

Office of Cyber and Infrastructure Analysis

National Protection and Programs Directorate

Infrastructure Modeling: Crawl, Walk, Run ***Briefing for the GUIRR***

February 24, 2016



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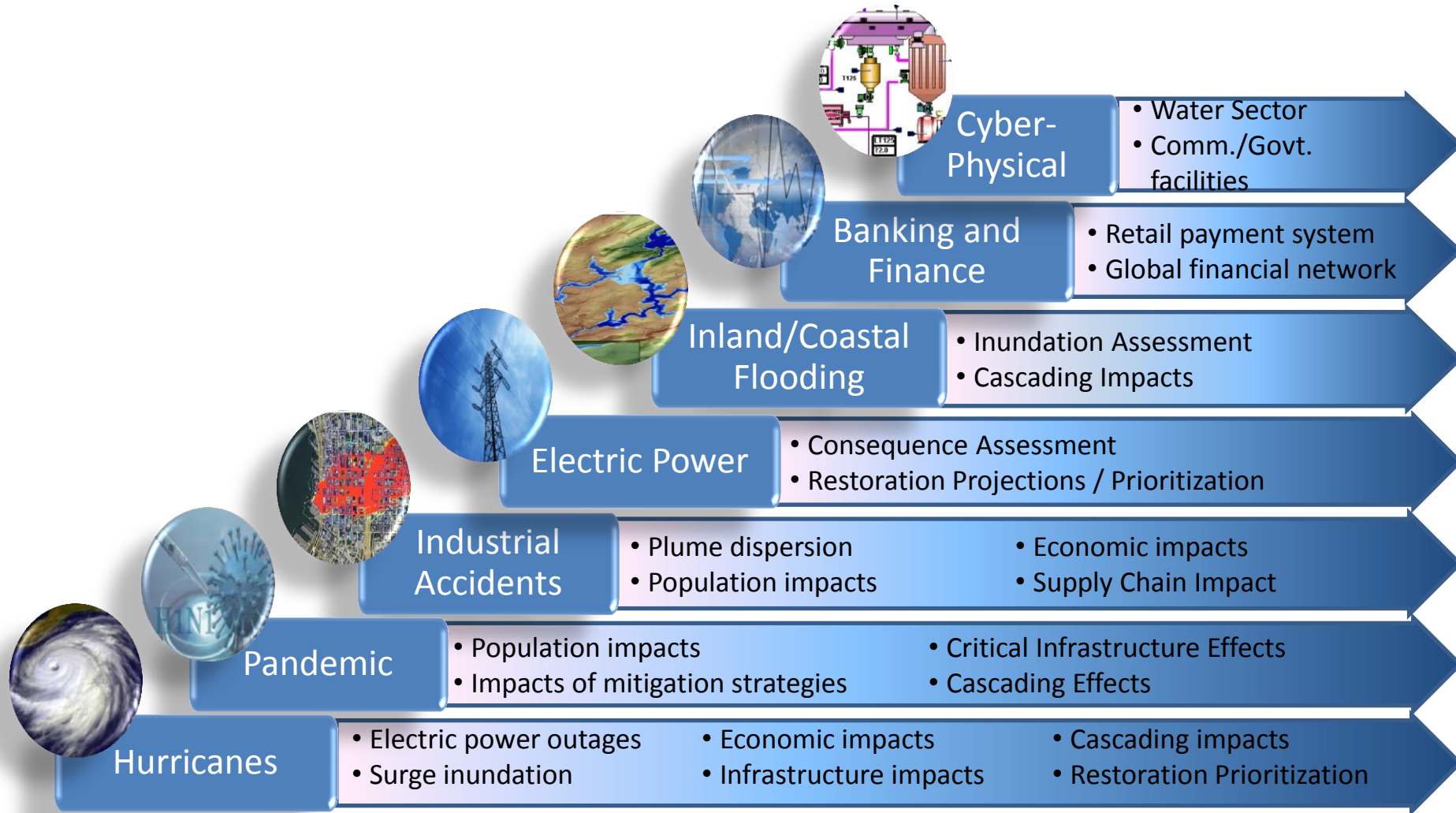
OCIA Vision

Strengthen the security and resilience of the Nation's critical infrastructure through innovative cyber and physical analysis

OCIA Mission

Inform the decisions that protect the Nation's critical infrastructure

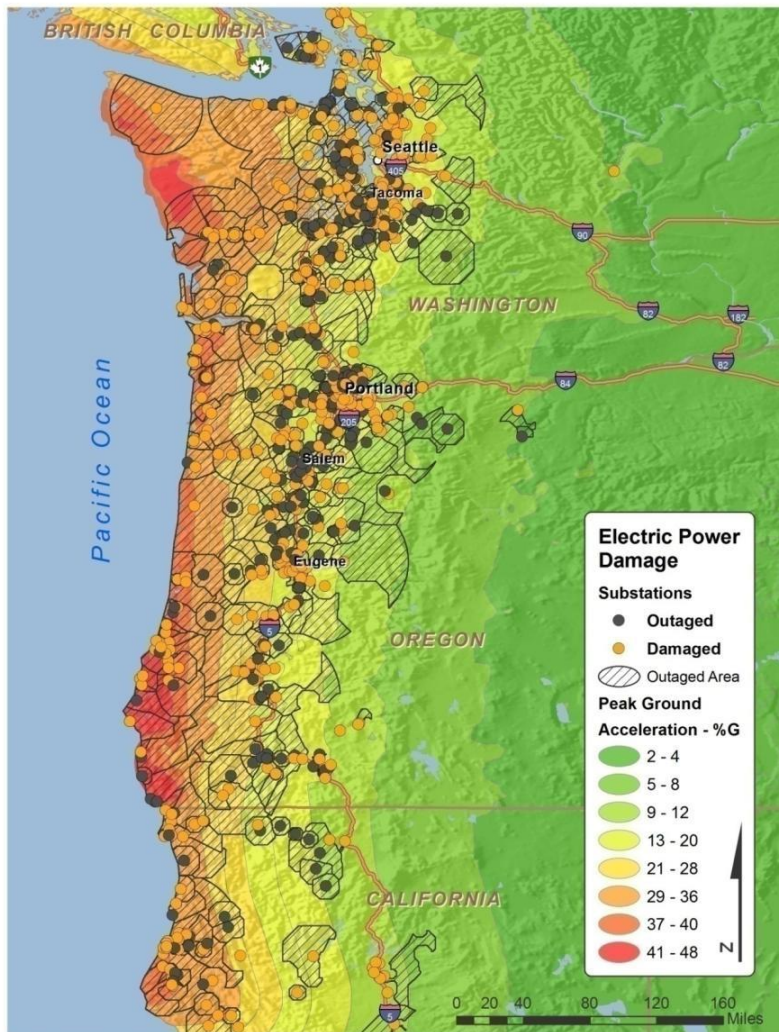
OCIA Analytic Evolution



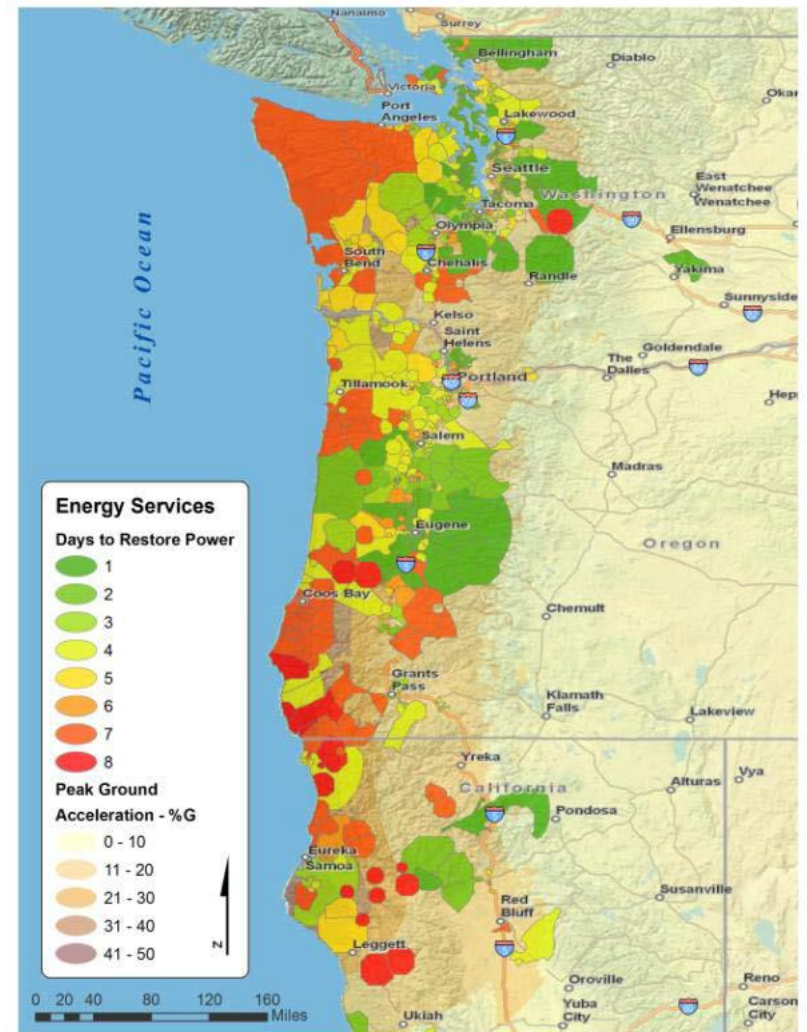
I. Planning for Infrastructure Disruptions



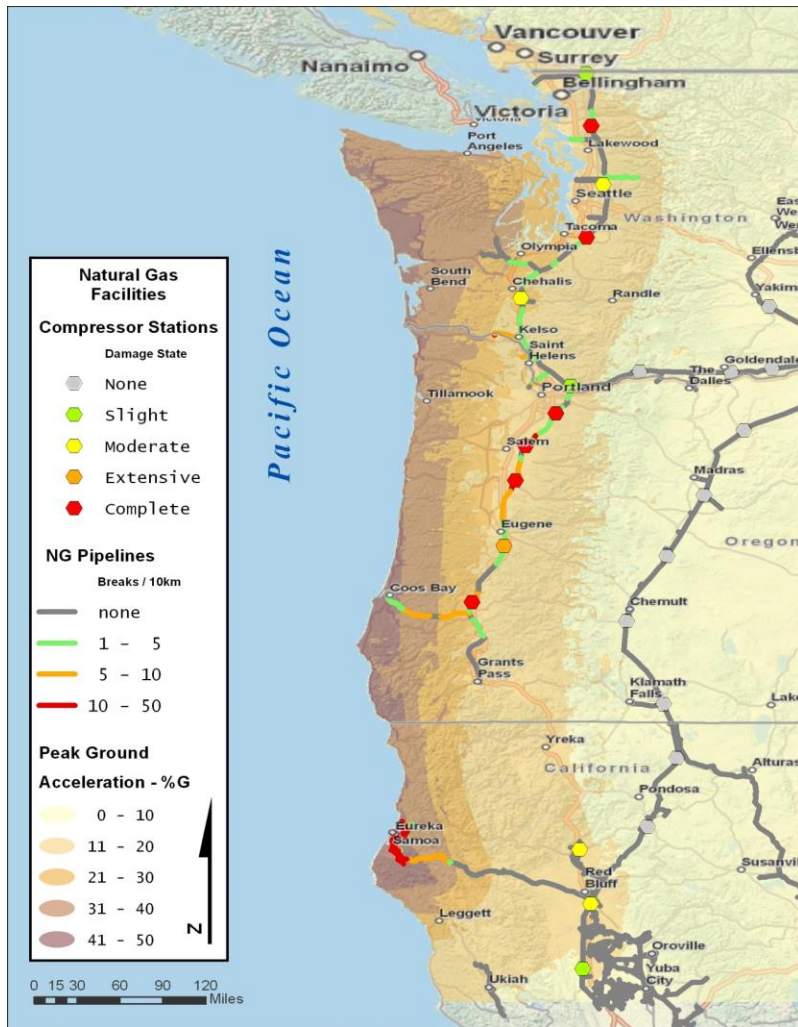
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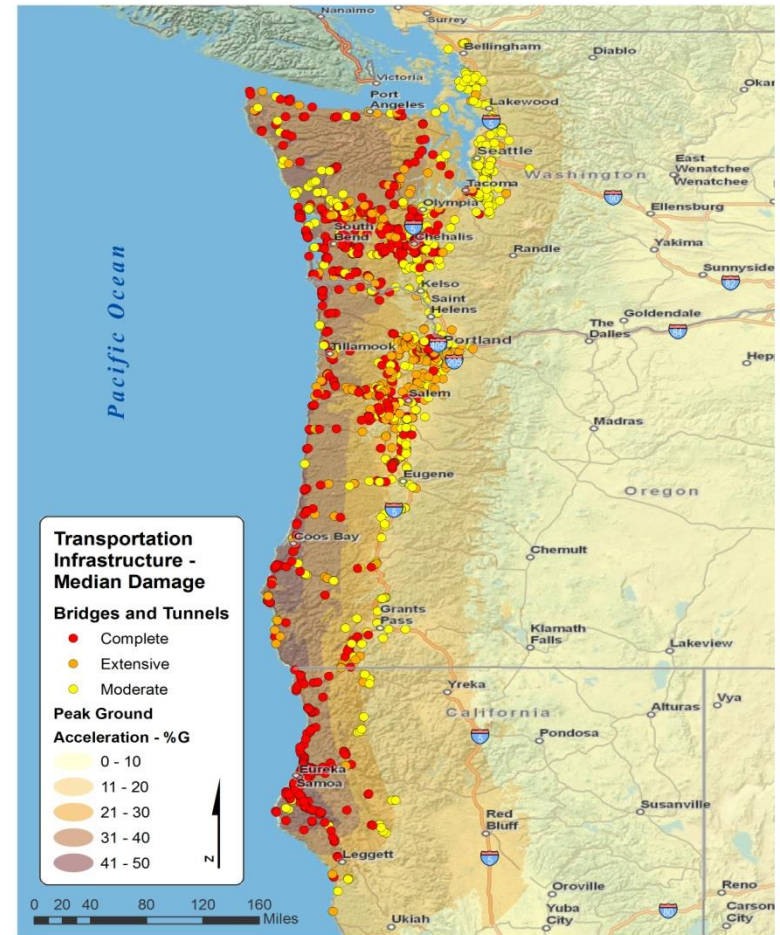
Electric power infrastructure damaged and outaged



Estimated restoration times for damaged and outaged substations



Estimated damage to natural gas pipelines and compressor stations

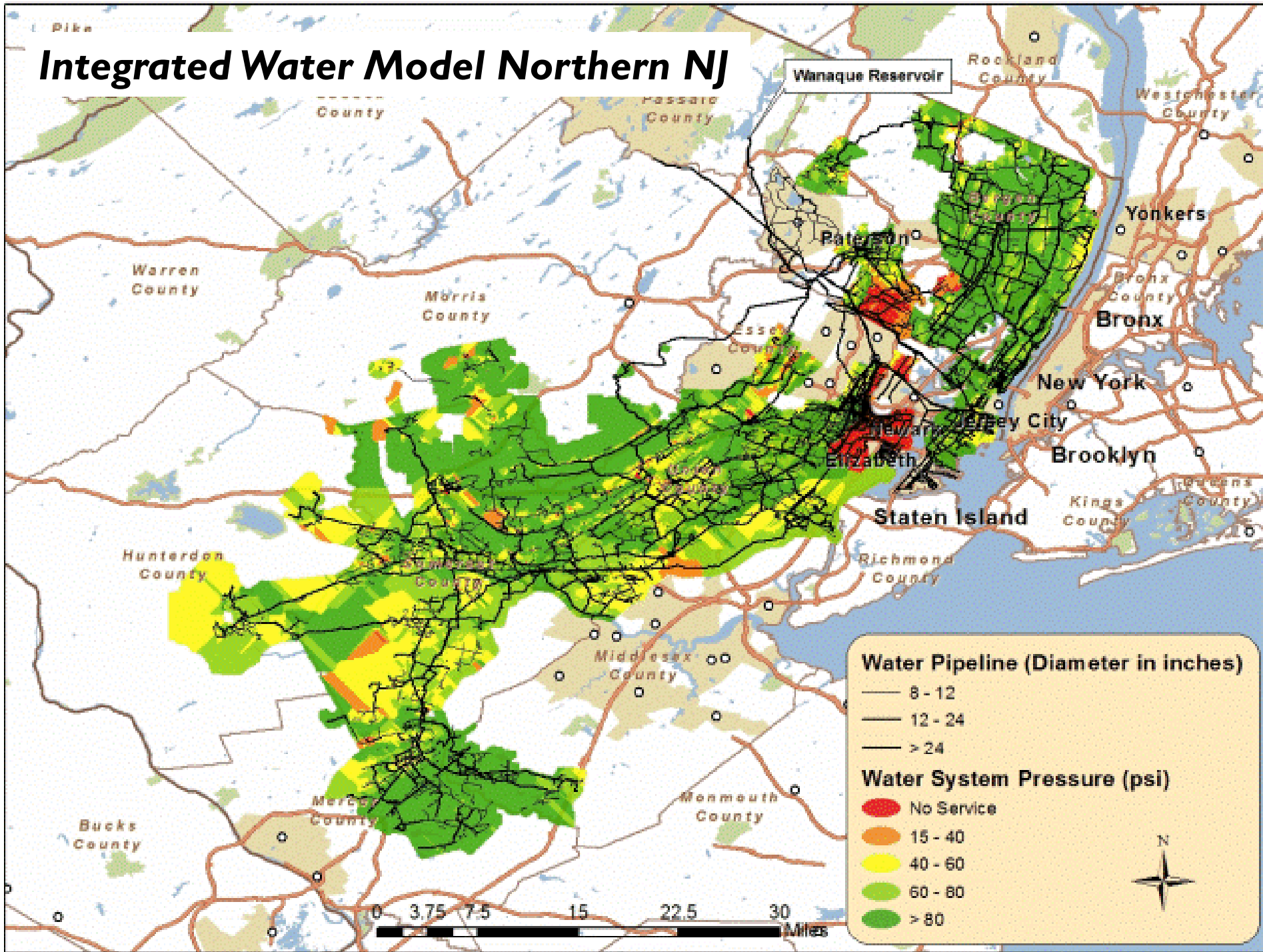


Expected damage to highway bridges and tunnels in the Cascadia region



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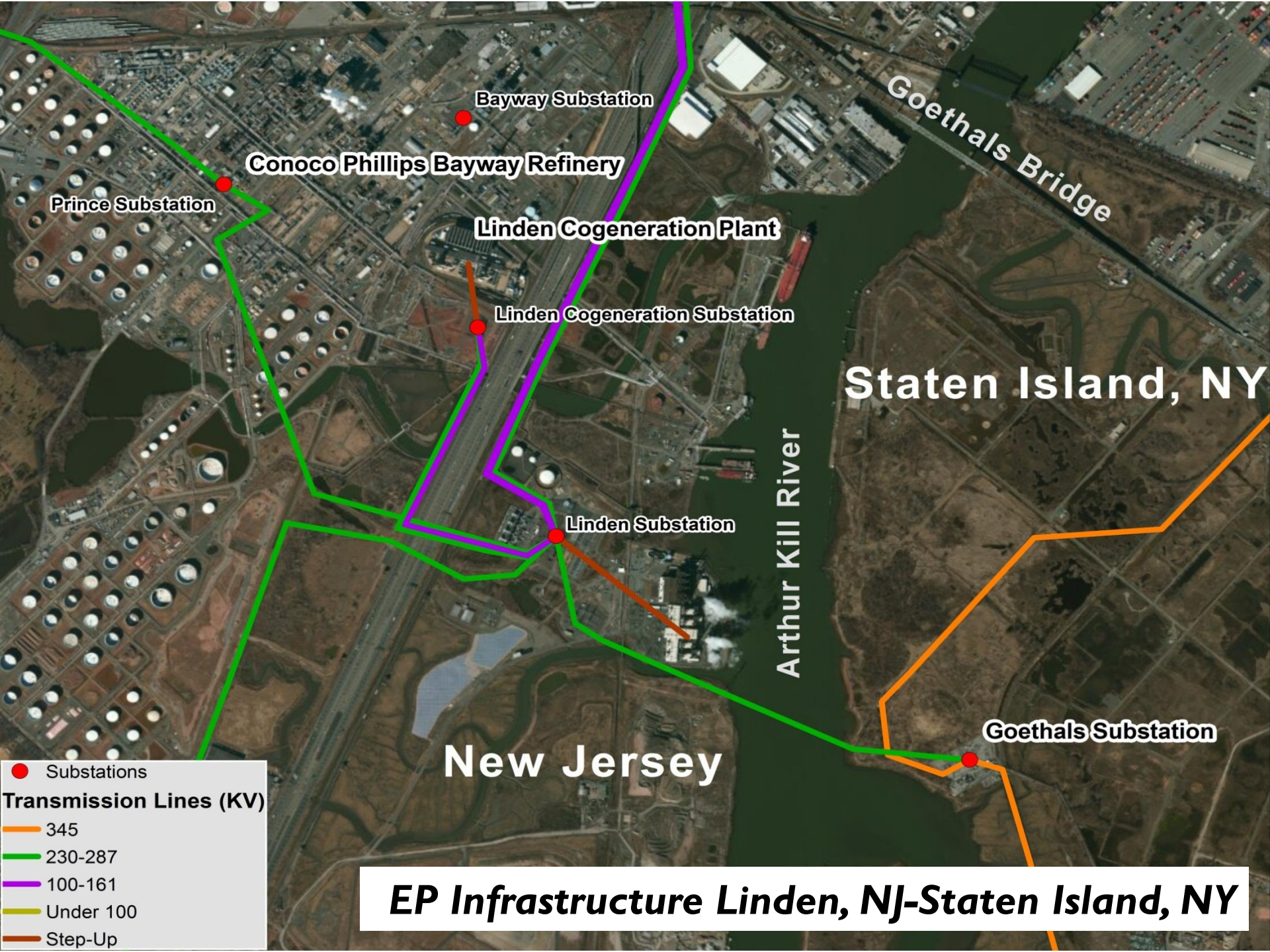
Integrated Water Model Northern NJ



II. Understanding Infrastructure Dependencies

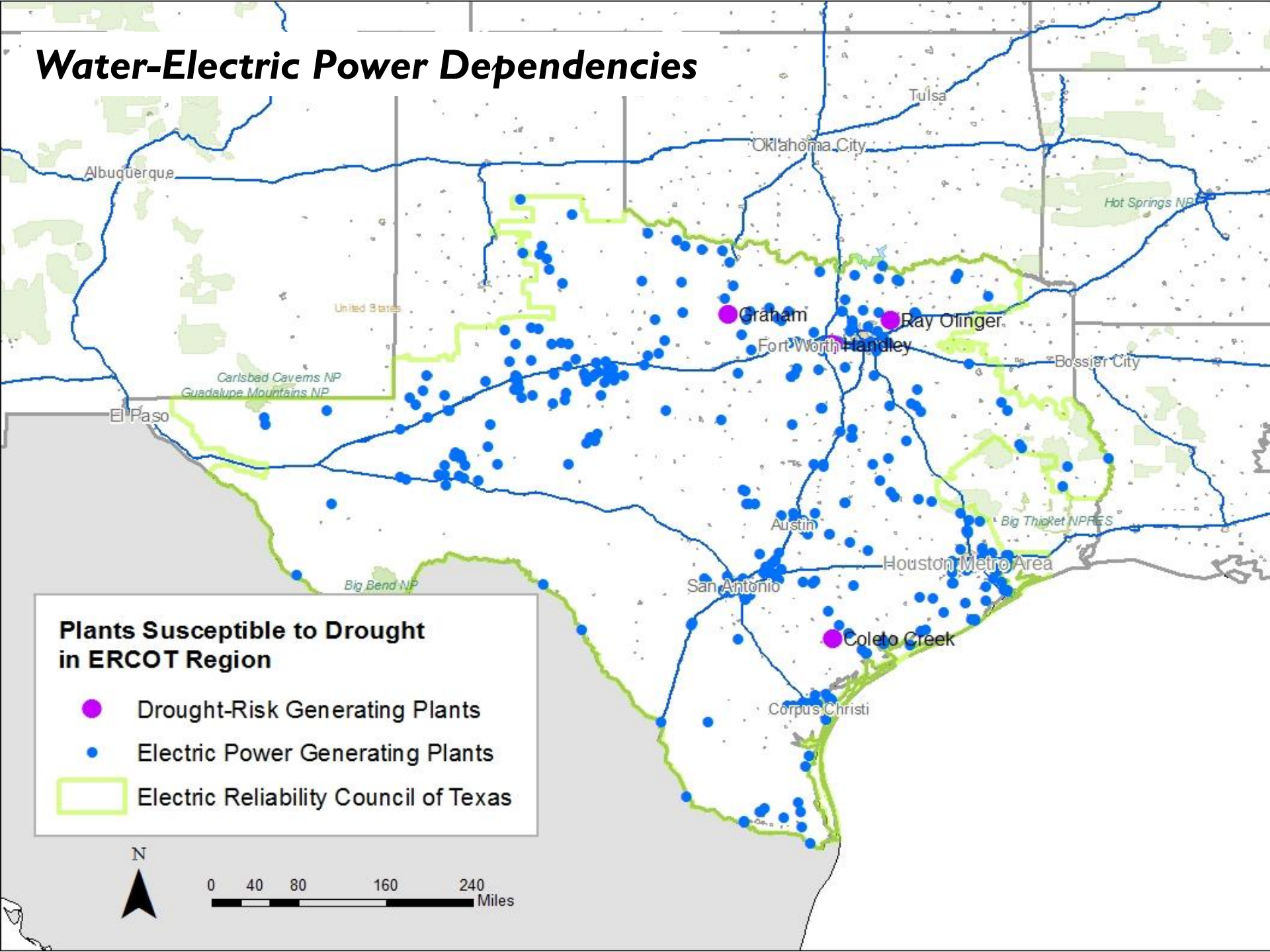


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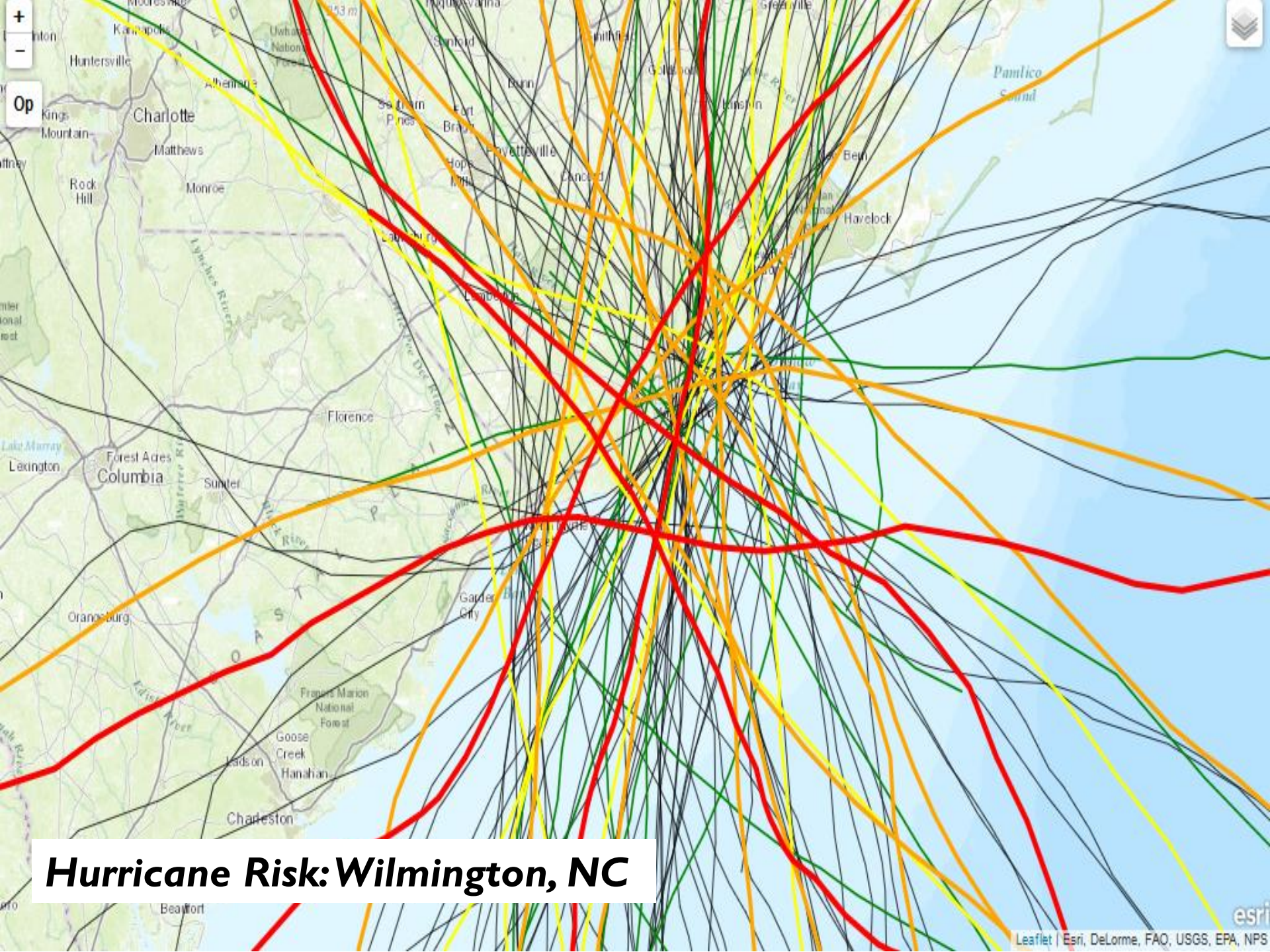
EP Infrastructure Linden, NJ-Staten Island, NY

Water-Electric Power Dependencies

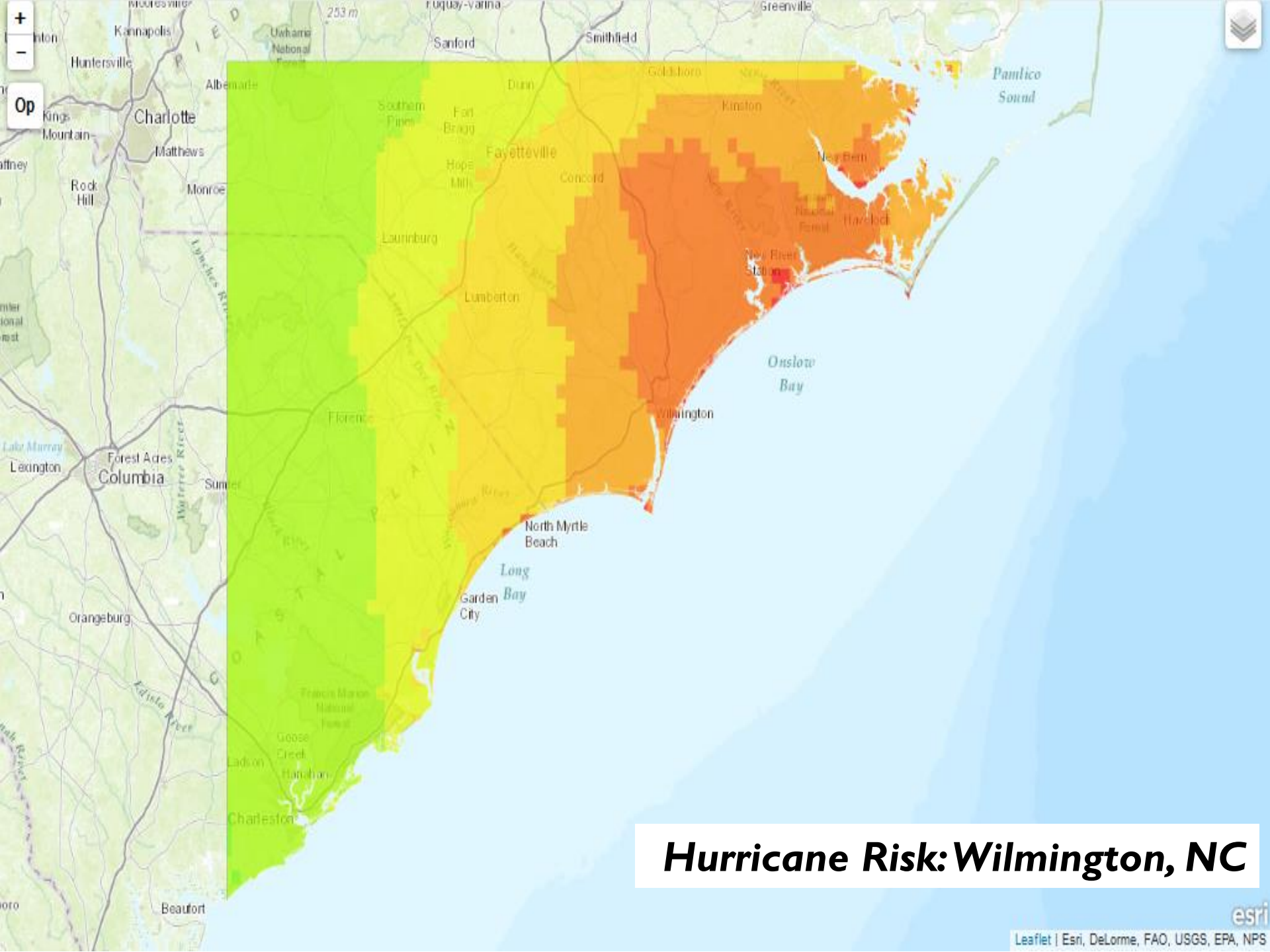


III. Modeling Uncertainty





Hurricane Risk: Wilmington, NC



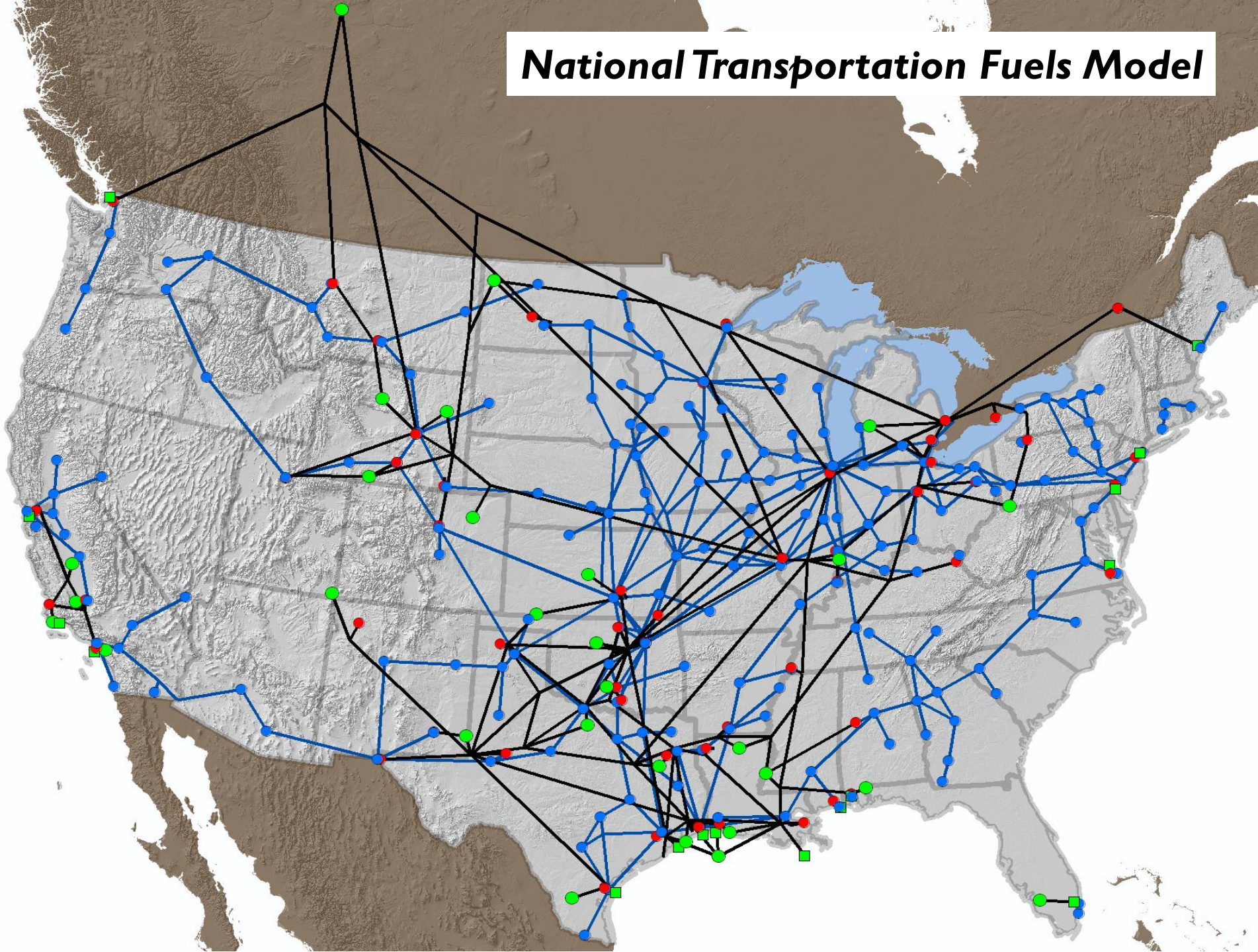
Hurricane Risk: Wilmington, NC

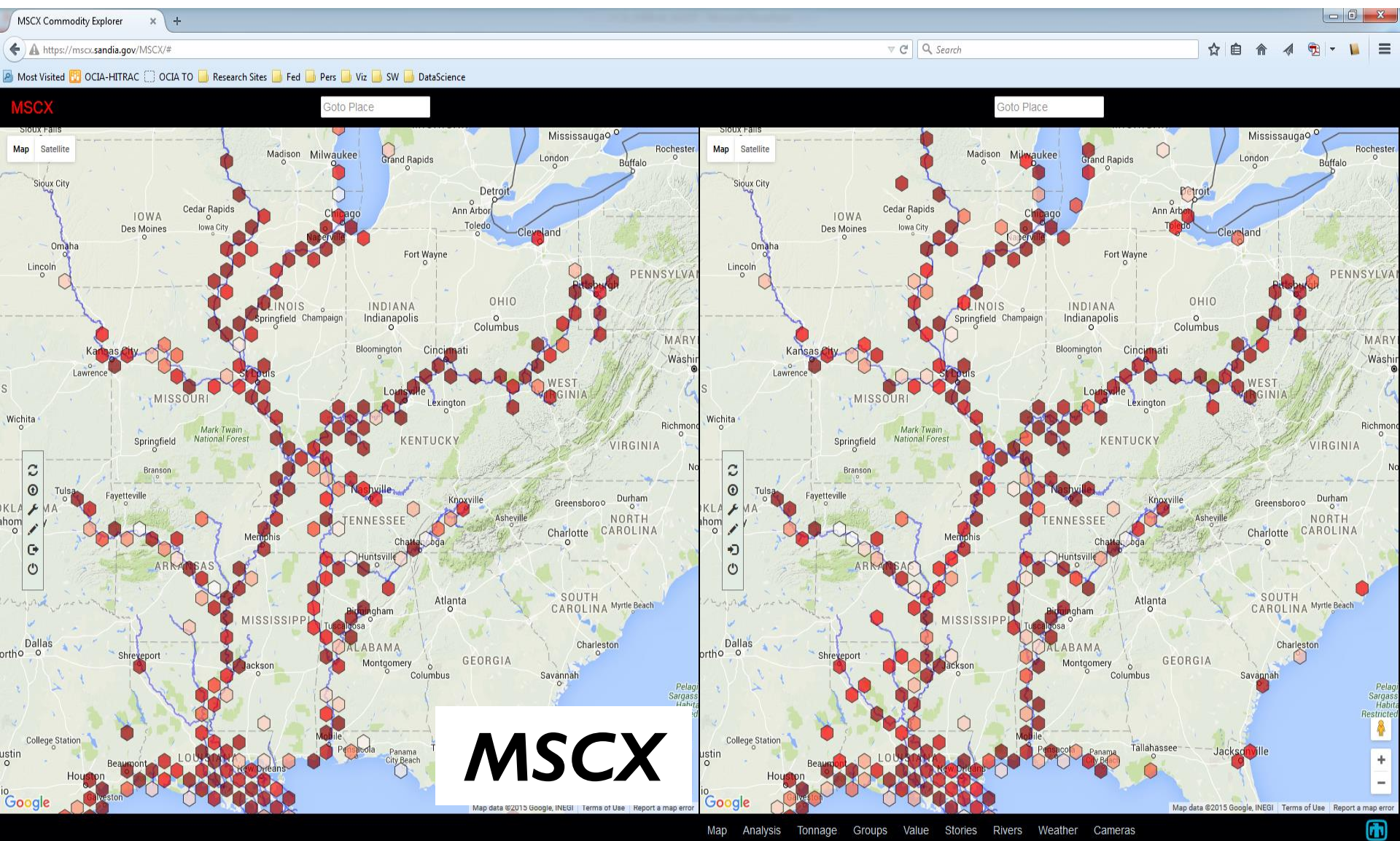
IV. Modeling Supply Chains



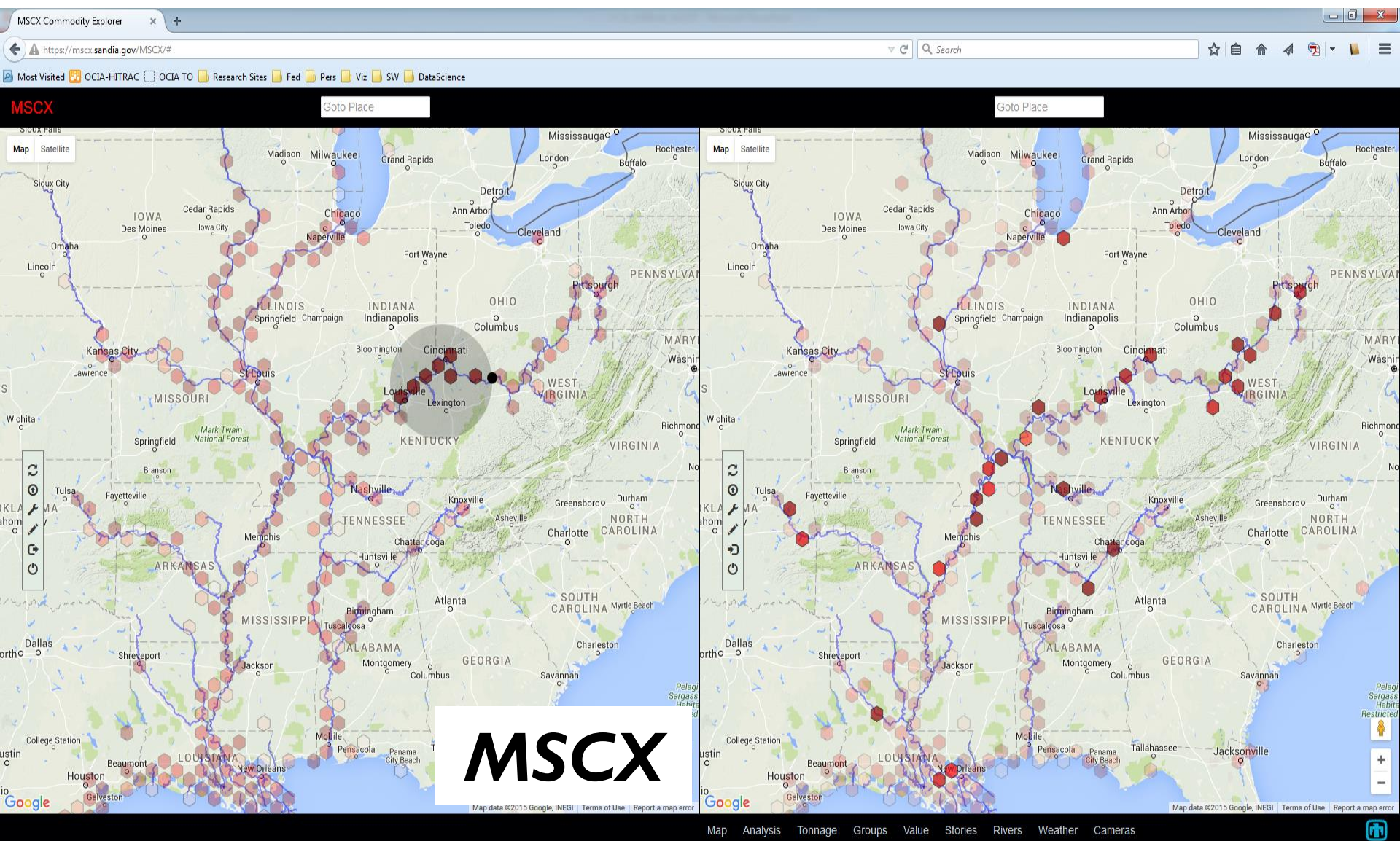
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National Transportation Fuels Model



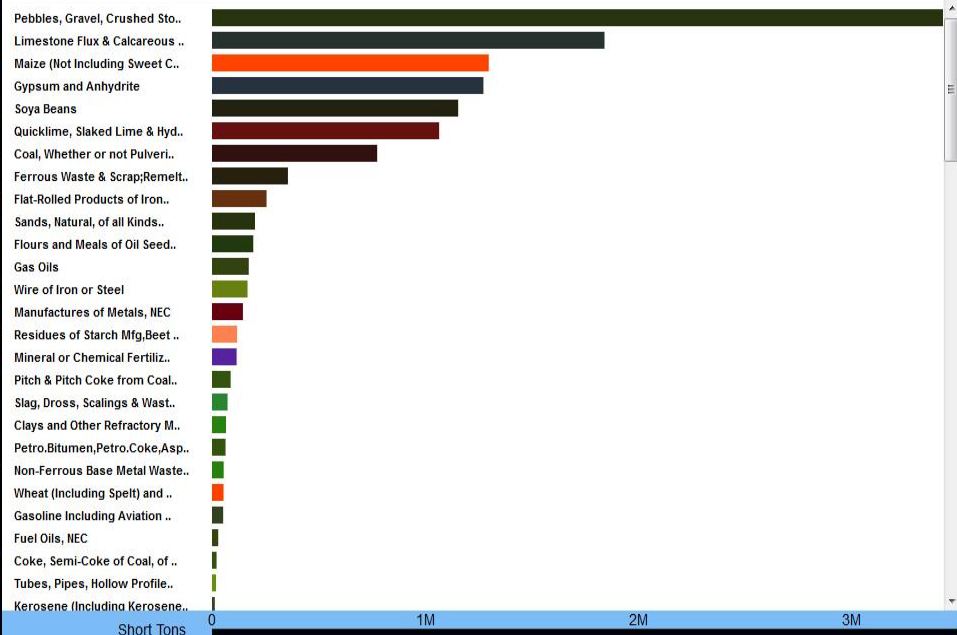
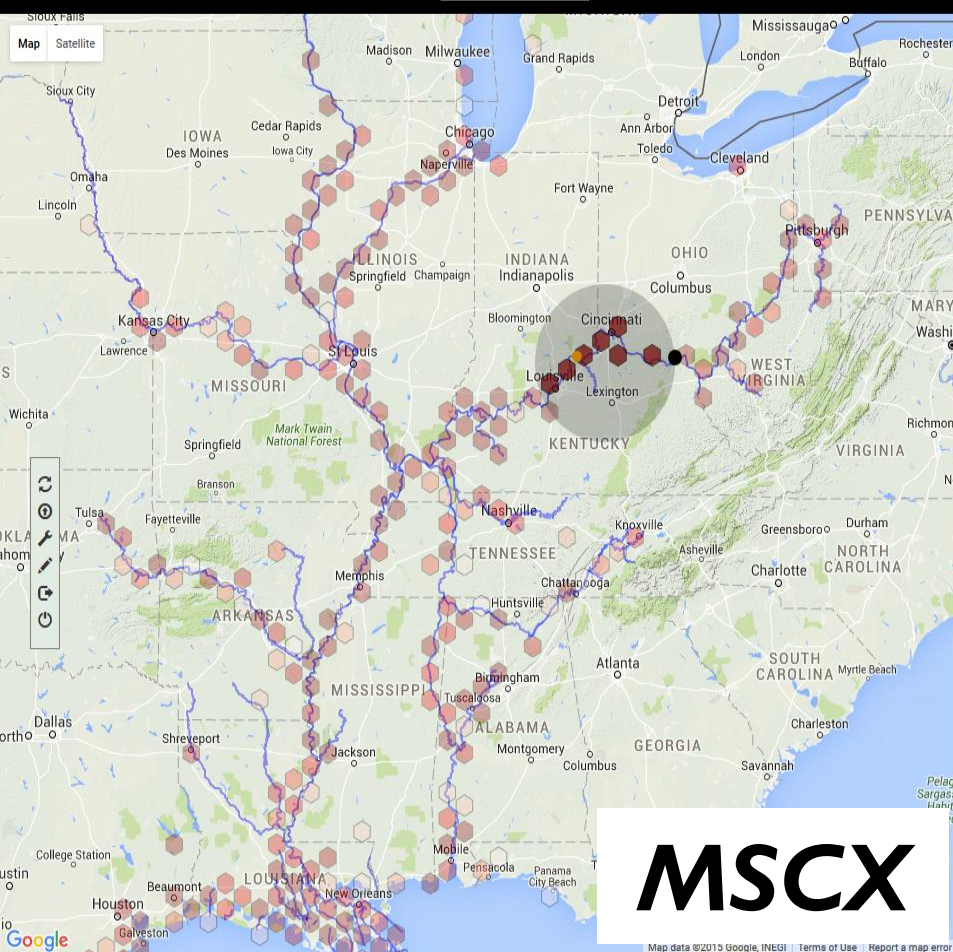


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Goto Place

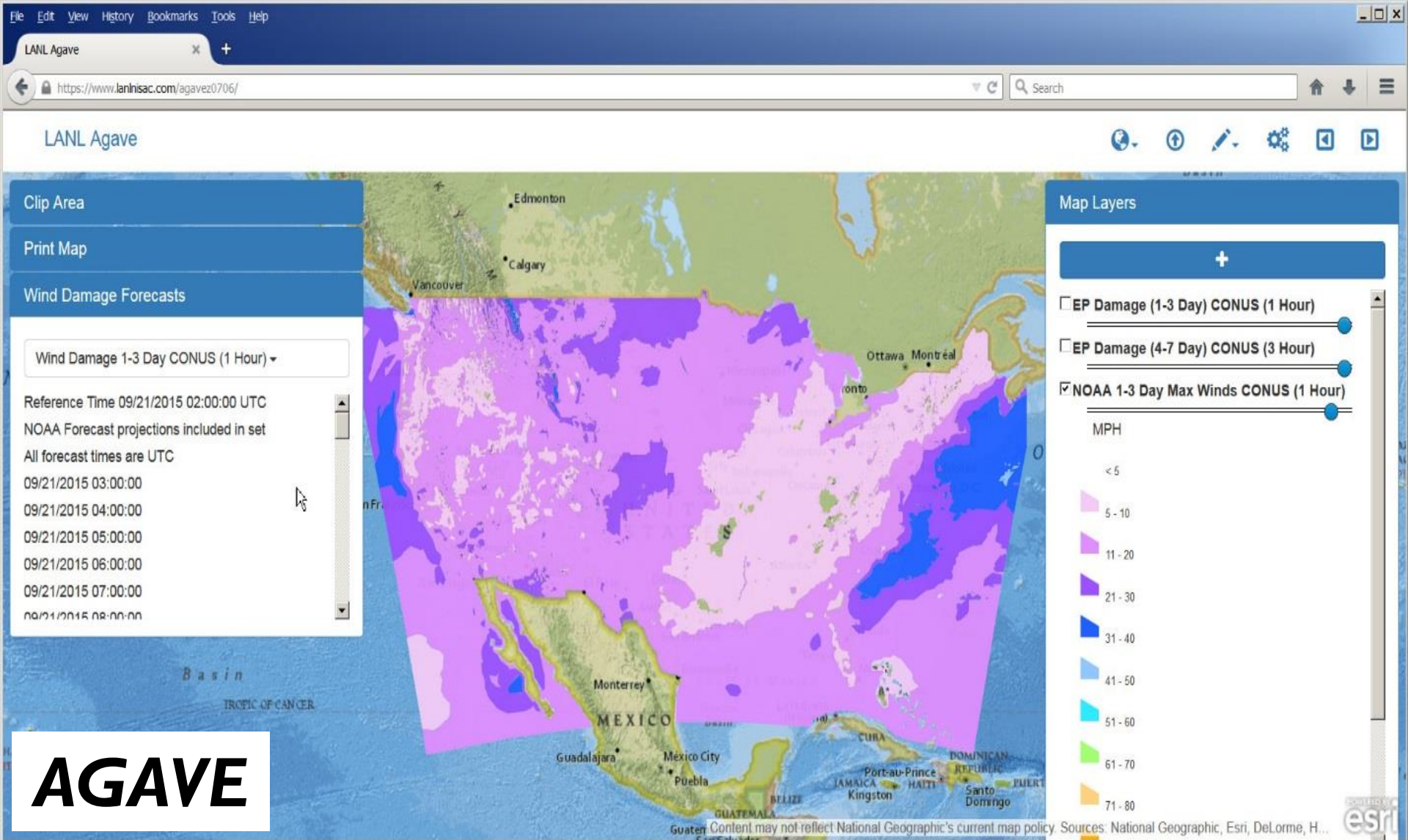


Send Port	Tonnage	Recv Port	Tonnage
CARMEUSE LIME, MAYSVILLE OPERATION	1695097	NUGENT SAND CO.	14776046
HILLTOP BASIC RESOURCES, INC. PATRIOT	1370219	ZEN-NOH GRAIN CORP. WHARF.	1011632
MILE 577 OHIO RIVER	1258374	LAFARGE GYPSUM	761077
CARMEUSE LIME & STONE, BLACK RIVER OPERATION	1052279	HILLTOP BASIC RESOURCES, INC. EAST CINCINNA.	580103
CINCINNATI BULK TERM DIV OF HATFIELD TERM	1033988	OHIO POWER CO., GENERAL JAMES M. GAVIN PLAN.	561528
TRANSCONTINENTAL TERMINALS INC	714600	FIRST ENERGY PENN POWER CO., BRUCE MANSFIE.	509173
MARTIN MARIETTA CORP/LANE QUARRY	681185	CARGILL, INC. - NAGOC, RESERVE ELEVATOR WHARF	477040
CONSOLIDATED GRAIN & BARGE	590501	HILLTOP BASIC RESOURCES, INC. RIVER TERMINAL	446858
CARGILL INC	575670	THE DAYTON POWER & LIGHT CO	400024
CINCINNATI GAS & ELEC CO	499920	UNITED STATES GYPSUM CO., ALQUIPPA PLANT D..	399557
GALLATIN TRANSIT	421858	CARGILL INC WESTWEGE ELEVATOR WHARF	307557
MULZER CRUSHED STONE	375643	OHIO POWER CO., KAMMER POWER PLANT, COAL UN..	251682
THE DAYTON POWER & LIGHT CO	320290	KENTUCKY UTILITIES CO., INC.	248761
KINDER MORGAN ENERGY PARTNERS	311989	PRICE ISLAND TERMINAL, BELPRE & PORTERFIELD..	222398
NUGENT SAND CO	270194	ALLEGHENY ENERGY SUPPLY PLEASANTS/WILLOW IS..	210904

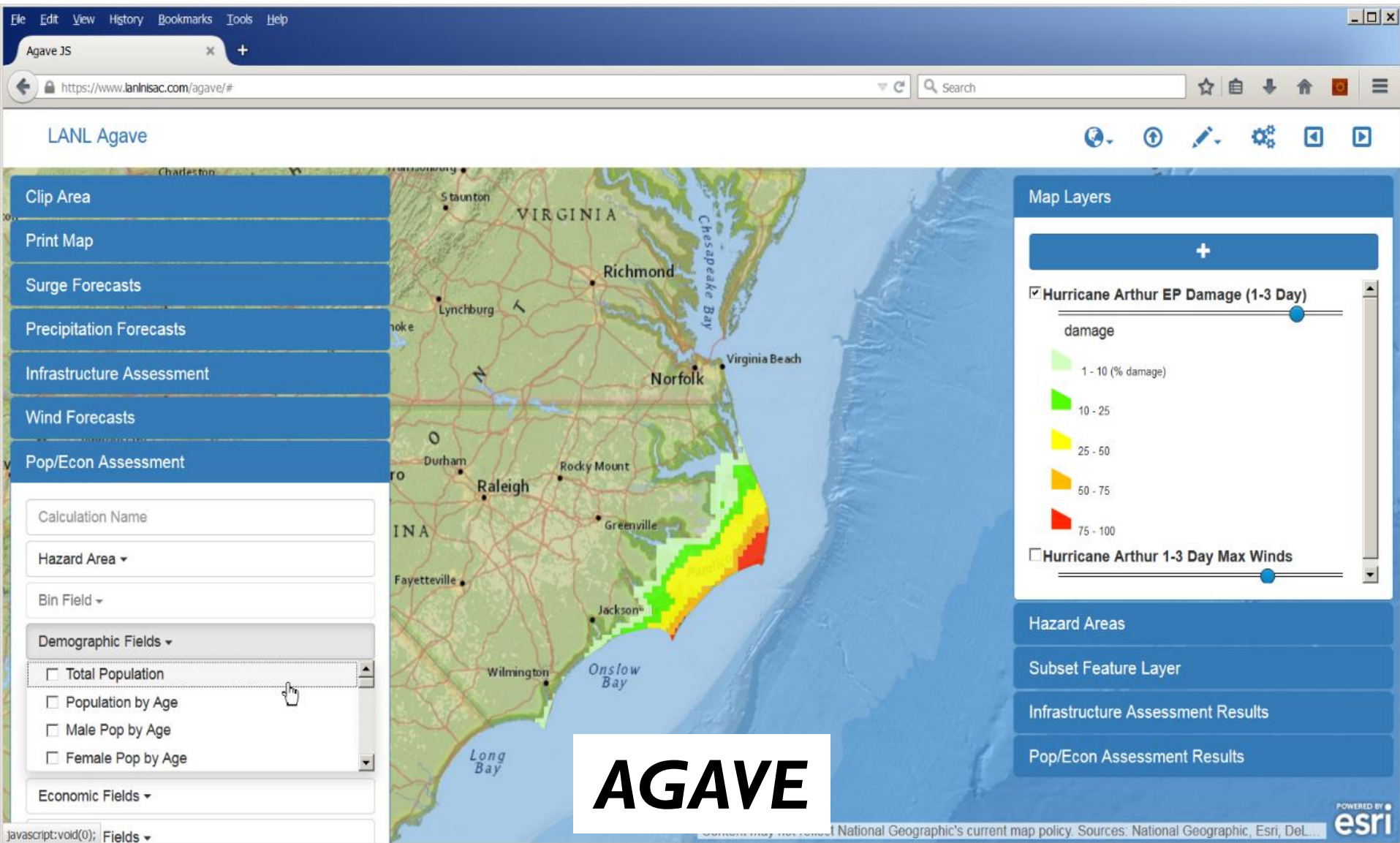
V. Modeling Democratization

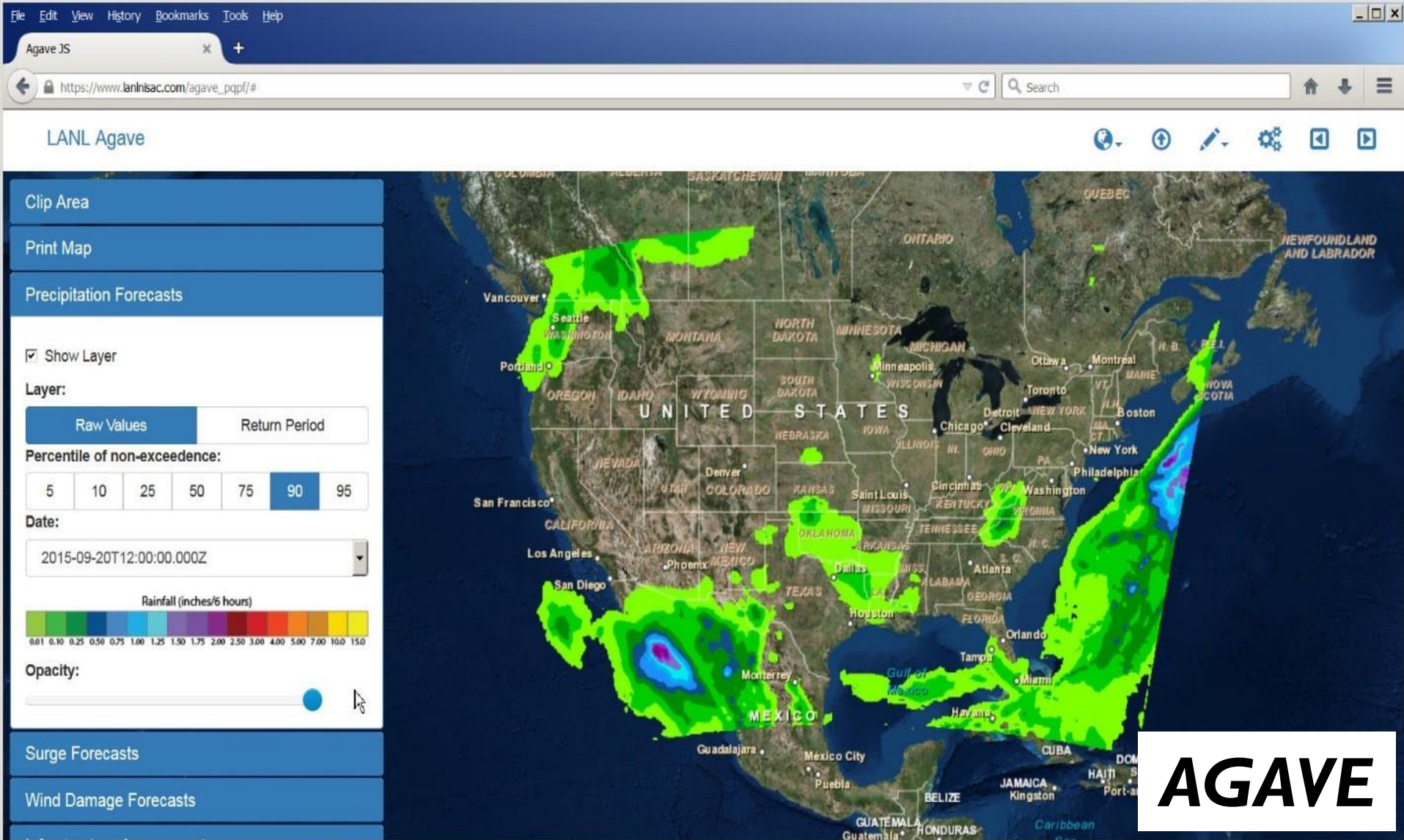


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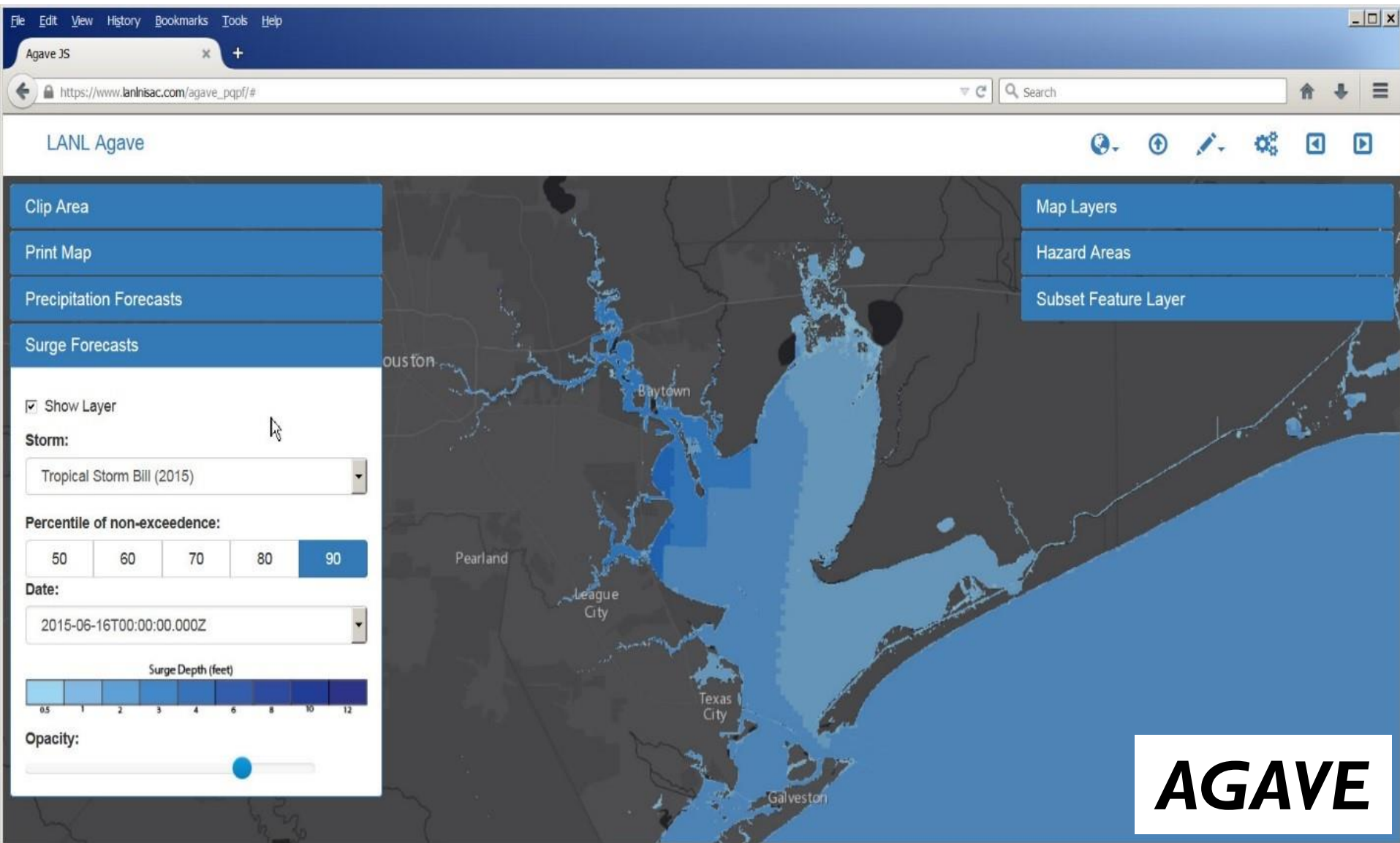


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Humility

Analytic Success in a Dynamic Environment



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For more information visit:
www.dhs.gov/office-cyber-infrastructure-analysis

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