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Sustainable Development:

Satisfying the needs of the present without compromising the ability of future generations to satisfy theirs.

« We don’t inherit the earth from our ancestors, we borrow it from our children »
Antoine de Saint Exupéry

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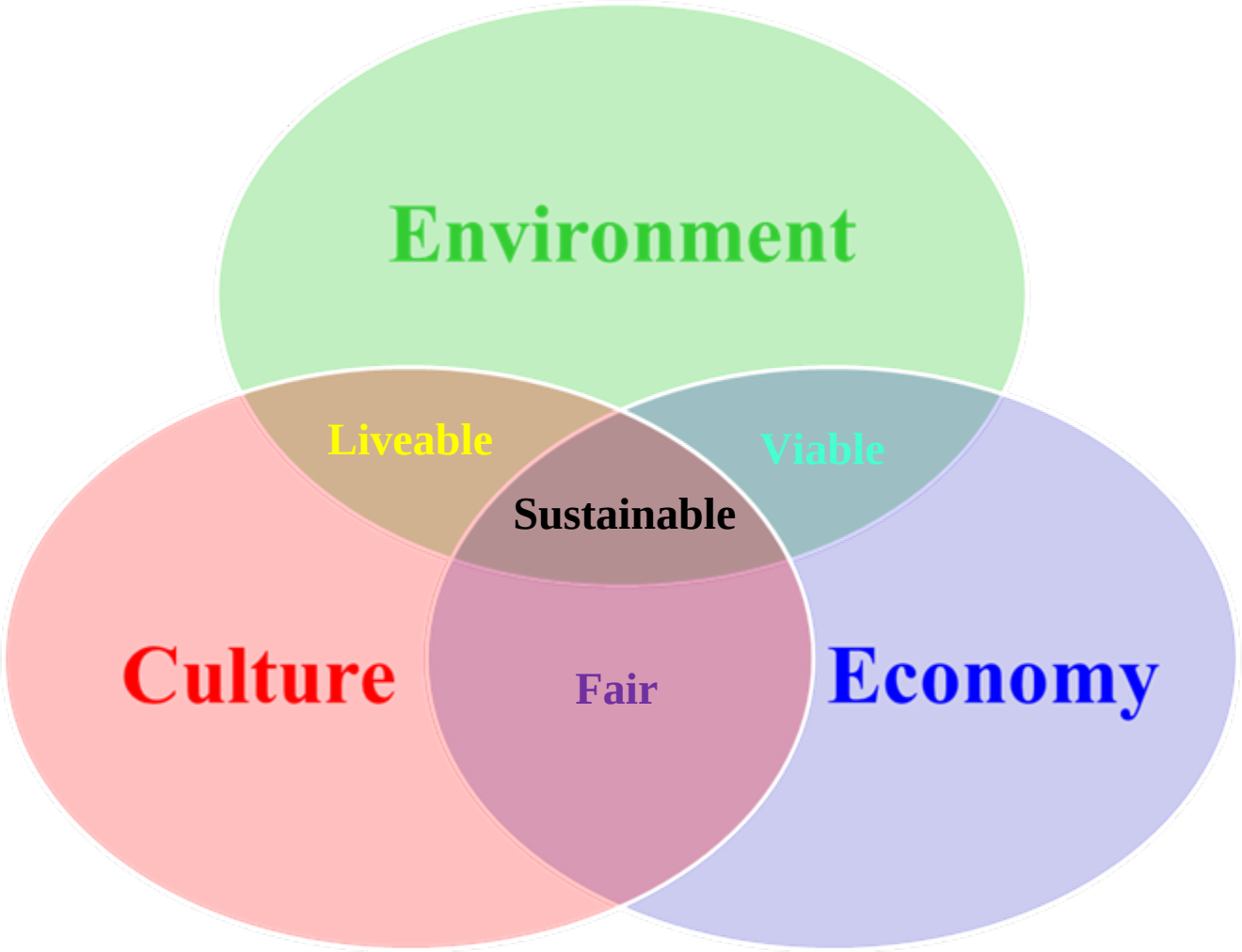
SUSTAINABLE DEVELOPMENT



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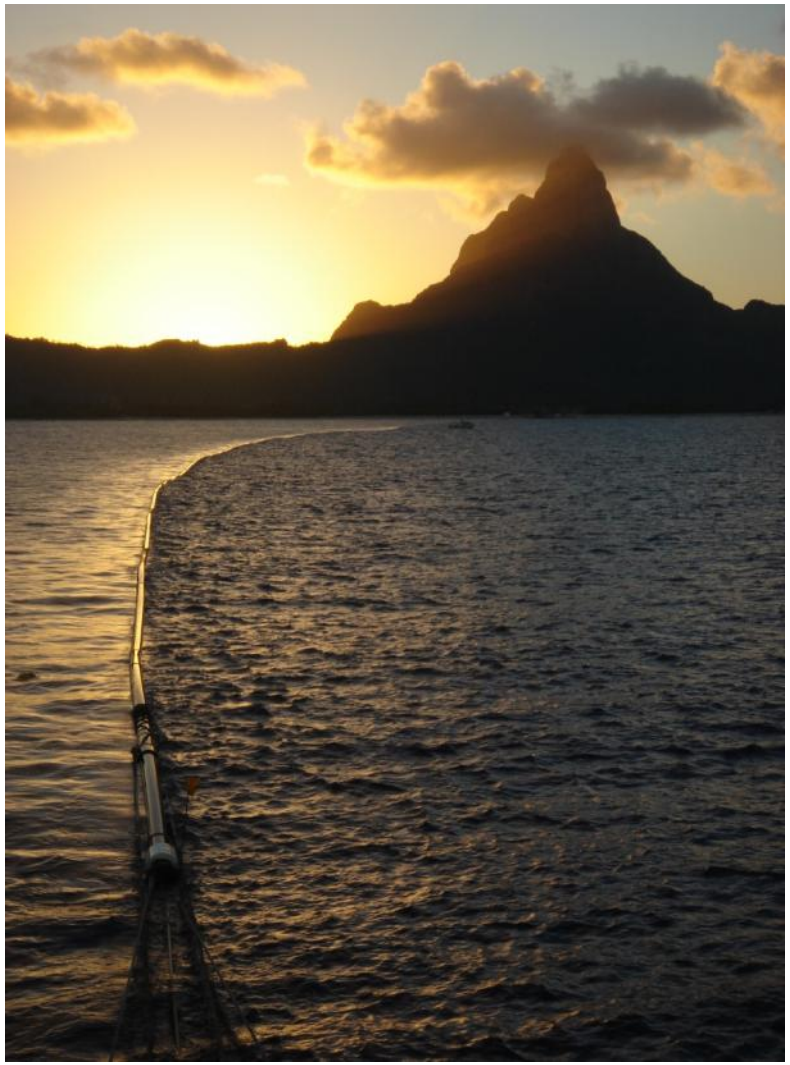
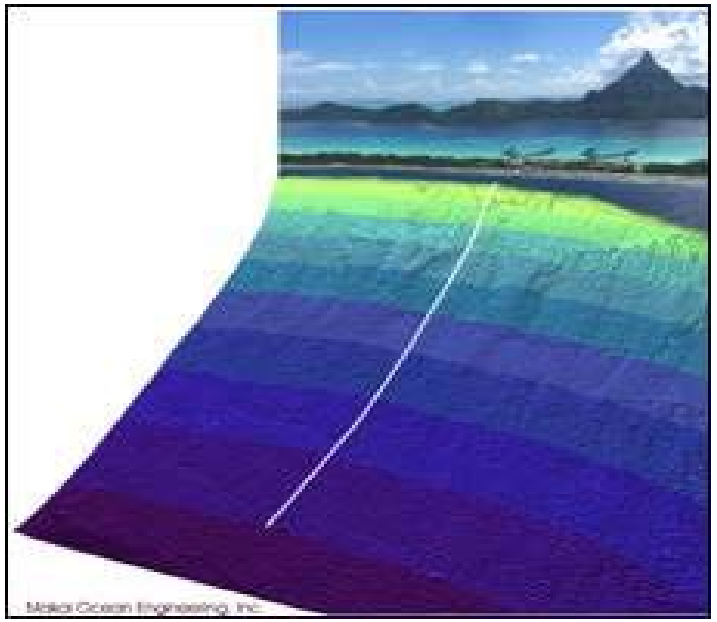
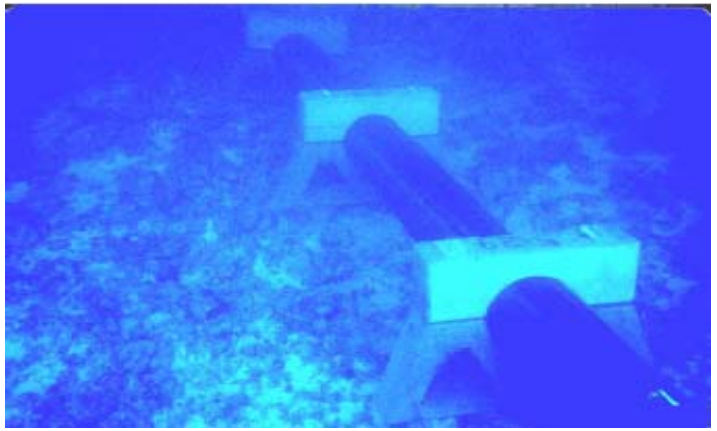
SEA WATER AIR CONDITIONING - SWAC







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InterContinental
BORA BORA RESORT & THALASSO SPA

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RACE TO SAVE THE PLANET

US CONGRESS 2007

Certificate of Recognition

RACE TO SAVE THE PLANET AWARD

InterContinental Resort & Thalasso Spa Bora Bora

in recognition of its innovative leadership in saving the world we live in through its excellent environmental stewardship program

Presented at the
Congressional Dinner and Honors
United States Capitol
June 5, 2007

Andrea Sigler, PhD
President

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tetiʻaroa

FRENCH POLYNESIA

TETIAROA

MARLON BRANDO'S PRIVATE ISLAND

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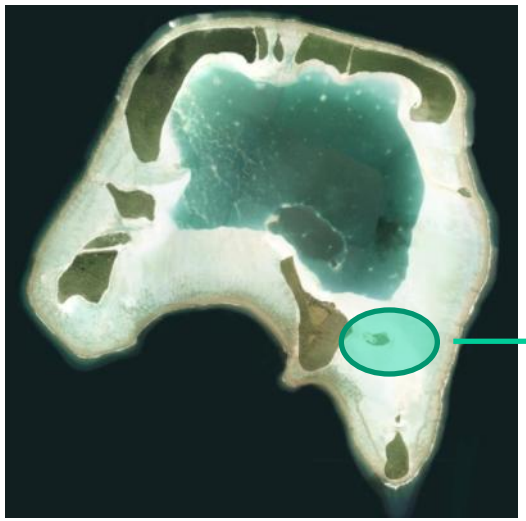
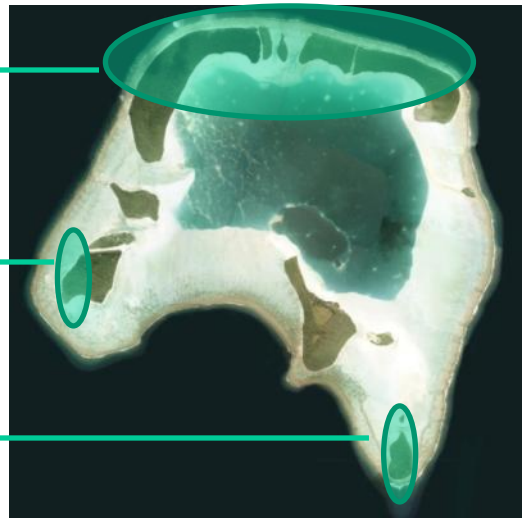
TETIAROA
ENVIRONMENTAL BIODIVERSITY





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TETIAROA

CULTURAL HERITAGE – MARAE – ARCHEOLOGICAL SITES

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plan de l'atoll
motu HONUEA
motu ONETAHI


Residences
Technical area
Staff Village
Eco-Station Research facility
Western Beach Villas
Gardens
Spa
The Brando Hotel
Residences
Southern Beach Villas
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THE BRANDO – HOTEL VILLAS

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Sustainability Goals for The Brando:

- **Net Zero Energy Use**
- **Site Water Balance**
- **Materials : Local, Recycled, Renewable**
- **Carbon Neutral Transportation**
- **Market Recognition (Validation - LEED)**

SOLAR Energy
Voltaic panellings

SWAC
2,4 MW f
Pipe Ø 450 mm
Intake: 950 m deep

Zinc-Bromine Flow-Batteries
- 20 + years Service Design Life
- 1000's of Deep discharge cycles over service lifetime
- « Environment friendly », made from highly-recyclable materials

« BIOFUEL » Energy
Coconut - Coprah oil Generators

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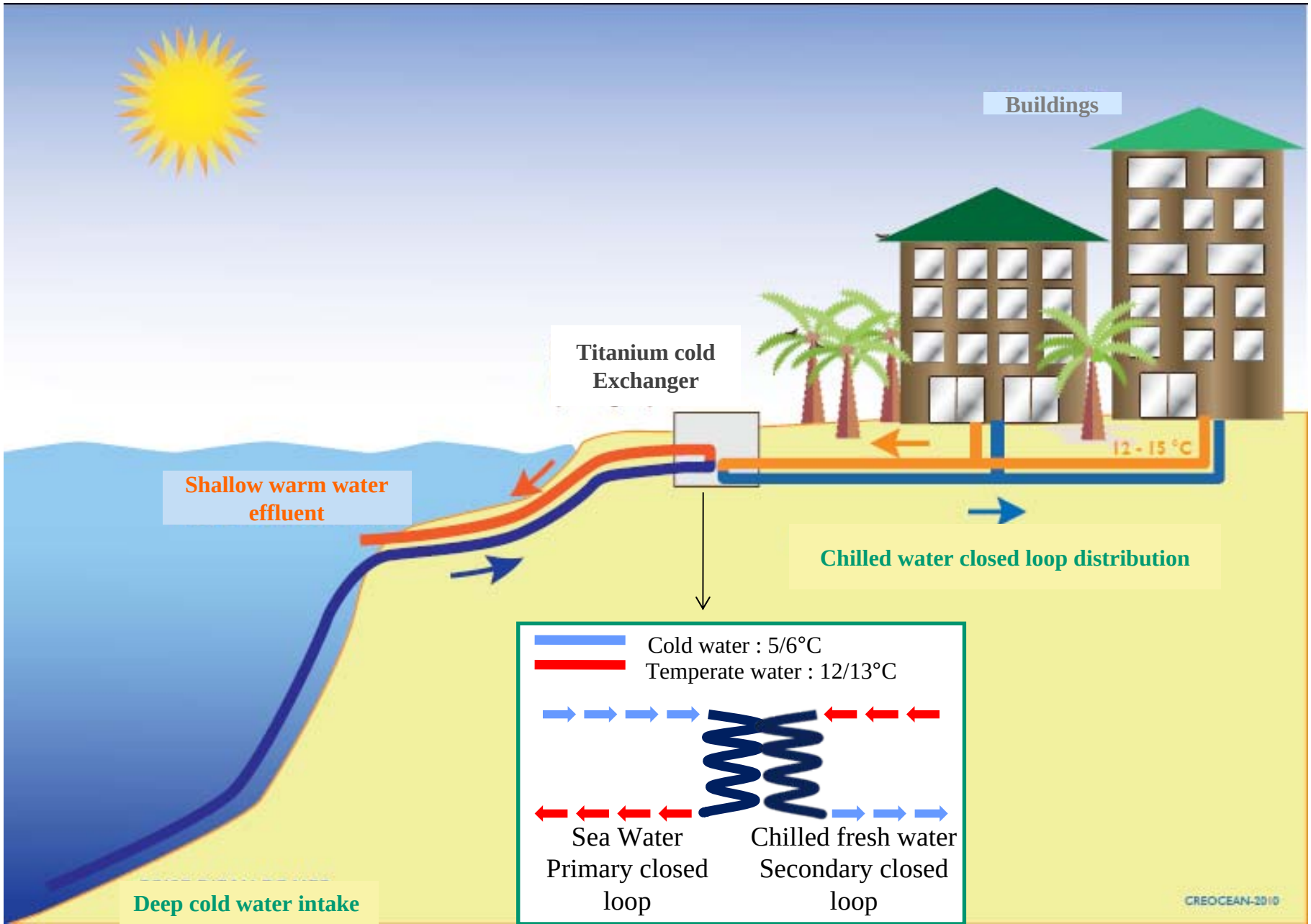
CENTRALISED SEA WATER AIR CONDITIONING



The Brando, Tetiaroa – SWAC 2011

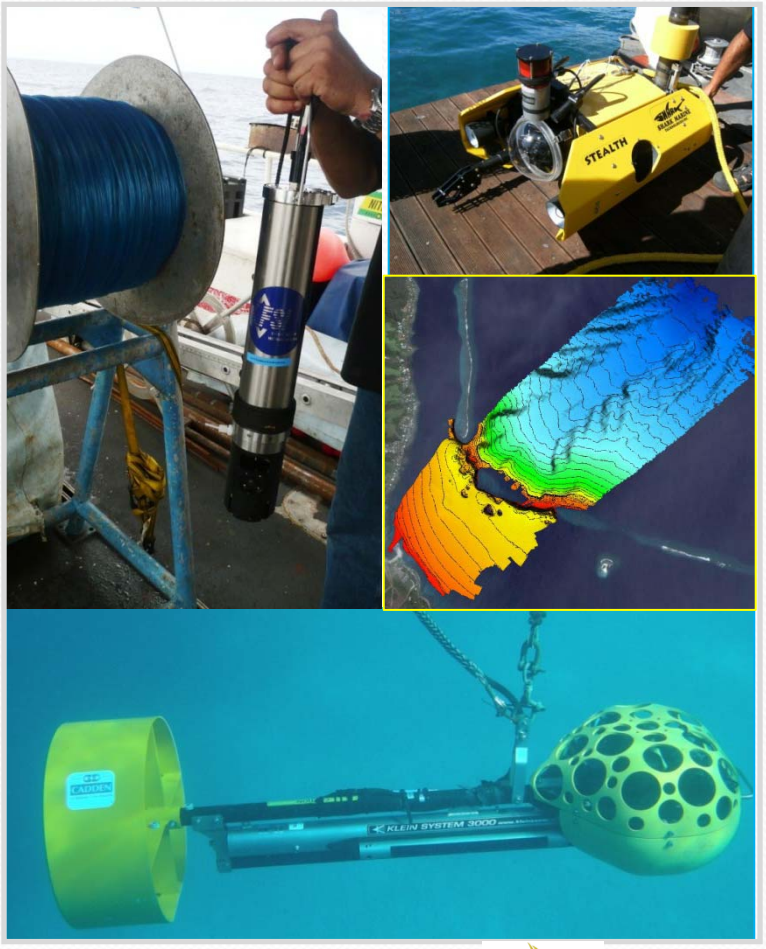
SWAC Specs

- Refrigerating power : 2,4MWf
- Pipeline
  - Diameter: 450mm
  - Length: 2600m
  - Max. Depth: -960m

- October 2011 → Immersion
- Open ocean marine work: underwater trench between 0/20m deep
- Closed lagoon (no communication with open ocean: logisitcs, access)
- Need for maximum environmental protection/preservation

High technicity and experience required at each step

- Multiple competences
  - Oceanography
    - Bathymetrics
    - Geotechnique
    - Sonars
    - Temperature profiles
  - Offshore engineering and construction
    - Concept and design
    - Construction
  - Industrial air conditioning
    - Pumps, titanium cold exchangers
  - Environment
    - Initial inventory (« Zero » point)
    - Impact and environmental studies/follow-up
    - Potentially damaging works



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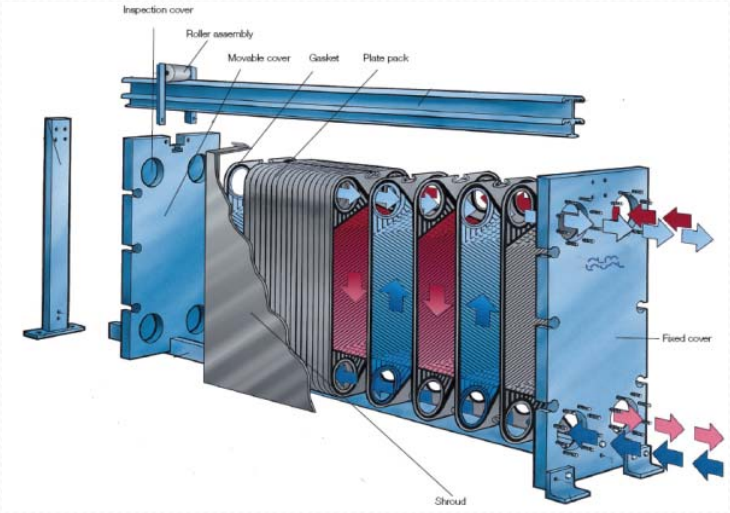
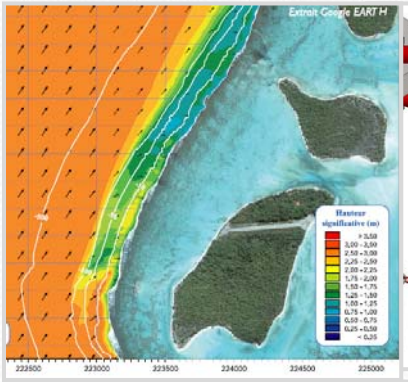
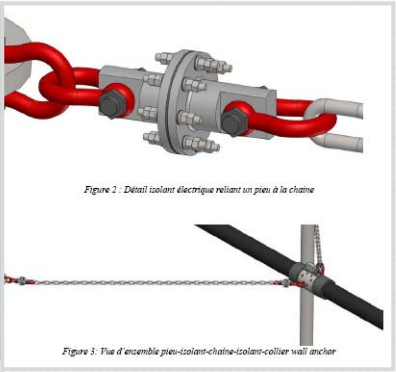
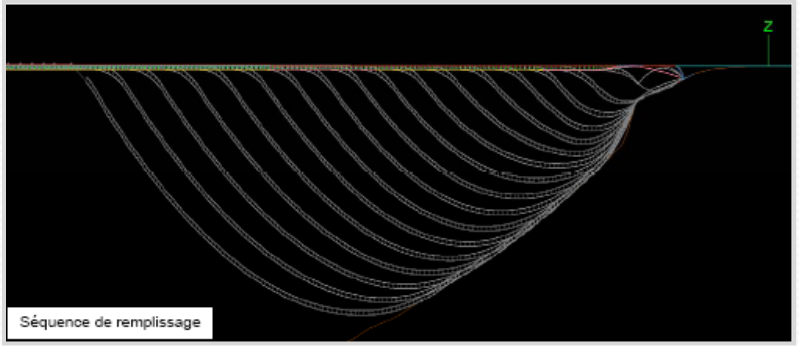
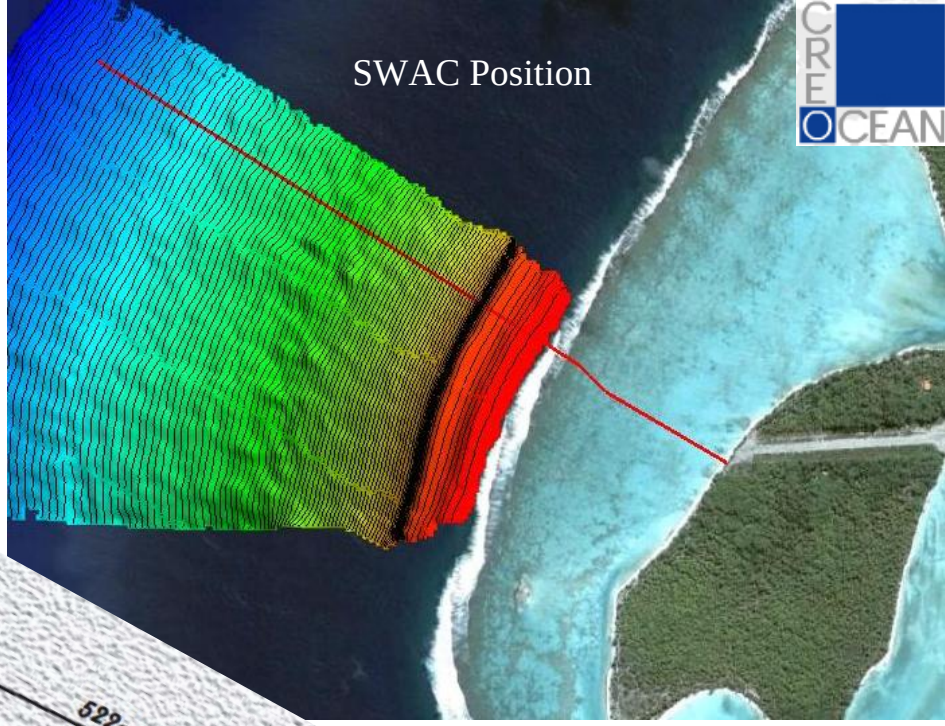








TETIAROA SWAC – LOCATION



Motu Onetahi – Tetiaroa

2,600 meters Total Length

- 600 m in the lagoon and reef barrier (trench)
- 140 m in the ocean (trench)
- 1,660 m with weights in the ocean
- 200 m on land to the exchangers' facility

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SWAC CONSTRUCTION - METHOD

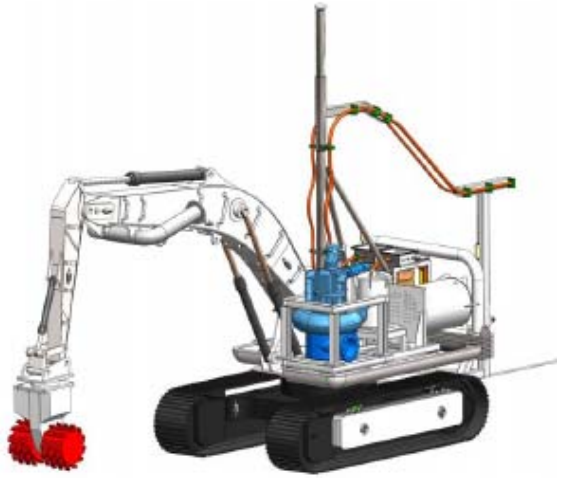
Selection of appropriate method to create required trench on the ocean floor (depth between 0 à 20 m), with challenging technical requirements in a difficult environment

1st proposed alternative: Use of explosives

Criticism, questions

Search for more options

2nd proposed alternative: Underwater mechanical excavator (guided from surface)



2 major factors taken into account:

- Maintain a “cork” on the reef during creation of trench, to avoid the opening of an artificial pass between open ocean and lagoon
- Environment protection around the site (geotextile films to prevent pollution, protection against oil derived products…)

SWAC – IMPACT STUDY ON ENVIRONMENT

Impact of works Follow-Up

Ciguatera Monitoring

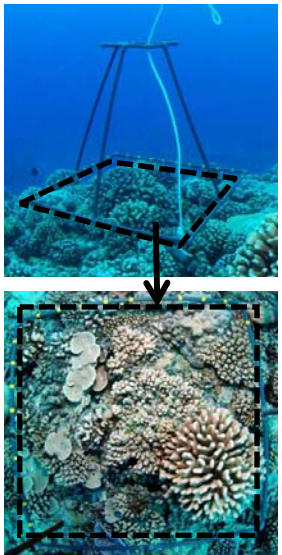
Reference Point in May 2009
Fish and algae in lagoon and outside barrier reef

Water monitoring (physical and chemical states)

Multi-parameters Measurements (water turbidity, T°, O_2, S, pH…)
Tracking of « milky » clouds

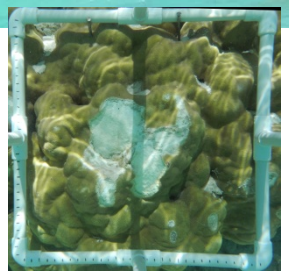
Reef Check

Photographic and quadrate method
Records in November 2009, in February 2010 (following cyclone Oli), Reference Point in April 2010



Corals Transplantations

Moving corals in lagoon (trench)
Monitoring of corals health and repositioning of colonies to initial locations



SWAC – TOWING FROM TAHITI ISLAND TO TETIAROA
AFTER ASSEMBLY

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LEED® = Leadership in Energy and Environmental Design

* Third-Party Rating System

  (benchmark, not design guidelines)

* Certification of projects based on achievement of Prerequisites and Credits

  (Certified, Silver, Gold, Platinum)

MAURU'URU !

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teti'arɑa POLYNESIE FRANÇAISE