

Corta Fire – UAS Flight and Data Collection Summary (8/7-8/11, 2019)

8/7: UAS Vendor (Bridger Aerospace), ICS Type 1 UAS mobilized from Bozeman, MT and arrived the Corta Fire near Elko, NV on 8/7/19. Federal UASM, UASM (T), UASD, UASD (T) were also mobilized. The team met with the unit AFMO and UAM at the Elko dispatch center for an aviation safety briefing and prepared to travel to the incident on 8/8.

8/8: The team traveled to Corta ICP and attended the morning briefing. After meeting with the IMT overhead, the following objectives were developed:

- Update the fire perimeter
- Utilize infrared cameras to monitor/document fire spread
- Document fire effects/fire activity in relation to:
 - The entire fire area (for BAER)
 - Pearl Creek Drainage (for READ)
- Interface with crews on the fire and provide information regarding the utilization of UAS on wildland fire incidents

Requested and Delivered Products

- Fire perimeter polygon
- Infrared/thermal heat detection for Ops/IC
- Geopdf heat signature maps for DIVS/Crews
- Orthomosaic of the fire area to analyze fire effects for BAER Team
- Orthomosaic of the Pearl Creek drainage to analyze fire effects in Lahontan cutthroat trout habitat for READ(s)

8/8: The UAS team located a suitable launch and recovery zone (LRZ) near the southwest corner of the fire and performed a viewshed analysis to ensure command and control (link) could be maintained with the aircraft. The test flight was canceled due to thunderstorm activity.

8/9: Three flights were conducted. An orthomosaic map was produced and used to digitize an updated fire perimeter. Still images were collected to develop an orthomosaic of the Pearl Creek drainage.

8/10: A morning recon/mapping flight was conducted. There was no active fire spread; several pockets of heat near the perimeter were detected. The afternoon recon flight was cancelled due to high winds.

A discussion with Ops and DIVS occurred that evening and it was determined that thermal heat signature information was not being relayed to line personnel by the UAS crew. It was decided that geopdfs should be created for each Division that showed heat near the line. A suggestion was made to create a layer in ESRI Collector to display hot spots near the fireline.

8/11: Two flights were conducted. A morning recon was flown to detect heat near the line. DIV R and U had isolated heat near the line. After the flight, two geopdf heat signature maps were created and delivered to Ops. Collector was updated as well. A second flight was conducted to

collect still images for an orthomosaic of the fire area. An orthomosaic was processed on 8/12 for delivery to the IMT. The team demobilized to Elko at 1600 hrs.

Mission Summary

Date	Flights/Flight Time (h:m)	Comments
8/7	0/0	Travel to Elko/Brief with AFMO/UAM
8/8	0/0	Travel to fire and set up
8/9	3/4:17	Flight ops
8/10	1/2:56	Flight ops
8/11	2/4:28	Flight ops/Demob
Totals	6/11:41	



Example of a dense point cloud used to derive imagery for fire perimeter/fire effects