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Country / City **Belgium / Leuven**
 University / School **University of Leuven**
 Academic year **2017-2018**
 Title of the project **Guayas River Basin: Diversifying for Resilience**
 Authors **Mahmoud Alsalti, Katerina, Eleftheriou, Amina Kaskar, Modupe Osunkoyu Kofoworola, Shauni Marchand, Xongxia Pu, Bindi Raditya Purnama, Fareeha Sheikh, Maria Skourdouli, Yuying Sun, Mara Tomulescu, Georgina Truter and Marrije Van den Eynde**





PERFORMATIVE NATURE

Barcelona International Landscape Architecture Biennial

September 2018 **Barcelona**

SCHOOL PRIZE

X International Landscape Architecture Biennial

Máster d'Arquitectura del Paisatge -DUOT - UPC

ETSAB- Escola Tècnica Superior

d'Arquitectura de Barcelona

Avenida Diagonal, 649 piso 5

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TECHNICAL DOSSIER

Title of the project **Guayas River Basin: Diversifying for Resilience**
Authors **Student Group - Guayas River Basin Studio (as per cover page)**
Title of the course **Landscape Urbanism Studio: Climate Change & Urban Deltas**
Academic year **2017-2018**
Teaching Staff **Viviana d'Auria, Olga Peek, Nelson Carofilis**
Department/Section/Program of belonging **Faculty of Engineering Science, Department of Architecture, Master of Human Settlements, Master of Urbanism and Strategic Planning**
University/School **University of Leuven**

Written statement, short description of the project in English, no more than 250 words

The transect crosses three major environments in the Guayas River Basin and runs from an estuarine complex (south) to a sweet water basin (north). These landscapes have been the object of exploitative monofunctional practices (shrimp farming, urbanisation and intensive cash crop agriculture) that have distorted the dynamics of the original ecosystems of mangroves, marshlands and tropical forests. Future urbanisation rates will increase the pressure on the environment, making water scarcity and food security serious issues. Climate change will only exacerbate the situation. Guayaquil recurrently experienced the immediate consequences of the shifting climate and is considered one of the world's coastal cities at highest risk of damaging floods due to climate change. How can the Guayas Basin prepare for changing conditions of extreme heat, increased precipitation and sea level rise? The transect vision proposes the recovery of original landscape logics by rebalancing the interplay of landscape, settlement and infrastructure in four 5x5km sites. Within these squares, thirteen strategic urban projects tackle the following issues: The afforestation of monofunctional landscapes and productive environments to allow local economies and livelihoods to thrive, proposed topographical manipulations to create more space for water to flow, to be harvested, collected and cleaned, diversified open (public) space and built typologies that respond to the range of specific water-related problems (e.g. surface flooding, water logging, pollution) and reduce urban heat island effects, and alternative social-spatial organizations in which ongoing dynamics can be incorporated to constructively support ecological cycles for the waves of urban development to come.

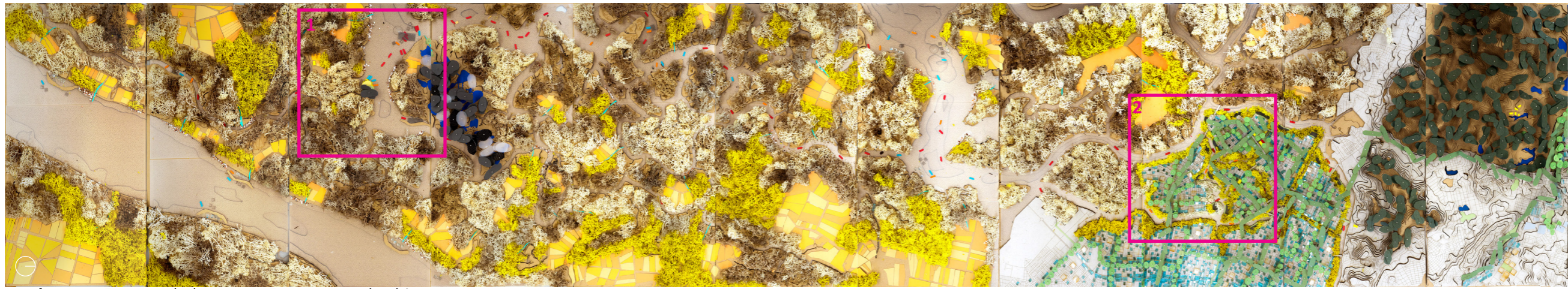
For further information

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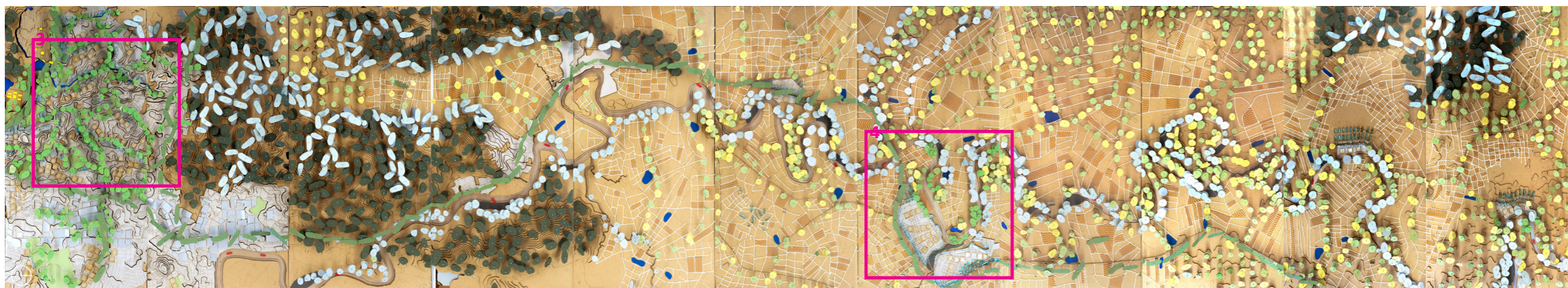
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Consult the web page <http://landscape.coac.net/>



Landscape - Estero Salado: Lower Estuary to Suburbio



Landscape - Daule River Basin: Monte Sinai to Daule





A Re-mangroving the edge:
Strengthening Urban Livelihoods in a Meandering Environment

B Shaping the island:
Urban life on the creek

C Reviving Puerto Liza:
The Re-appearance of a Buried Water hub in a Water-logged Area

1 Cerrito de los Morrenos

Fareeha Sheikh, Amina Kaskar, Mara Tomulescu

SELF-SUSTAINING GROWTH OF MANGROVE AND COASTAL COMMUNITIES

The small scale fishermen villages in the Gulf of Guayaquil live in a symbiotic and high sensitive relationship with the surrounding mangrove forests and daily tides. The main strategy is to create renewable and self-sustainable food sources, potable and usable water, and alternative energy, and decrease the dependency on Guayaquil.

2 Suburbio

YuYing Sun, Georgina Truter, Bindi Raditya Purnama

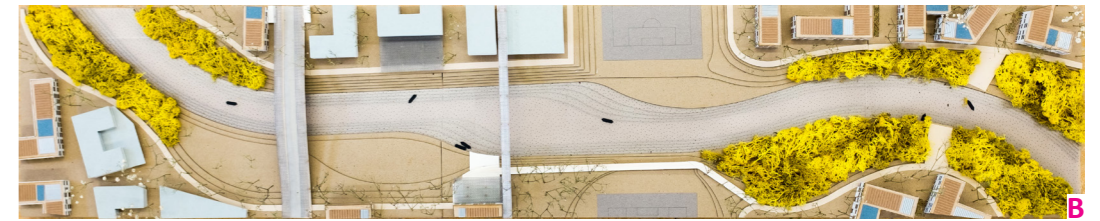
RESILIENT URBAN ARCHIPELAGO

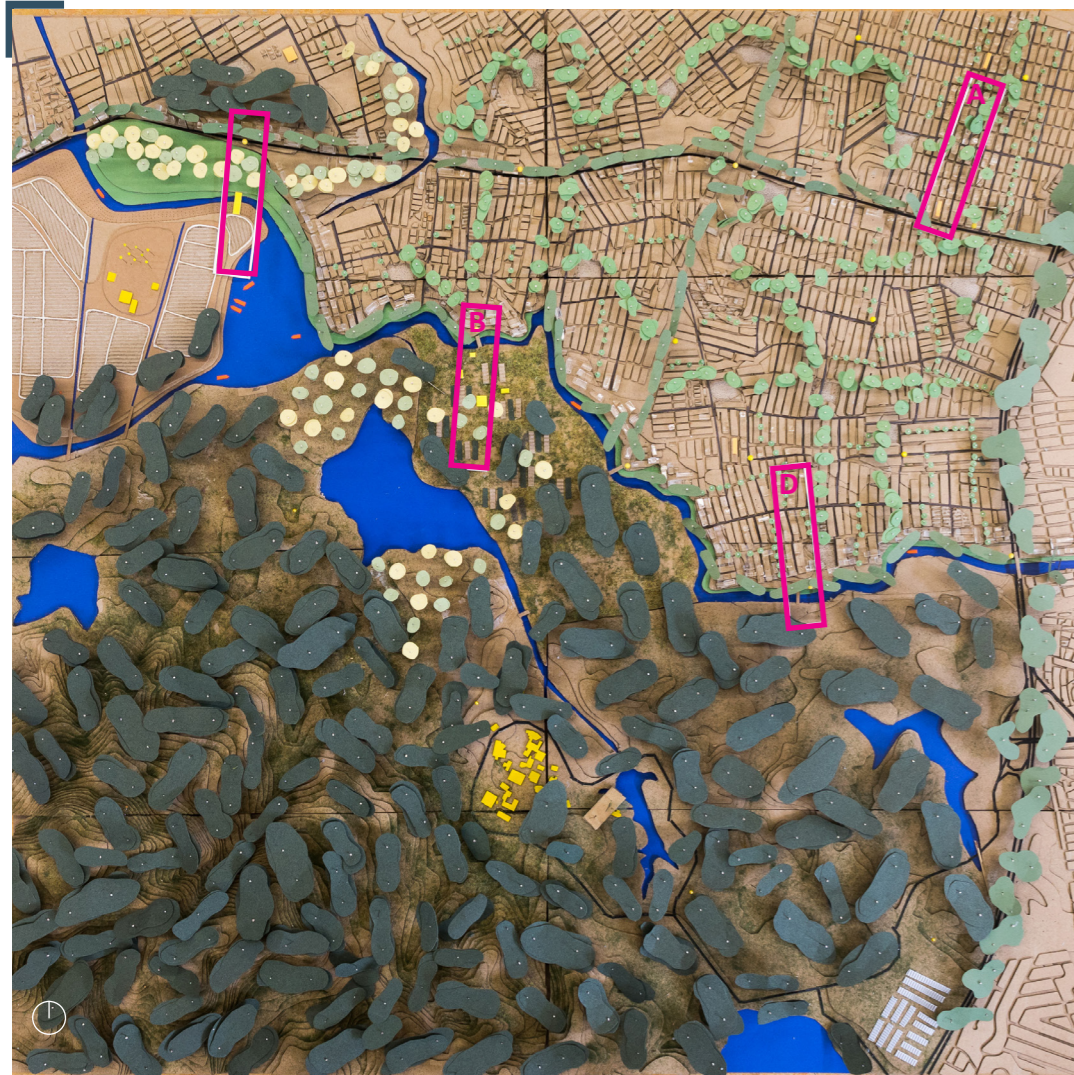
Estero Salado, the first urban frontier, where initially poor communities seeking access to Guayaquil city invaded the mangrove and filled the estuary creeks. The strategic 5x5km project proposes the re-naturalisation and expansion of creeks in the most waterlogged areas creating an archipelago of urban islands. The different islands will host a variety of civic functions and densification typologies, floodable zones, sustainable sanitation interventions and pedestrian friendly mobility corridors.

A Reverse Colonization:
Restructuring (private) Shrimp Ponds to a diversified (public) Mangrove Landscape

B Autonomous Outpost:
Towards a self-sufficient coastal community

C Reimagining the Balandras:
Revisiting ways of living in the Estero Salado's aquatic space





A Refining the Riverfront:
A New Water Market Community

B Rethinking the watercycle:
Water Treatment by Constructed Wetlands in a
New Urban Landscape

C Reinforcing the agropolis:
Living within the Edible Landscape



3 Monte Sinai

Modupe Osunkoya Kofoworola, Alsalti
Mahmoud, Maria Skordouli, Marrije van den Eynde

RETHINKING THE WILDLAND URBAN INTERFACE

In the wake of a wave of relocations and migrations, the latest urban frontier invaded the previously productive haciendas at the foot of the Chongon mountain and Papagayo reserve, north of the city. The strategic proposal is to increase the density of the urban landscape and to create a productive and recreation landscape edge to address bioclimatic and seasonal water influxes or shortages.



4 Daule

Hongxia Pu, Katerina Eleftheriou, Shauni Marchand
**REVIVAL OF THE RURAL: A NEW CENTRALITY IN A DIVERSIFIED
LANDSCAPE**

In the most northern part of the transect, the rice basin of the region has interspersed built landscapes housing various farming communities. The projected vision for Daule includes densification strategies, new typologies for housing that can work with the agricultural strategies for the area, new public services and infrastructure projects in support the new network of centralities located along the river.

A De-block:
A change in city model

B Urban Entomophagy:
A potential of food and feed resources

C Towards a green energy pathway:
Biomass supply potentials for energy use

D Re-modelling the new urban edge:
a modal shift for the city