

Forest Fire Fighting Training Simulator | FireFLY



The Forest Fire Fighting Training Simulator has been designed to improve organization and coordination capabilities in fighting forest fires.

FireFLY Training

FireFLY provides a capability to train those Forest Service members who are responsible for on site coordination and management of forest fire fighting activities by utilizing the advantages of simulator techniques and technologies.

- High level incident commander
- Fireline leaders
- Team leaders
- Bulldozer leaders
- Aircraft and helicopter pilots



Wide Range of Training Roles

Bulldozer

- Knock down trees
- Construct firelines
- Joystick control
- Construct roads
- Refuel
- Follow routes

Fire Truck

- Dispense water/chemical from monitor/pump
- Follow routes
- Setup convoys
- Refuel
- Refill water
- Joystick control



Models

Fireman

- Construct firelines
- Cut down trees
- Dispense water/chemical
- Start controlled fires
- Follow routes
- Lay/Gather hose
- Get on/off land vehicles
- Get on/off helicopters

Helicopter & Aircraft

- Glass-Cockpit based joystick control
- Mission assignment
- Take off/Land/Hover
- Refill water from lake/river/pool
- Transfer firemen
- Refuel
- Dispense water
- Fire intervention



Conceptual Models

Fire Propagation Model

- Tree characteristics
 - Type, density, age
 - Length, diameter, vertex
- Inflammable matter
 - Type, distribution, amount, density
 - Humidity, litter cover
- Wind, air temperature, rainfall
- Gale/Wind force
- Moisture
- Terrain and topography

Smoke Propagation Model

- Wind velocity and direction
- Humidity amount of the inflammable matter
- Fire intensity
- Stand type

2 Dimensional Map

- UTM format
- Degree, minute, second
- GPS based vehicle tracking system
- Pan on map
- Detailed satellite photos
- Zoom in/Zoom out