

Port Expansions in Banjul and Cotonou

Climate Adaptation and Resilience



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Scope

1. Rapid Climate risk assessment

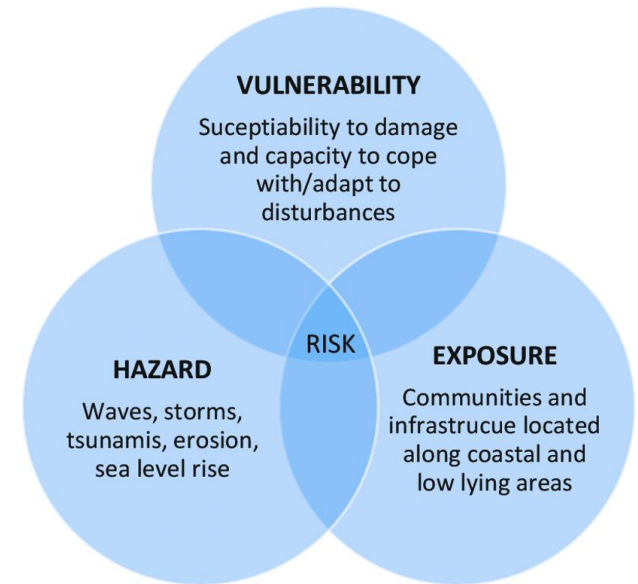
Describing how climate conditions in Cotonou are projected to change over the next 100 years in terms of intensity, frequency and uncertainty of climate hazards.

2. Vulnerability stress test

Investigating how these changing climatic conditions may impact port assets and operations.

3. Climate adaptation and resilience investment rationale

which summarises overall findings on climate risk and quantified impacts and presents the benefits of adaptation in reducing physical climate risk.



Extreme Temperatures



Extreme Precipitation



Drought



Sea Level



Extreme Wind



Extreme Waves

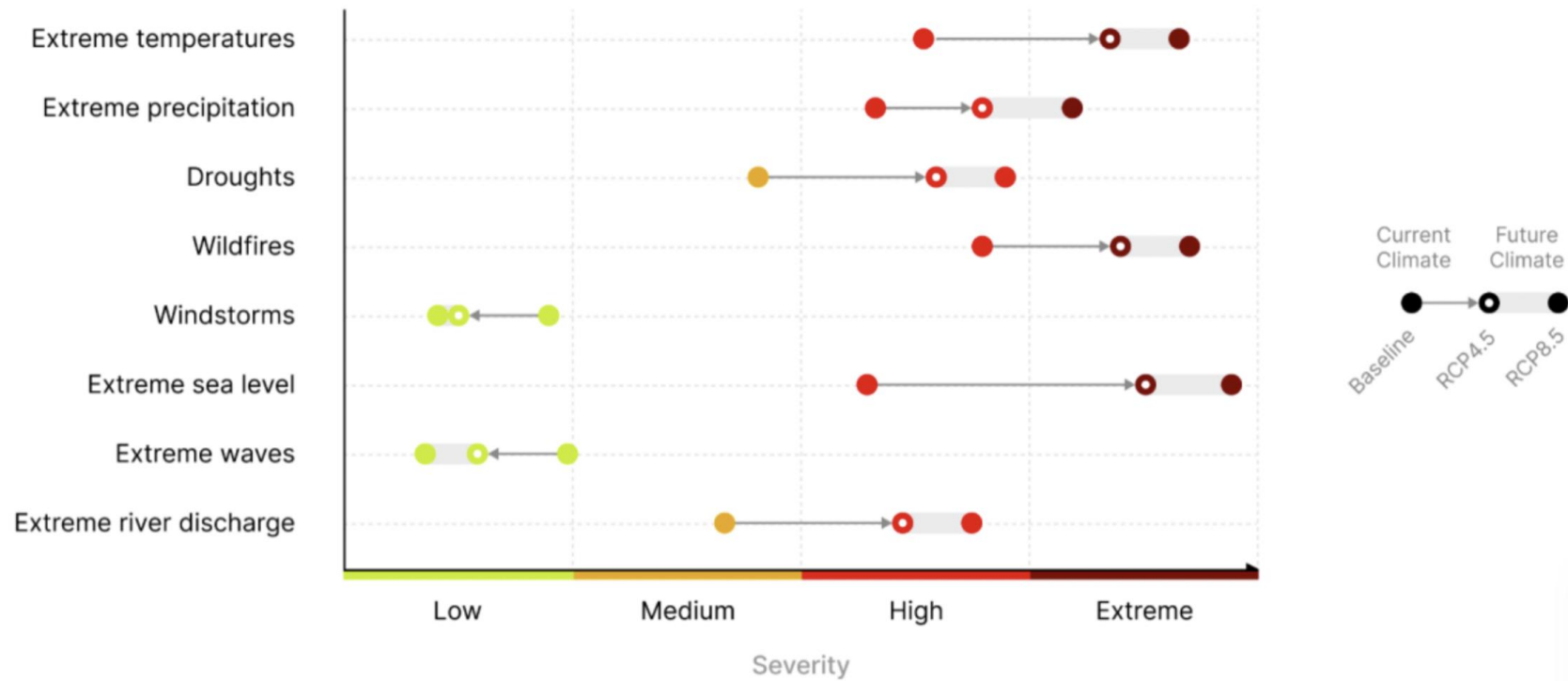


River Discharge



Results: All hazards

Matrix of high-level hazard scenarios in Banjul



Port Asset Categories

- Marine infrastructure
- Roads
- Buildings
- Terminal area
- Ferry terminal
- Marine operations
- Land sided operations

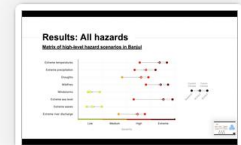
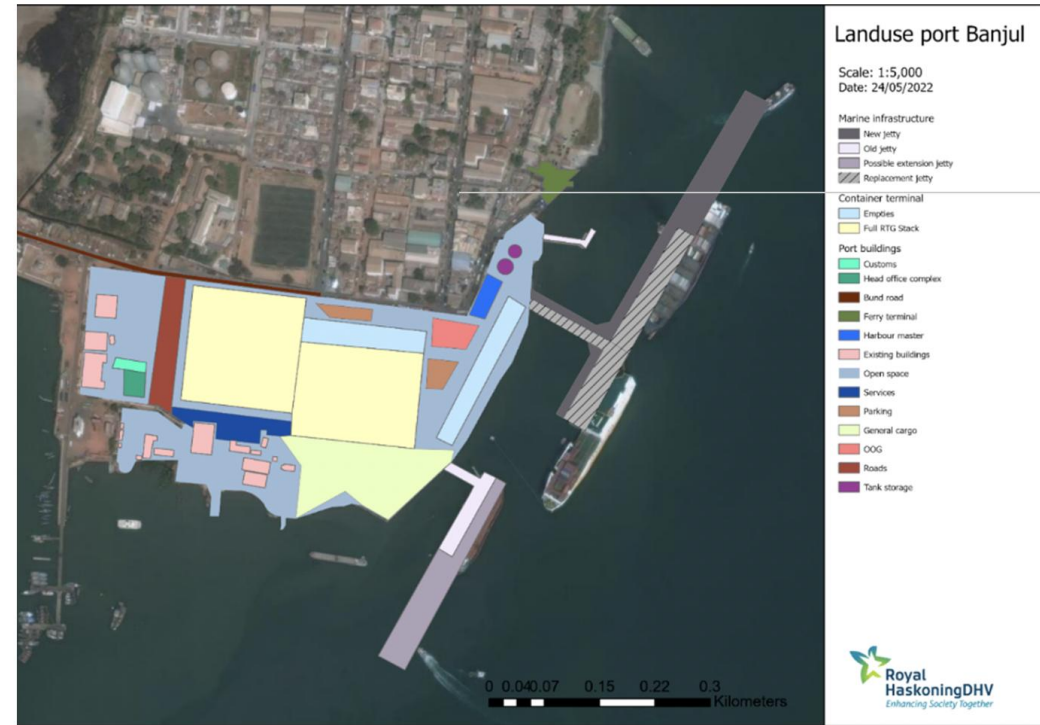





Figure 7: Port layout in current situation (left) and future situation (right) with planned development components

Key insights

- Determine key **climate hazards with local data/expertise**
 - Sea level rise
 - Temperature
 - Precipitation
- Assess **vulnerabilities** of the port and prioritize main **risks**
 - Port operations
- Investigate **adaptation measures** to mitigate risk
 - Physical/infrastructure  Social  Institutional 
 - Benefit-cost ratios

High resolution climate science data is essential for risk assessments at the asset level

Quantify financial and socio-economic benefits that investment in adaptation can bring

