

FUTUREPROOFING AND CLIMATE ADAPTATION

Deltas, coasts and small islands – action, political will and financing



GLOBAL
CENTER ON
ADAPTATION

Deltares

Embracing Differences: Towards an Integrated Approach to Climate Adaptation Coastal cities along the Paraná Delta, Argentina



Parque Nacional Ciervo de los Pantanos National Park (APN 2021)

DeltaAlliance

TUDelft

FTDT

Paraná River

3rd largest river in America

Paraná river catchment area represents 50% of the entire La Plata basin (1.500.000 Km²)



3.100.000 km²

Medium discharge: 18.000 m³/sec¹

Sediment: 160 mt/year²
(28% clay, 56% mud, 16% sand)

- South America
- La Plata Basin
- Rivers
- Paraná River
- Paraná Delta

1. Pittau et al. (2004).
2. Sarubbi et al. (2006).



Paraná Delta

Location



Zagare, Carlino (2021)

Google Earth (2018)

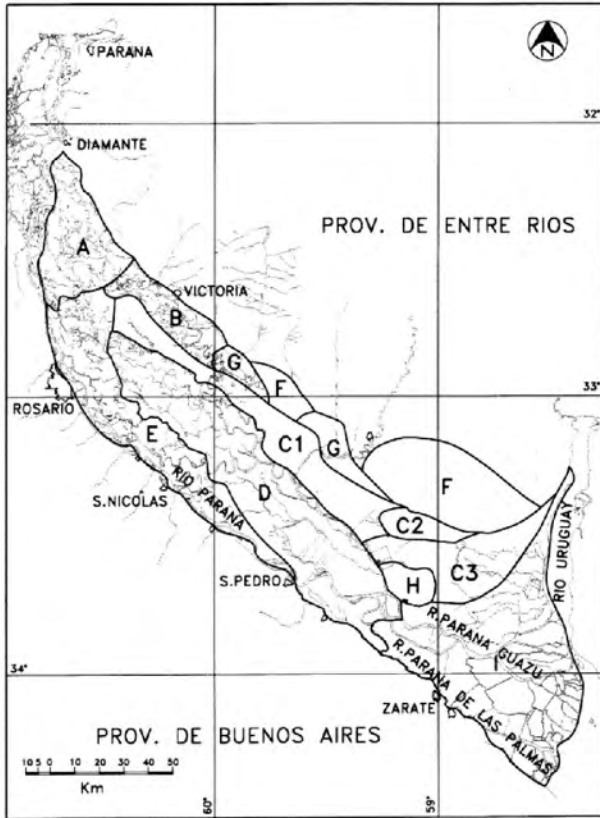
Hydrology



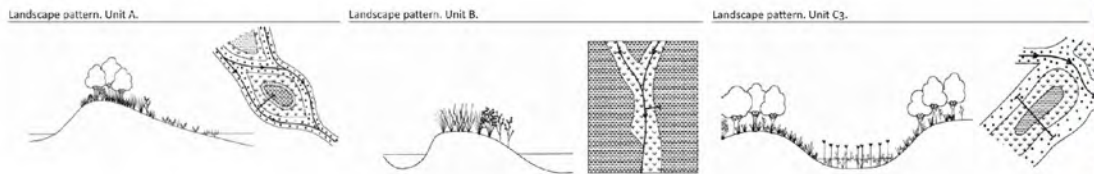
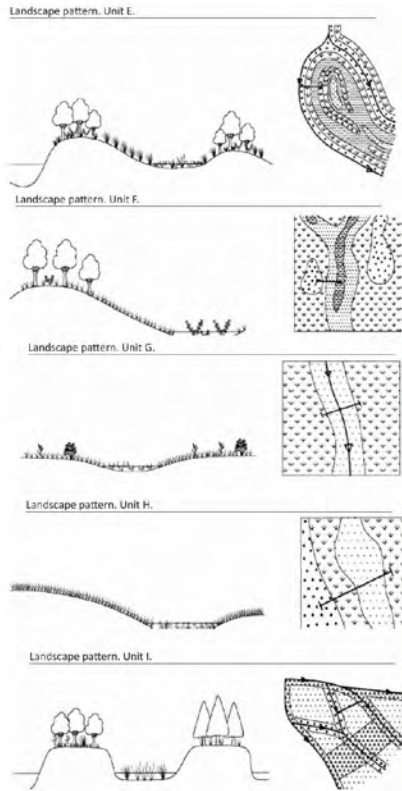
Google Earth (2018)

Paraná Delta

Wetland Mosaic



Malvarez (2007).



Data

Length	Width (variable)	Area
320 Km *	18-100 Km *	22.587 Km ² *

* PIECAS (2008).

Argentina

Google Earth (2018)

Urban Corridor



LAND USES / PRODUCTION

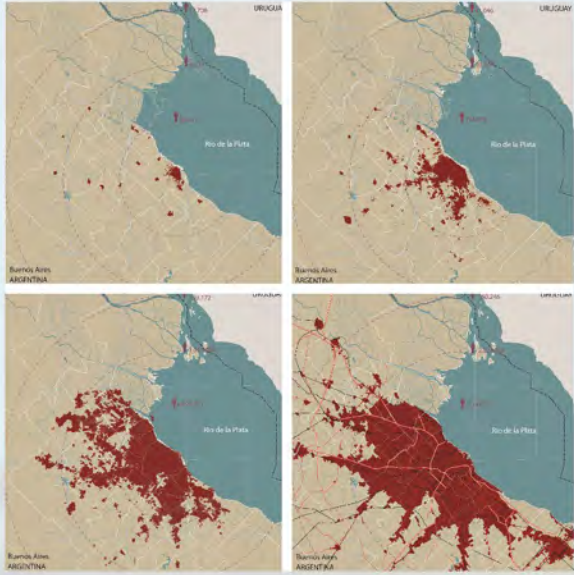


Islas de Victoria. Zagare (2019)

- Modification of the soil and hydrological cycles for productive purposes
- Expansion of the agriculture and livestock frontier towards the wetland.
- Introduction of practices and technologies from the Pampas into the wetland.



LAND USES / URBAN



- Increase of urban population (international trend)
- Increased demand for soil and safe water
- Lack of waste treatment and control, increase of pollution
- Unplanned urban expansion, social and spatial polarization
- Increase of private developments (gated neighbourhoods)-
New patterns in the islands.



Delta de Tigre. Zagare (2018)

MARKET / INFRASTRUCTURE AND TRANSPORTATION

- Increased demand for commodities
- Paraná-Paraguay Waterway (connects the Delta with other areas of South America)
- Construction of highways and routes to connect bi-oceanic corridors.



Hidrovia. Radio Gráfica (2021)

CLIMATE CHANGE

- Regional: increase in temperature, precipitation, global warming.
- Local: climate variability, pulses of floods and droughts.
- Land-use changes, deforestation and unsustainable practices > changes in the natural dynamics.

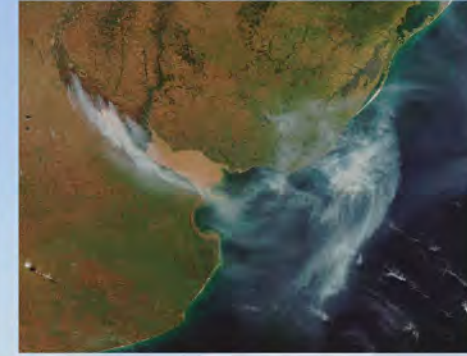


2023: SEVERE DROUGHT + FIRE OUBREAKS

Drought in Río Paraná. NEA Hoy (2021)

CLIMATE CHANGE

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2023: SEVERE DROUGHT + FIRE OURBREAKS

2008 (2014/2019)- PIECAS-DP (Integral Strategic Plan for the Conservation and Sustainable Development of the Paraná Delta).

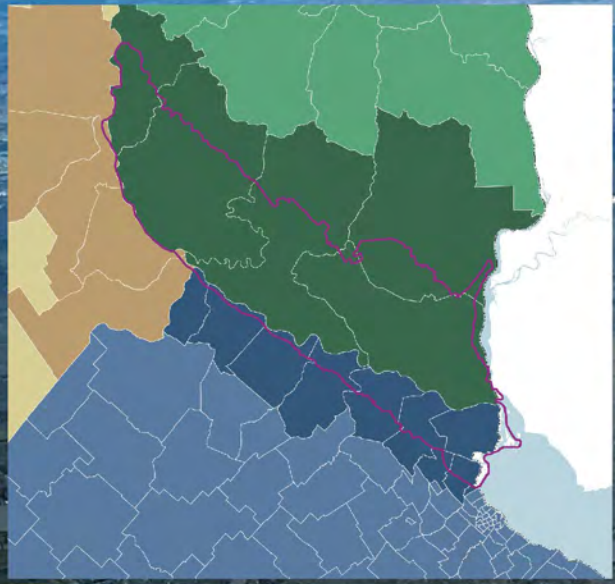
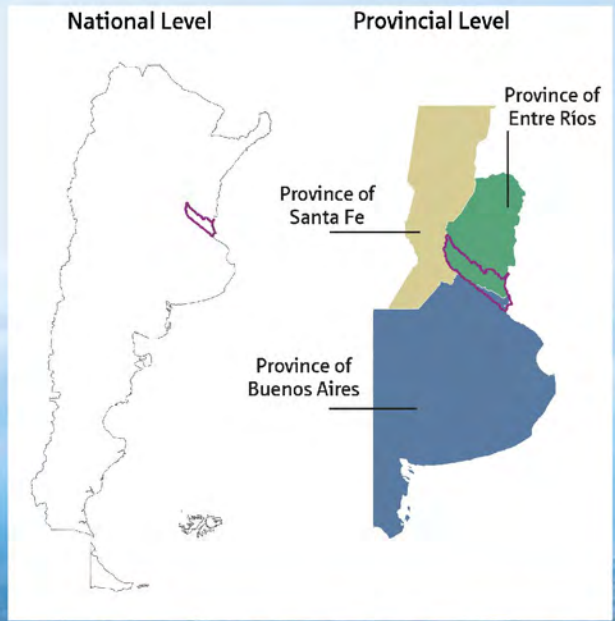
2021 - Working group for the development of the Regional Plan for Adaptation to Climate Change of the Parana River Delta (PRACC-DP).

2022 - National Plan for Climate Change Adaptation and Mitigation.

Drought in Río Paraná. NEA Hoy (2021)

GOVERNANCE

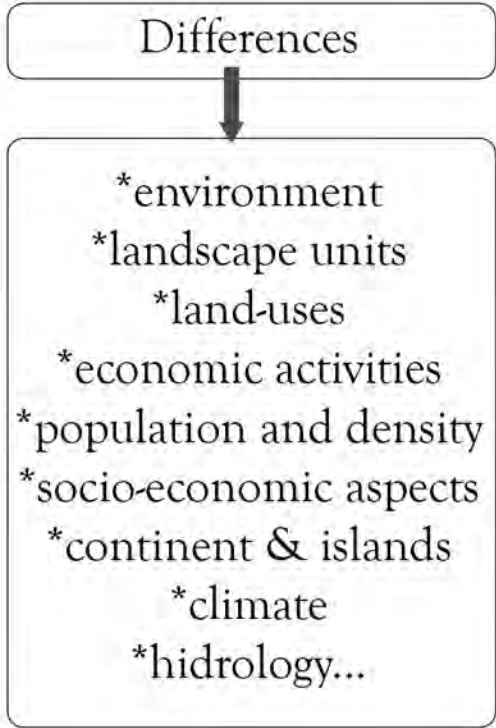
- A great number of actors, sectors and levels.
- Legal voids, excess of legislation, overlapping of legislation at different levels.
- Lack of agreements, and public participation.



Zagare (2019)

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Delft University of Technology

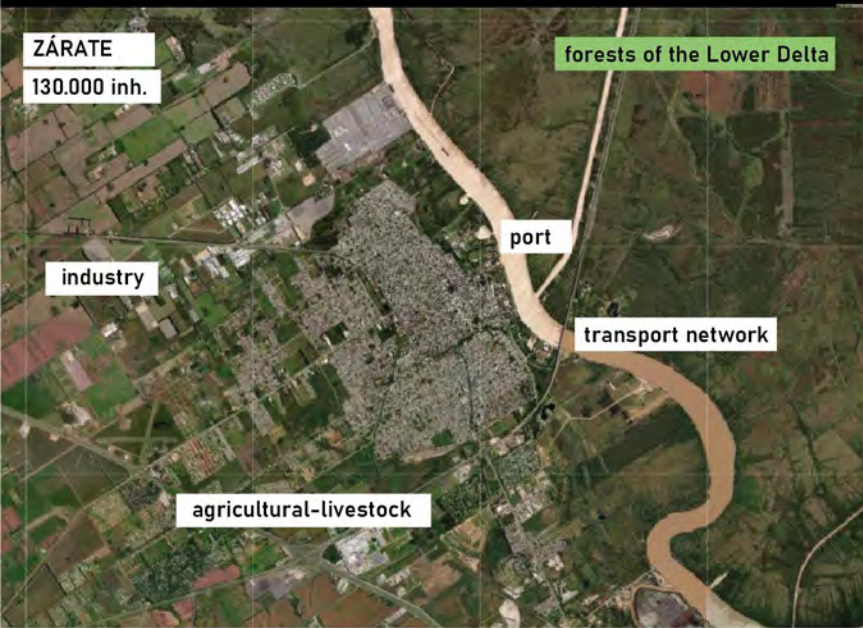
DELTA URBANISM

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Thank you!
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