Collaborating with: CORCOVADO WILDERNESS LODGE

innoceana

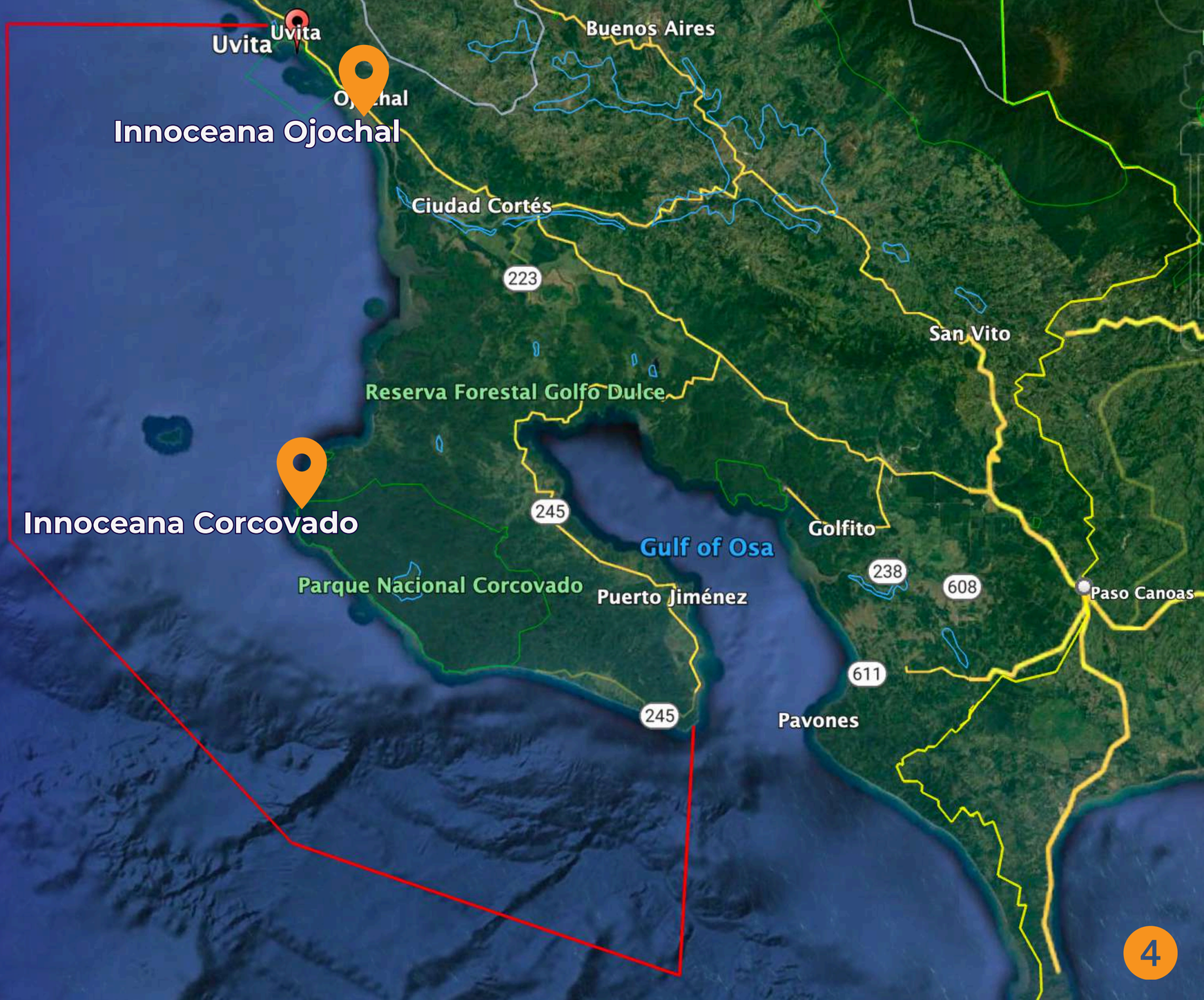
UNLOCKING THE SECRETS OF THE **SUPER CORALS**

A coral inmmunology project

CONTENTS

Coral Immunology

INNOCEANA´S MISSION is to effectively protect areas of the ocean critical to the future of humanity



MARINE BIOLOGICAL CORRIDOR OF OSA

HOPE SPOT

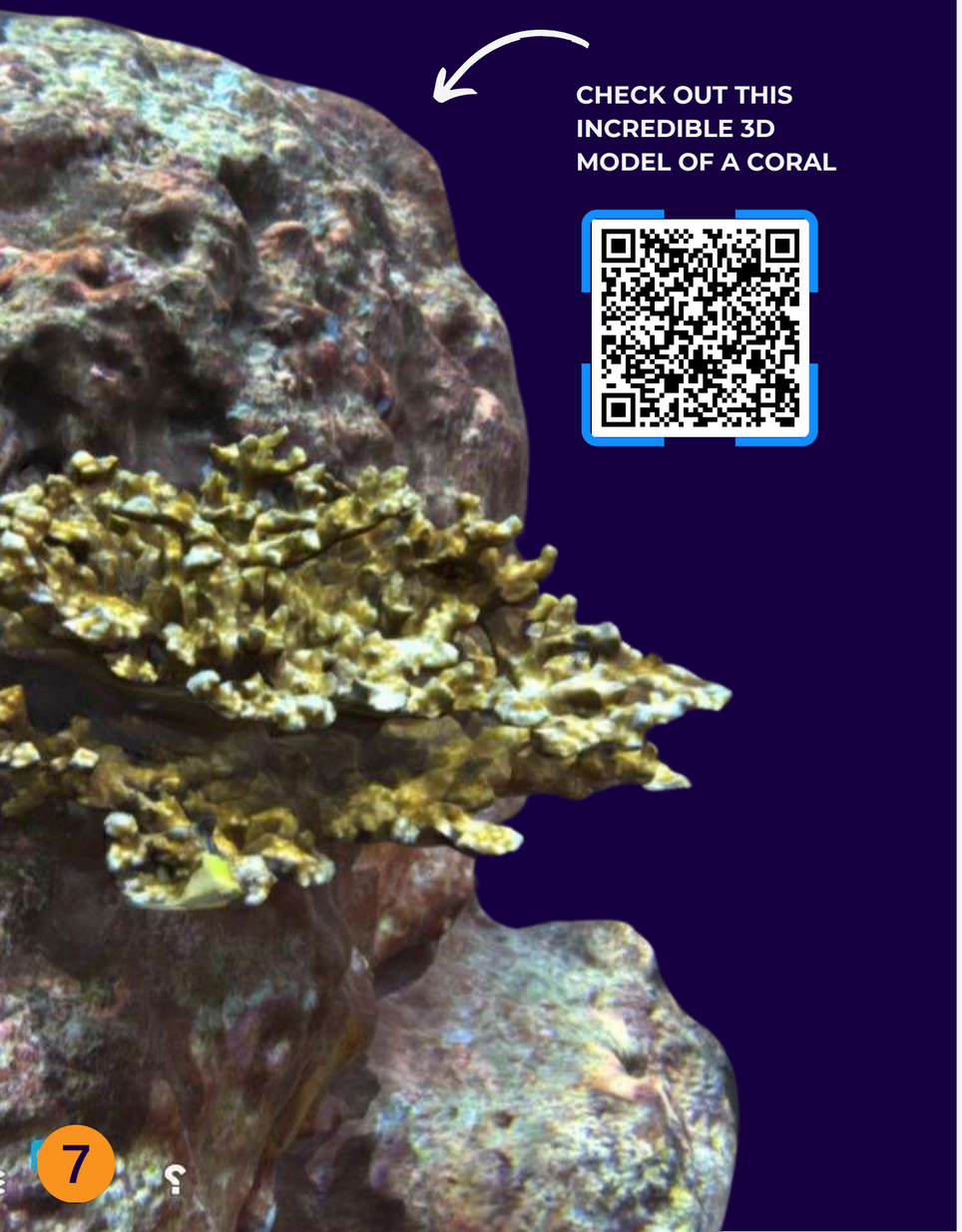
PROGRAM DESCRIPTION

Corals, like all organisms, use their **immune system** to maintain health. Using **immunology**, we are working to **understand** why some corals can **tolerate stressful events**, like bleaching caused by warmer water, while other corals die.

With this knowledge, we aim to **identify** the coral species and colonies that are more likely **to survive future stress events**.

Using these ‘**super corals**’ in collaborative **restoration projects,** we aim to increase the long term survival of corals and coral reefs.

We are working with a strong sense of **urgency**. With **climate change**, coral stress and mortality events are **more frequent** and **more intense**, and corals are dying faster than ever, threatening the coral reef ecosystem as a whole.



3D MODELS

Cutting-Edge Coral Modeling: Using non-invasive photogrammetry to create detailed 3D models of selected coral colonies in Pacific Ocean, providing a precise monitoring tool.

Systematic Evolution Tracking: Tagging and georeferencing to systematically track the evolution of coral colonies. This approach offers valuable insights into the health of Pacific Ocean’s coral reef and helps identify potential supercorals.

Educational Impact for Conservation: Using visually rich 3D models for educational outreach. By showcasing the significance of coral reefs, the project aims to foster public engagement and support for long-term conservation efforts.

WHAT ARE WE ADRESSING?

- Rapid decline of **coral reefs**
- Inefficiency in **coral restoration** methods
- The need to better study **coral immunology**
- Inefficiency and invasiveness of **current monitoring methods**
- Lack of Information on **reef health** and evolution over time
- Poor education and awareness of **coral reef importance**

CAROLINE PALMER

Innoceana’s
Science Advisor

Dr. **Caroline Palmer** is a distinguished **coral immunologist** renowned for her groundbreaking research in understanding the **immune responses** of corals, a crucial aspect of their resilience and survival in the face of environmental challenges.

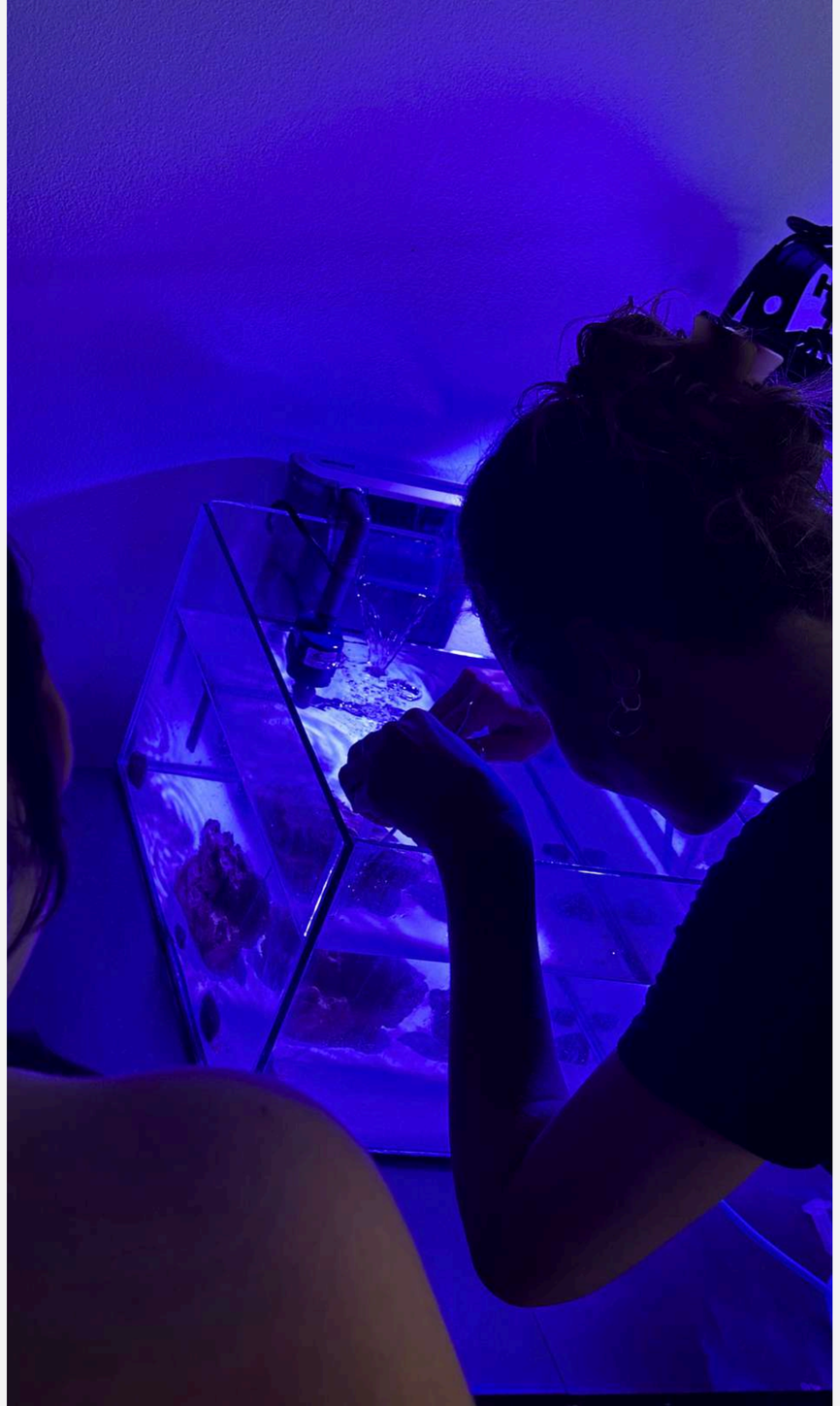
With a deep-rooted **passion** for unraveling the intricacies of **coral health** and immunity, Dr. Palmer's work lies at the intersection of **marine biology**, **immunology**, and **conservation science**, driving advancements in our understanding of coral reef ecosystems.

Coral Immunology

OUR LABORATORY

IN INNOCEANA OJOCHAL

Coral Immunology

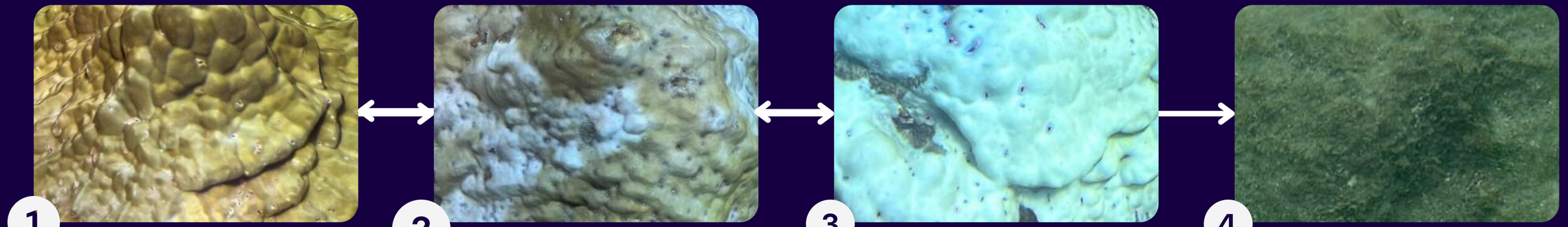


ADOPT a CORAL
and unlock their secrets

DID YOU KNOW? CORAL REEFS ARE FACING THE 4TH GLOBAL CORAL BLEACHING EVENT.

When coral bleaching results in mortality, especially on a widespread scale, it impacts economies, livelihoods, food security and more.

Stages of coral bleaching



States 2 and 3 are reversible. But state 4 can no longer be reversed.

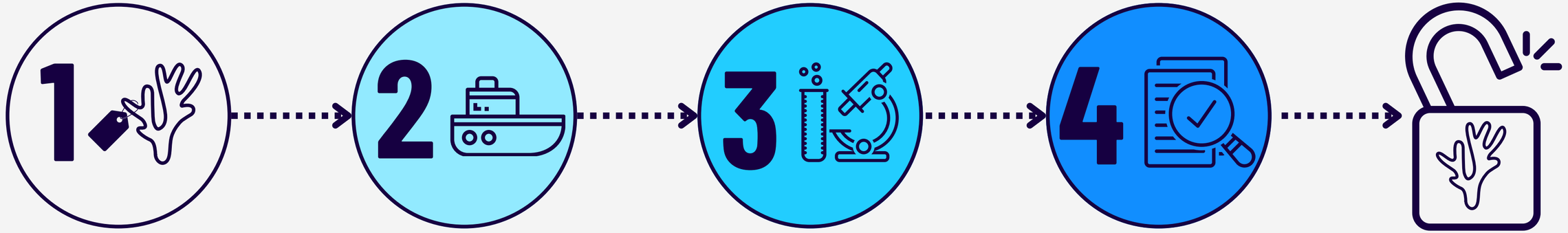
Our groundbreaking approach has already allowed us to tag more than **112 corals** with detailed **3D model data**.

Become a coral taker **today**!

SUPPORT CRUCIAL RESEARCH AND EMPOWER MARINE CONSERVATION EFFORTS!

LEARN MORE about how to adopt a coral

THE JOURNEY OF YOUR CORAL



CORAL IDENTIFIED TAGGED & MODELLED

These tags not only identify each coral individually, but also allow our researchers to track their health, monitor their growth, and understand their response to environmental changes.

CORAL SAMPLED & ON THE WAY TO OUR LAB

With care and precision, we extract representative samples from each coral (without harming the colony) and delicately transport them to the laboratory.

CORAL BEING TESTED AT OUR LAB

The coral sample is studied at our laboratory in Ojochal. Using various lab machines, we assess the immunology system of your adopted coral to determine if we are dealing with a 'super coral'.

RESULTS

Within a year, you will receive a comprehensive report that may unlock the secrets of your coral, potentially revealing it to be a super coral. If your coral demonstrates exceptional strength, it will be considered for potential coral restoration.

SECRETS UNLOCKED!

Coral Immunology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