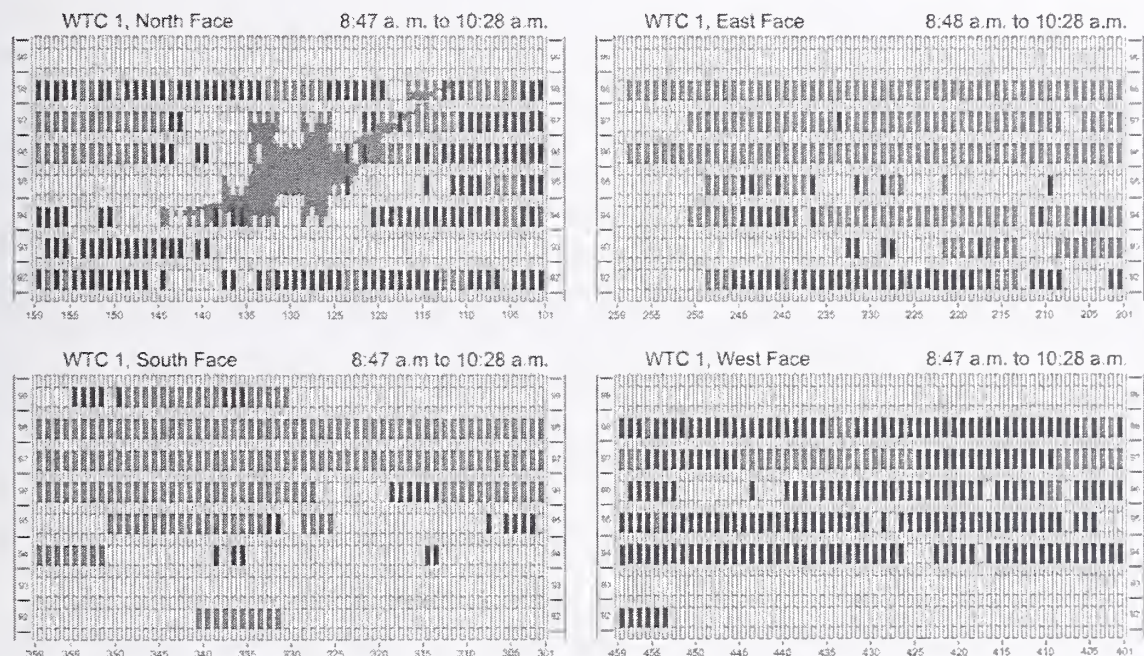


multiple west-face windows approximately 2 s before the collapse of WTC 1 began. As the tower collapsed, the resulting pressure increase pushed intense flames out of windows at the northern edge of the 92nd floor, at the northern edge of the 95th floor, at the southern edge of the 94th floor, and from the intensely burning region on the 104th floor, indicating the areas on the face where the most intense burning was taking place.

During this final period, people were observed falling from the upper floors of the north and west faces. It is likely that additional people fell on the other faces and were not identified due to the quality of the imagery. The fact that people continued to fall from upper floors suggests that conditions on these floors continued to deteriorate until the tower collapsed.

Summary and Additional Discussion of Observations for WTC 1 Fires

Fire growth and spread in WTC 1 was extensive during the 102 min between the aircraft impact and collapse of the tower. Figure 2–4 shows the results for the four faces of integrating the fire observations over the entire event. Extensive fires were observed from the 92nd to 99th floors. (Note that fires were also present on higher floors, including the intense fire on the south side of the west face of the 104th floor.) Fire seems to have spread over almost all of the 96th to 98th floors, while unburned areas were still present on lower floors. The largest unburned areas seem to have been on the 93rd and 95th floors.



Note: Color coding—white, no fire; yellow, spot fire; red, fire visible inside; orange, external flaming.

Figure 2–4. Maps of integrated fire observations between 8:47 a.m. and 10:28 a.m. for the four faces of WTC 1.

An interesting aspect of the fire behavior in WTC 1 was the variations in burning behavior observed on the different faces. Fires at most locations on the west and north faces of the towers burned without flame extension or release of large amounts of smoke from nearby windows. In many cases the fires appeared