

MQ-9 SAR for Fire Damage Assessment

12 Oct 2017, Vichy Springs, Napa County

Maj Jason “DeltaFox” Flowers, SAR Operator

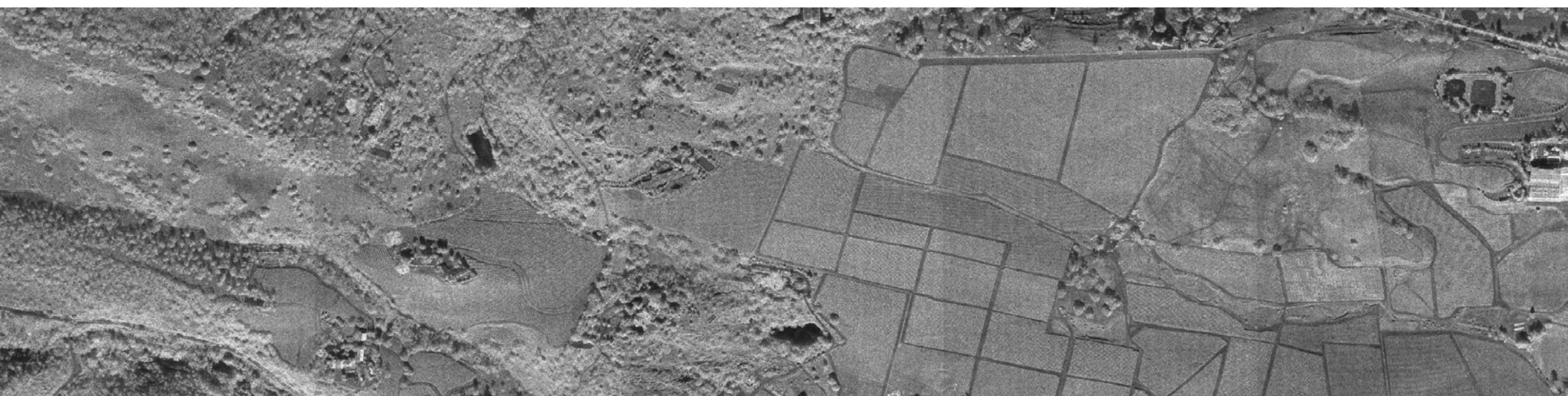
Capt Kyle Fried, Pilot-in-Command

MSgt Todd Magnelli, Sensor Operator

TSgt Melanie Medina / TSgt Melissa “Sparky” Juarez, Mission Intelligence Coordinators

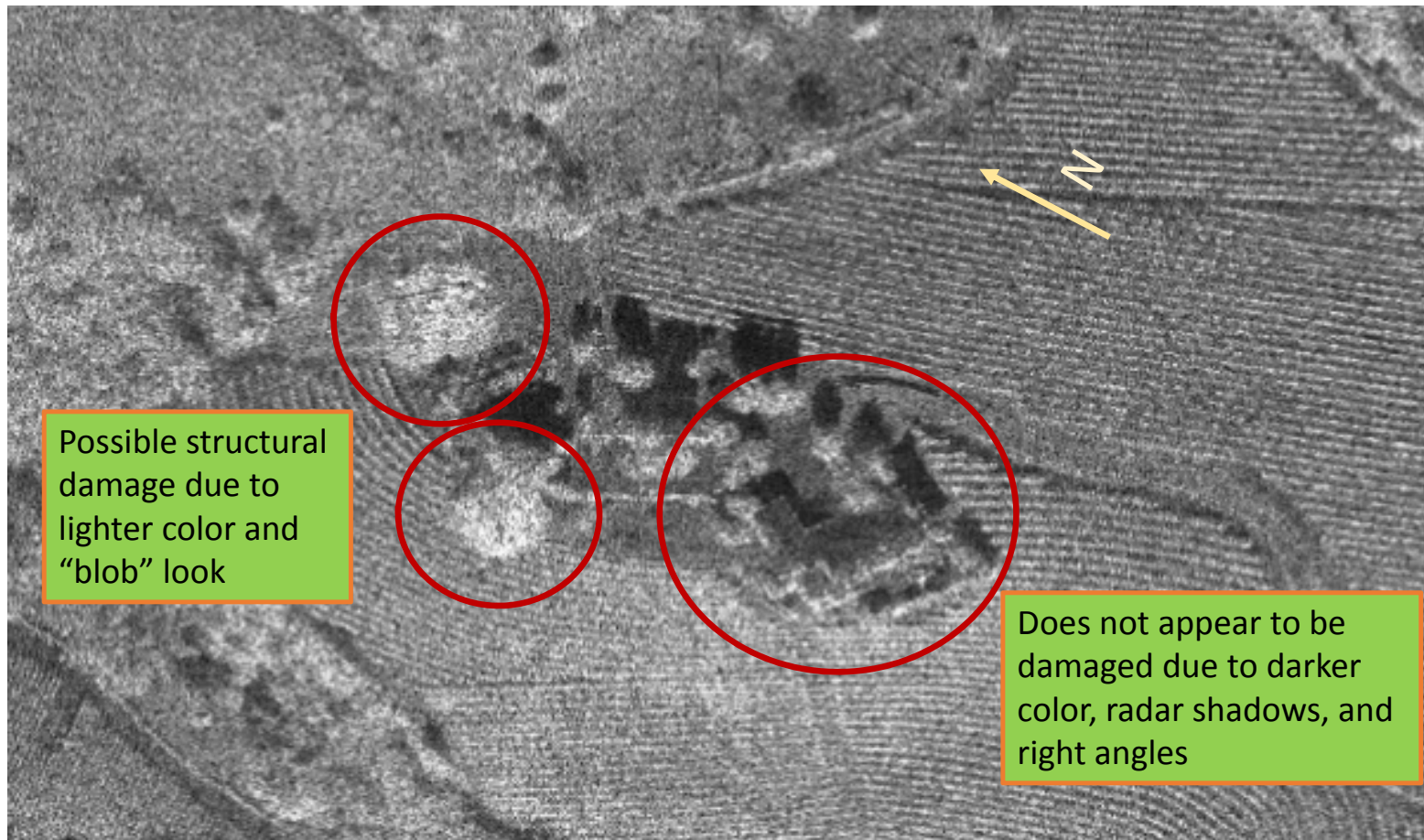
163d Attack Wing (163 ATKW), MQ-9

MQ-9 crew collected SAR imagery to demonstrate the ability or inability to detect structural damage due to fire, 1ft GeoRef

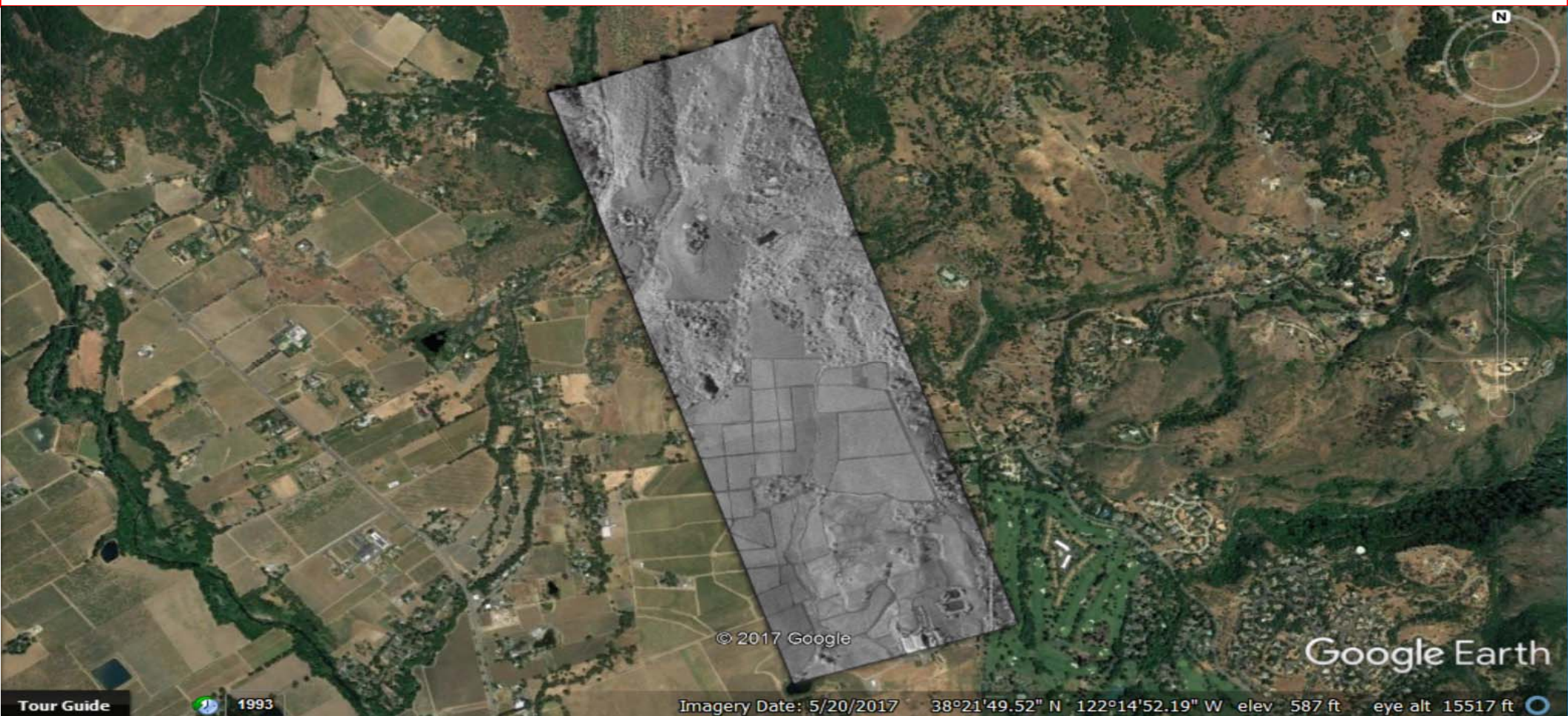


2.7 km

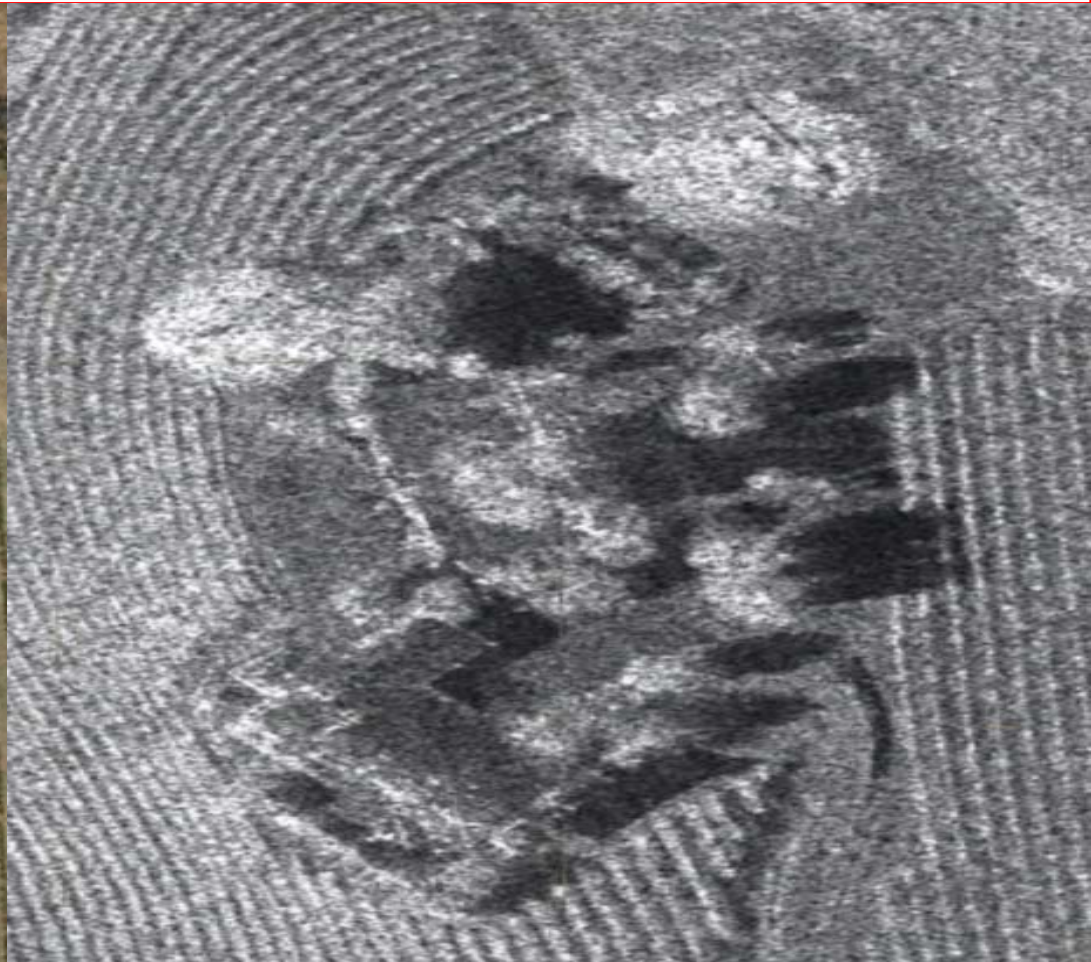
Initial spot analysis showed possible structural damage, but not confident since this capability was untested by the 163 ATKW



The MQ-9 crew stitched together the mosaic and converted to GeoTIFF format, then loaded into Google Earth for analysis



By toggling between native globe imagery and the SAR image, Google Earth allowed the crew to determine whether structures previously existed



Takeaways:

- Destroyed structures appear lighter than intact structures
- It's easy to see rooftops in SAR, indicating the structures are not destroyed
- SAR can see through smoke and clouds, and may be the only useful capability during times of extended cloud cover
- MQ-9 can image an entire large fire area in less than 30 minutes and disseminate imagery 30 minutes later
 - Disclaimer: MQ-9 crews are not completely trained on this emerging capability, so collection times and abilities can vary until our training program is complete

