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"Website: OHFA support section on H-TEP"

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Executive summary

The support section is an important element of the FANFAR website where users (or potential users) can access guidance to make the most of the hydrological and early warning services provided to key stakeholders in West Africa. The support provision for operational hydrological forecasting and alert (OHFA) system users which includes the Knowledge Base, Help Desk and Forum as well as the dissemination and communication is met by the partner AGRHYMET while the web implementation for the support section is met by the partner isardSAT. Both AGRHYMET and isardSAT are support agents (i.e. the persons in charge of the first-line support that have the ability to access queues, move issues through workflows, and make user-facing comments).

The FANFAR project aims to offer user support on several levels through several channels. The FANFAR support section can be accessed via two websites: from the FANFAR application on the Hydrology Thematic Exploitation Platform (H-TEP) website operated by the partner Terradue and from the FANFAR website directly. At present, the FANFAR support section is in place and is scheduled to be fully operational in time for the second FANFAR workshop in Accra in early April 2019. The content of the Knowledge Base is under construction and will be fed information regularly throughout the project duration when appropriate. In the meantime, before April 2019, forecasters interested in the early warning services provided by the H-TEP may use the support section of the H-TEP itself and the users interested in the forecast visualization portal may ask for support using the contact form at http://fanfar.eu/contact/.

This deliverable presents the three elements of the FANFAR support section: the Knowledge Base, the Forum and the Help Desk:

The Knowledge Base is built on knowledge.terradue.com which is powered by Confluence software. Confluence is an open and shared workspace software aiming at improving user management, experience and support. It includes user guides, tutorials, exercises, example codes and technical documentation. It is organized into an open, searchable and browsable format using accessible web-technologies allowing intra-user-community contributions (such as a wiki). Confluence is operated by the partner Terradue.

The Forum section provides an arena for anyone to ask questions and provide responses. A tag system aids classification of the questions, and a search function ensures easy access to previously asked questions and answers.

The support Help Desk is aimed at providing FANFAR participants, associated organizations and all users in general, with a dedicated support channel for both technical and thematic questions. The FANFAR Help Desk is a Jira Service Desk solution which is very well integrated with the Confluence tool used for the FANFAR Knowledge Base. First-line support is provided collaboratively by isardSAT and AGRHYMET agents and a second-line support, if required, is provided by the other FANFAR partners. The first-line support monitors the support channels (email, social media, Forum, and Knowledge Base), moderates the Forum and Knowledge Base, prioritizes support requests, responds to all requests to the extent of their ability, and forwards the request to the appropriate partners when the request is beyond their capacity. The second-line of support addresses the issues beyond the capacity of the first-line support (including investigation, debugging, solving potential problems, and responding to users). All relevant Help Desk questions and answers will be published in the Knowledge Base to allow that other users with a similar question find an answer without involving

further questions. Beyond the direct answers to the questions, a support request can also generate suitable follow-up tasks, such as modifying user guides and adding more tutorials.

1. Introduction

A core component of the information and communication technology (ICT) cooperation cycle (figure 1) is to demonstrate system adaptations and build human capacity in the West African user community on how to utilize the system. FANFAR capacity development activities focus on how to:

- access, analyse and interpret forecasts and alerts using the distribution channels;
- operate, customize and maintain the forecasting chain and all components on the platform;
- utilize the support system;
- contribute with system improvements, support, tutorials and documentation (to facilitate future intra-community operation and support).

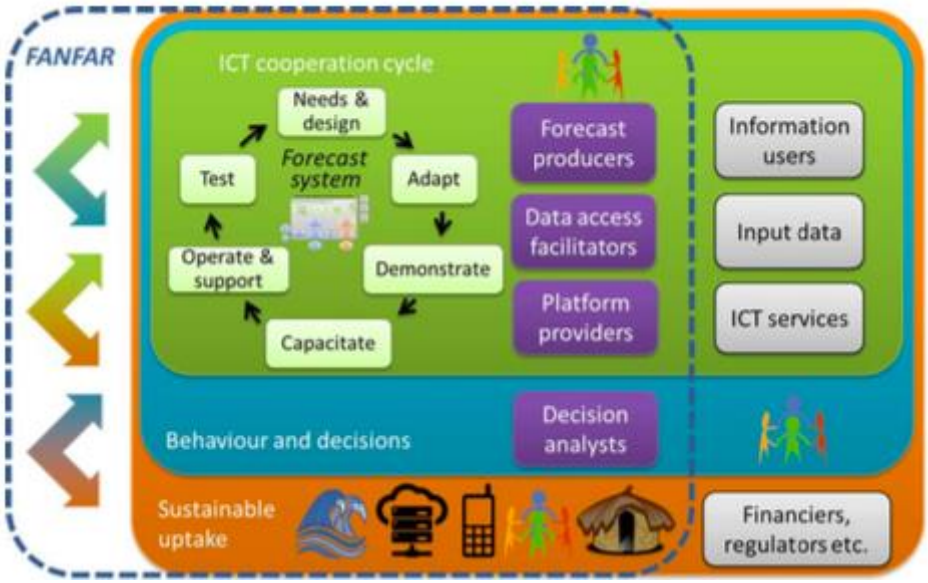

Figure 1 ICT cooperation cycle

A number of methods are employed to build capacity both among forecast producers (hydro-innovation stakeholders) and information end-users. Besides meetings and workshops, a number of additional materials are made available to facilitate independent practice and application in between the physical meetings.

- User guides explaining how to use the system and all of its components are being developed (e.g. how to access information using the distribution channels, how to tailor the information derivation, how to operate and modify the forecasting chain etc.).
- Tutorials are also being developed to address the most common tasks and stumbling blocks with screenshots, explanatory texts and YouTube tutorials if needed.
- Exercises are being crafted containing practical questions and answers. Example codes are being provided in open-source languages (e.g. R and Python), e.g. to schedule external data retrieval, to write the platform data format, and to modify content in the distribution channels.

All material used in the physical meetings, as well as the user guides, tutorials and examples are made available in both English and French to facilitate uptake across West Africa. In addition, the full technical documentation of the entire operational system (including deployed components and versions) is made available as a background reference document in English.

To facilitate independent practice and application by the users, FANFAR offers users support on first and second levels through three channels (figure 2). A support section is already available on the H-TEP website which addresses users of large scale Earth Observation Services & Products customised for hydrology applications (i.e. Hydrological models, small Water bodies mapping, Water quality and level). However, it does not support FANFAR end-users that might not be hydrologists but civil protection personnel, among others, who would be more interested in the FANFAR visualisation portal.

The specific FANFAR support section, available on the H-TEP and the FANFAR website, consists of three elements: Knowledge Base, Forum and Help Desk. The Knowledge Base contains user guides, tutorials, exercises, example codes and technical documentation, mentioned above. It is organized into an open, searchable and browsable format using accessible web-technologies allowing intra-user-community contributions (such as a wiki). The Forum section provides an arena for anyone to ask questions and provide responses. A tag system aids classification of the questions, and a search function ensures easy access to previously asked questions and answers. The support Help Desk is aimed at providing all FANFAR users with a dedicated support channel for both technical and thematic questions.

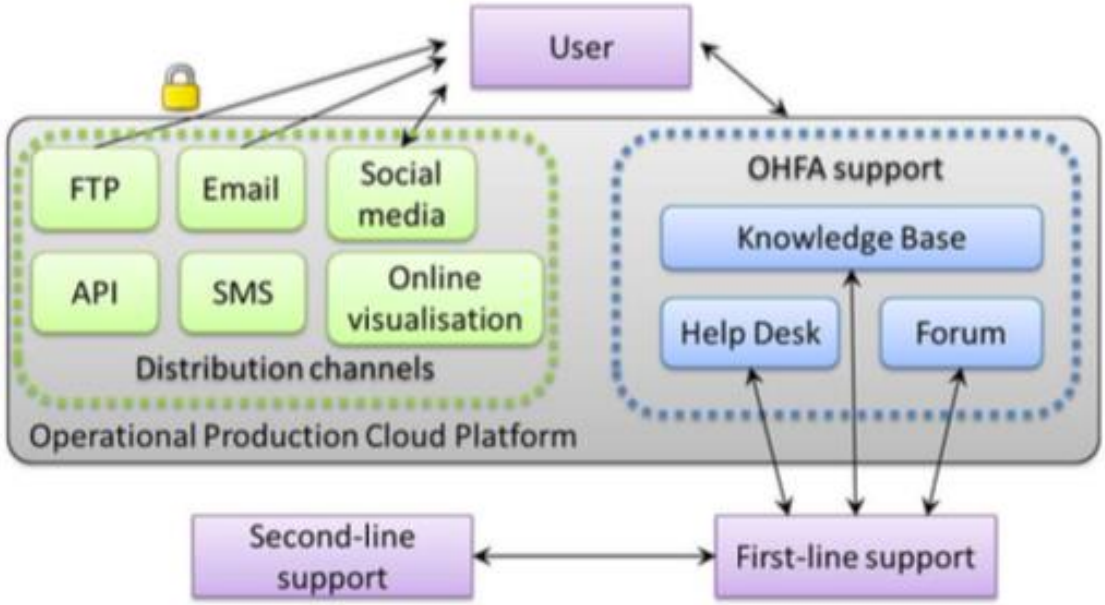

Figure 2 User support scheme

2. FANFAR user support

2.1 Knowledge Base

2.1.1 Confluence software

Knowledge management is the process of creating, sharing, using and managing the knowledge and information of an organisation. It refers to a multidisciplinary approach to achieving organisational objectives by making the best use of knowledge. FANFAR uses the Atlassian Confluence software (https://www.atlassian.com/software/confluence) that is already used by the partner Terradue through knowledge.terradue.com.

The Confluence software allows to capture and share best practices and solutions to common problems that users might find. It gives instant structure to the FANFAR support team to easily customize through ready-made blueprints as per figure 3 below.

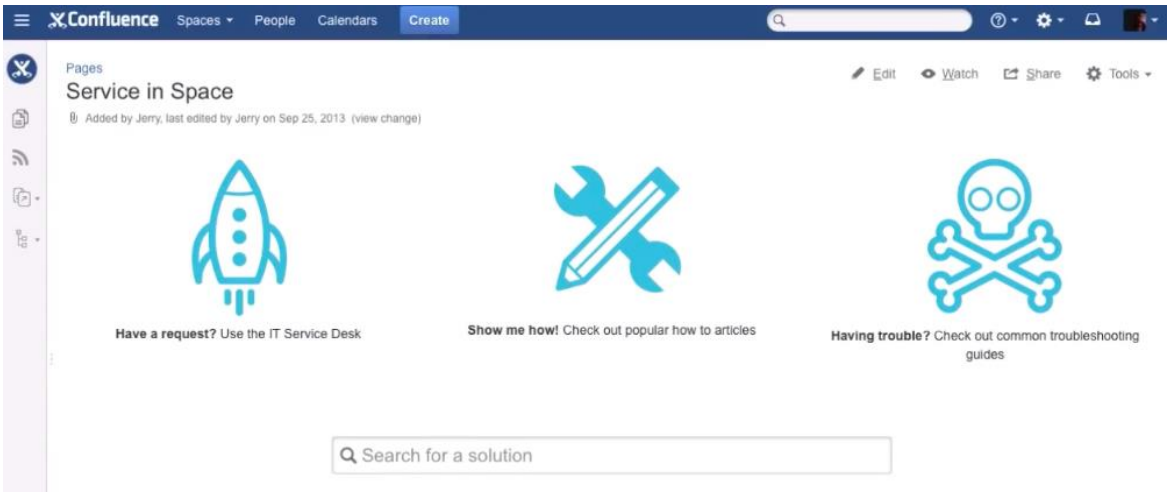

Figure 3 Confluence customised ready-made blueprints

The Confluence software allows an easy editorial of the structure of the sections and subsections of the support area (figure 4). It also allows to keep different articles or entries organized and labeled properly to find solutions quickly.

With regards to backups, Confluence allows to export all or part of a Confluence space to various formats, including Microsoft Word, HTML, PDF and XML.

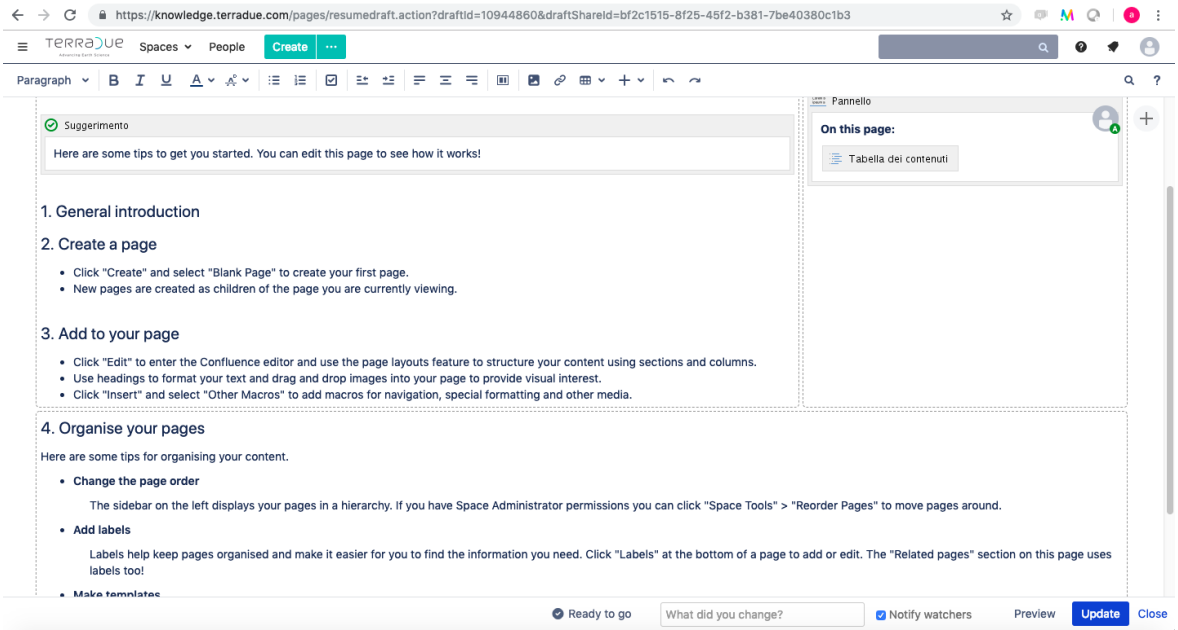

Figure 4 Editorial section of the Knowledge Base

2.1.2 FANFAR Knowledge Base interface

The aim of the Knowledge Base is to provide a space for the FANFAR service desk to create and distribute structured how-to and troubleshooting articles that are automatically organized and easy to find. The FANFAR community can also share their knowledge, issues or questions (i.e registration, running jobs tutorials, uploading data, etc.) which can be easily documented in an intuitive tool. Figure 5 is a screenshot of the FANFAR Knowledge Base homepage available at https://knowledge.terradue.com/display/FANFAR.

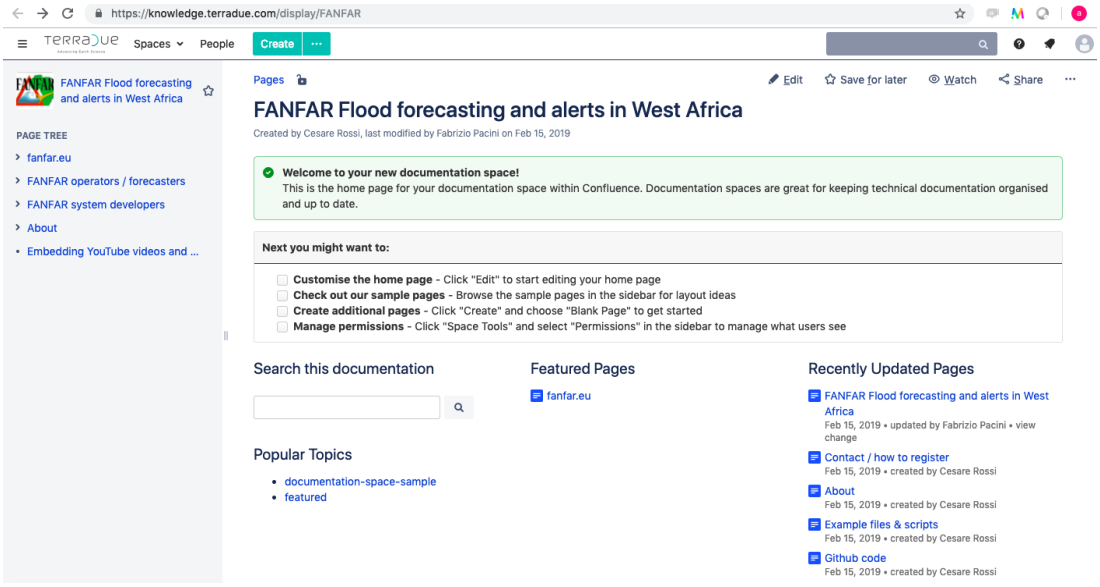

Figure 5 Knowledge Base home page

The knowledge Base home page is underway as content needs to be included. Entries will be documented with screenshots videos, PowerPoint presentations or other documents in order to provide step-by-step solutions that are easy to follow as shown in figure 6 below. Confluence collects knowledge articles so they are easy to reference later and can include a live search browser option or browse by popular topics.

The FANFAR Knowledge Base will be subject to regular (full, differential and incremental) backups whose copies will be made available to the consortium coordinator SMHI.
In addition, it is possible at any time to do exports of the full Knowledge Base in different (non-proprietary) formats as reported in the page below:
https://confluence.atlassian.com/doc/export-content-to-word-pdf-html-and-xml-139475.html.

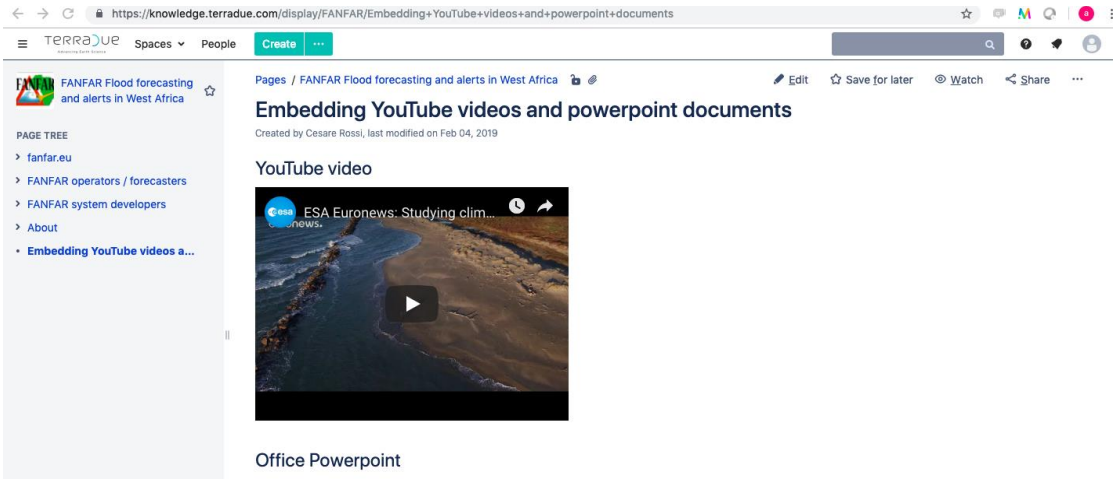

Figure 6 Embedding option for YouTube and Office PowerPoint presentations

2.1.3 Public access

The FANFAR Knowledge Base will be publicly accessible for reading purposes without prior registration in April 2019. If the user wants to contribute to the Knowledge Base, a registration will be requested.

2.1.4 Knowledge Base structure per stakeholders

The following structure will be followed for the FANFAR Knowledge Base to organize the information depending on the user's technical capabilities and related interests.

General public

1. General introduction
2. Components of the forecast visualisation portal
    a. overview
    b. user guides / examples

FANFAR operators/forecasters

1. H-TEP introduction & FANFAR applications Processing services
    a. Overview & architecture
    b. User guides & tutorials
    c. Examples (jobs, links / names)
    d. Technical documentation
    e. References

Figure 7 is a screenshot of the FANFAR operators/forecasters section homepage.

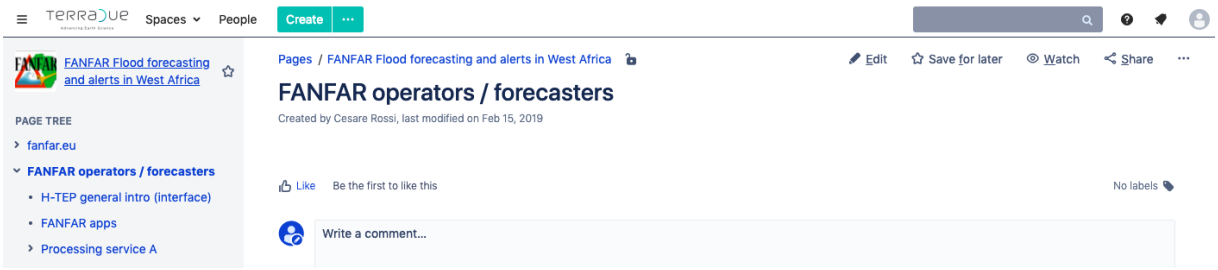

Figure 7 FANFAR operators/forecasters section

FANFAR system developers (figure 8)

1. Introduction
2. Terradue's developer documentation
3. Github code
4. Example files & scripts

Figure 8 is a screenshot of the FANFAR system developers section homepage.

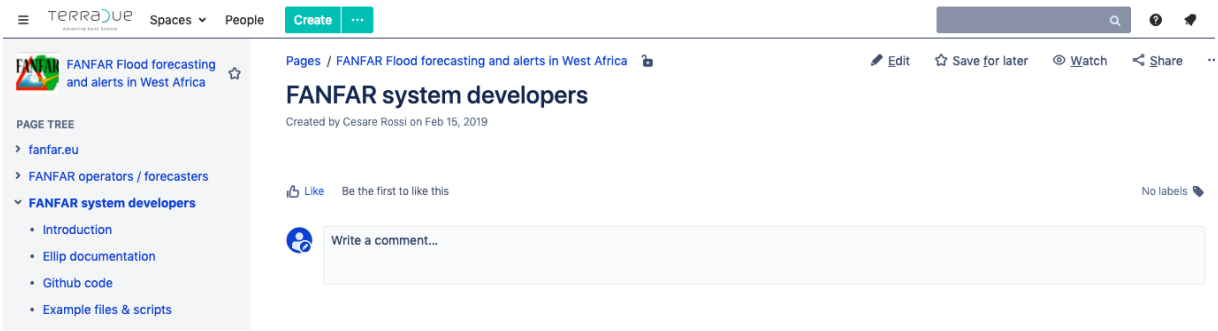

Figure 8 FANFAR system developers section

"About" section

The "about" section has been defined as a two-way interaction system where the user community can contribute to the user guides, following a Wikipedia-type of approach. Figure 9 is a screenshot of the "about" section homepage.

This section is being developed and will explain the rationale behind the FANFAR initiative as well as the partners involved.

The “about” section also includes a “contact” and “how to register” sub-sections as well as user guides, tutorials, example files, scripts and detailed technical documentation (i.e. versions, sources, authors of the deployed services, models and datasets, among others).

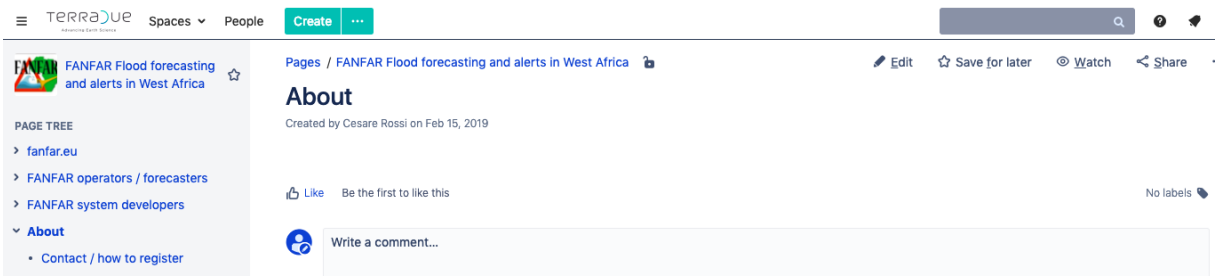

Figure 9 “About” section homepage

2.2 Forum

The FANFAR Forum or message board, is the online discussion site where people can hold conversations in the form of posted messages. They differ from chat rooms in that messages are often longer than one line of text, and are at least temporarily archived. It is hosted at discuss.terradue.com just like the existing Forum used at the H-TEP. The link to the FANFAR Forum is http://discuss.terradue.com/c/fanfar.

Similar to the Knowledge Base, the Forum allows public access to non-H-TEP registered users, however, contributions to the Forum would require registration. A single sign-on mechanism using gmail and yahoo will be included for easy login purposes.

The Forum platform allows to export non-proprietary data in different formats. A plugin named Data Explorer, allows to do query SQL (Structured Query Language) on the underlying data base. The output formats are JSON or CSV as per Figure 10 below.

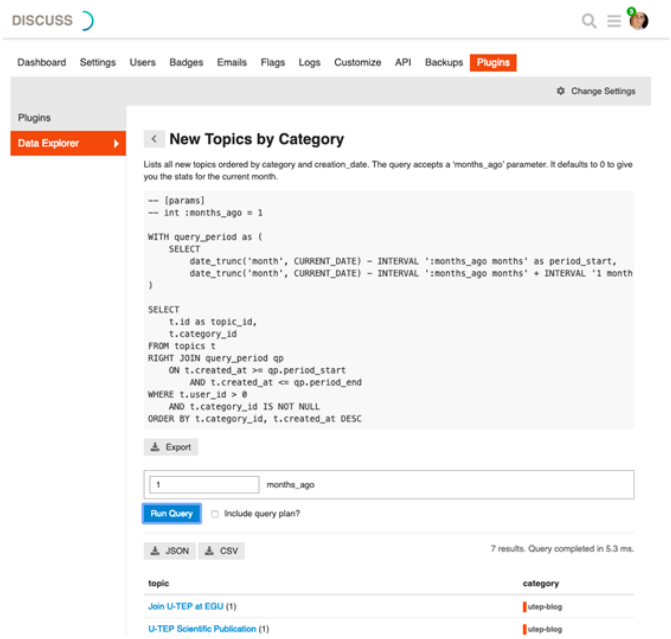

Figure 10 Plugin for data export

Figures 11 and 12 are screenshots of the FANFAR Forum webpages, the homepage and a message page respectively.

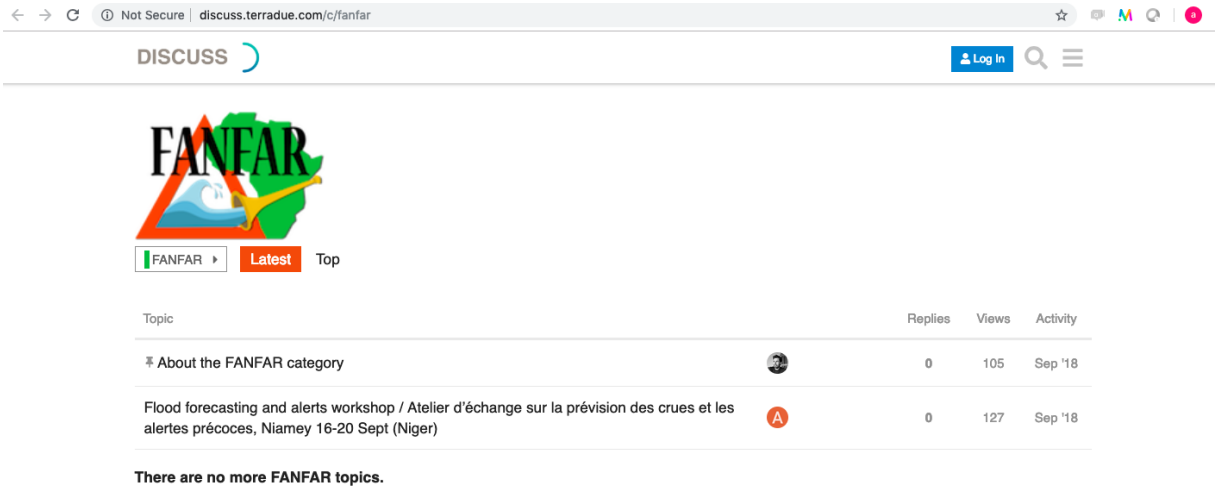

Figure 11 FANFAR Forum application dashboard

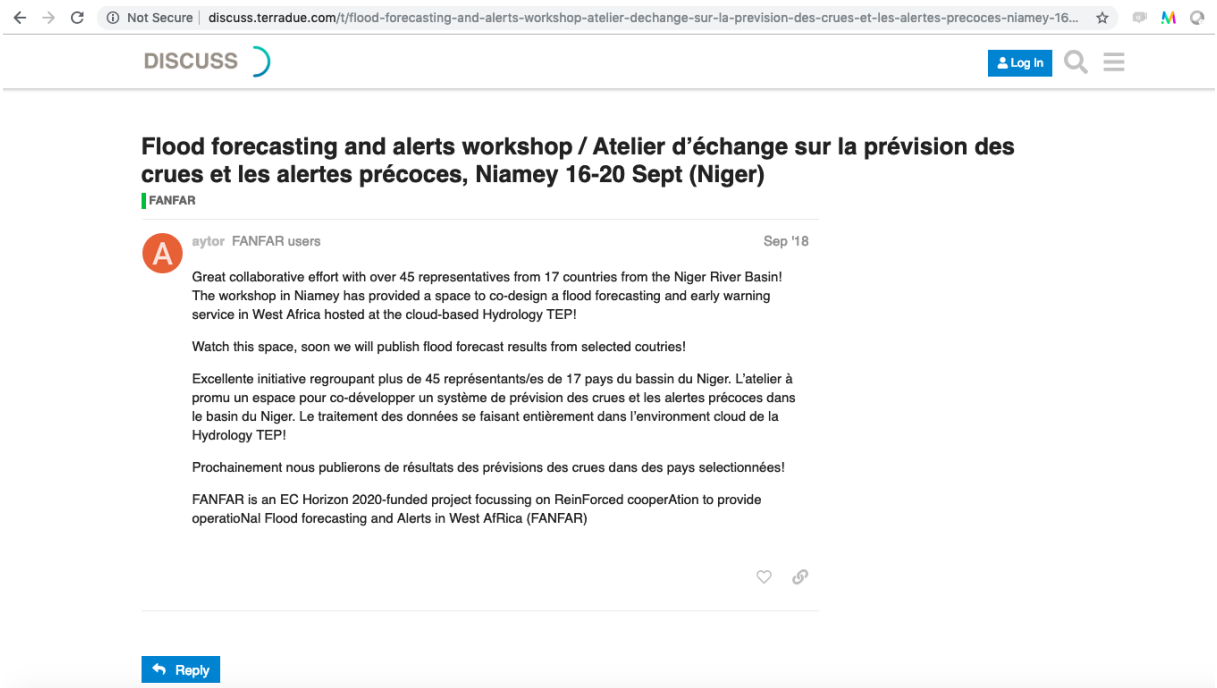

Figure 12 Example of a message at the FANFAR Forum application

2.3 Help Desk

The Help Desk aims at providing FANFAR partners and associated organizations in the co-design committee with a dedicated support channel for both technical and thematic questions in order to ensure that users do not get stuck on particular issues, to clarify any ambiguities that may arise, and to explain system functionalities. The Help Desk will respond to specific support requests from users.

Presently, users can submit their requests via the contact form at the H-TEP or via the contact form at FANFAR website. The solution adopted for the FANFAR Help Desk is Jira Service Desk (https://www.atlassian.com/software/jira/service-desk). It is a Help Desk request tracker that allows receiving, tracking, managing and resolve requests from users. The app comes with a self-service web portal where users fill out a form to ask for help. When a user fills a contact form it automatically generates a tracked ticketing system for the Jira Service Desk agents. FANFAR has purchased a perpetual licence that includes 12-month support and maintenance. It accommodates for 10 agents (i.e. team members managing the tickets workflow) and an unlimited number of users (the ones requesting support).

The FANFAR Help Desk will be subject to regular (full, differential and incremental) backups whose copies will be made available to the consortium coordinator SMHI. In addition it is possible at any time to do exports of the Help Desk content in different formats such as RSS, CSV, XML, Word.

Jira Service Desk is very well integrated with the Confluence tool used for the FANFAR Knowledge Base. FANFAR support team made of AGRHYMET and isardSAT, will produce a Frequently Asked Questions (FAQ) sub-section that will be integrated in the Knowledge Base, providing guidance to users before they decide to request further support.

The Help Desk agents, in this case AGRHYMET & isardSAT staff, are the persons in charge of the first-line support. The first-line support monitors the support channels (email, social media, Forum, and Knowledge Base), moderates the Forum and Knowledge Base, prioritizes support requests, responds to all requests to the extent of their ability, and forwards the request to the appropriate participant when the request is beyond their capacity. The second-line of support address the issues beyond the capacity of the first-line support (including investigation, debugging, solving potential problems, and responding to users). All relevant Help Desk questions and answers will be published in the Knowledge Base to facilitate that other users with a similar question finds an answer without having to ask a separate question. Beyond the direct answers to the questions, a support request can also generate suitable follow-up tasks, such as modifying user guides and adding more tutorials. FANFAR will provide support within reasonable time.

Figure 13 illustrates the contact form to submit requests via the FANFAR website.

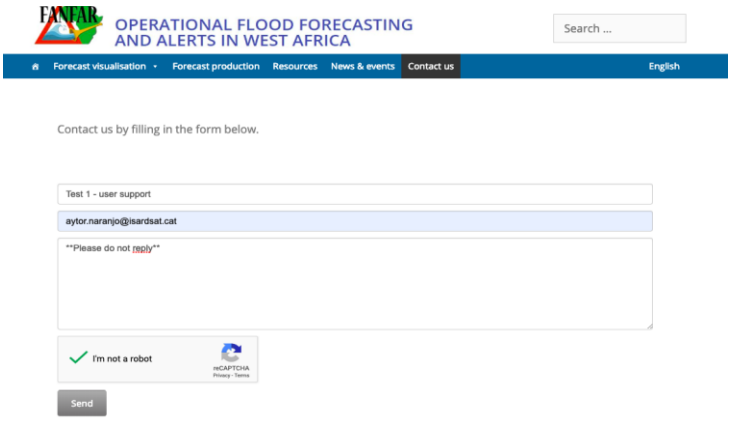

Figure 13 FANFAR website contact form

Figure 14 represents the automatic reply that a user is receiving once a request is submitted.

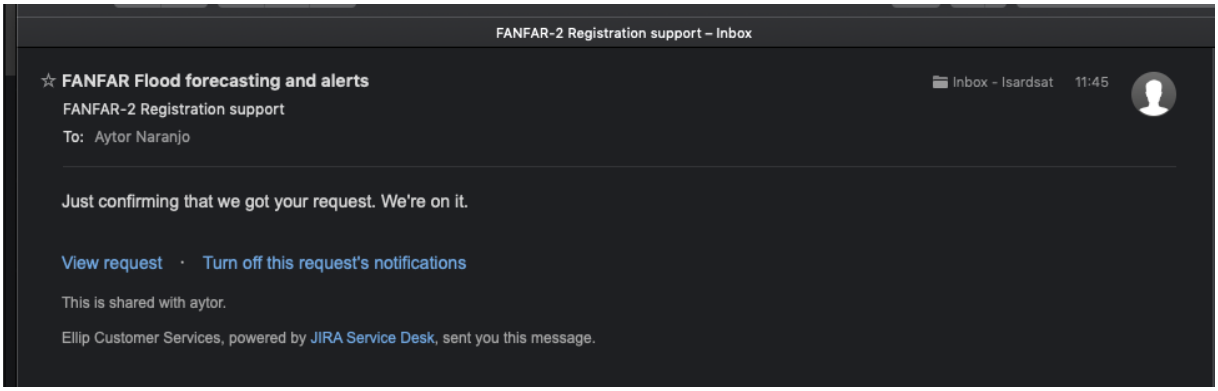

Figure 14 Example of automatic email response from the JIRA Service Desk registration support

The screenshot below (figure 15) shows the Help Desk tracker tool where the agent can visualise the status of the open tickets.

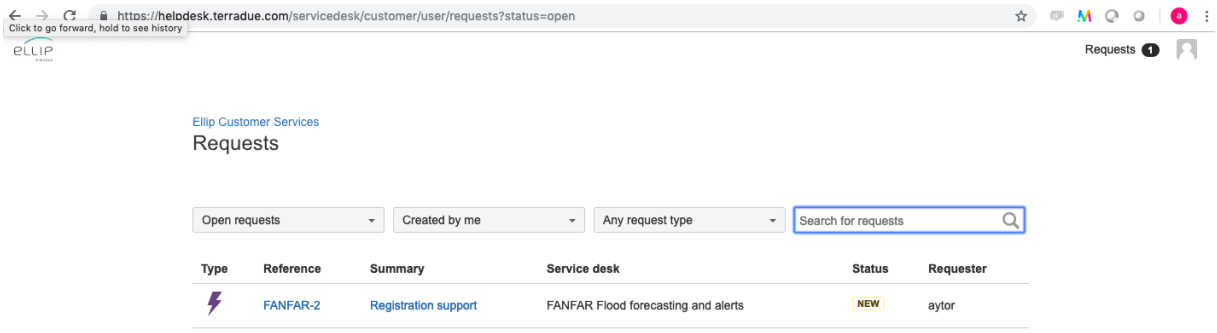

Figure 15 Ticketing tracker system

3. Conclusion

The support provision for operational hydrological forecasting and alert (OHFA) system users includes a Knowledge Base, a Help Desk and a Forum, available on two websites: the H-TEP one and the FANFAR one. The elements of the FANFAR support section are set up and are scheduled to be fully operational and developed in time for the second FANFAR workshop in Accra in early April 2019.
Softwares to help managing the three FANFAR support elements are used: JIRA Service Desk and Confluence, both own by Atlassian Corporation which develops products for software developers, project managers, and content management. JIRA and Confluence are well integrated when it comes to issue tracking application, team collaboration and wiki product.
Backups for the Knowledge Base and Helpdesk can be produced once the backup destination file in the repository will be defined. The Forum is managed offsite, therefore the backup must be done manually through the web interface. Investigations are underway to evaluate if backups can be scheduled automatically via an API.