LDE Thesis Lab 2026-2027

Earth Observation for the Dutch Caribbean II

Scaling Satellite Information Across the Islands to Facilitate Sustainable Transitions in the Caribbean

Thesis Labs
Leiden-Delft-Erasmus Universities

Universiteit Leiden

TU Delft

Erasmus University Rotterdam

Netherlands Space Agency

For this Thesis Lab we approach this challenge from four themes, for which we invite students to apply for. Students are encouraged to explore and use Copernicus data and services, as well as the very high resolution EO data in the Satellite Data Portal.

Specifically, we are interested in studies that explore how solutions for one island could be used for other Dutch or broader Caribbean islands.

Depending on the exact topics of the thesis assignment, the appropriate experts and contacts from the Dutch Caribbean, Dutch space industry, and Dutch ministries, as well as Dutch universities are contacted and involved.

Theme 1 – Social impact

- How can Earth Observation applications be integrated across the islands to strengthen local practices and decision-making?
- What are strategies to stimulate the use of Earth Observation data across the diverse set of communities, businesses, NGOs, and local governments?
- *Your own thesis questions?*

Theme 2 – Business opportunities

- What are business opportunities for rolling out services from one island to the other in the Dutch special Municipalities, The Dutch Caribbean, and broader Caribbean region?
- What are opportunities for Earth Observation driven entrepreneurship and innovation in the Dutch Caribbean, for example related to the newly opened Galileo Satellite Station on Bonaire (https://nl.wikipedia.org/wiki/Prinses_Catharina-Amalia_Space_Innovation_Park)?
- *Your own thesis questions?*

Theme 3 – Law and policy

- Assessing the legal complications of rolling out applications for the BES islands (as special provinces part of the Dutch State) and the CAS islands (as independent countries part of the Dutch Kingdom).
- Assessing the use of Earth observation data in the framework of international, regional and/or national environmental regulations.
- *Your own thesis questions?*

Theme 4 – Case studies

- How can we use Earth observation science and/or technology to strengthen ecology (vegetation trends), health (air quality and heat stress), flood monitoring and water quality (such as sargassum and coral monitoring) across the Dutch Caribbean?
- How can we use Earth observation data to create risk maps for construction purposes across the Dutch Caribbean?
- How can we use Earth observation for other societal challenges on the Dutch Caribbean, including safety & security in and around the islands?
- *Your own thesis questions?*