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Track theme: Planning for Transformation

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Revised Abstract

**Integrating seasonality to designing resilience in urban islands**

Islands are distinctive cases of urbanization, interconnected systems, and environmental vulnerability. Recent research underlines the impacts of climate change and global dynamics. In response, a need for planning and design approaches that are more sensitive to island spatiality and communities is evident. Resilience provides a strategic concept that incorporates the idea of transformation and contributes to sustainability. By testing and developing a landscape based design approach this ongoing doctoral thesis examines seasonal phenomena and spatial transformation (both unplanned and intentional) in islands, expecting to open up a new perspective to resilience building. The goal is to discover a spectrum of seasonal dynamics and to explore their role in increasing robustness and adaptability of urban island landscapes in the face of built expansion and periodical disturbances. With the help of satellite images, field research, mapping, and synthesizing secondary data, the research firstly seeks to understand how seasonal phenomena and spatial development are linked in Sylt (Germany), Malta, and Itaparica (Brazil). Secondly, in order to generate insights about desired dynamics and how to facilitate them, the research seeks to integrate the findings to spatial projections or schematic designs that study and address island urbanization and the seasonal dimension of resilience. The potential outcomes will be evaluated based on resilience literature and criteria specified in each case. First findings display a spectrum of seasonal phenomena and livelihoods, such as tourism, bird migration, flooding, and fishery, that catalyze spatial processes or are affected by them. Many phenomena concentrate on the coast, but they are also linked with spatial systems from urban cores to farmland and key-ecosystems. Furthermore, they are interconnected with tidal dynamics and long term change. These observations provide starting points for investigating possibilities of i.e. seasonally adaptive blue-green infrastructure and flexible land uses. The intermediate findings show that locating peaks and off-seasons engenders insights about spatial organization in islands, interconnections of systems, and where and when to address resilience deficit. During this process transformative potential across island systems and spaces is discovered, but the complexity of seasonal-spatial relations, nested timescales, and the uncertainties brought about by climate change pose methodological and disciplinary challenges. In order to overcome limitations, the proposed perspective should be inserted to a transdisciplinary research that profits from a spectrum of knowledge and participatory elements - for example, geospatial expertise, statistics from different fields, and eco-social mapping in communities. An integrated planning/designing approach can take up a synthesizing and creative role in handling multi-scalar relations, and translating principles of resilience to spatial measures. Here, accepting open-endedness, and applying an iterative, at times heuristic process of experimentation and adaptation is needed. To maneuver in such dynamic context, this research suggests that a projective methodology and the temporal scale of seasonality provide viable starting points for

operationalizing urban resilience, sensitizing people to natural dynamics, and initiating transformative change.

Keywords:

islands, seasonality, spatial transformation, urban resilience, design