

6.5.3 Floor 80

Preliminary simulations of WTC 2 had shown far more fire activity on this floor than was observed. Consequently, the combustible load and the volatility of the furnishings were reduced to better match the observations. Even so, the simulation predicted a modest fire on the north side that moved west and then south with time. The movement to the west was too fast by about 15 min, and the actual fire did not have time to reach the west tenant space before the building collapsed.

The late fire that was observed to break out on the south face was not captured in the simulation. The source of the actual fire was unknown, but the breakage of windows after the 45 min time frame indicated that there likely was a fire toward the interior, perhaps having spread from the east.

6.5.4 Floor 81

Pictorial details showed an accumulation in the northeast corner of debris and combustibles that burned steadily and intensely until the building collapse. The aircraft impact modeling (NIST NCSTAR 1-2A) confirmed that the upper fuselage and right wing of the aircraft had plowed an appreciable amount of the combustible load of the east side of the floor into that corner. Accordingly, a heavy concentration of combustibles was assumed in the northeast corner. As a result, the predicted fire in the northeast corner is the dominant combustion on the floor.

The sharp western boundary of the fire for the first 45 min was due to a wall assumed in the floor plan. The coincidence of the wall and the observed window breakage for the first 30 min was merely fortuitous, since NIST did not have a detailed plan for this floor. Nothing in the simulations explained the absence of fires in the cold spot, the 10-window expanse toward the east of the north face of floors 80, 81, and 82 (Section 2.7.4).

The simulation predicted some burning in the southwest (where none was observed) and some in the north central (where a light amount was observed).

6.5.5 Floor 82

The observed fire activity on the 82nd floor was similar to that of the 81st floor. The simulated fires were similar as well because of similar assumptions of combustible load, floor plan, and initial jet fuel distribution.

6.5.6 Floor 83

The simulation predicted burning in the southeast quadrant that spread northward along the east section and turned the corner to head west along the north wall. The post-impact window breakage indicates that this pattern is accurate, but that the simulated fire spread more slowly, reaching the middle of the north wall about a half hour later than in the simulation. This delay resulted from a wall along the north side of the core that extended into the east part of the floor. (Inclusion of this wall this barrier was based on a recollection by a former worker on the 80th floor.)