

ICAO Aviation Green Recovery Seminar

TIME TO BUILD BACK BETTER





Eyes in the sky, feet in the mud: drones and conservation

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**CONSERVATION
INTERNATIONAL**





Introduction: drones and conservation

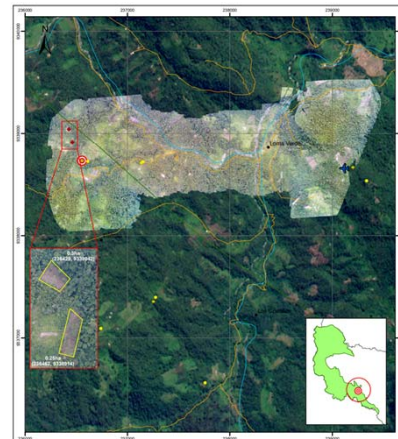
- The proliferation of affordable, reliable unmanned aerial vehicles (UAV), also called drones, has enabled numerous innovations in conservation
- Drones can collect high resolution over relatively large spatial extents, making them useful for mapping and monitoring applications
- Drones can access areas that are difficult for people to reach
- There are many different types of drones and they are highly customizable, making them useful for a wide range of applications.

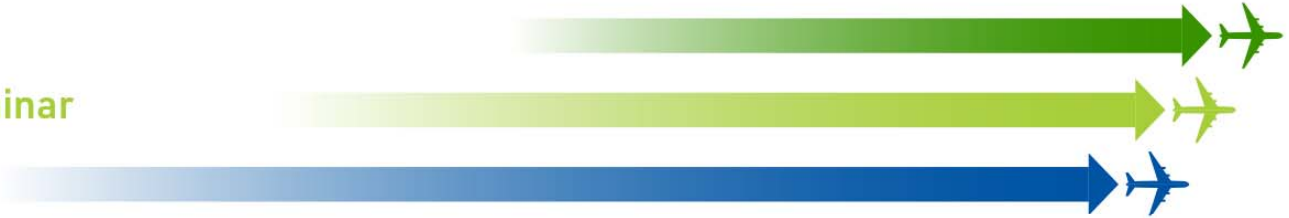




Drones at Conservation International

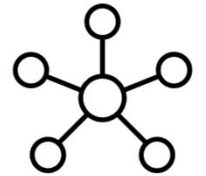
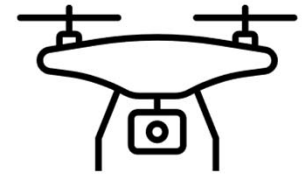
- Conservation International has been using drones for our conservation work since 2013
- One our first drone projects used fixed wing drones to monitor deforestation alerts in the Alto Mayo Protected Forest in San Martin, Peru
- Drones have also been used to monitor forest restoration projects, census key species, support indigenous communities, and map conservation areas

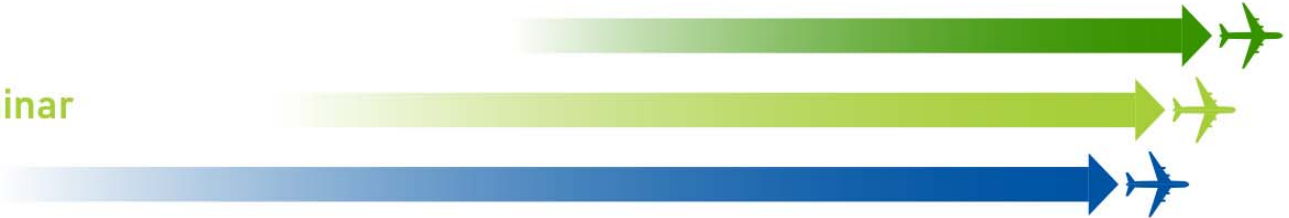




Opportunities for future research

- Improvements in battery technology will allow drones to cover much larger areas and carry larger and more complex payloads
- New sensors, such as hyperspectral or LiDAR, will enable the detailed mapping of unique ecosystems based on the chemical composition and structure
- Automated processes for mission planning, launching, and landing drones could aid in the rapid detection and enforcement of illegal activities
- Unique payloads will allow for specialized applications, such as seed dispersal, nutrient targeting, and disaster response





Pathways to a sustainable future



You cannot manage what you cannot measure



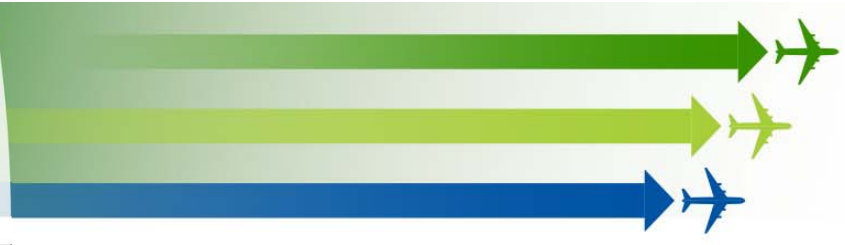
Expansion of machine learning and computer processing will lead to new insights and a better understanding of the planet



Drones will not only aid conservation efforts but also reduce pressures on natural ecosystems



We are moving toward a world of ubiquitous environmental transparency



THANK YOU!



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