Fire Simulation Model: Things I need

1. Should I use the rate of growth formulas from that book or integrate the FBP python code into the simulation software to calculate the rate of growth? This calculates for elliptical fires, should I also make the fires ellipses or just circles?
2. I am first creating all the fires in one simulation then making a new one to handle the air tankers since I’ll now know the report times of all fires.
3. What attributes do we care about tracking for air tankers? I currently have a cruising speed, fight fire speed, circling speed, latitude and longitude, max time and distance it can fly without returning to a base, current distance and time it’s flown since returning to a base, and a few statistics.
4. What do we want the bird dogs to do in this simulation? What attributes should I track for them?
5. I plan on keeping track of numerous statistics so far, any more I should add?
6. What I should do for the fight fire function (It determines what happens once the air tanker arrives at a fire)
7. Rules for which air tanker to dispatch to fires
8. If you want to add the occasional air tanker circling process, what rules it follows/comes about
9. At the end of the day, should I assume air tankers stop fighting fires, or should I go into the next day(s) to see when the fires would be fought at?
10. Add default values for anything or assume the user will enter them all? (Minimum necessary inputs required to run)
11. Improve User Interface
12. Should lat/long represent km on a grid, or actual coordinates (if coordinates then change distance calculations to non-Euclidean, set ranges)
13. If coordinates, should I get data from some actual forest data accessible somewhere based on lat/long (to get fueltype and slope) or just keep generating a random forest
14. If generating a forest, should I make a new forest for each run, or create a single forest that will be used for all of the runs, also should the fueltypes and slopes be uniformly distributed