



Elevating Dam Safety: Advancements in Drone Applications

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Drones are revolutionizing dam safety by leveraging advanced technologies such as autonomous flight, photogrammetry, lidar, and thermal imaging. This presentation provides an overview of these tools and their practical applications in dam safety inspections and studies. Photogrammetry utilizes drone-captured images to indirectly generate detailed 3D models, offering comprehensive views of dam structures for dam safety assessments. Lidar, with its laser scanning, directly measures and maps assets accurately to enhance safety assessments and risk evaluations. Thermal imaging identifies temperature variations that may signal issues like seepage or structural anomalies. Lastly autonomous flights make all this accessible to Dam Safety practitioners everywhere. The presentation will examine the benefits of these technologies while addressing their limitations, including typical site constraints and data processing challenges.