

# Colorado Decision Support System for Prediction of Wildland Fire Weather, Fire Behavior, and Aircraft Hazards

## CO-FPS Development Updates

**Jim Cowie**  
**NCAR**

# Deliverables

## June Deliverables

- June Meeting Minutes
- Performance Verification Metrics & Verification Methodology Report
- Functional Requirements Specification (V-1.0)
- CO-FPS Design Document (IOC)
- June Monthly Progress Reports
- System Acceptance Plan

# Deliverables

## July Deliverables

- July Meeting Minutes
- July Monthly Progress Report

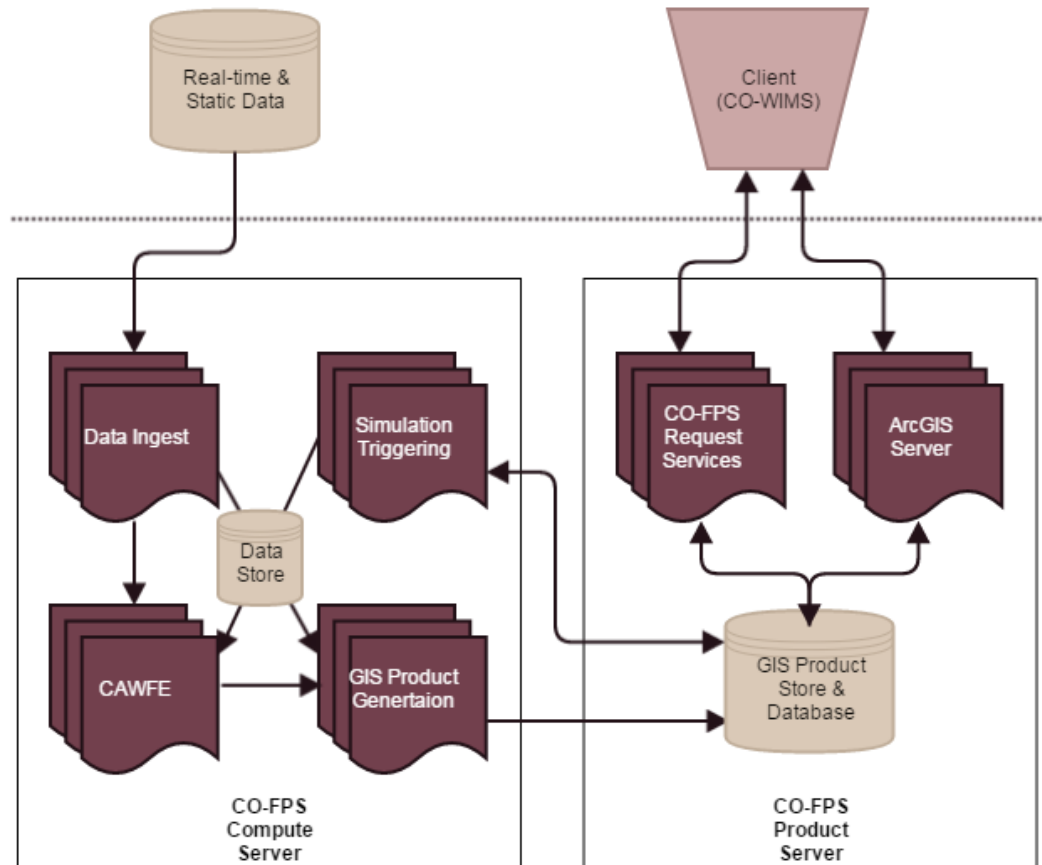
## August Deliverables

- August Meeting Minutes
- August Monthly Progress Report
- CO-FPS Summary Document (feeds into Year 2 SOW)

# System Development Updates

## Hardware

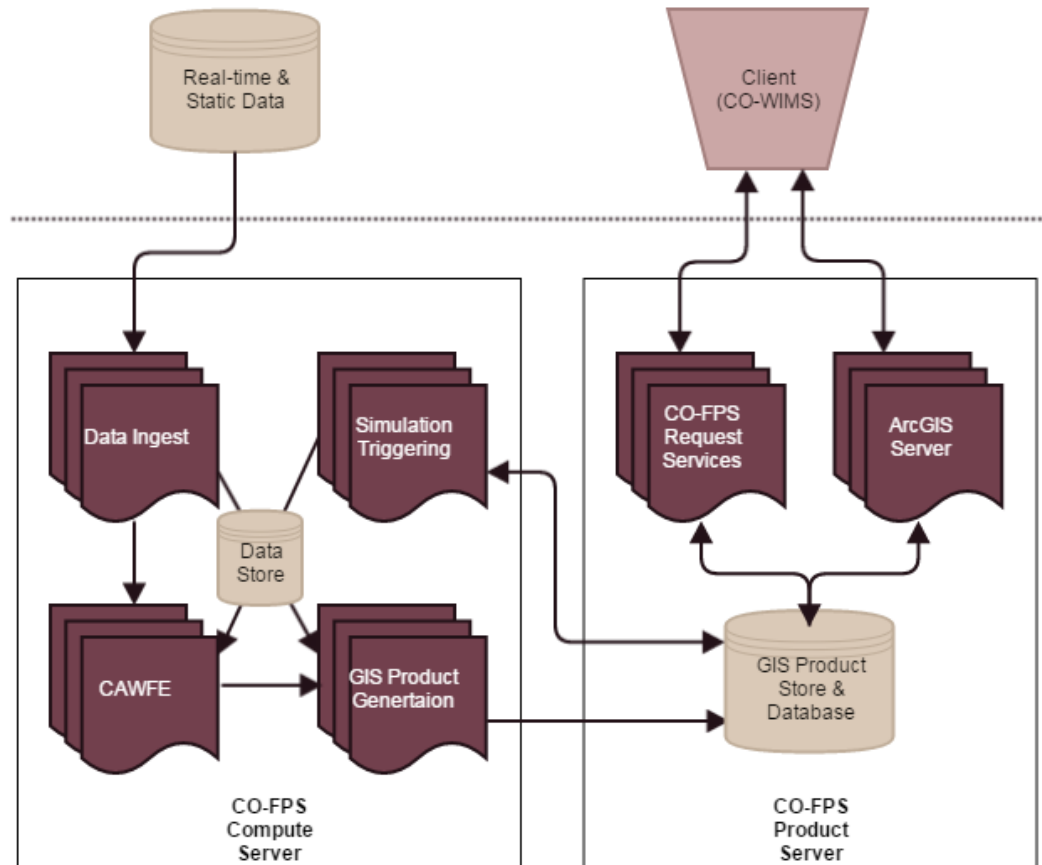
- **Compute Server** acting as development machine
- **Product Server** is on-site and being set up
- Compute Server will serve products until Product Server is ready (to expedite development)



# System Development Updates

## Routine (State Scale) Weather

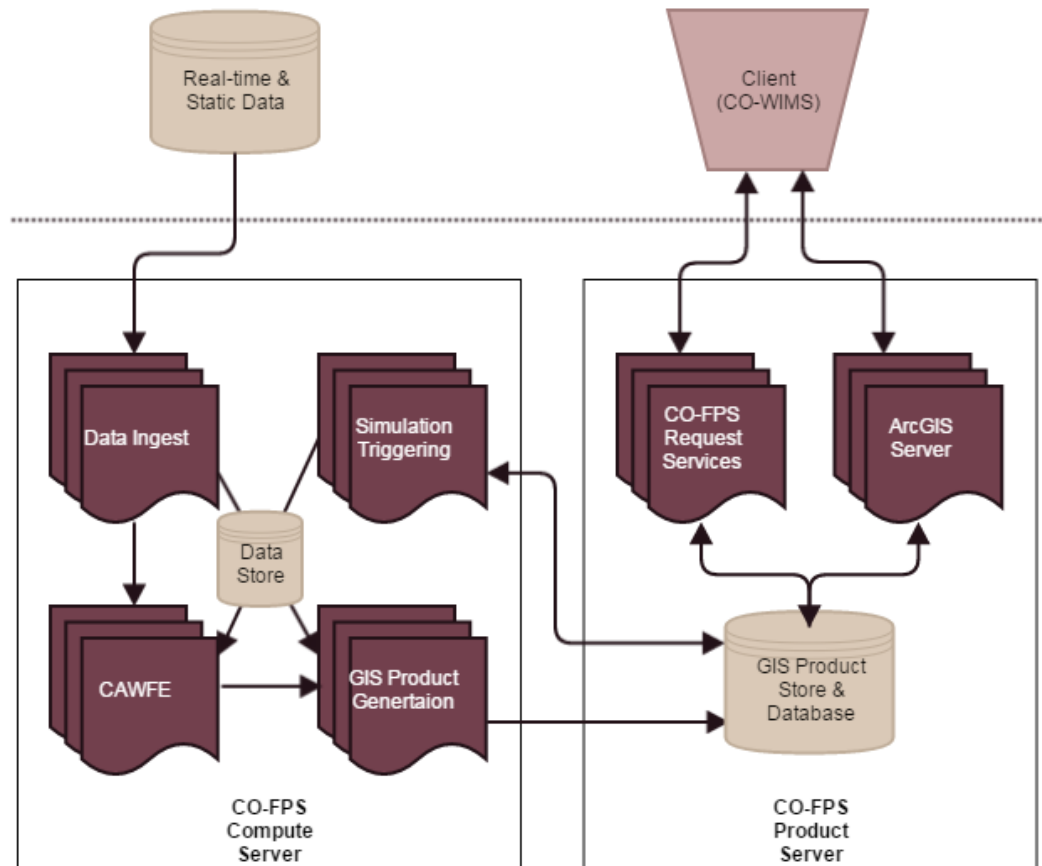
- Real-time model data (HRRR, NAM) being ingested
- Weather forecast products being produced
- Web Services to handle weather forecast products installed
- ArcGIS server is set up
- URL's accessible
- Just need to automate the 'publishing' of the map services (so close!)



# System Development Updates

## Fire Simulations

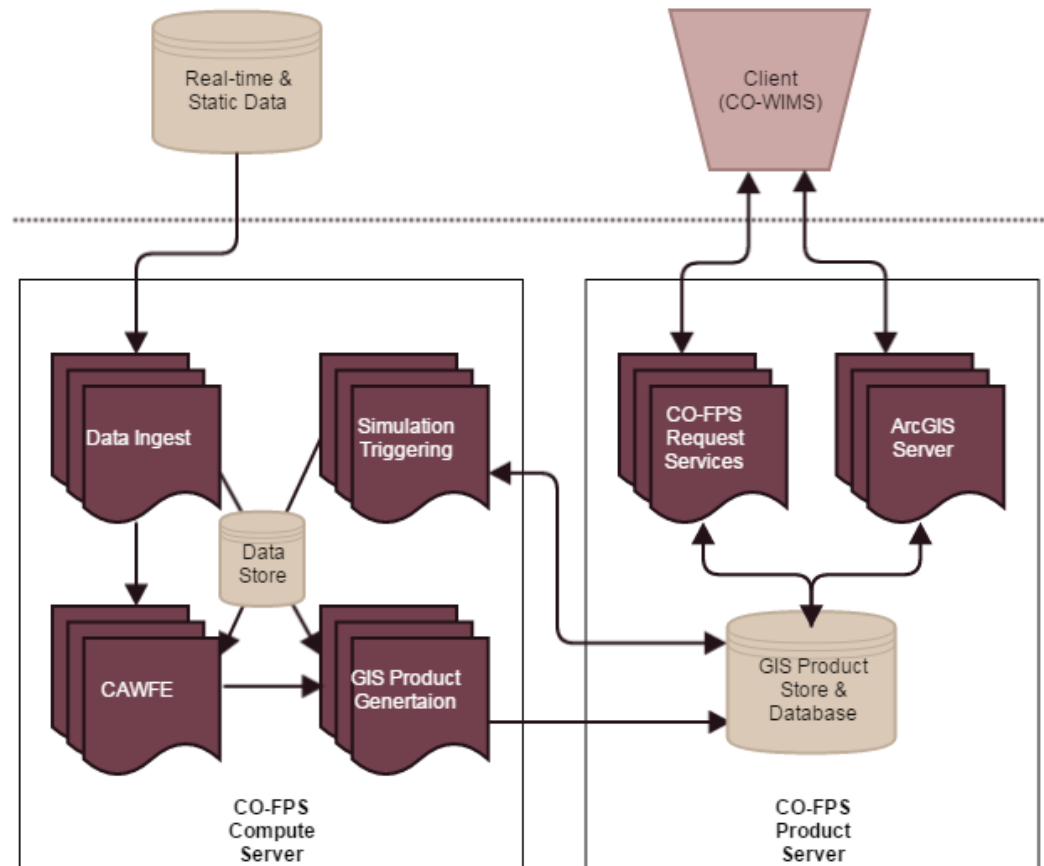
- Web services for accepting simulation requests almost complete
- Simulation triggering/managing almost complete (needs final connection to CAWFE)
- Product generation almost complete (needs automation)
- Product service publishing needs to be set up (similar to weather forecasts)



# System Development Updates

## CAWFE Model

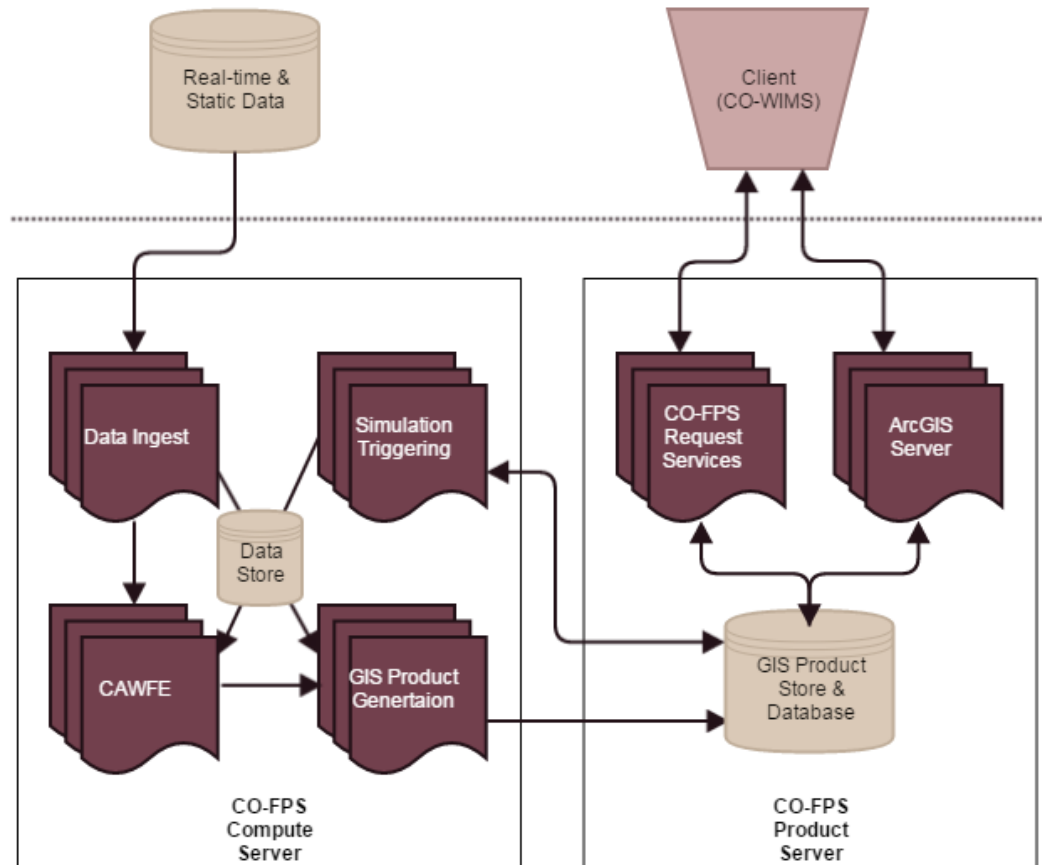
- Testing and hardening continues
- Tested on recent fires
- Level-set method is running in the current version
- Issues:
  - Tendency for fires to move too fast (positive feedback with local wind field, and/or fuel moisture not properly represented)
  - Certain barriers are challenging (fire wants to 'snake' through them)



# System Development Updates

## GIS Products

- Automation of real-time GIS product generation complete
- Automated publishing of the map services is almost complete
- Routine weather products (T, RH, wind speed, direction) complete
- Fire extent, rate of spread, heat release complete (to become flame length or have different units - Chains)





# System Development Plans

## July-August

- Set-up Product Server, make accessible to CO-WIMS
- Complete internal web services and manager processes
- Derive flame length product
- Derive smoke concentration
- Create aviation hazards products (turbulence, shear, up/downdrafts)
- Define and create “significant fire phenomena” product
- Complete code to utilize burn area and active fire boundary polygons
- Testing of user triggered ignitions via CO-WIMS

# System Development Update

Questions?