

City of Alpine Dark Skies Updates

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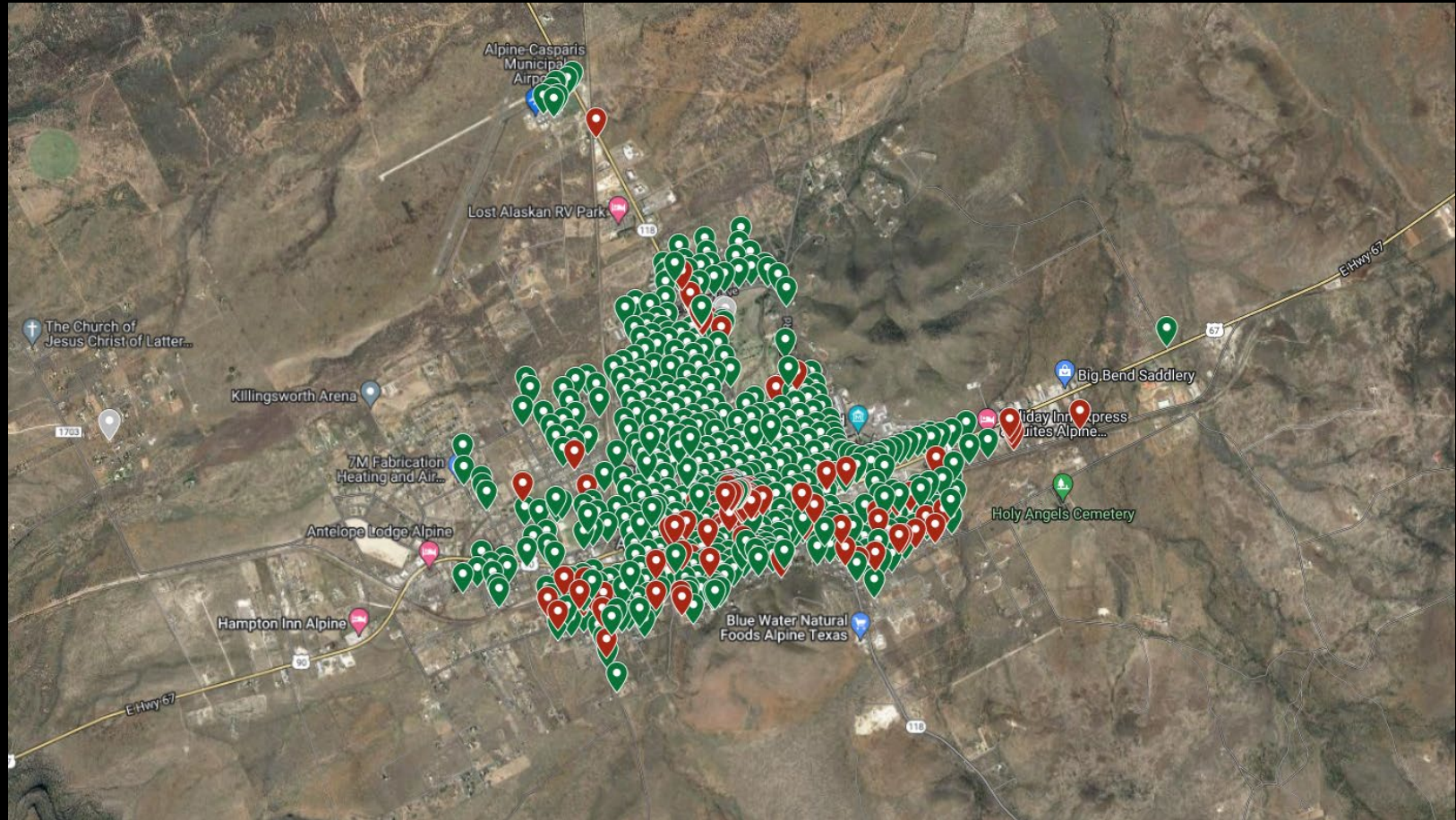
McDonald Observatory



McDonald Observatory
THE UNIVERSITY OF TEXAS AT AUSTIN

Inventory Map

- Map of pole-mounted lighting on city or utility owned poles
 - Includes mercury vapor lights eligible for swap program
- 657 lights surveyed
 - 81% overall compliant, up from 70% in 2021
 - 90% compliant when looking at streetlights



Community Feedback

- No safety concerns noted from new streetlights
 - New lights are the same model as most previously existing lights
- 6 complaints that new lights were too bright
- 4 complaints that new lights were installed incorrectly



Is It Darker?

- Light pollution (skyglow) levels remain about the same. Why?
 - Most of the lights were replaced with the same model
 - New lights are brighter than old, dirty lights
 - Weather and variable factors (Christmas lights, car headlights, etc) complicate measurement
 - Light pollution in Alpine is dominated by a handful of large sources

Streetlights account for <15% of the skyglow in Alpine, as seen from McDonald Observatory



Stadiums, parking lots, and other lighting on commercial buildings accounts for an estimated 75% of skyglow



Compared to other cities

- Prior to the swap, Alpine had been increasing in light pollution by about 0.8% per year from 2015-2023. Other cities:
 - Marfa -0.95%
 - Van Horn: 3.9%
 - Pecos: 5.5%
 - Presidio / Ojinaga: 8.0%
 - North American average: 9.8%

Alpine is performing far better than the typical US city!

Sources: VIIRS DBS, Globe at Night



The increase is mostly driven by installation of daylight-white LED fixtures (Kyba et. al, 2023)



Questions?

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