has disappeared before being converted as an incident, in which case the ticket should be closed. RWC monitors the issue and closes the ticket if the situation persists by clicking "no incident".

The RWCs can correct/edit critical details of the ticket if needed or add more detailed description by clicking "edit" (Figure 6). The RWCs can also request any additional information from the reporter through the "comment" button.
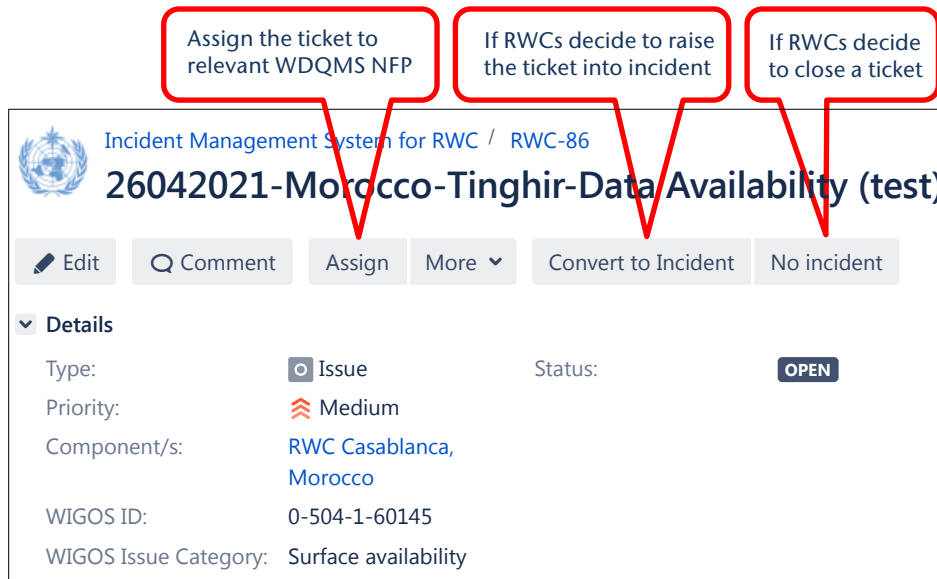

Figure 6. Incident process initiation

5.   **RECEIPT CONFIRMATION AND ACTION PROPOSAL FROM MEMBERS**

When a RWC declares an issue as an incident, the ticket status changes from "open" to "incident", and the ticket is assigned to the relevant WDQMS NFP.

5.1   **Acknowledge the ticket**

WDQMS NFPs should regularly monitor the IMS to check if there is any issue assigned to them. They should receive an automatic notification through email each time there is a ticket assigned to them. To confirm that the WDQMS NFPs are aware of an incident assigned to them, they must acknowledge receiving the ticket through the "Comment" button of the ticket.

5.2   **Confirm the ticket**

The RWCs should confirm the ticket after receiving acknowledgement from the WDQMS NFPs. By clicking "Confirm" as shown in Figure 7, the ticket status will be changed from an "incident" into "Under Investigation".
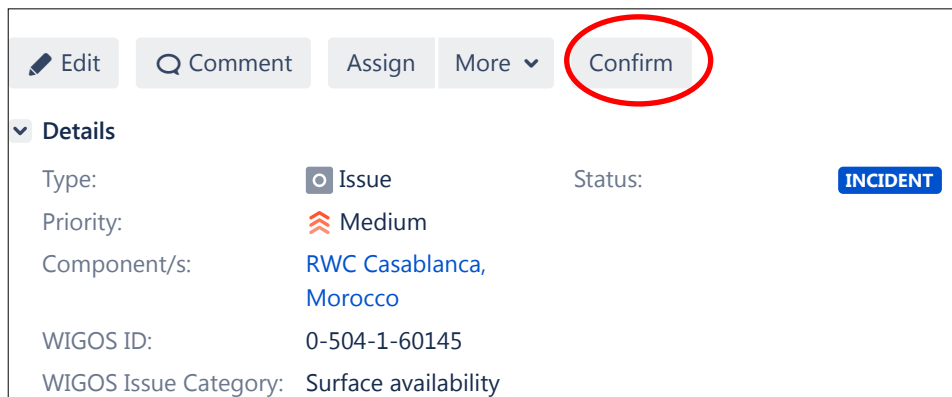

Figure 7. Incident confirmation page

5.3   **Propose corrective actions**

For the ticket status "Under Investigation", the next steps are for the WDQMS NFPs to inform the RWCs via the IMS, about the proposed action(s) to resolve the incidents, including the corresponding estimated time interval. Such information should be provided through the comments field of the tickets. Other users can also provide their comments to the tickets if they have any suggestions on the most appropriate solution to resolve the incident, e.g. based on their experience from similar incidents.

RWCs will validate the actions proposed by WDQMS NFPs and decide whether to update the ticket status. In case they wish to confirm the corrective actions proposed by WDQMS NFPs, they will change the ticket status from "Under Investigation" into "In Progress" using the button "Action Proposed". If there is no confirmation from WDQMS NFPs, RWCs may escalate the incident via the WMO Secretariat, by clicking on the "Escalate" button. The Secretariat may escalate the issue to a higher level, e.g. bring it to the attention of the PR of the Member concerned. It is recommended that the RWCs make various efforts to contact the WDQMS NFPs before deciding to escalate a ticket.
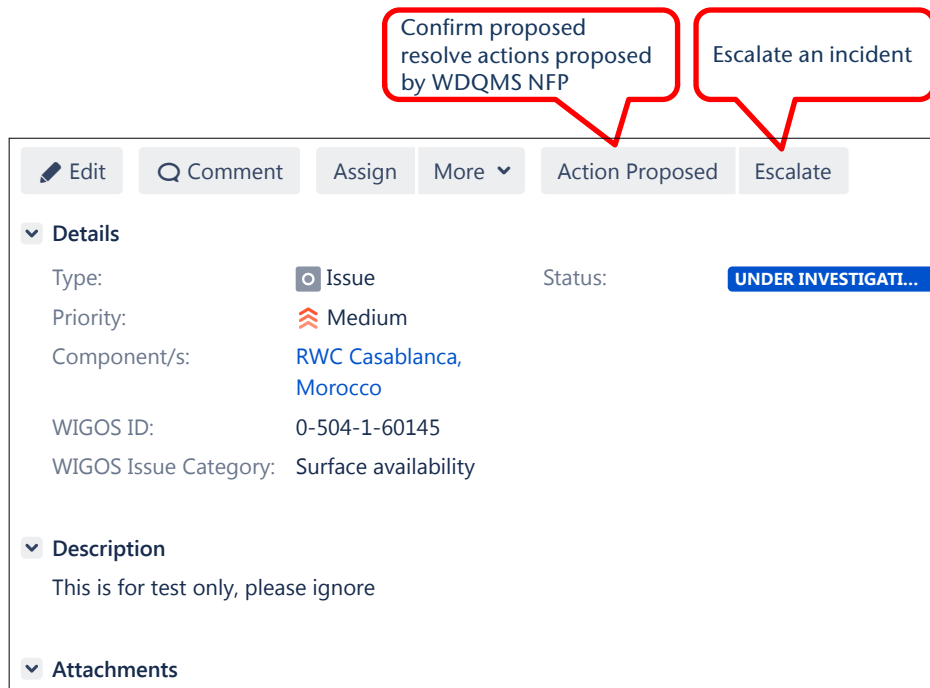

Figure 8. Confirm the proposed corrective actions from the concerned WDQMS NFP

6.   **INCIDENT RECTIFICATION**

Once the status of a ticket is "In Progress", the concerned WDQMS NFP should provide frequent updates, on the actual progress of actions(s) to solve the incident. The updated information is provided by the WDQMS NFPs using the "comments" field of the tickets. The RWCs should keep contact with the concerned WDQMS NFP, e.g. they can regularly request updates from the WDQMS NFPs.

6.1   **"WON'T FIX" incident**

When a WDQMS NFP finds that an incident cannot be rectified because no immediate action can be taken, they should inform the relevant RWC about it. The RWC will investigate and may decide to update the ticket status into "won't fix", by clicking on the corresponding button.
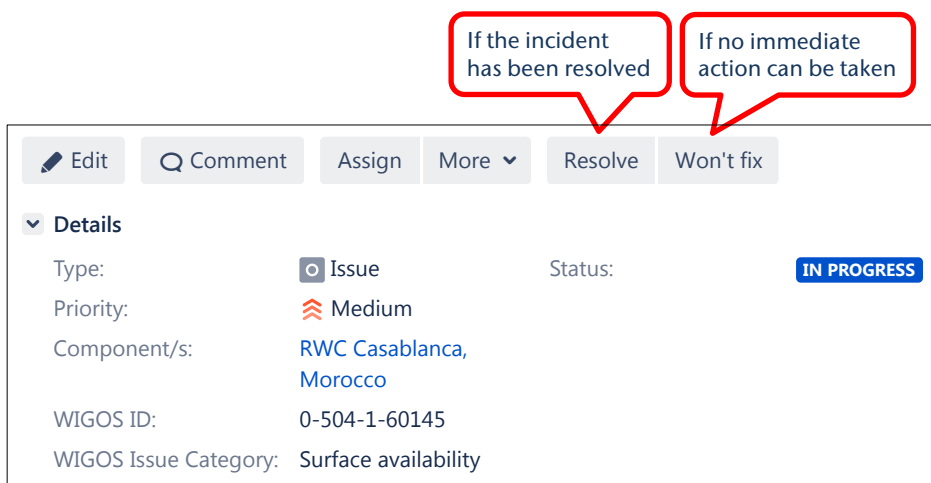

Figure 9. Incident rectification

A ticket with "won't fix" status can be returned into "In Progress" when it is found that corrective actions can be taken to rectify the incident. In those cases, the WDQMS NFPs must inform the relevant RWC so they can change the status using the "Back to In Progress" button.
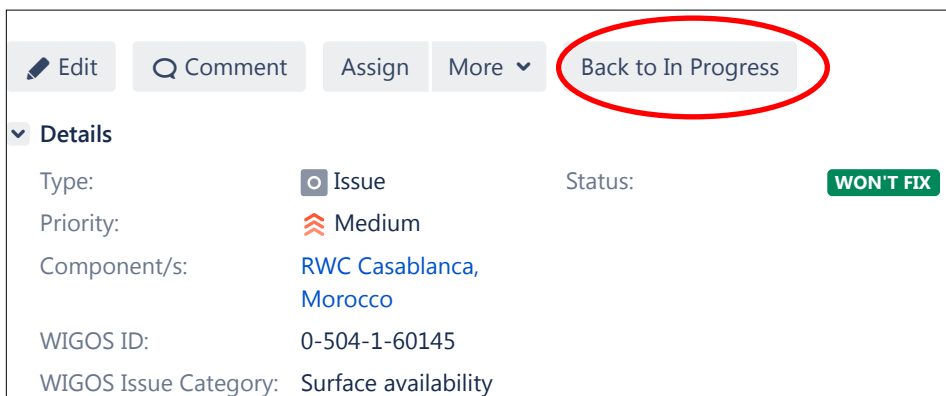

Figure 10. Return a "won't fix" ticket to "In Progress"

6.2   **Closing a ticket after resolving the incident**

When a WDQMS NFP informs the RWC that the incident has been resolved, after further validation, the RWC can decide to update the ticket into resolved by clicking "Resolve" as shown in Figure 9. The RWC will then close the ticket by clicking "Close" as shown in Figure 11. The RWCs may reopen a closed ticket if it is found that the issue reappears, by clicking "Reopen" as shown in Figure 12.
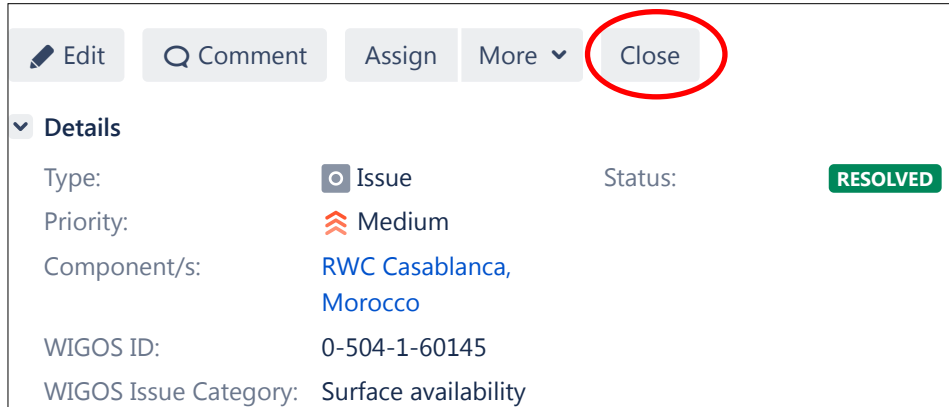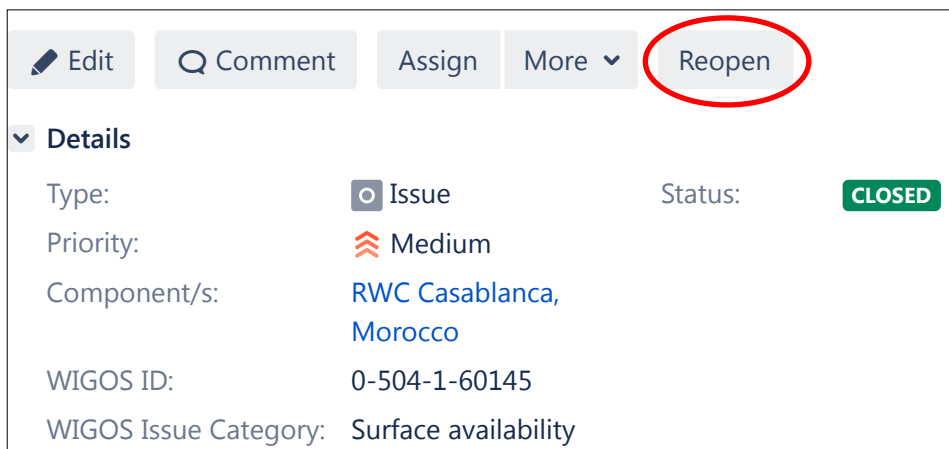

Figure 11. Close a ticket

Figure 12. Reopen a closed ticket

7.   **REFERENCES**

Manual on the WMO Integrated Global Observing System (WMO-No. 1160)

Guide to the WMO Integrated Global Observing System (WMO-No. 1165)

Technical Guidelines for Regional WIGOS Centres on the WIGOS Data Quality Monitoring System (WMO-No. 1224)

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