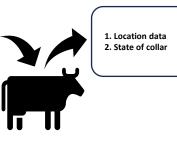
Understanding GPS, Coverage & Why Base Station Optimization is Important

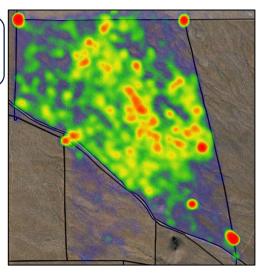
Interfacing with collars and coverage

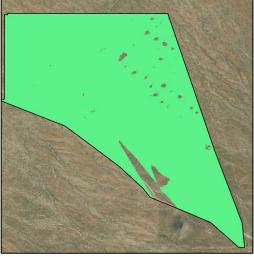
1. Fencing plans 2. Changes to collar state



How well we communicate with collars depends on base station coverage. This affects:

- 1. Communication can be delayed
- 2. Misleading visual (Heatmaps)





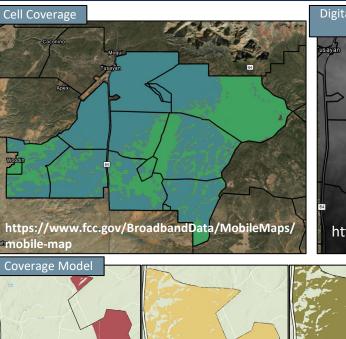
Modeling Optimal Base Station Placement

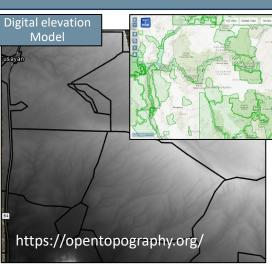
1. Vence will provide some guidance but not for mobile base stations

2. Freely available tools provide insight into base station placement

- Using cell coverage and Digital elevation models we can create visuals of coverage
- 3. Includes options:
 - 1. Single base station with cell service
 - 2. Mobile base station placement
 - 3. Paired base station placement

https://github.com/lilymcmulle n/OptimalVisibilityTool









This work is supported by USDA NIFA WSARE (project no. WPDP22-016) & AFRI IDEAS (award no. 2022-10726). Additional funding was provided by Arizona Experiment Station and the Marley Endowment for Sustainable Rangeland Stewardship.



THE UNIVERSITY OF ARIZONA Cooperative Extension Livestock Extension COLLEGE OF AGRICULTURE & LIFE SCIENCES

Natural Resources

