# S3 Table. Ignition process in the FFM

| Step | Action | Detail |
|---|---|---|
| IF | Flame can ignite new leaves across a gap | Distance is found geometrically from the gap between burning fuel and potential fuel, and the angle at which the plume crosses that gap.<br><br>Air temperature at the potential fuel is calculated using a $T_p$ model for that distance, and the characteristics of the contributing flame that affect the $T_p$ model.<br><br>Ignition occurs when TTI is ≤ 1 s (one time-step) |
| THEN | 1. Add newly ignited fuel,<br>2. Remove newly consumed fuel<br>3. Calculate new flame traits | Add the number of leaves that were ignited to those already burning and remove the leaves that have been burning for at least the period of their calculated flame duration.<br><br>Calculate the flame length from individual burning leaves, then the merged flame length from all of these combined.<br><br>Find the wind speed at that point, and then the angle of the flame. |
| ELSE | 1. Treat partial drying of leaves that failed to ignite as pre-heating<br>2. Remove newly consumed fuel<br>3. Calculate new flame traits | Reduce the TTI of the leaves by the amount dried.<br><br>Remove from the total of leaves already burning those that have been burning for at least the period of their calculated flame duration.<br><br>Calculate the flame length from individual burning leaves, then the merged flame length from all of these combined.<br><br>Find the wind speed at that point, and then the angle of the flame. |