

- The results of the simulation as compared to observations on the following pages are shown every 15 min, with the exception of the last frame of WTC 1, which is shown at the time of collapse, 1 h 42 min past impact. There may have been considerable fire activity in between the consecutive plots included here.
- The stripes surrounding the image represent a summary of the visual observations of the windows, with the black stripes denoting broken windows, the orange stripes denoting external flaming, and the yellow stripes denoting fires that were seen inside the building.
- Fires deeper than a few meters inside the building could not be seen because of the smoke obscuration and the steep viewing angle of nearly all the photographs.
- The red regions of the contour maps represent numerical prediction of temperatures in the neighborhood of 1,000 °C, typical of a fully engulfing compartment fire. Such temperatures were measured during the multiple workstation experiments when the workstations were burning near their peak heat release rate and flames extended outside of the test compartment.

6.3 SIMULATION RESULTS FOR WTC 1, CASE A

6.3.1 Floor 92

In the simulation, there was no damage on this floor other than window breakage. The ignition of jet fuel in the northeast corner and air from broken windows led to sustained burning of the contents in that corner. The combustibles were consumed about 45 min after the aircraft impact, and the fires moved south along the east face (where they were stopped by a partition) and west along the north side of the interior core. There was a wall that blocked the fires from spreading directly to the north face. Eventually, the simulated fires arrived at the north face about 15 min sooner than was observed in the photographs and videos. The fires never reached the south section of the floor because of various walls that obstructed their spread.

The general pattern of the simulated fires was consistent with the photographic evidence. However, the burning rates were faster than observed: the simulated fire in the northeast corner burned out faster than actually observed, and the simulated fire on the west grew faster. The actual fire on the east face moved slightly further to the south than in the simulation, suggesting that the wall location was incorrect or that the wall had been penetrated. If the latter, it was not clear what caused the fire to stop where it did.

6.3.2 Floor 93

As on the 92nd floor, the simulated fires began in the northeast corner, just under where the left wing of the aircraft dripped jet fuel through the damaged floor slab from the 94th floor. Consuming the combustibles in the northeast in about 30 min, the fires moved west along the north face and south along the east face.

The simulations over-predicted the intensity of the fires at the periphery of this floor. In the northeast corner, the actual fire broke windows and was visible some 45 min after the simulation showed the fire had moved on. The movement along the east wall was about 30 min ahead of reality, and there was a flare-up in the northeast corner at about 45 min after impact, both signs of overestimation of the initial