How AI can be used in land management?

Ron Dalumpines, Trent Larson, Justin Howard and Josh Hanks (USA)

Key words: Cadastre; Capacity building; Land management; Remote sensing; Keyword 1; Keyword 2; Keyword 3

SUMMARY

Land management is the process of managing the use and development of land resources. For most countries, land management has remained the same and fails to address new realities. Despite rapid technological advancements, land management has not changed for decades, if not centuries, especially in the developing and transition economies. However, pressures continue to grow against efficient and effective land management: rapid urbanization, conversion of forested areas to agricultural lands, increasing occurrence of natural hazards such as wildfires and flash floods, and so on.

This decade is marked by the meteoric popularity of AI technologies that brought excitement and fear. In all this AI "hype" as others used to call it, is there something positive that AI can bring into the field of land management? What needs to be true for such positive contributions to happen? Is there any evidence of AI implementations to date?

This paper aims to explore the potential of AI in land management by finding answers to the questions posed earlier. We hope that this exploration will shed some light on potential issues that AI may help with land management, along with identification of the challenges and solutions. We understand that addressing the technical challenges of land management is just one piece of the puzzle. We hope that this exploration will shore up debates that may inform legal and institutional frameworks related to land management.

How AI can be used in land management? (12328)
Ron Dalumpines, Trent Larson, Justin Howard and Josh Hanks (USA)

FIG Meeting
Digital Transformation for Responsible Land Administration
Deventer, the Netherlands, October 2–4, 2023