

The information below discusses trade-offs and issues with the Phoenix system versus other IR systems when the fire moves into mop-up stage. The intent is to provide IRINs information to engage in a discussion with SITLs or other staff. It is not intended, and should not be used, for posting as a standard disclaimer (which nobody reads anyway).

The Phoenix system is optimized for mapping active fire across large areas. Our tests have shown that we can detect 6 inch fires at 10,000 ft above ground level (AGL) in open terrain. At this height, the ground resolution of our imagery at nadir is 3.5 meters (typically resampled to 7 meters for the final product). The techs have made adjustments to the detection algorithm over the years to improve the sub-pixel detection ability. However, you always need to keep in mind that the plane is flying at 10,000 ft AGL or higher. Contrast this with a FLIR ship that is flying typically a few hundred feet off the ground and can look from many different angles under forest canopy or has a zoom able sensor. A FLIR system operating at this altitude will almost always detect more heat than what Phoenix will detect from 10,000 ft AGL for a given area. The tradeoff is in the ability of our system to quickly cover a very large fire and head on to the next one.

As fire activity drops and the incident objectives focus on hot spot detection, FLIR is a better tool for covering smaller fires or areas of a fire. It can detect “smokes” that are not currently open flames. The misconception by some teams that if the Phoenix system doesn’t detect any heat there is no heat on the fire is due to a lack of understanding of mission parameters such as flying height and sensor resolution.

The other thing to remember is that *any* IR data collected is just a snapshot in time. What the Phoenix system detects in terms of hot spots at 2 in the morning will be different than what a FLIR or any other system will detect at 3pm in the heat of the day.