

## **Southeast Asia flood monitoring and risk assessment for regional DRF**

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**NRT Flood Analyzer help manual**



**Title**

Southeast Asia flood monitoring and risk assessment for regional DRF

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# 1 Introduction

## 1.1 Project background

In order to assist the Lao PDR, Cambodia and Myanmar to increase their financial resilience against floods, the World Bank has commissioned the development of tools for support of rapid response financing in the wake of a natural disaster. This project, named “South East Asia Flood Risk Assessment for Regional Disaster Risk Financing Mechanism” (SEA DRIF), will develop a web-platform for near-real-time (NRT) assessment of flood impact. The project will also derive risk profiles for the three countries of interest, which are needed for premium setting of insurance products.

## 2 User manual

### 1.1 Home Page

The platform home page is shown in Figure 2.1. It contains a brief description of the project and a map zoom on the Region Of Interest.

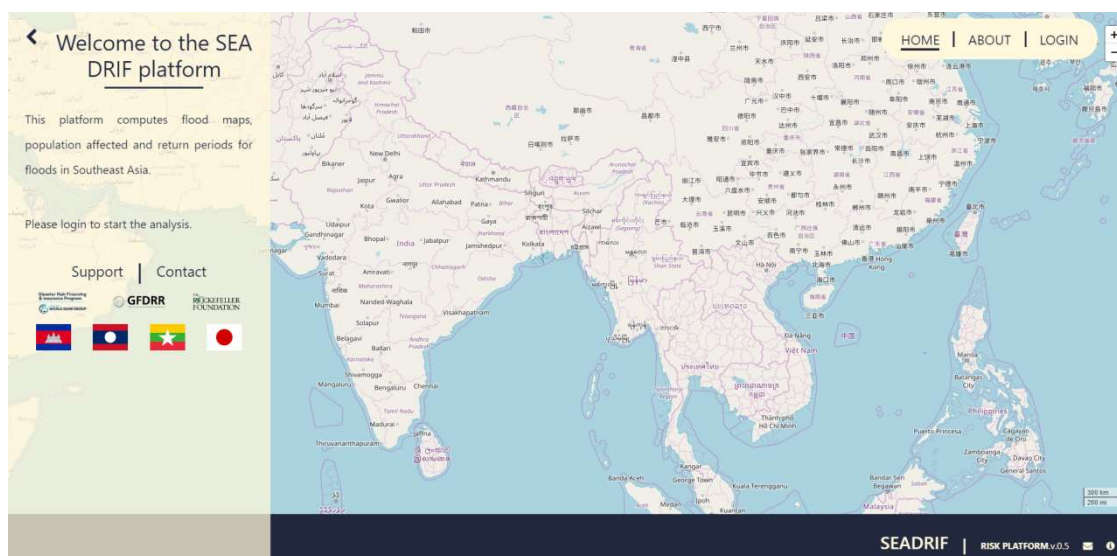


Figure 2.1: SEA DRIF platform home page.

On the left panel of the screen, the user can request for user documentation in pdf format ('Support') or contact the system administrators of the platform ('Contact'). These two buttons are not active at the time of writing of the report. They will be activated when the platform becomes operational. The logos redirect to the sponsors of the project (World Bank DRFI Program, GFDRR and Rockefeller Foundation).

From the navigation menu on the top right of the screen, the user can click the 'About' button, to retrieve more extensive description of the project and the platform (page not shown). The user can also click 'Login', which opens a login screen (see next section).

### 1.2 Login / Sign Up / Logout

When the user clicks on 'Login' on the home page a Login pop-up is opened (Figure 2.2). Here the user can access the platform or request for a new account that will be handled by the system administrators.



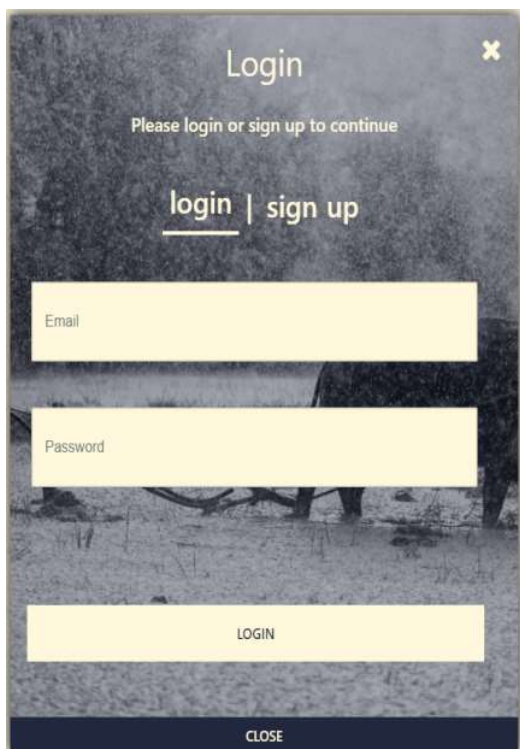


Figure 2.2: SEA DRIF login page.

The sign-up procedure (Figure 2.3) lets the user request a new account to access SEADRIF. The form request the following information:

- Name
- Last Name
- E-mail
- Institution

Clicking “REQUEST REGISTRATION” the system will send an e-mail to the system administrator. The administrator can either accept or refuse the user, and choose the user type and the relative country.

There are two kinds of users:

- National Users: they can access only data from one country
- Administrators: they can access data from all the available countries



The screenshot shows a mobile application interface for the SEA DRIF register page. At the top, the word 'Login' is displayed in white text on a dark background, with a close button (X) to its right. Below this, a message reads 'Please login or sign up to continue'. There are two links: 'login' and 'sign up', with 'sign up' being underlined. The form contains four input fields: 'Name' and 'Last Name' in the first row, and 'Email' and 'Institution' in the second row. Below the input fields is a large yellow button labeled 'REQUEST REGISTRATION'. At the very bottom, there is a dark blue bar with a white 'CLOSE' button.

Figure 2.3: SEA DRIF register page.

After the user has been registered, he/she will be given login credentials, which are the user e-mail and the assigned password. To login the user must enter these credentials and click the 'Login' button.

After the login, Administrators will be redirected to the Choose Country page (Figure 2.4), while National users will be redirected in the Country Home Page (Figure 2.5). When the user is logged in, the 'Login' button changes in a 'Logout' button. Using the 'Logout' button will exit the user from the platform and return to the home page.

### 1.3 Choose Country Page

Users that are allowed to see data for all three countries (these are typically system administrators or World Bank staff) lands on this page after login. The user can click on a country flag to access the Country Home Page (Figure 2.4).

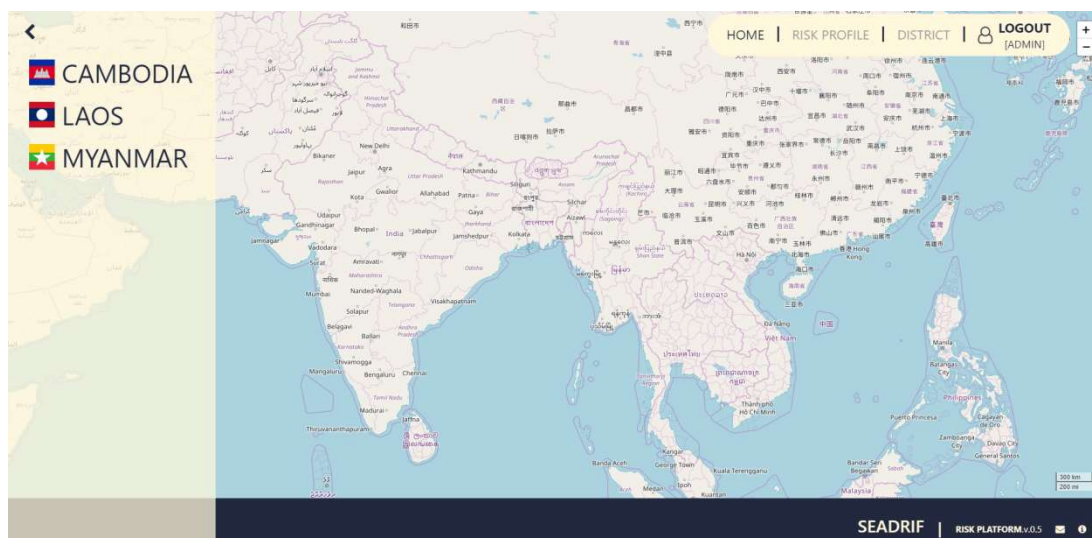


Figure 2.4: Choose country page.

## 1.4 Country Home Page

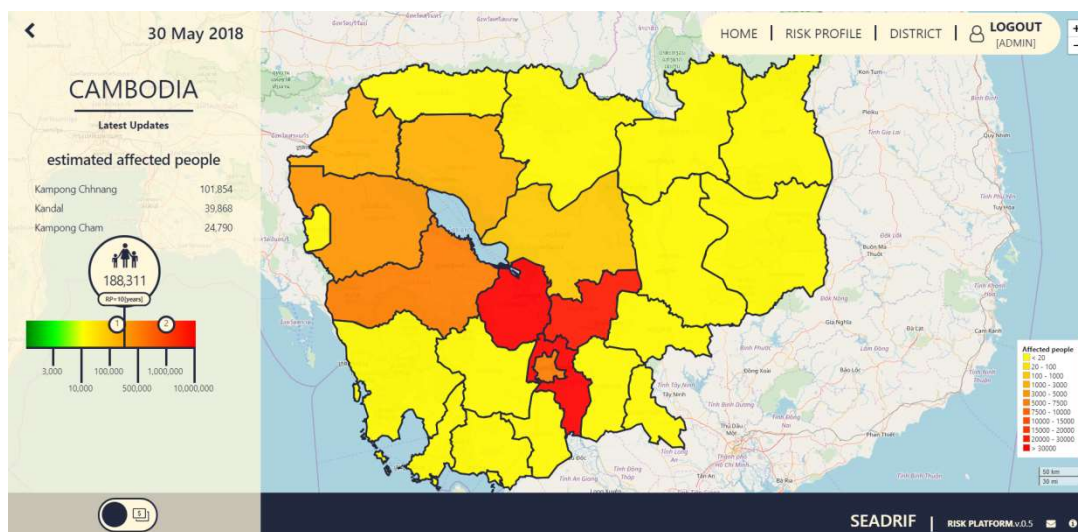


Figure 2.5: Country home page.

The country home page (Figure 2.5, example showing Cambodia) has two main sections:

- The map: in the map all the districts of the country are visualized. The colour represent the impact in term of Affected People or Emergency Costs, like defined in the legend on the bottom right corner of the map.
- Country details: on the left the user can find the detail, with the “risk bar” and a button to switch the system between People Affected or Emergency Cost.

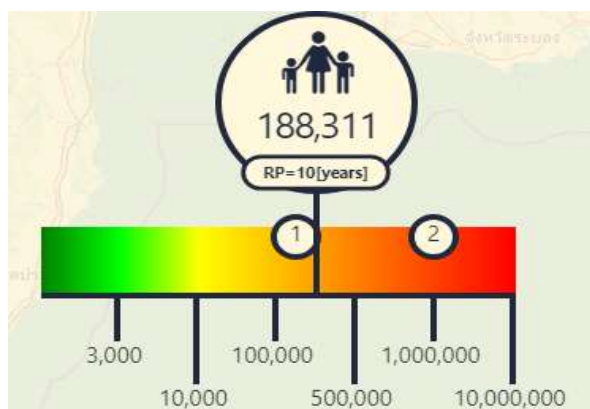


Figure 2.6: Risk bar.

The risk bar (Figure 2.6) shows in a immediate way the actual situation. The bar starts from a green colour and changes to yellow and red for an increasing number of people affected. First and the second pay-out thresholds are indicated on top of the bar in circles. The large circle above the bar shows the estimated number of affected people and return period (based on the best estimate flood map and JRC-GHS population grid).



Figure 2.7: Switch button: people affected to emergency cost.

The switch button (Figure 2.7) allows the user to change what is visualized: People Affected or Emergency Cost in USD. The same switch button is available in the detailed Risk Profile page (Figure 2.8).

The Country home page has some additional functionality. From this page the user can:

- Change the date of analysis, by clicking on the written date on the top
- Access the Risk Profile Page (Figure 2.8) using the navigator on the top right
- Access the Districts page (Figure 2.12) using the navigator on the top right
- See the value of each district by hovering over the district with the mouse

## 1.5 Risk Profile

The risk profile page (Figure 2.8) allows a detailed analysis of the country data. The elements of the page are:

- Title: in the top bar the user can see the name of the Country, the value of estimated impacts (people or cost depending by the switch) and the percentage in respect to the total population or GDP.
- Chart: in the risk profile chart the user can see the estimated impact on the return period curve. The orange point is the actual estimation. The blue points are, if availables, the similar past events. Just click on the points to see the info about the relative events, simulated or registered.
- Description: for the estimated scenario or the historical data a brief description is available
- Risk bar: the same risk bar that is in the country home page is available also in the risk profile.
- Switch population / cost: the user can change the output just clicking on the switch.

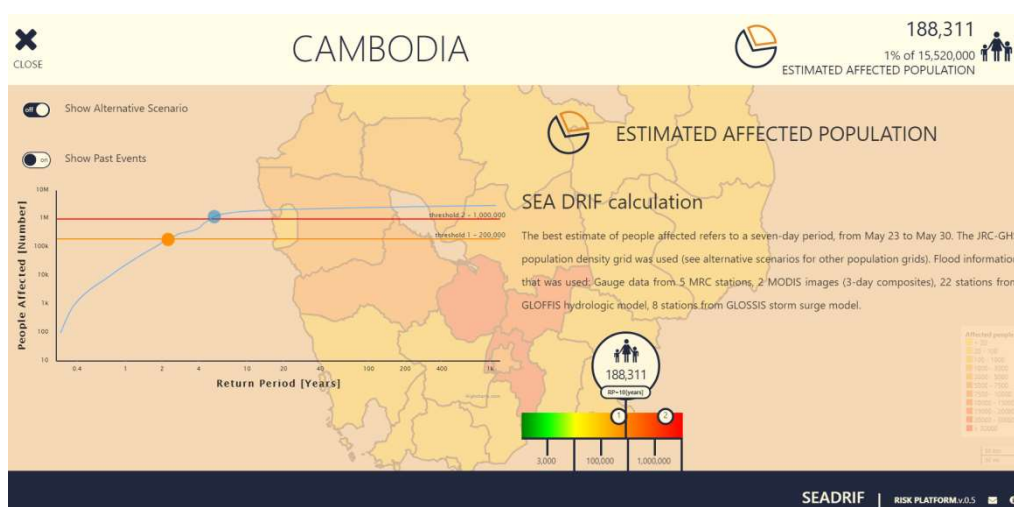


Figure 2.8: Risk profile view.

For each flood impact estimation, a best scenario is visualized as default, but the user may request for more information. Several alternative scenarios (second and third best flood maps, alternative population grids) are available and the system will add these points to the chart. The 'show alternative scenario' button (Figure 2.9) can switch on or off the alternative scenarios on the map in the risk profile view.



Figure 2.9: Switch: show alternative scenario.

The 'Show past events' button (Figure 2.10) allows the user to switch on or off data for historical flood events on the risk profile. The user can also 'click' on the historical event point, which will change the background colour of the risk profile page and show the data for the historical event (see example in Figure 2.11). The change in background colour will remind the user that the data in the graph are not for the current flood but for a historical event.

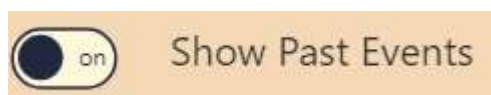


Figure 2.10: Switch: Show past events.



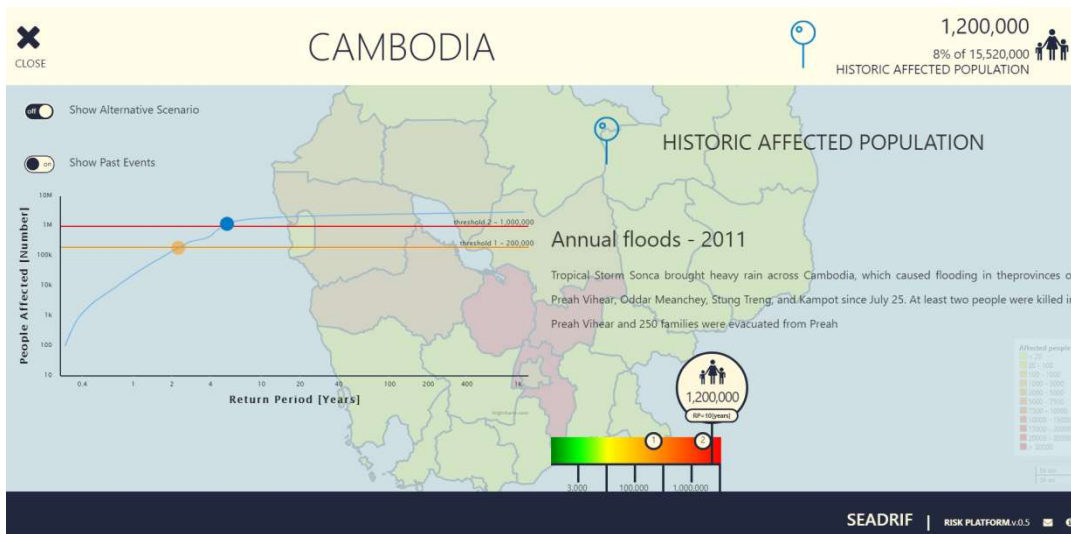


Figure 2.11: Risk profile view with historical event data.

## 1.6 Districts Page

In the district page (Figure 2.12), the user can see a list of country districts. If the user clicks on one of them the system zooms to the district on the map. If the user clicks on a district on the map, the system will show the District Details page (Figure 2.13).

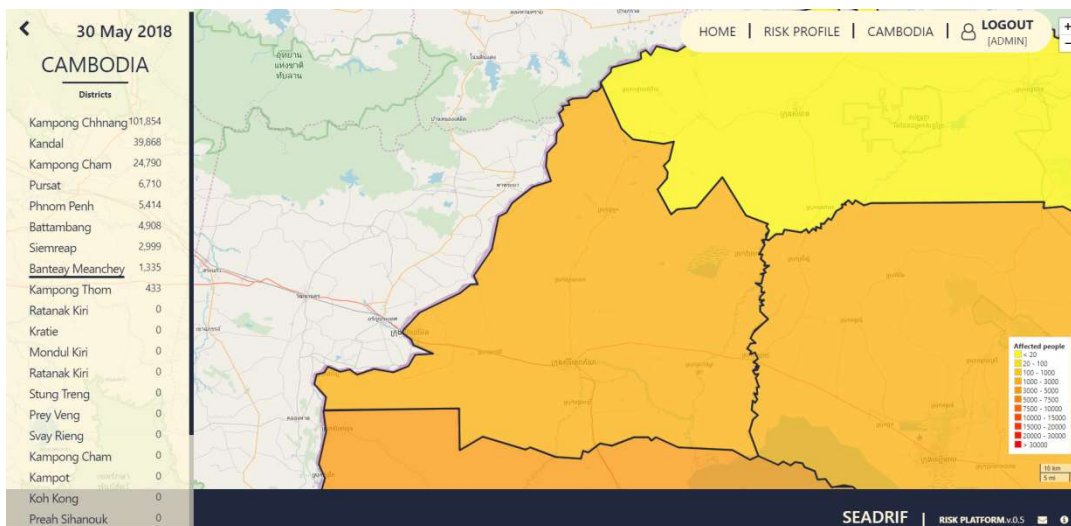


Figure 2.12: Districts page.

## 1.7 District Details page

In the 'District details' page (Figure 2.13) only one district is shown. The user can see the available maps:

- EO-MAP: shown by default, is a flooded area map obtained from satellite data;
- Model Map: is the flooded area map obtained by the model;
- Compare Maps: here the user can see a comparison between the Model and the EO Map, the colours indicate where the maps agree and where they disagree.

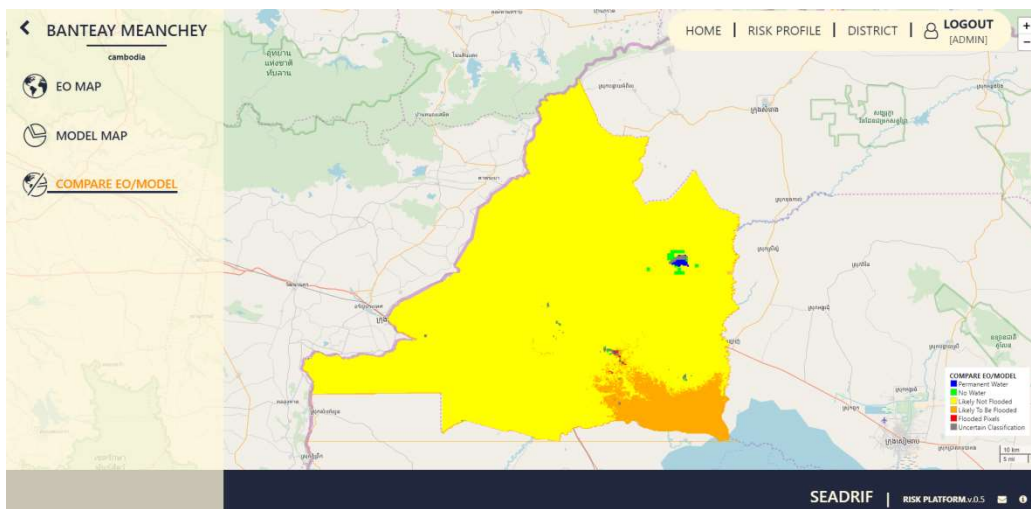


Figure 2.13: District details map