

Lightning Talk

Remote Sensing in Mexican Overwintering Sites

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Ambiomas Acciones y Respuestas
Adaptativas





Ambiomás
Acciones y respuestas adaptativas

**Project carried out in 2023 and
2024 in collaboration with:**



FOCEN
Fondo de Conservación
del Eje Neovolcánico



**Interest in implementing new
methods/technologies for the diagnosis and
monitoring of the monarch butterfly
overwintering forest**

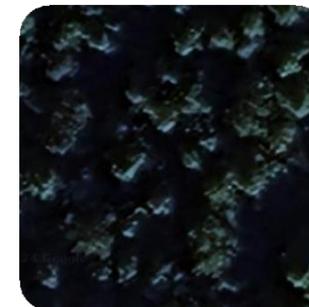
Why drones?

**Baseline for monitoring and early warning
system**

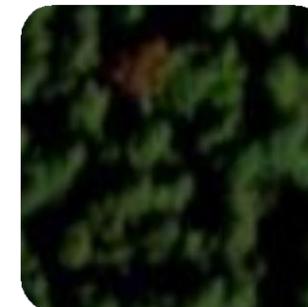
Better understanding of the territory

Detailed information at the local scale

DJI P4 Multispectral



Google **Google satélite**

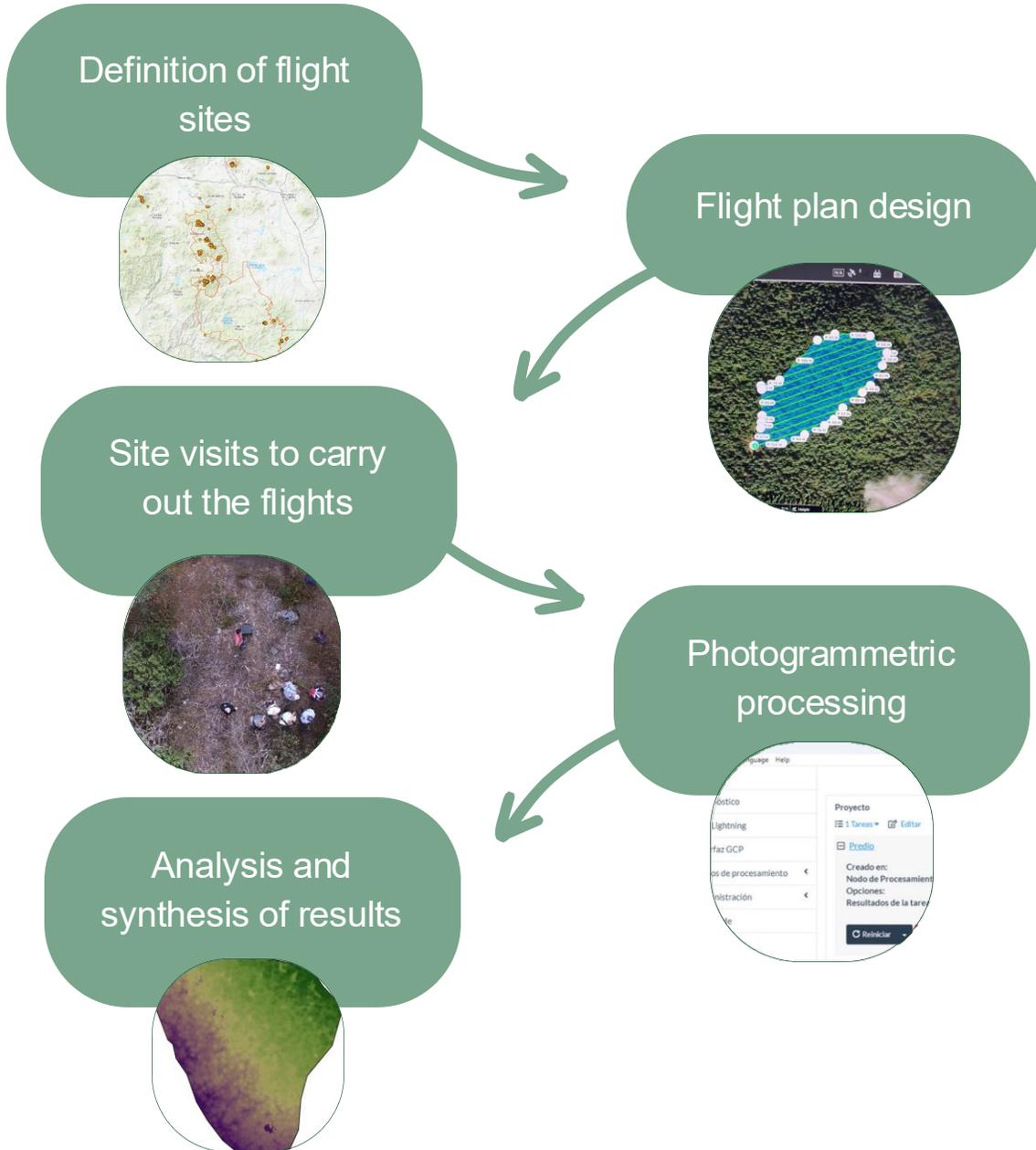


Bing **Bing satélite**



Dron (7 cm/pixel)

Step-by-step methodology



Two years of work: 2023 and 2024

Two flights per year: May and October (before and after the rainy season)

Seven overwintering sites (65.86 hectares in total):

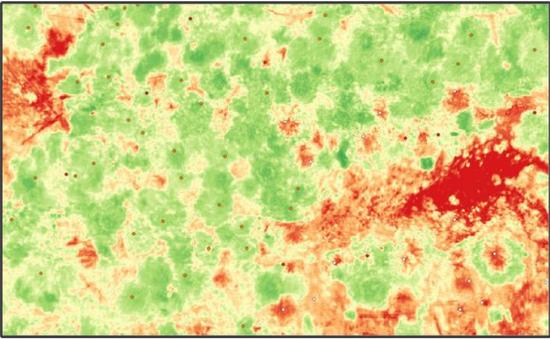
- El Rosario
- Sierra Chincua
- C.I. Carpinteros
- Nicolás Romero
- La Mesa
- Piedra Herrada
- Jiquipilco

Overall project results

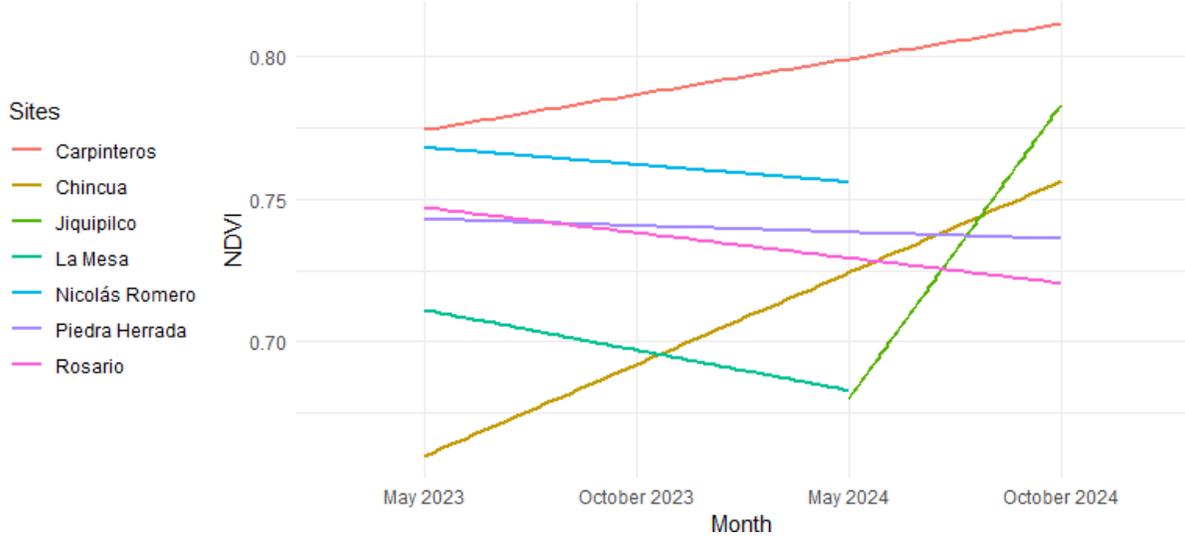
High-resolution RGB image



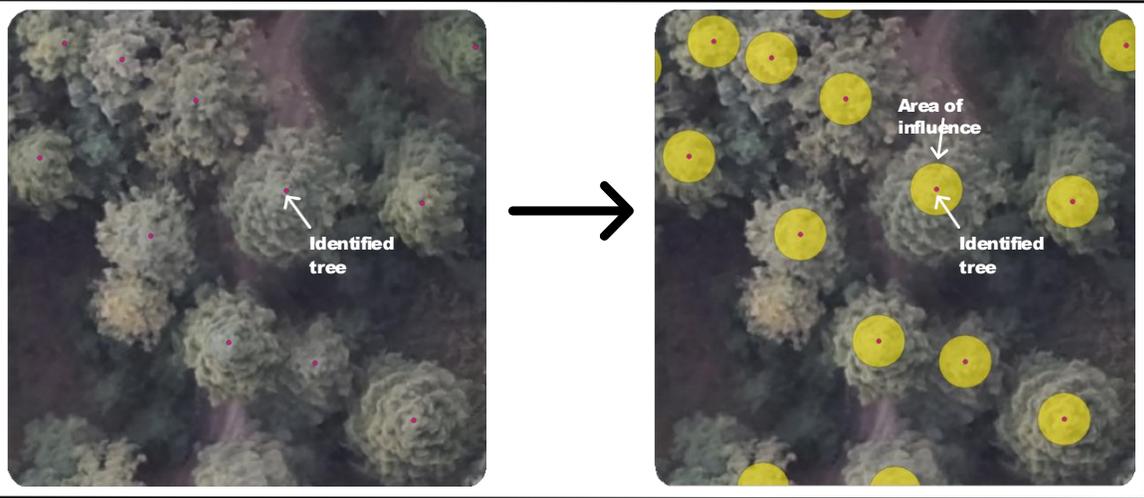
Multispectral/NDVI image



Linear NDVI value trend



Obtaining NDVI values at the tree level



Number of trees by vigor category
Comparison between months

