

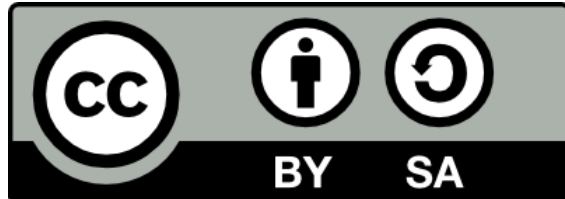


GHANA-FLOOD INFORMATION SYSTEM (FIS) TRAINING MATERIAL

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Training outline:



1. Ghana-FIS Access and its Components
2. FIS Scenarios, Measures and Products
3. FIS Explorative exercise

Ghana-FIS web portal access



White Volta Catchment Flood Information System

Volta, Ghana

Beta ver. 1.02

Flood portal | Data access | Floodlabel

This flood portal is intended to support stakeholders on understanding the evolution of flood discharge return periods, climate change and hydraulic scenarios with proposed adaptation measures. The interactive map provides access to spatial information on flood risk model products (depth, velocity, safe havens and the location of proposed hydraulic scenarios and measures. Select the flood information product of interest and "Send request".

Discharge return period: Scenario: Measures: Product:

Total rainfall depth in 24 hrs.: 82.40 mm | Rainfall forecast: [click here](#)
Model results at the outlet: Water level (max)= 2.30 m | Discharge(max)= 196 m3/sec

Exposed elements: District population Safe haven Agricultural land
 Hydraulic scenarios and measures: Measure 1 Measure 2

Aboabo Catchment Flood Information System

Kumasi, Ghana

Beta ver. 1.02

Flood portal | Data access | Floodlabel

This flood portal is intended to support stakeholders on understanding the evolution of flooding and its impact on the population and critical infrastructure (CI) under different rainfall return periods, climate change and hydraulic scenarios with proposed adaptation measures. The interactive map provides access to spatial information on flood risk model products (depth, velocity, affected population and economic damage), the location of CIs, safe havens and the location of proposed hydraulic scenarios and measures. Select the flood information product of interest and "Send request".

Rainfall return period: Scenario: Measures: Product:

Total rainfall depth in 24 hrs.: 82.40 mm | Rainfall forecast: [click here](#)
Model results at the outlet: Water level (max)= 2.30 m | Discharge(max)= 196 m3/sec

Exposed elements: District population Safe haven Buildings
 Hydraulic scenarios and measures: Bridges blocked Dykes

Odaw Catchment Flood Information System

Accra, Ghana

Beta ver. 1.02

Flood portal | Data access | Floodlabel

This flood portal is intended to support stakeholders on understanding the evolution of flooding and its impact on the population and critical infrastructure (CI) under different rainfall return periods, climate change and hydraulic scenarios with proposed adaptation measures. The interactive map provides access to spatial information on flood risk model products (depth, velocity, affected population and economic damage), the location of CIs, safe havens and the location of proposed hydraulic scenarios and measures. Select the flood information product of interest and "Send request".

Rainfall return period: Scenario: Measures: Product:

Total rainfall depth in 24 hrs.: 82.40 mm | Rainfall forecast: [click here](#)
Model results at the outlet: Water level (max)= 2.30 m | Discharge(max)= 196 m3/sec

Exposed elements: District population Safe haven Critical infrastructure (CI) Highest CI cascade
 Hydraulic scenarios and measures: Bridges blocked Dykes

Legend:

— Odaw (sub) catchment

Flood hazard:

Depths (m)	Velocity (m/s)
0.2 < 0.5	0.2 < 1.0
0.5 < 1.0	1.0 < 2.0
1.0 < 1.5	2.0 < 3.0
1.5 < 2.0	3.0 < 4.0
2.0 < 2.5	4.0 < 5.0
2.5 >	5.0 >

Critical infrastructure:

- ⚡ Electricity substation
- ⚙ Water booster station
- 🚦 CI highest cascade potential

Hydraulic scenarios and measures:

<https://www.geographie.uni-bonn.de/parades/fis>

FIS Components



Flood portal

Data Access

FLOODLABEL

Description of components- <https://www.geographie.uni-bonn.de/parades/fis>



Flood Portal: Scenarios, Measures and Products



Accra- Odaw FIS

- Rainfall return period T2-T1000
- Scenarios
 - Base case (current)
 - Climate change RCP 4.5 and 8.5 (ongoing works)
 - Blockage (ongoing works)
- Measures
 - Do nothing
 - Rain water harvesting (RWH)
 - 15m river buffer zone (BZ)
 - 0.5 m depth house protection (HPI)
 - 1.0 m depth house protection (HPII)
 - Dykes (ongoing)

Kumasi- Aboabo FIS

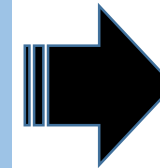
- Rainfall return period T2-T1000
- Scenarios
 - Base case (current)
 - Climate change RCP 4.5 and 8.5 (ongoing works)
 - Blockage (ongoing works)
- Measures
 - Do nothing
 - Rain water harvesting (RWH) (ongoing)
 - 15m river buffer zone (BZ)
 - 0.5 m depth house protection (HPI)
 - 1.0 m depth house protection (HPII)
 - Channel works (ongoing)

White Volta FIS

- Discharge return period T5-T100
- Scenarios
 - Base case (current)
 - Climate change RCP 4.5 and 8.5 (ongoing works)
- Measures
 - Do nothing
 - Dam management (ongoing)

FIS Products

- Flood extent-depths
- Flood velocity
- Population affected
- Population endangered zone 1 and 2
- Economic damages to properties



FIS explorative exercise



Step 1- Web portal exploration (10 mins)

- Objective: Familiarization of the use and functionality of the flood portal and data access
- <https://www.geographie.uni-bonn.de/parades/fis>

Step 2: Scenarios and measures explorative exercise (50 mins)

- Objective: Assess the impact of different scenarios and effect of measures

Scenarios and measures explorative exercise

<https://www.geographie.uni-bonn.de/parades/fis>

Tasks with guiding questions:

- Choose a case study area- Accra, Kumasi or White Volta
- Compare return periods for
 - T2 vs T200: Scenarios and Measures (Odaw-Accra and Aboabo-Kumasi)
 - T5-T100: Scenarios and Measures (White Volta)
 - Identify inundated areas that are interesting
 - Observe the changes in flood hazards
 - Is the area sensitive to different return periods?
 - Are the flood depths and velocity changing?
- Observe the effect of the two scenarios and/or different measures on the risks
 - What is happening in this area? Effect to:
 - People
 - Damages to properties
 - Critical Infrastructure (if there are around the area)

Only for Accra-Odaw and Kumasi Aboabo

- Are the measures adequate to reduce hazard?
- Is the effect of measures adequate to reduce risk to people and properties?

Insights and reflection

- *What data and information are useful for you?*
- *How can you use the FIS on flood disaster risk management (FDRM) OR on your works not related to FDRM*
- Would you like to share and do a FIS training with your colleagues?
- Are there any improvements on the FIS that you wish?
 - If yes don't hesitate to get in touch with the institution responsible for the maintenance of the FIS.

PARADeS

Participatory assessment of flood-related disaster prevention and development of an adapted coping system in Ghana



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