



Advanced Simulation & Fan Technology

IMMERSIVE ROOM

GEOSPATIAL SIMULATION PLATFORM

Terrain & Environmental Simulation System

3 Walls

3 Projectors

3 Sensors

SYSTEM OVERVIEW

The ASFAN Immersive Room is a state-of-the-art geospatial simulation environment designed to visualize and simulate real-world terrain conditions across Jordan. Utilizing a three-wall projection system powered by high-resolution projectors and precision motion sensors, the platform delivers an unparalleled level of spatial awareness for researchers, planners, and decision-makers.

PROJECTION WALLS

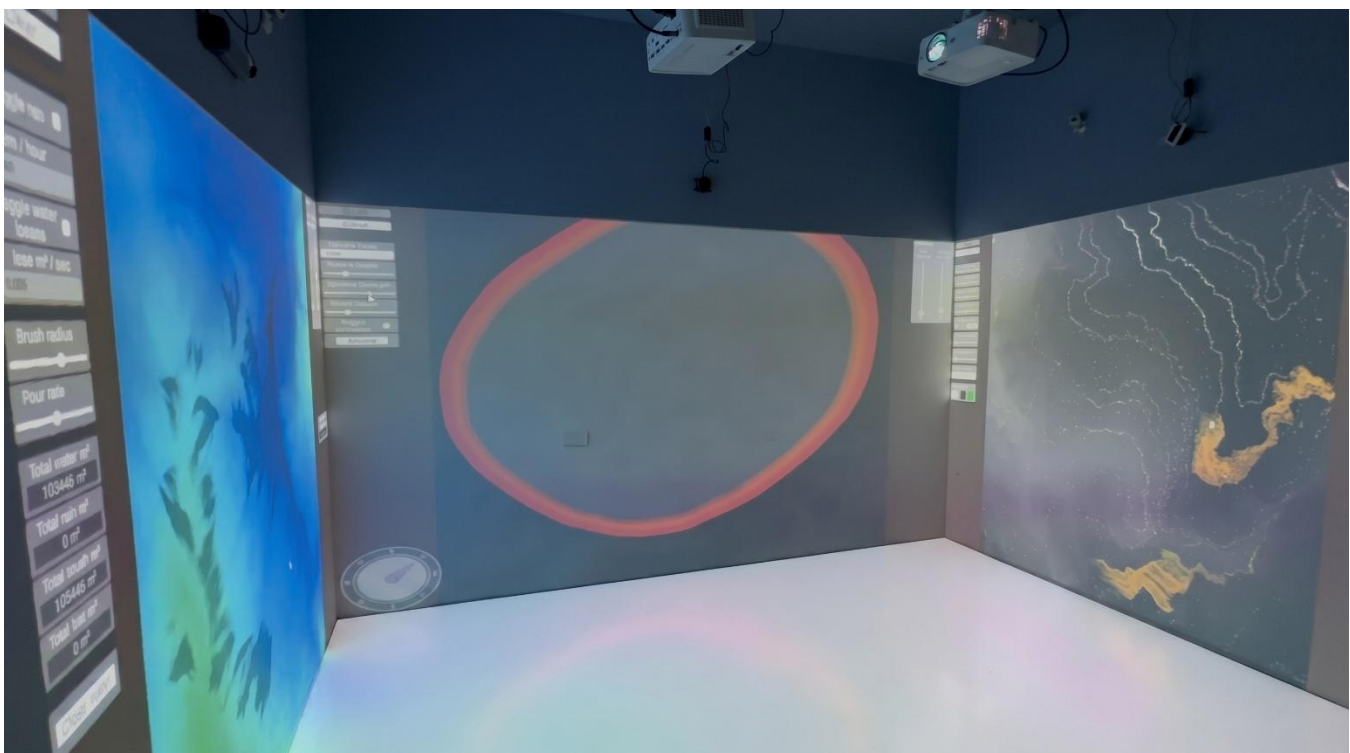
Three large-format display surfaces covering 270° field of view for full spatial immersion.

HD PROJECTORS

High-brightness projectors delivering synchronized, edge-blended imagery across all walls.

MOTION SENSORS

Precision sensors enabling real-time interaction with the simulation environment.



HOW IT WORKS

Getting Started — Region Setup

01

Select the Region

Choose your target geographic region of Jordan from the interactive map interface.

02

Enter Coordinates

Input the precise Latitude and Longitude coordinates using the dedicated coordinate input fields.

03

Set Chunk Size

Select the desired chunk size in kilometers to define the resolution of your data tiles.

04

Import GeoTIFF File

Import your GeoTIFF terrain data file. Pre-imported files are instantly available for use.

05

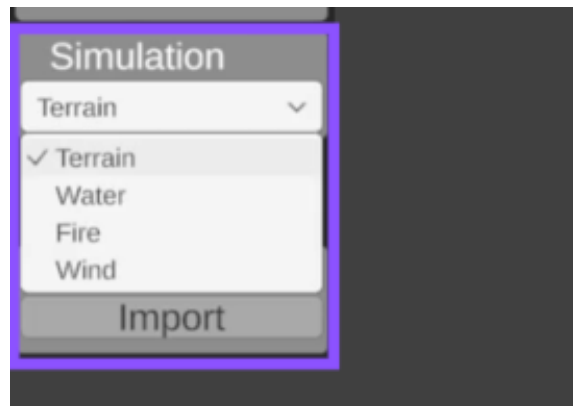
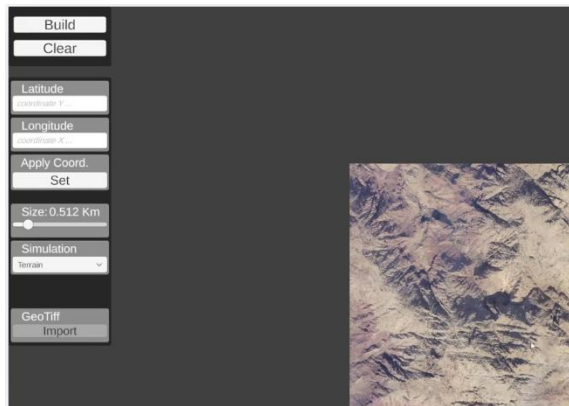
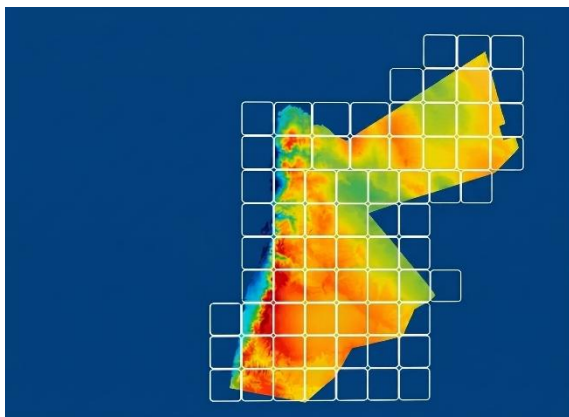
Choose Coordinate System

Define the coordinate reference system manually or click directly on the interactive map.

06

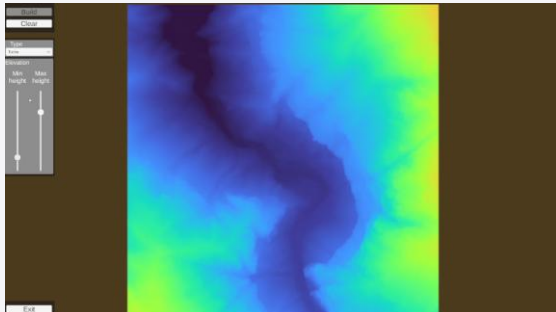
Select Simulation Mode

Choose the simulation scenario you wish to activate from the available options.



SIMULATION MODES

The system provides four powerful simulation modes:

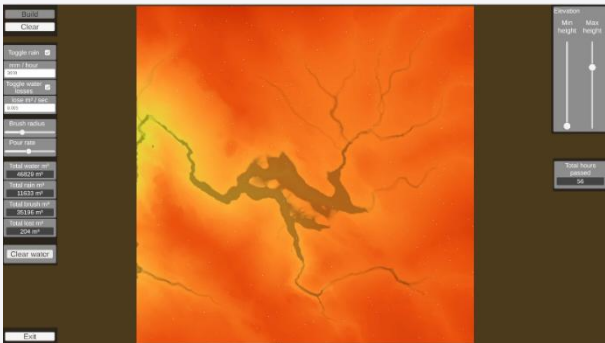


MODE 0 No Simulation — Data Preview

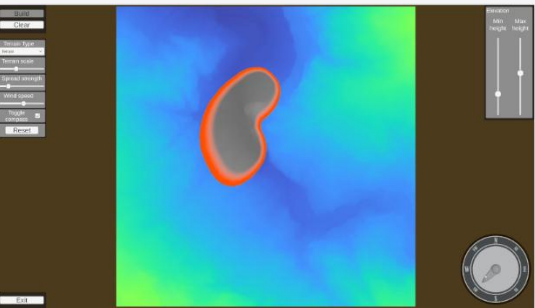
- Preview imported terrain data without any active simulation.
- Customize the color ramp from the dropdown menu for enhanced data visualization.
- Fine-tune elevation rendering for optimal data clarity and presentation.

MODE 1 Water & Rain Simulation

- Simulate realistic rainfall and water flow dynamics across Jordan's terrain.
- Adjust rain intensity and flow rate in real time.
- Control water loss speed to model drainage and absorption rates.
- Manually add water at any point to observe immediate hydrological response.



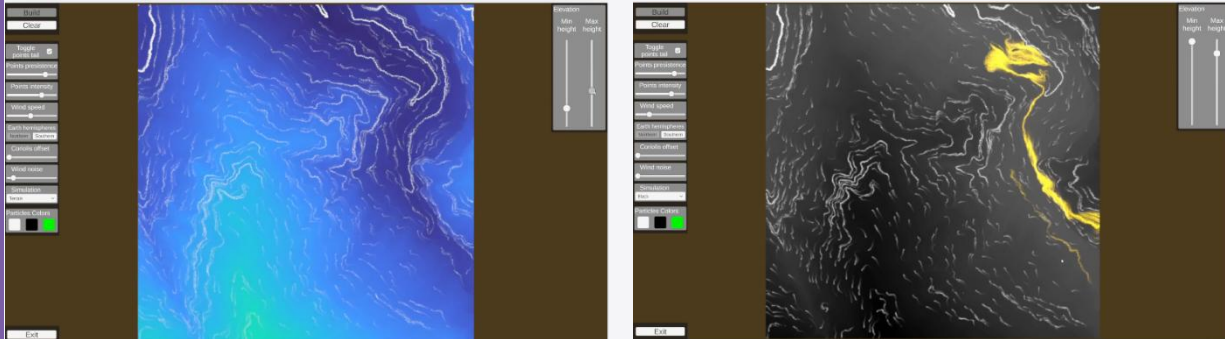
MODE 2 Fire & Wildfire Simulation



- Simulate wildfire ignition and spread across varied terrain types.
- Select terrain type to match actual vegetation and ground conditions.
- Control spread strength to model fire behavior under different conditions.
- Adjust wind speed and wind direction to study fire propagation dynamics.

MODE 3 Wind & Pollution Simulation

- Simulate atmospheric wind patterns across all three dimensions.
- Full directional control — adjust wind speed, direction, and altitude.
- Click inside the simulation to inject pollution sources.
- Observe real-time dispersion and transport of pollutants in the wind field.



KEY BENEFITS



Real-Time Terrain Visualization

Generate immersive 3D landscapes and view real-world environments with live data updates.



Interactive Environmental Simulations

Create and manipulate complex environmental scenarios, modeling weather patterns and natural phenomena.



Enhanced Decision-Making

Leverage comprehensive insights to make faster, more informed, and data-driven strategic choices.



Risk Assessment & Analysis

Identify potential risks, evaluate vulnerabilities, and simulate disaster events for mitigation.



Research & Planning Support

Facilitate advanced research, optimize resource allocation, and design future-proof strategies.



Immersive Training Experience

Deliver realistic training scenarios to improve skills and prepare teams for complex missions.

ASFAN — Advanced Simulation & Fan Technology

Immersive Room | Jordan Geospatial Simulation Platform

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