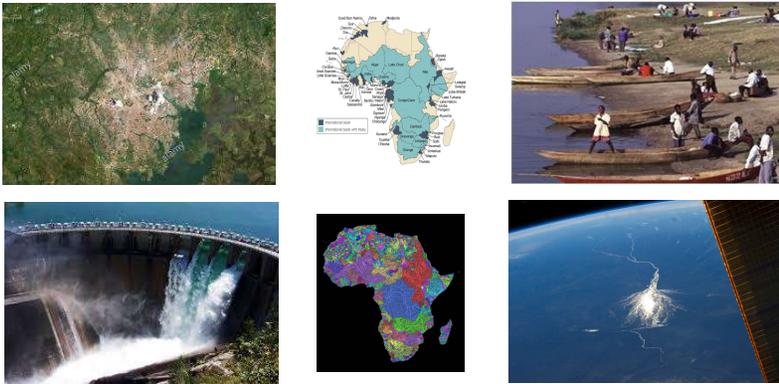


# AI for water infrastructure mapping in Africa

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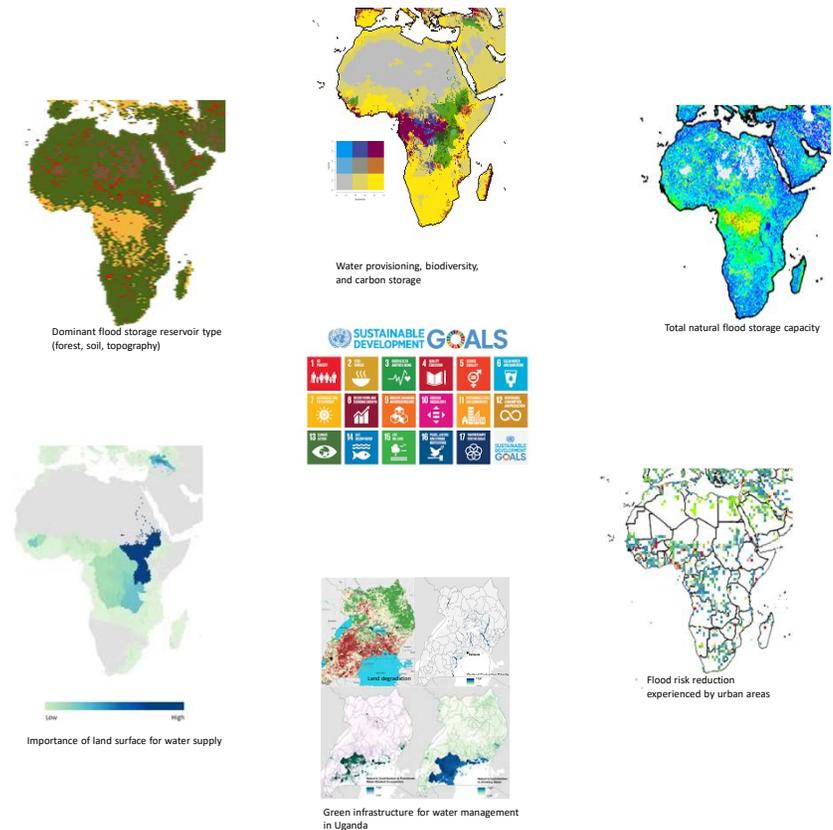
The coming decade will see substantial changes to the landscapes and freshwater ecosystems of sub-Saharan Africa as populations grow, economies develop, and dams and other types of water management infrastructure are built. Management choices made now will have lasting impacts on the well-being of these ecosystems and the people who depend on them.



The land surface plays an important role in moderating water quality and quantity, thus influencing the workload of engineered water management structures. Dams, levees, canals, treatment plants, etc. are often built without full consideration of the cause-and-effect relationships between these structures and the ecosystems within which they're embedded. Blending engineering solutions (or "grey infrastructure") with nature-based management strategies (or "green infrastructure"), including landscape management, is needed to achieve durable, equitable water security in harmony with the Sustainable Development Goals.



As the countries of sub-Saharan Africa seek to develop sustainably by 2030 (and beyond), decisions on how best to meet changing water needs could be improved with better assessments of the current and potential future impacts of the land surface on engineered infrastructure and associated consequences for downstream freshwater ecosystems and communities. Coarse modeling techniques with global datasets allows rough characterizations of the role of green infrastructure in regulating water quantity and quality...



But surely we can do so much more!

How can we best use remote sensing and AI to enable the...

- More precise characterization of the current extent and state of terrestrial and freshwater ecosystems?
- Identification and mapping of engineered infrastructure (dams, levees, canals, treatment plants, etc.) to address these challenges?