Remote Sensing and Benefits for Abandoned Mine Subsidence Investigation and Mitigation[1]

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Abstract: While remote sensing has more commonly been utilized for abandoned mine research throughout the United States as of late, integration of this technology has been quintessential for subsidence research, mitigation design, and mitigation management in Carbon and Converse Counties, Wyoming. This includes orthomosiac mapping for baseline conditions prior to mitigation, Digital Terrain and Digital Elevation Models for cut/fill operations and surface waterrunoff, thermal for tracking shallow groundwater movement and subsidence features, and LiDAR for documenting baseline conditions and volumetrics. In conjunction with several Esri products, analysis of this remote sensing information enhances to a rich database also used for logistical planning and mitigation operations. This saves time and money, as well as a platform to improve communication with the public and contractors alike. This presentation discusses specific remote sensing hardware products and applications utilized in congruence with the Abandoned Mine Lands Division in Wyoming.

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