

Reconsidering the New Normal: Trauma, Vulnerability & Resilience in Post-Katrina New Orleans

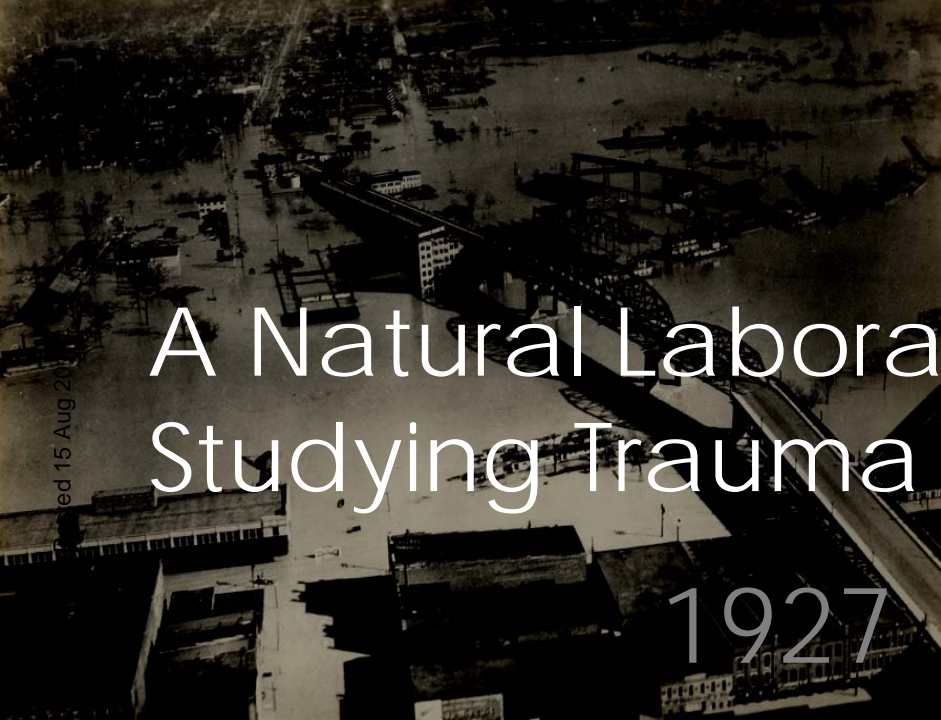
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2





A Natural Laboratory For Studying Trauma & Resilience

1927



1965



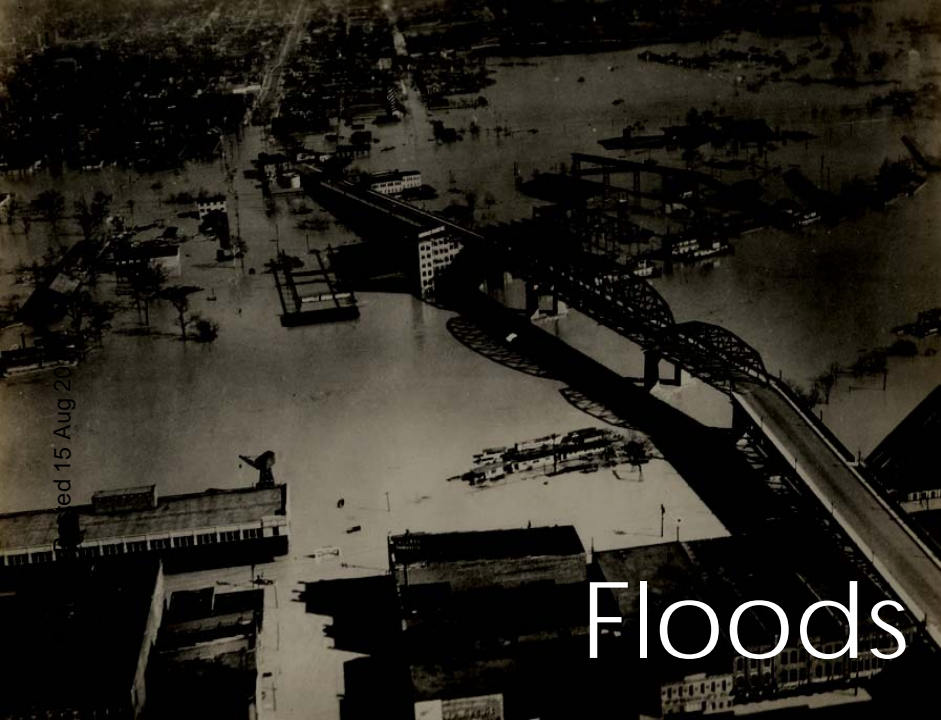
2005



2010

ed 15 Aug 2011

Nature PeerReviews doi:10.1038/npr



Floods



Storms



Climate



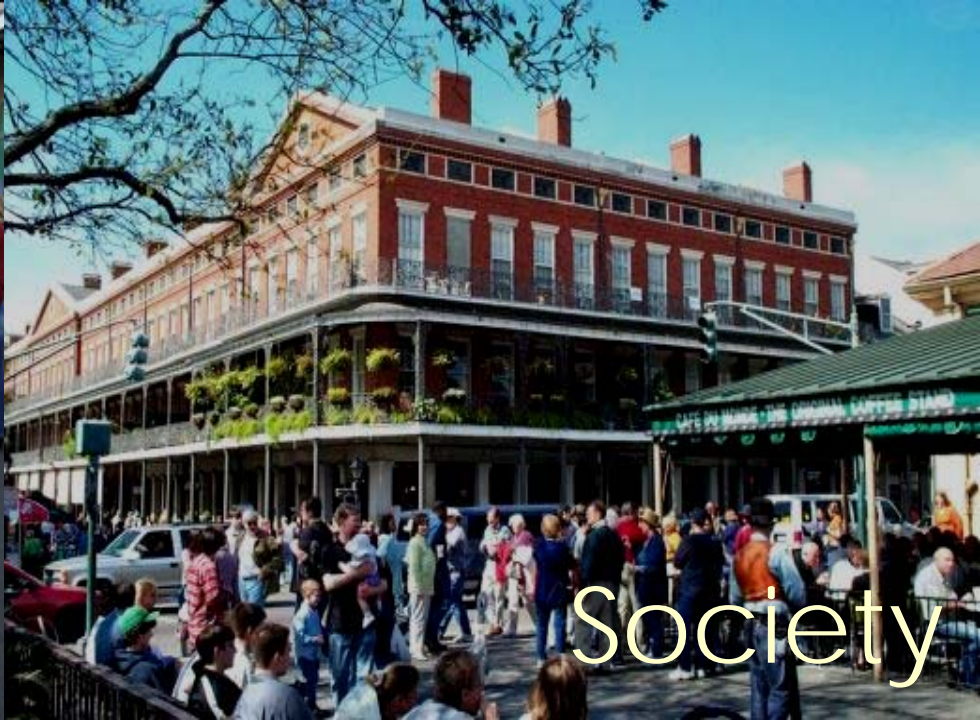
Energy

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Culture



Society



Built



Natural

Urban trauma & social-ecological resilience across the Katrina event (2000-2010)

Nature Precedings : doi:10.1038/npre.2011.6246.1 : Posted 15 Aug 2011



Socio-ecological drivers of urban land use & biodiversity following traumatic events

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Socio-ecological drivers of urban land use & biodiversity following traumatic events

Socio-economic

Resource availability

Risks & vulnerabilities

Perceptions of risk & vulnerability

Departure & return

Investment & valuation



Socio-ecological drivers of urban land use & biodiversity following traumatic events

Ecological
Disturbance

Recovery, recolonization, resilience
Ecosystem functions & services

Changes in urban communities, land use & biodiversity following traumatic events

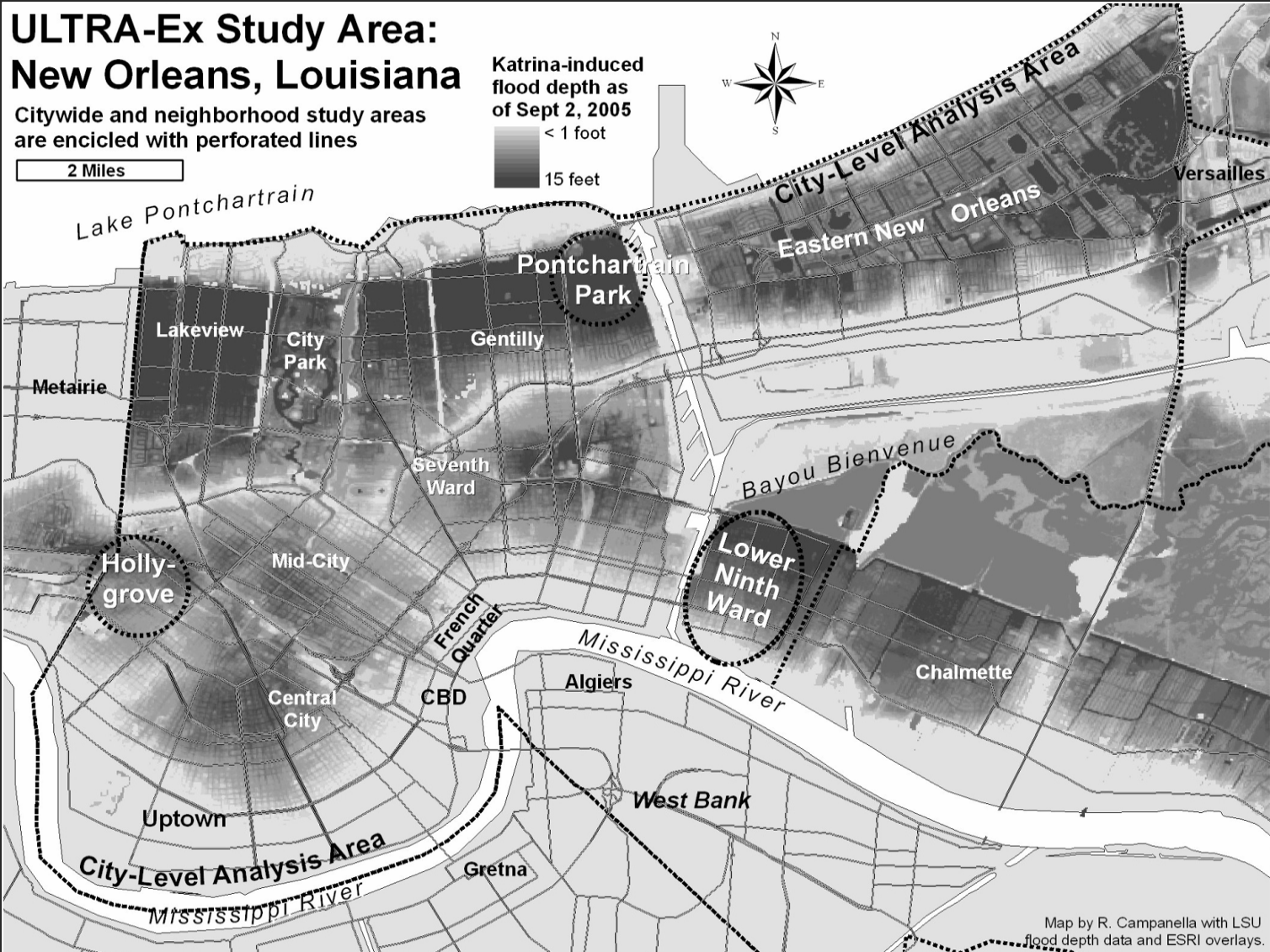
How do traumatic events alter urban ecological and social diversity, and their attendant spatial distributions?

How is pre-trauma ecological and social diversity related to the resilience of post-trauma urban communities?

Parallels & interactions between social & biological diversity?

Degree of trauma? Spatial scale? Location?

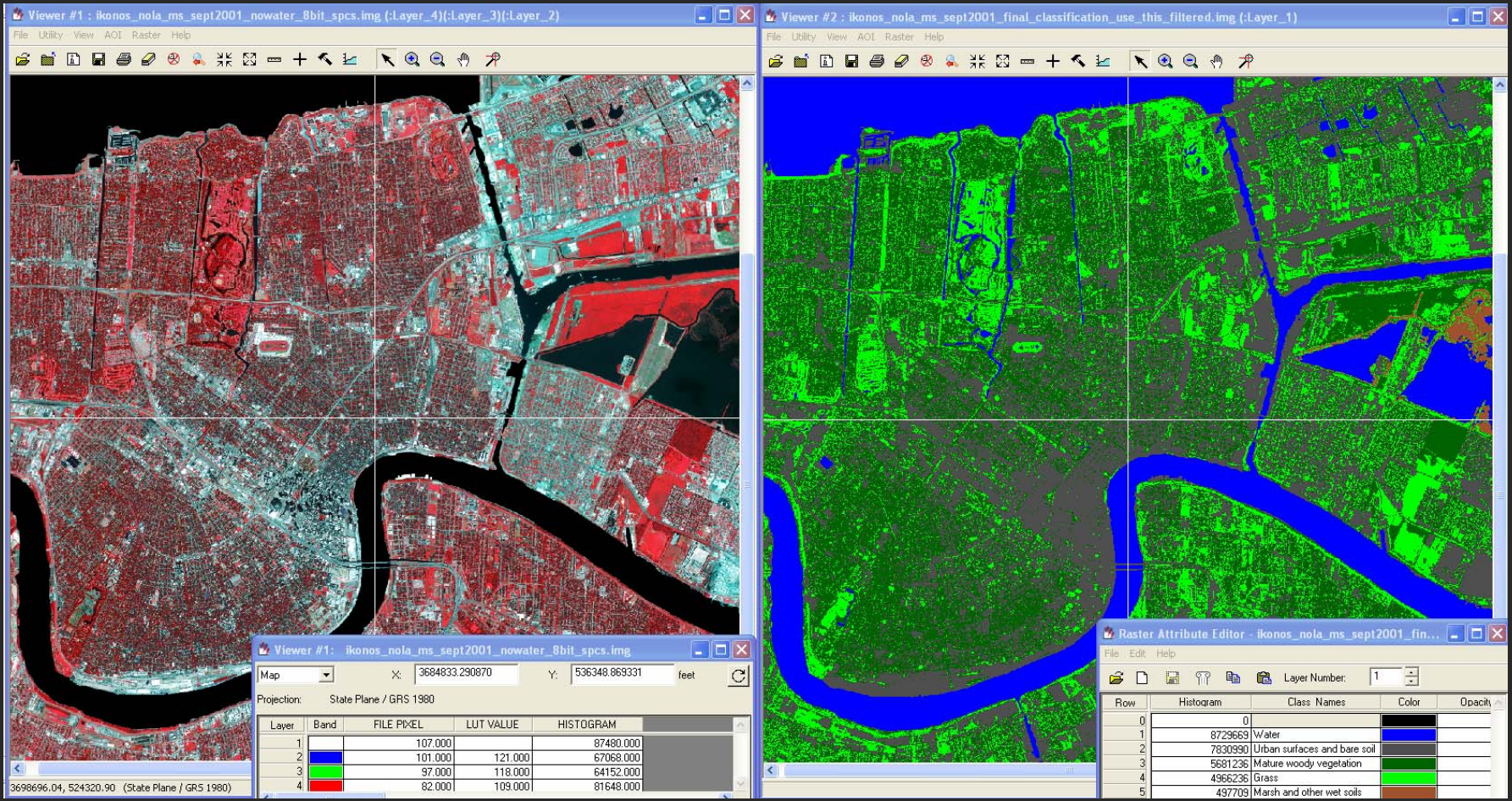
City-wide and neighborhood scale studies pre-trauma vs. post-trauma (2000-2010) conditions



City-wide and neighborhood scale studies

Compilation and processing of LU/LC data

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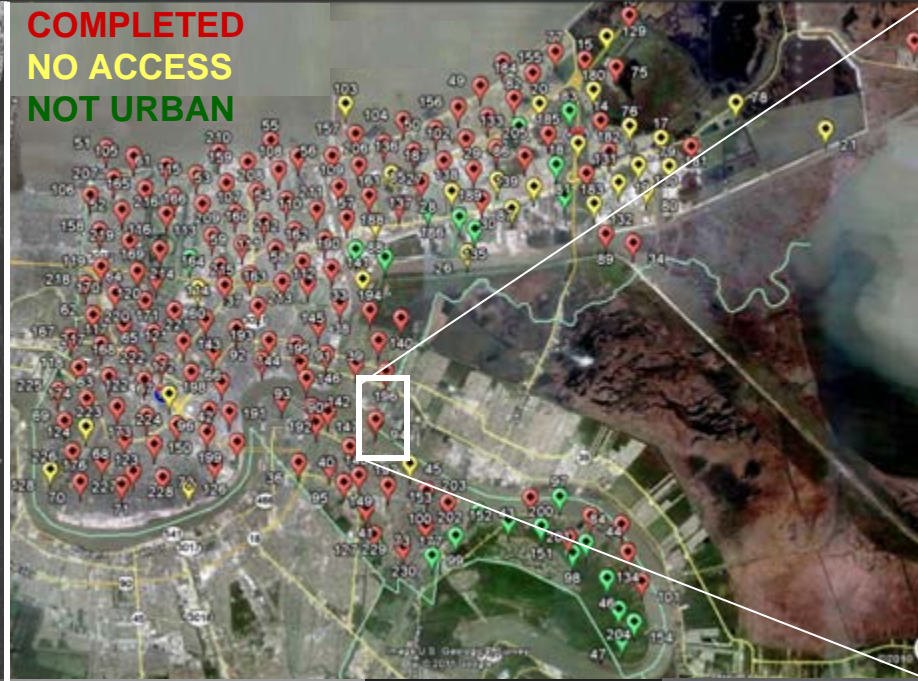


Classification of pre-trauma (2000) raw Ikonos satellite imagery (left) into land cover information (right)

City-wide and neighborhood scale studies

Compilation & collection of biodiversity data

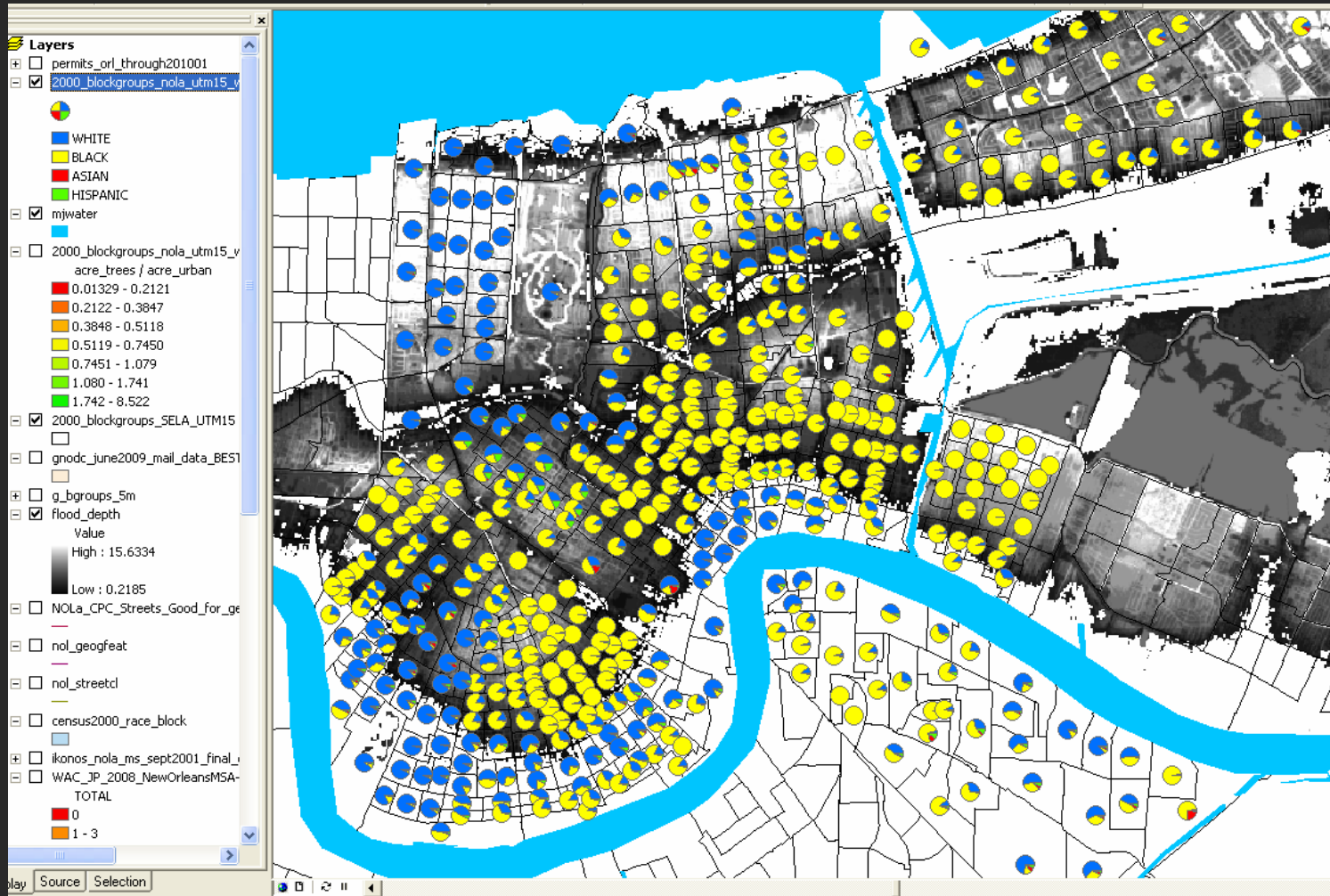
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City-wide and neighborhood scale studies

Overlay diversity and flooding data

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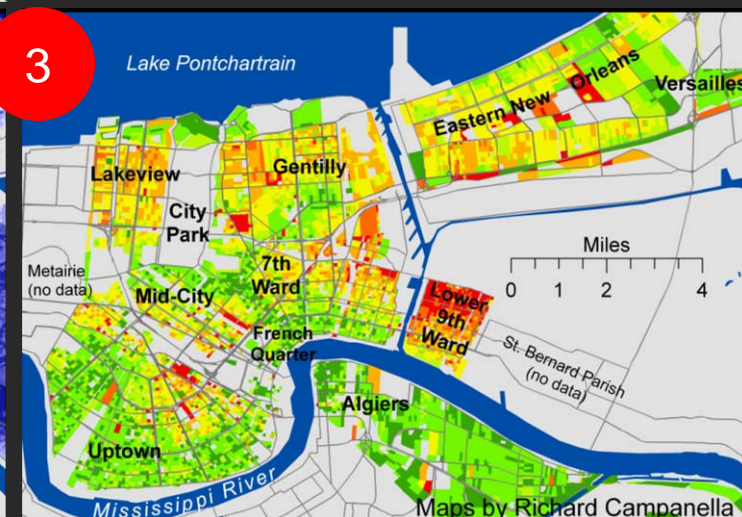
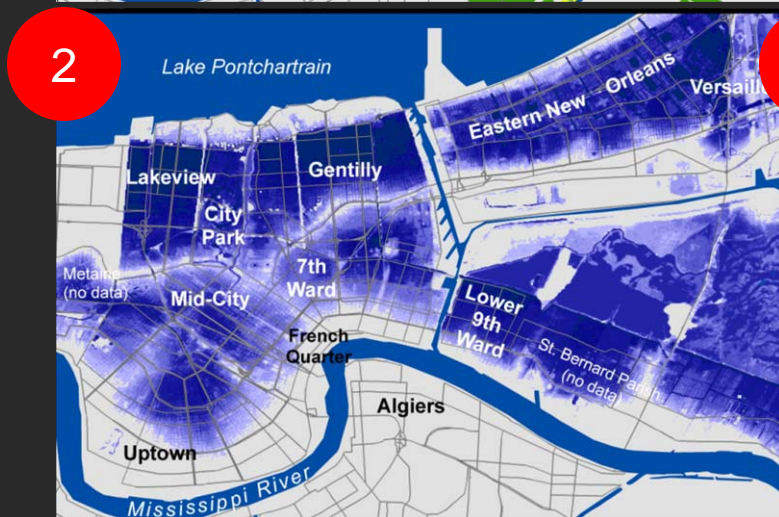
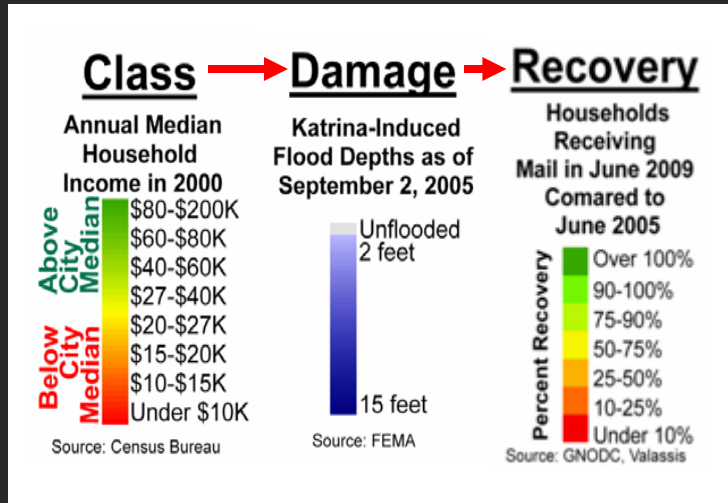
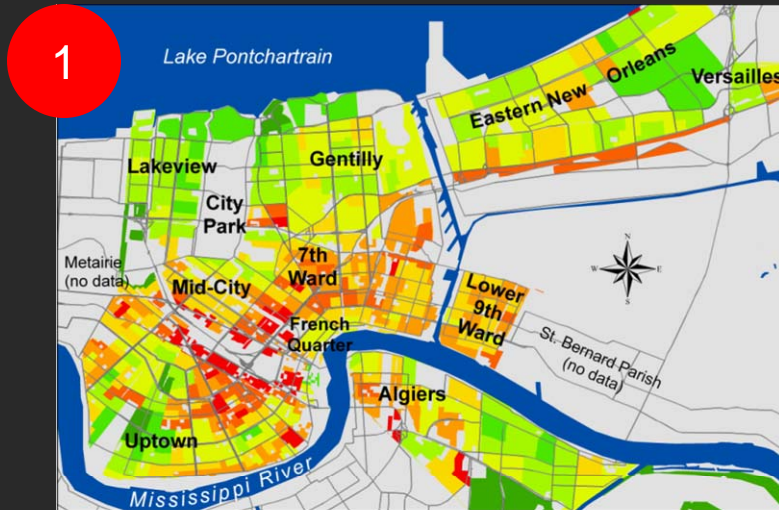


Residential occupancy patterns by race (2000) at the block group level overlaid on Katrina flood depth

City-wide and neighborhood scale studies

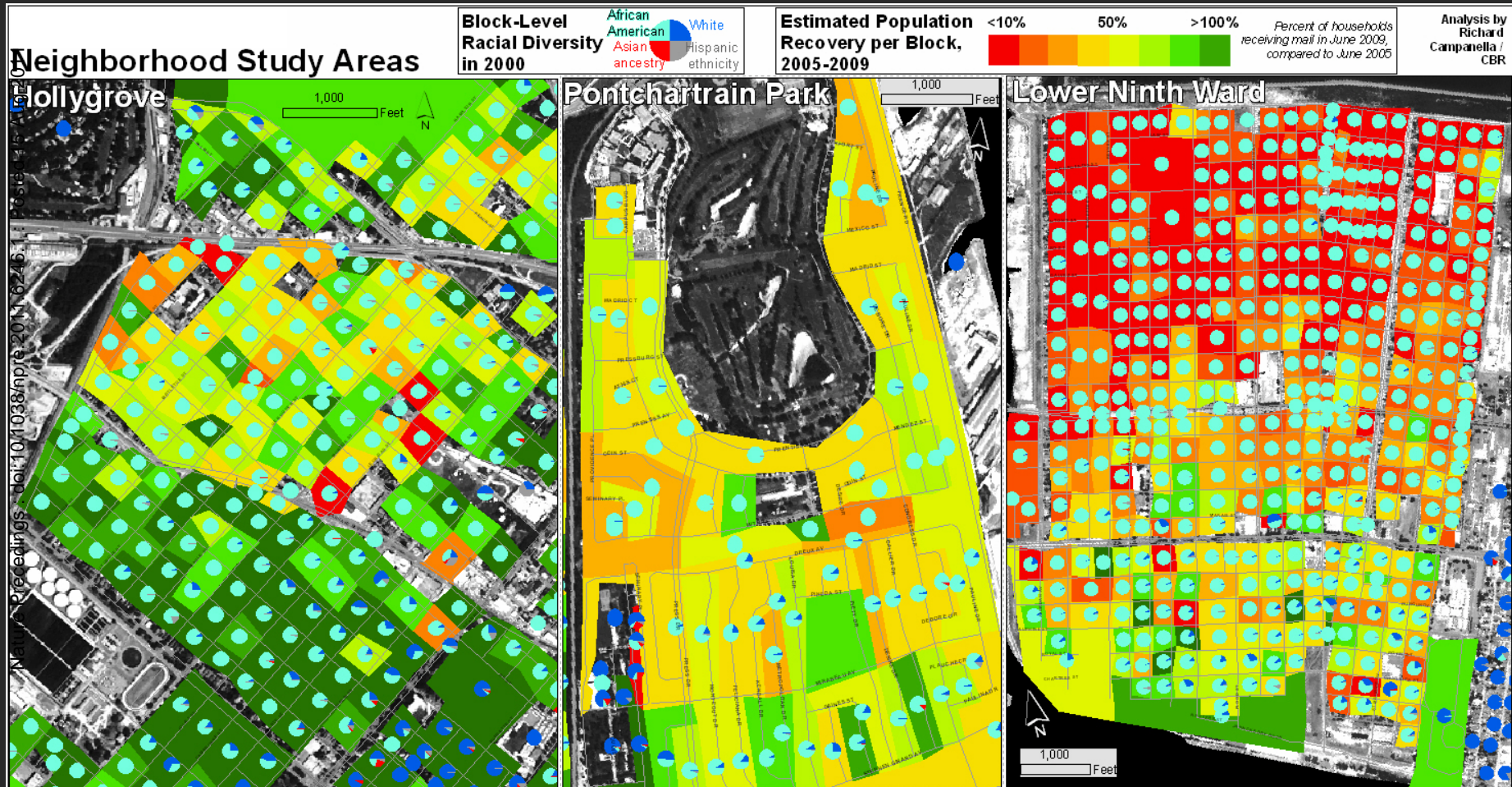
Assess relationships with rates of recovery

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City-wide and neighborhood scale studies

Assess relationships with rates of recovery



Pre-trauma social diversity (pie charts) overlaid upon post-trauma population recovery as measured by households receiving mail (2005-2009)

Changes in urban communities, land use & biodiversity following traumatic events

Pre-trauma socio-economic conditions vs. trauma intensity
median household income vs. flood depth

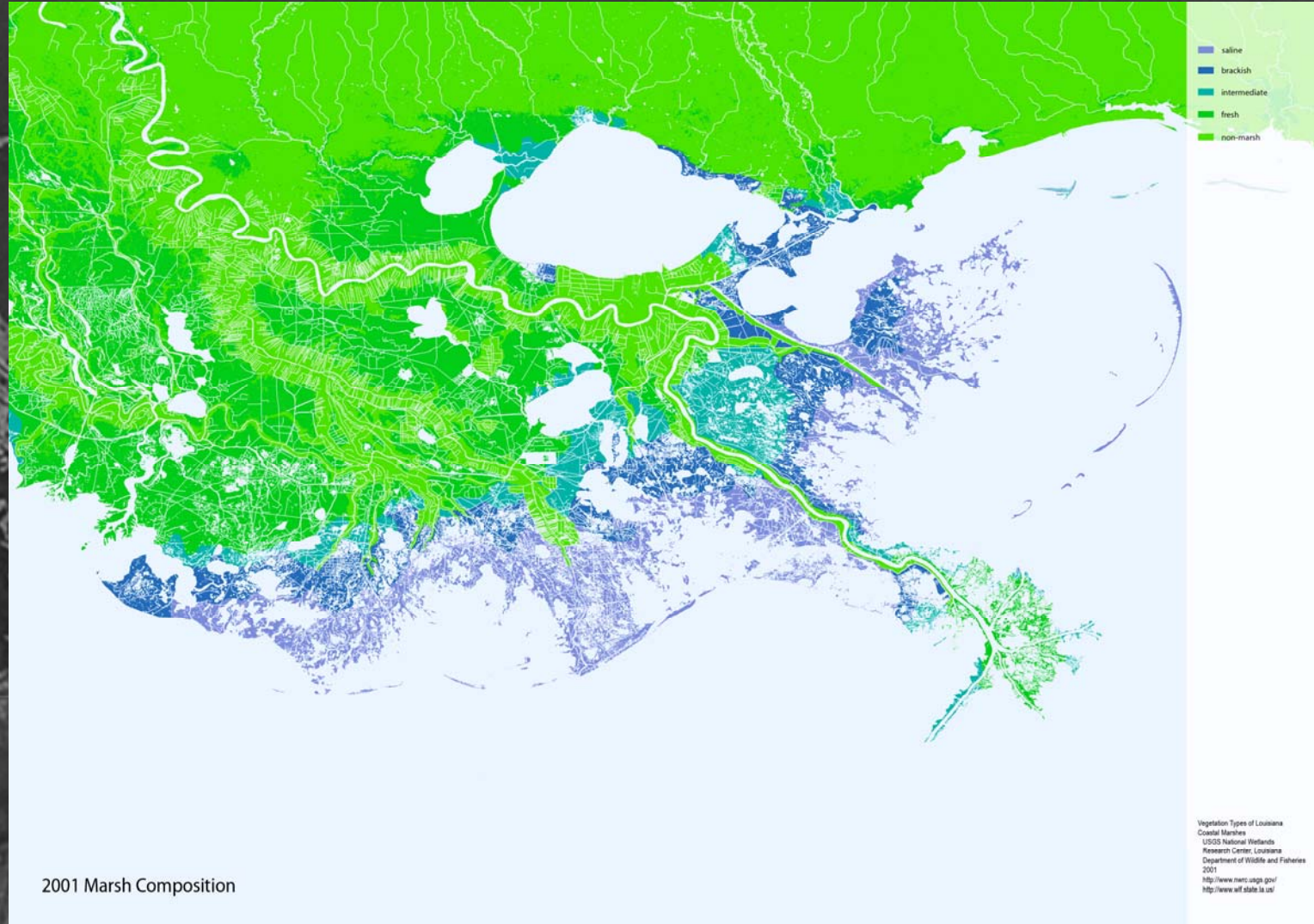
- poorer deeply flooded areas have been slowest to recover
- wealthier deeply flooded areas and poorer less-flooded areas have the same recovery rates (60-70%)
- wealthiest unflooded areas have ~99-100% return

How do extreme events affect the allocation of natural, political, economic, & cultural resources?

Looking beyond boundaries...

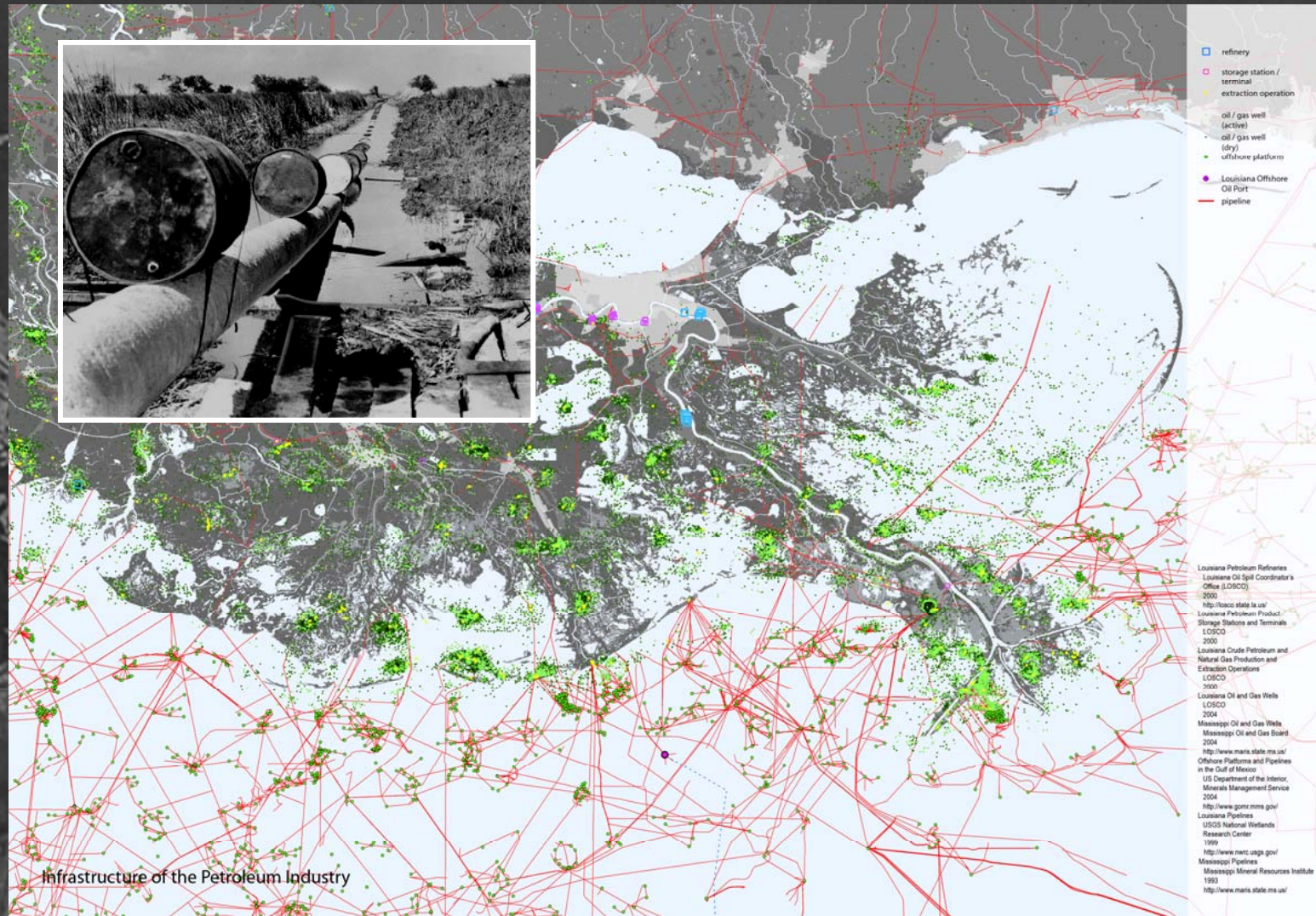


Looking beyond boundaries...



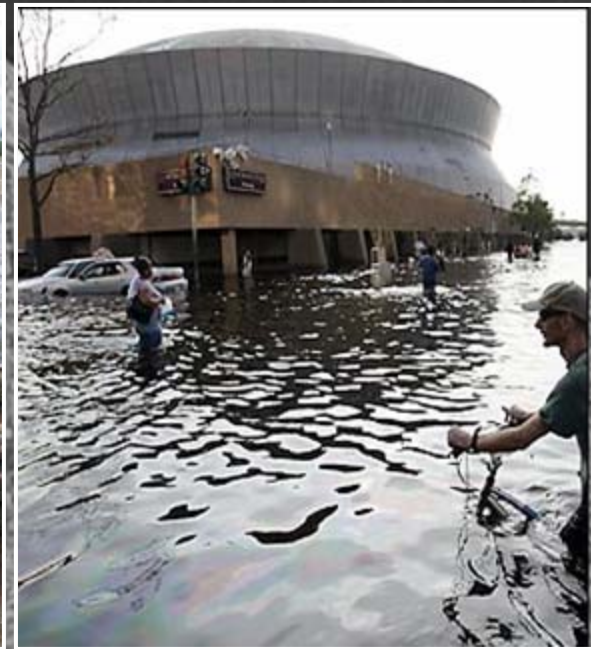
Looking beyond boundaries...

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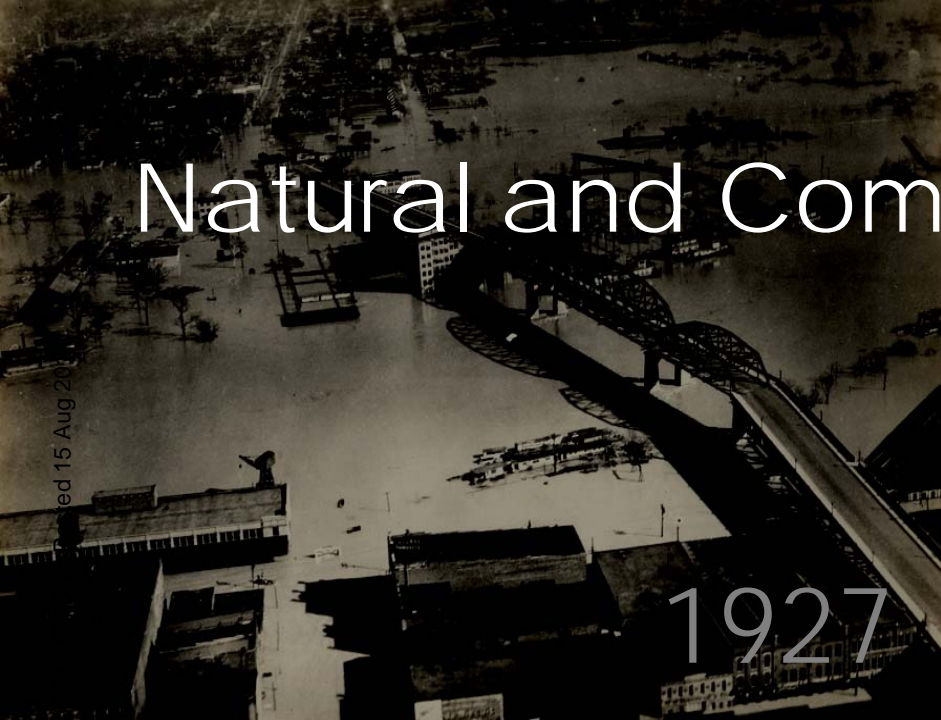


Response, Risk and Resilience

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Natural and Community Resilience



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