Everything is bigger in Texas

Reflection program case 'Houston Galveston Bay, Texas'

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EVERYTHING IS BIGGER IN TEXAS

REFLECTION PROGRAM CASE 'HOUSTON GALVESTON BAY, TEXAS'

The saying goes that 'Everything is bigger in Texas.' This holds true for both the flood risk in the Houston-Galveston Bay Area, and for the complexity of issues that need to be dealt with in order to reduce it – assuming there is agreement that the current risk is unacceptable. There is currently no formal direction, and hence no preferred direction for designing a strategy for flood risk reduction.

The region has a very different political setting compared to the Netherlands, which means that most studies in this MFFD program case explored the 'boundary conditions' for a future strategy. Researchers had to be aware of political sensitivities while working with American 'users', and had to recognize another view on the role of government. Collaborating with the communities in Texas was therefore challenging, and resulted in a type of study that can be characterized as action research. Findings made during the study had a real impact on the collaborative network in the region. Additionally, the Texas case study considerably broadened the predominantly Dutch perspective of the MFFD program.

For almost a decade, Dutch flood risk policy has broadened its scope to a three-layered strategy, with the first layer considering protection, the second layer reduction of vulnerability by spatial planning tools and building codes, and the third layer and final layer crisis management. The first layer of protection has traditionally been dominant with the construction of flood defenses. In sharp contrast, the US is known for giving priority to recovery and emergency management. This makes it interesting to explore what the potential of the first and second layers of the multi-layered safety approach could be in Texas. As efforts to reduce flood risk on the regional scale in Texas have been limited to date, many future strategies can still be envisioned. With formal leadership in regional flood risk reduction virtually non-existent, engaging more bottom-up support for a broader strategy becomes feasible. This 'void of support' provides fruitful conditions for the design of multifunctional flood defenses, as co-benefits can be decisive for engaging bottom-up support.

The MFFD-studies within the larger Dutch-Texas research collaboration focused on identifying building blocks for designing a flood protection strategy, ideally a multifunctional one. Van Loon analyzed how wetlands could contribute to a future flood safety strategy in Texas, comparing it with the case of the Wadden Sea. She concludes that given the large amount of pristine wetlands along Galveston Bay, a spatial strategy that prevents the development of these lands will be very valuable for flood protection. Dupuits investigated the economic optimization of multiple lines of defense, developing an optimization algorithm. He shows that multiple lines of defense can be very cost-effective compared to a single line. However, the Houston case was strongly simplified in his calculations - more research is needed to make the case more realistic. Looking at spatial planning tools from the perspective of territorial governance, Brand concludes that despite the potential and desirability of such a spatial strategy, both the tools and the authority required to achieve to it, are lacking. Galveston's local governance does not favor protection, nor does it favor planning. Applying the CIGAS-approach, Kothuis revealed multiple frames and interests regarding flood risk reduction in the Houston Galveston Bay Region. Application of this approach contributed to a shared problem-analysis and mutual understanding of frames. Next, Hogendoorn explored how well the region's existing patchwork of flood risk reduction strategies align with the predominant political values of Texas (known as a traditional 'Red State' with a *low government – low service* mentality), and found a considerable match. This strengthens the assumption that more abstract societal phenomena like political values do function as boundary conditions for the design of a flood risk reduction strategy. In a separate publication, Brand & Hogendoorn confirmed that existing policy and action in the region is geared towards emergency management and recovery (Brand & Hogendoorn, 2015).

Despite these and other results (Kothuis et al., 2015, Van Berchum, 2016), both a comprehensive analysis of the boundary conditions and of the collectively preferred flood risk strategy are still lacking in 2017. The hypothesis that local actors need to assume an important role to compensate for lack of governmental involvement still needs to be confirmed, though a multifunctional land barrier (usually framed with concepts such as 'co-benefits' or 'landscape integration') has been well received in this region. This can also be observed in practice, as the existing Galveston seawall also has a road on top.

For now, we can conclude that both the first and second track of multilayered safety - flood defenses that prevent events, and spatial planning and adaptation that reduce vulnerability - face considerable obstacles, ranging from lack of institutions and tools to lack of political support. This does not mean that the Houston Galveston Bay Region's position is hopeless. First, Texas history provides several examples of flood events forcing federal, national and local decision-makers to take action, exploiting short windows of opportunity to build flood defenses. The Galveston Seawall is a prime example. Moreover, between 2012 and 2017, the formal and informal network of actors pushing for flood risk reduction has expanded to include formal decision makers at all administrative levels. In fact, the Texas General Land Office currently offers a Youtube video supporting the construction of set of barriers along the Texas Coast. The ongoing research collaboration between the Netherlands and Texas also increases the chance of action before the next big storm event. And if the Houston Galveston Bay Region could overcome the many obstacles on its road to reduce flood risk without a disaster, it would not only be a huge step for the Houston Galveston Bay region, but for mankind as well.

Figure 1. Multifunctional use of flood protection structures is not strange to Texas. The Galveston Seawall, here depicted on a postcard dating from 1911, was built with a road and hotels on top, as a response to the 1900 Great Hurricane (image courtesy University of Houston Digital Library).