

FLLOW-M PROJECT | SOUTH SUDAN

Malaria Outbreak Warning Dashboard

DHIS2 CHAP Integration · Climate-Informed Prediction · Real-Time Surveillance



The Problem



Malaria burden rank
in Sub-Saharan Africa



Children under five
most affected



Pregnant women
high-risk group

Three critical operational gaps prevent effective response:

01 No climate integration

Surveillance systems operate independently from climate data, seasonal signals go undetected.

02 Manual multi-step workflows

Data aggregation, CHAP prediction runs, and DHIS2 updates all require manual sequential execution.

03 No predictive early warning

Response is reactive, not anticipatory, outbreaks are confirmed, not predicted.

The Solution

An integrated, automated malaria early warning platform



Prediction Engine

DHIS2 + CHAP

Climate-informed disease prediction model deployed on South Sudan's national DHIS2 instance



Orchestration

CAPS Pipeline

Automated orchestration layer that schedules, triggers, and sequences all system components



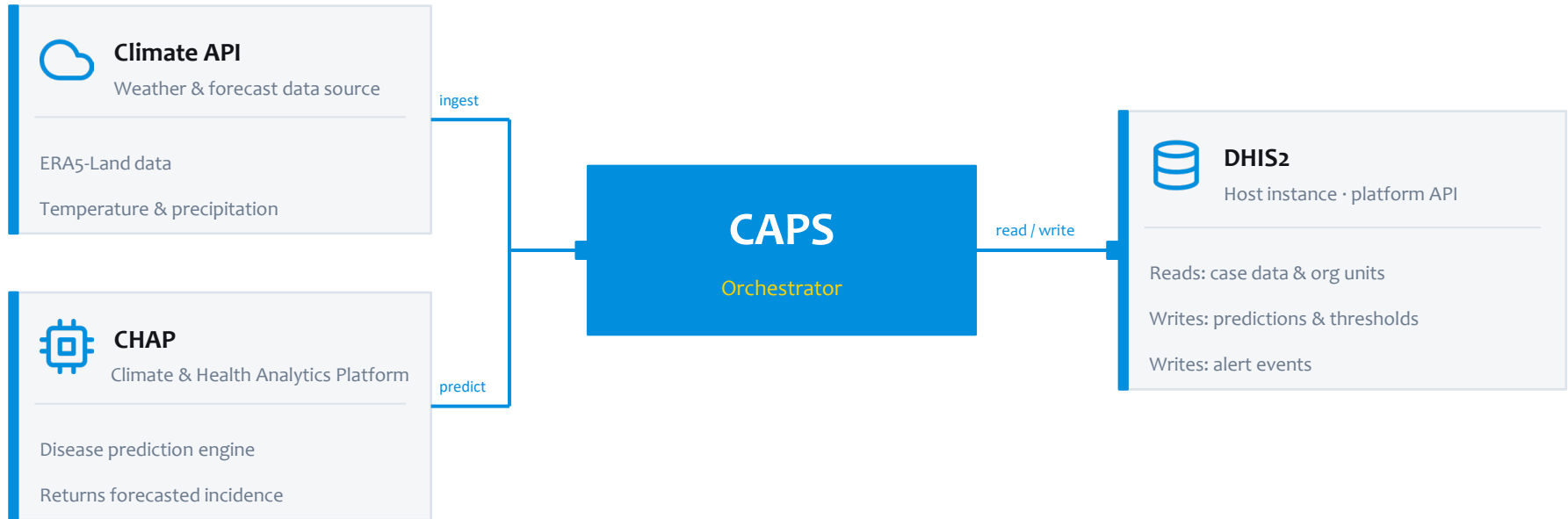
Decision Support

5-Tab Dashboard

Custom DHIS2 analytics dashboard answering the full spectrum from situational awareness to forecast alerts

CAPS Architecture

Climate Automation & Prediction Scheduler - orchestrating three external systems



Orchestration Layer

Schedules and sequences work without processing data itself



Automated Pipeline

Replaces manual sequential workflow with repeatable execution

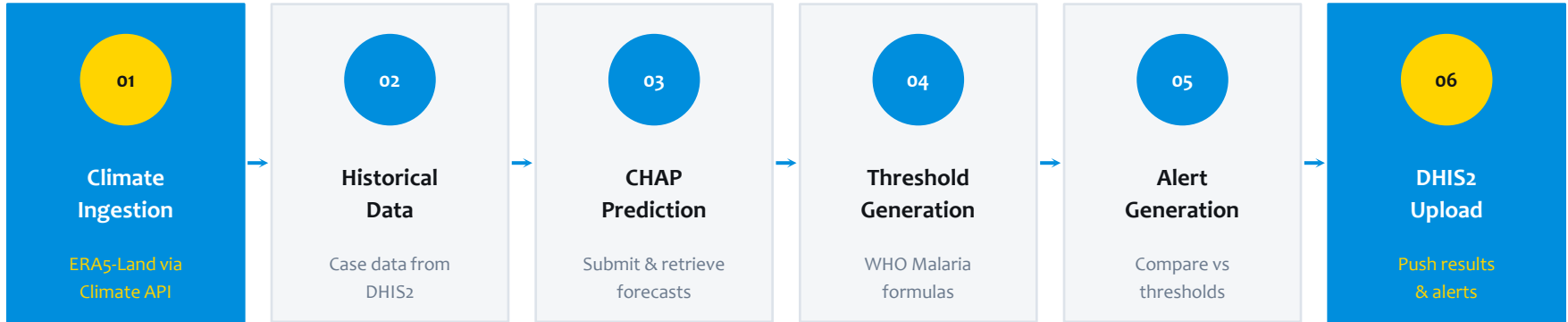


Built for Handover

Local teams monitor dashboards, not execute multi-step processes

Pipeline Workflow

Six sequential stages, each a dedicated worker, connected through RabbitMQ.



RabbitMQ · Workers are decoupled through message queues. Failed steps route to a Dead Letter Exchange, recoverable without restarting the full pipeline.

Connected systems

4 of 4 healthy
Refresh

System	Status	Version	API	Endpoint	Last checked
CHAP API	Healthy	1.0.0	Python	8070	8070 ms
DHIS2	Healthy	2.38.0	Python	8070	8070 ms
Climate API	Healthy	1.0.0	Python	8070	8070 ms

CHAP

4 of 4 healthy
Refresh

System	Status	Version	API	Endpoint	Last checked
CHAP	Healthy	1.0.0	Python	8070	8070 ms
CHAP	Healthy	1.0.0	Python	8070	8070 ms
CHAP	Healthy	1.0.0	Python	8070	8070 ms

Alerts

4 of 4 healthy
Refresh

System	Status	Version	API	Endpoint	Last checked
Alerts	Healthy	1.0.0	Python	8070	8070 ms
Alerts	Healthy	1.0.0	Python	8070	8070 ms
Alerts	Healthy	1.0.0	Python	8070	8070 ms

Dashboard

0 of 0 healthy
Refresh

System	Status	Version	API	Endpoint	Last checked
Dashboard	Healthy	1.0.0	Python	8070	8070 ms
Dashboard	Healthy	1.0.0	Python	8070	8070 ms
Dashboard	Healthy	1.0.0	Python	8070	8070 ms

CAPS Dashboard



CAPS

Dashboard

Pipelines

Executions

Settings

About

Dashboard

[Refresh](#)**1**

TOTAL RUNS (24H)

0

COMPLETED

1

FAILED

0

RUNNING / AWAITING

Stuck Executions

**No stuck executions**

All pipeline executions are progressing normally.

Recent Failures

Execution ID	Pipeline	Failed At	Triggered By	
d0f2c26d...	ERA5 Precipitation data download	11/06/2026, 11:32:18	api	View
5b45d7d1...	CHAP Disease Prediction	04/06/2026, 12:34:27	api	View
42a7ebc8...	Malaria Threshold Generation	04/06/2026, 12:32:18	api	View
97cdfc3d...	Malaria Threshold Generation	04/06/2026, 09:11:48	api	View
52f110ef...	Malaria Threshold Generation	04/06/2026, 09:00:32	api	View
d7fcf26c...	Run Analytics	03/06/2026, 10:24:56	api	View
1c675574...	ERA5 rainfall data ingestion	12/05/2026, 16:31:56	api	View
57114f17...	ERA5 rainfall data ingestion	12/05/2026, 16:18:05	api	View
62b9760c...	ERA5 rainfall data ingestion	12/05/2026, 16:04:35	api	View
66165d74...	ERA5 rainfall data ingestion	12/05/2026, 15:56:15	api	View

FLLOW - M Custom Dashboard

5-tab DHIS2 analytics dashboard, from situation to forecast

01



Current Malaria Situation

"How bad is the malaria burden today, and who is being affected?"

02



Climate & Malaria Relationship

"Why does malaria spike when it does, and what climate conditions drive it?"

03



CHAP Evaluation

"How accurate is our model?"

04



Threshold Analysis

"Which WHO standard method is most accurate?"

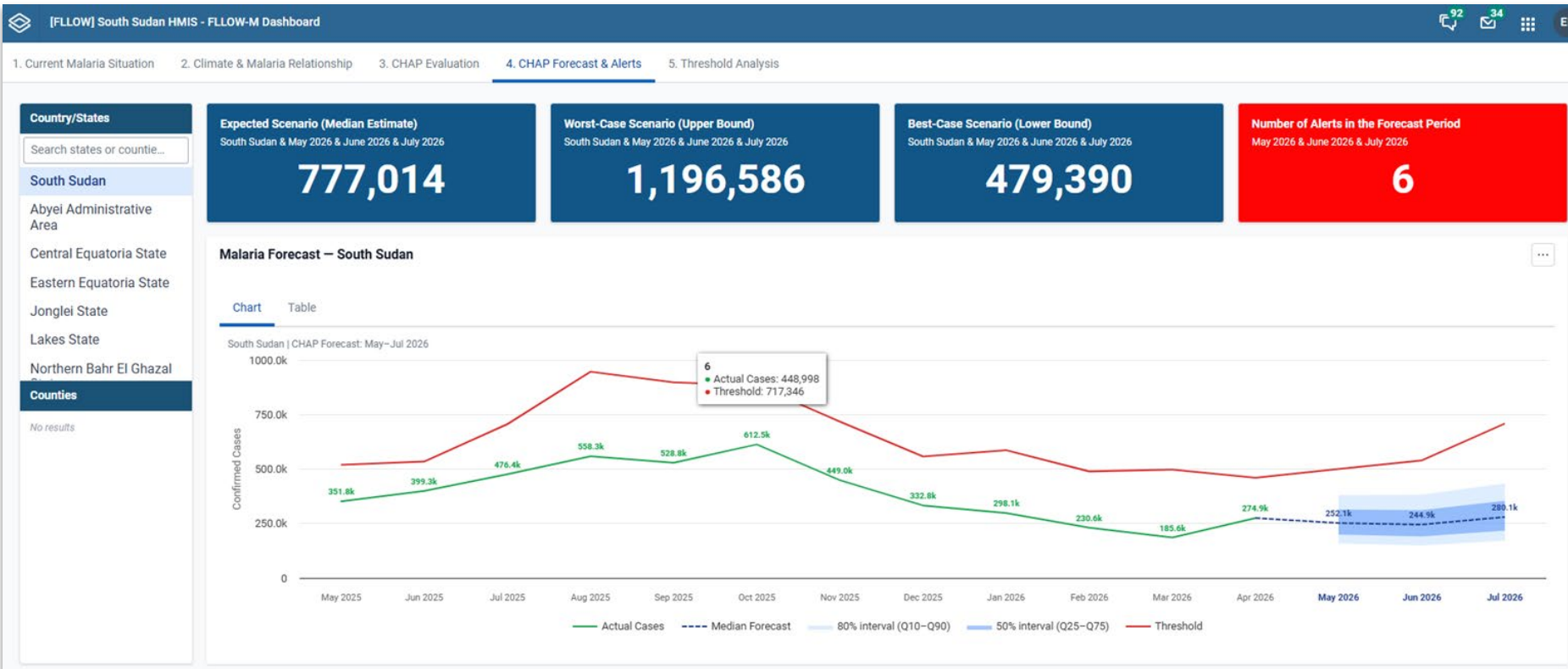
05



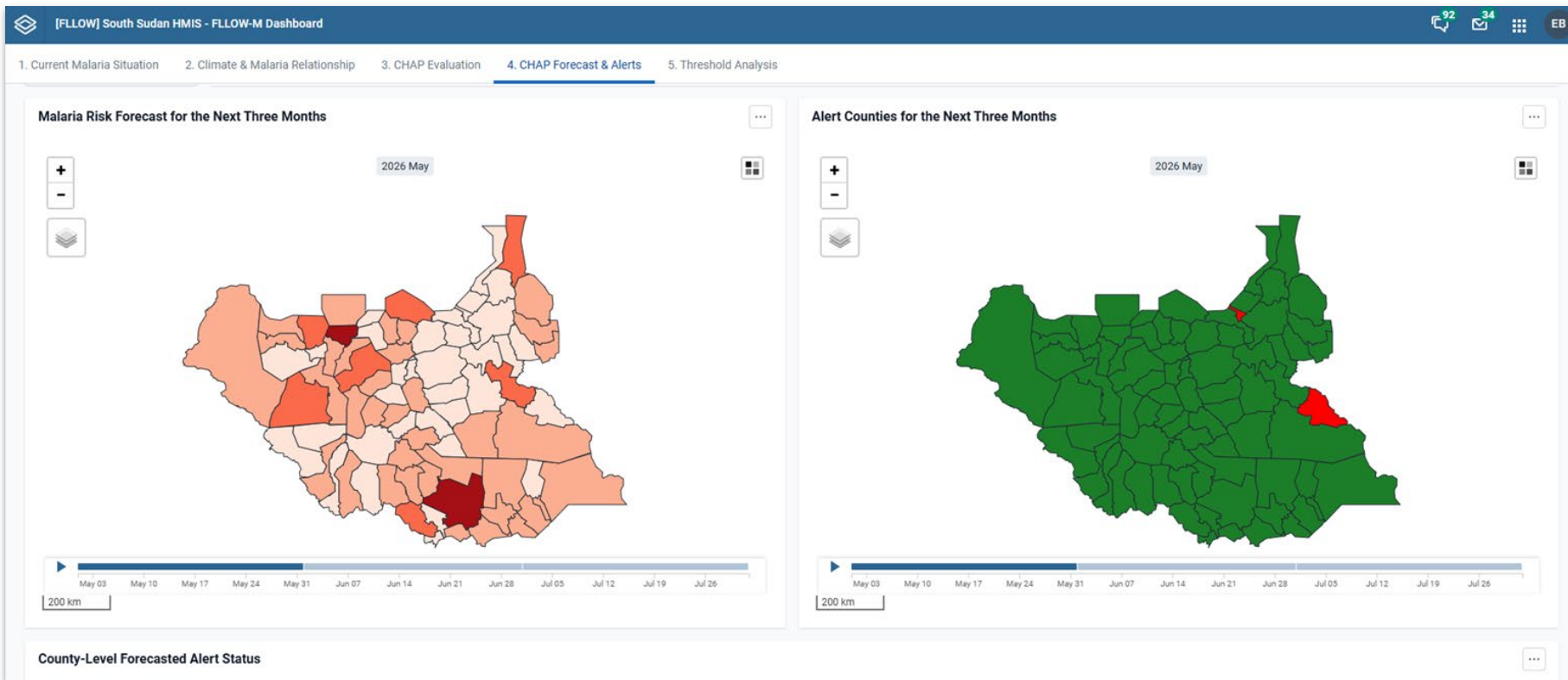
CHAP Forecast & Alerts

"What should we expect in coming months, and where do we prepare now?"

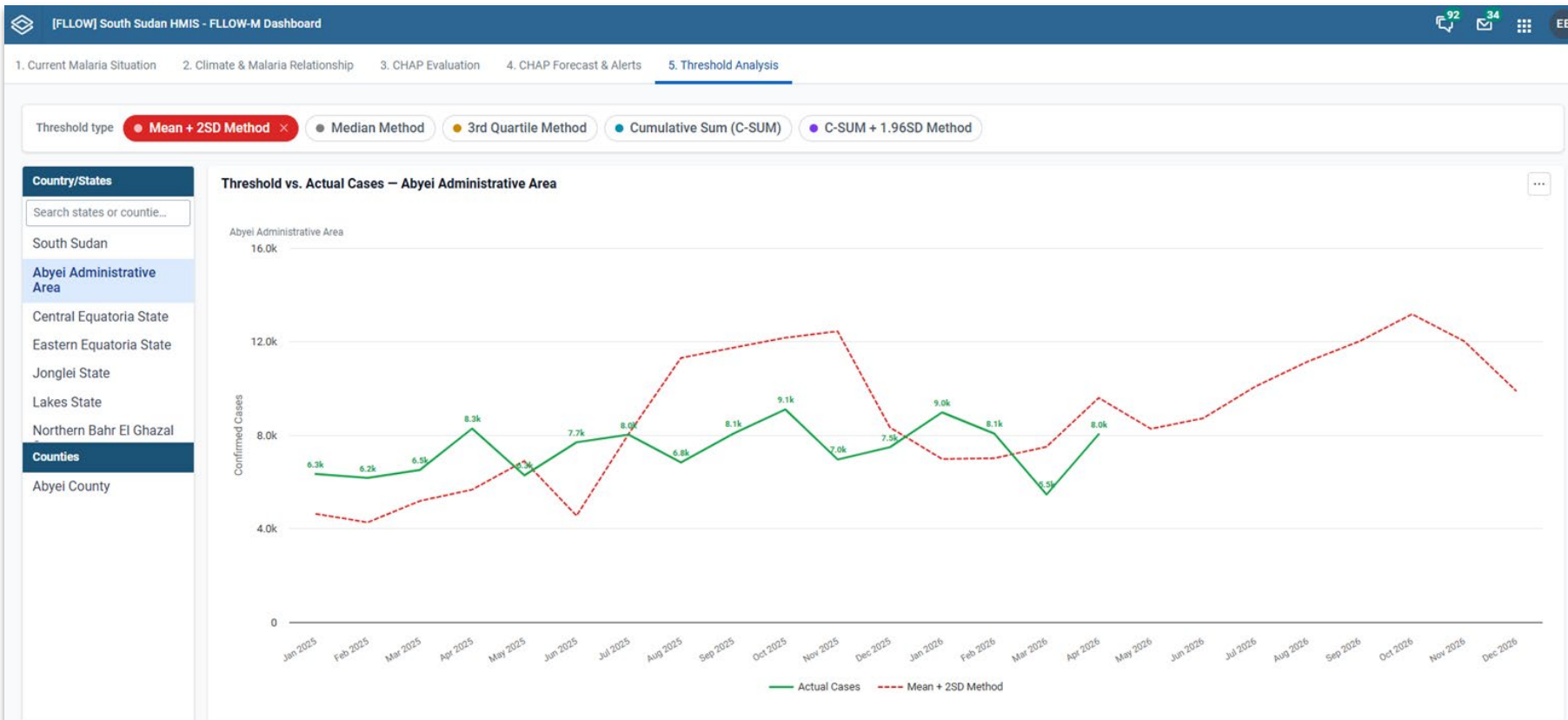
FLLOW - M Dashboard



FLLOW - M Dashboard



FLLOW - M Dashboard





THANK YOU

**Get In
Touch**



+255 752 455 367



www.hisptanzania.org



info@hisptanzania.org



No.22, Mazinde Street, Mikocheni B, Dar es salaam

