Long Term Transmission Service Modeling and Studies

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RTEP Case Interchange

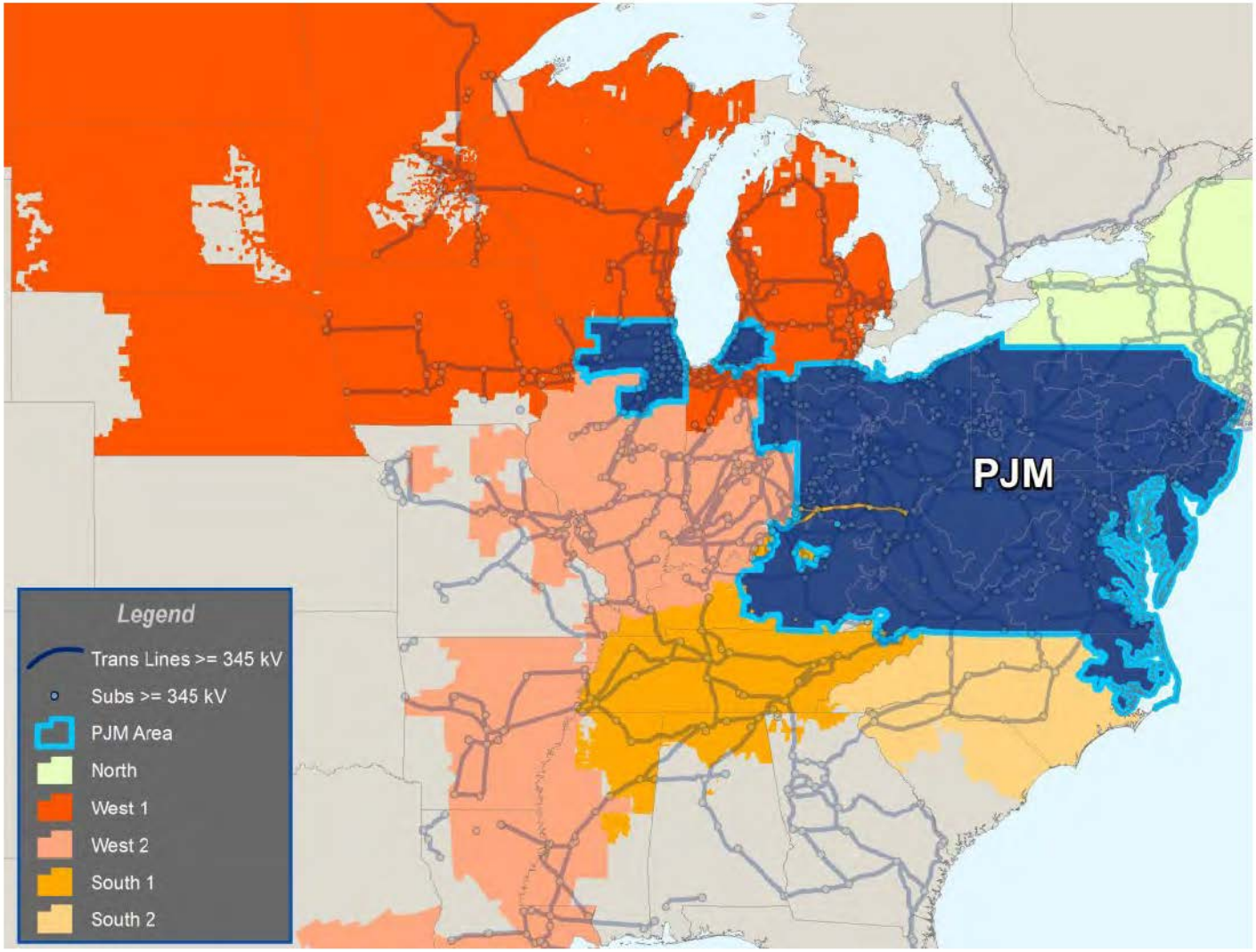
- Current option proposed (used in studies to follow)
  - Model multiple cases
    - Model all flows in to PJM and not model flows out
    - Model flows out of PJM based on utilization
      - Utilization peak at 65%
      - Firm commitment < 30%

Modeling Methods

- Current option proposed (used in studies to follow)
  - Basecase Vs Import Only (TSRs modeled in Sub file)
    - Simulates area transfers for Point to Point TSRs
    - Simulates individual generator dispatch for NEDS
    - TSRs not allowed to reduce loading based on counter flow

- Possible options:
  - Lower MW threshold
    - Initial thoughts good – subsequent studies found difficult
  - Decrease percentage impact threshold
    - Good representation of the impact
  - Changes rules for TSRs to only look for a minimum MW impact
    - Difficult to implement

CIL Zones

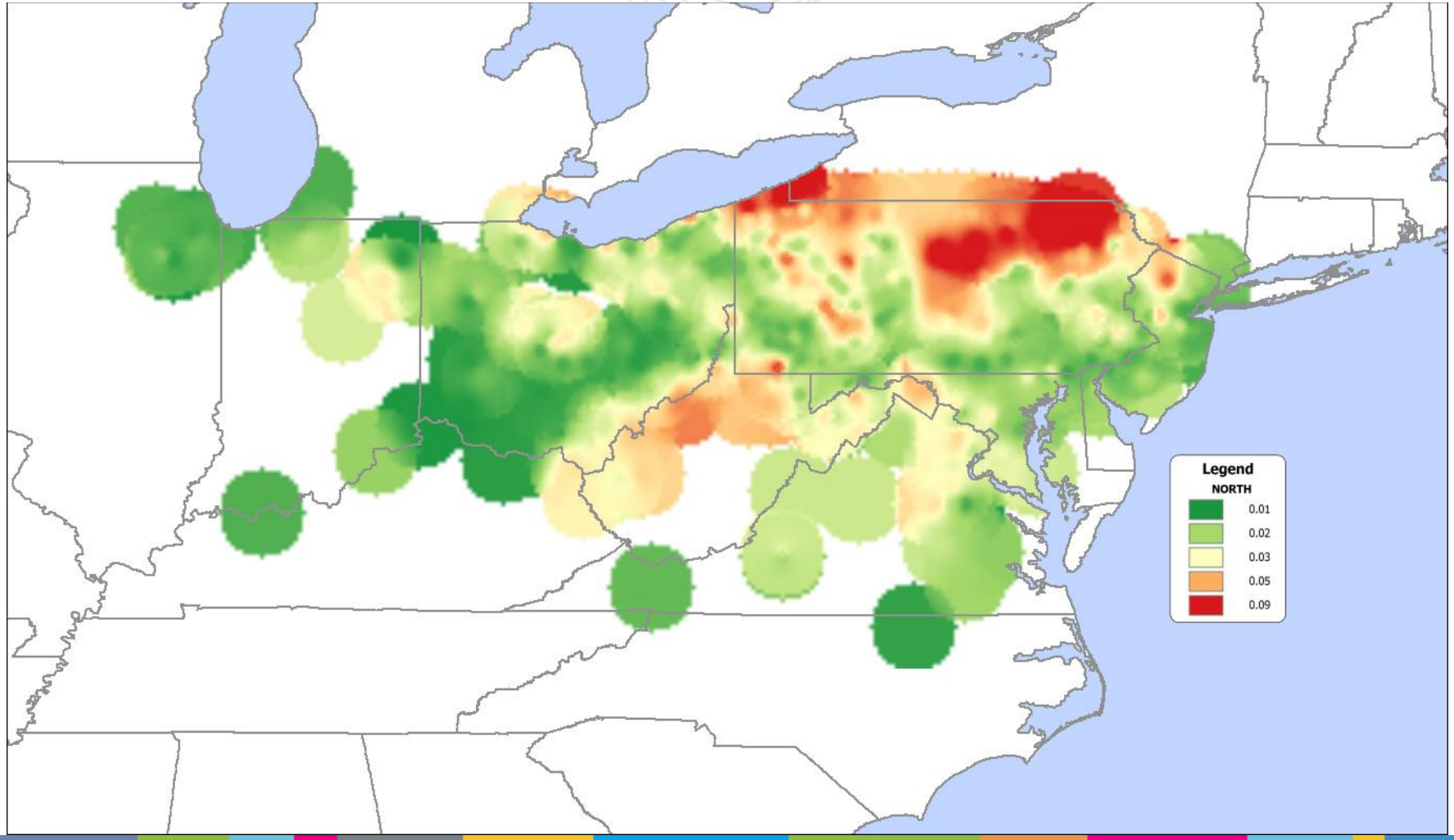


Review of Distribution Factor Impacts

- Transfer studies initiated from Capacity Import Limit (CIL) zones
- Studies conducted on summer peak planning cases
- 5% is current threshold
  - LTF projects distance from border decreases Dfax
  - MW impact exists regardless of proximity of the source of power
- Transfers include incorporation of CBM
- The slides which follow show the range of impacts associated with the measurement of those impacts with respect to the distribution factor associated with sources located in the region under study
  - Range of impacts:
    - 9%, 5%, 3%, 2%, 1%

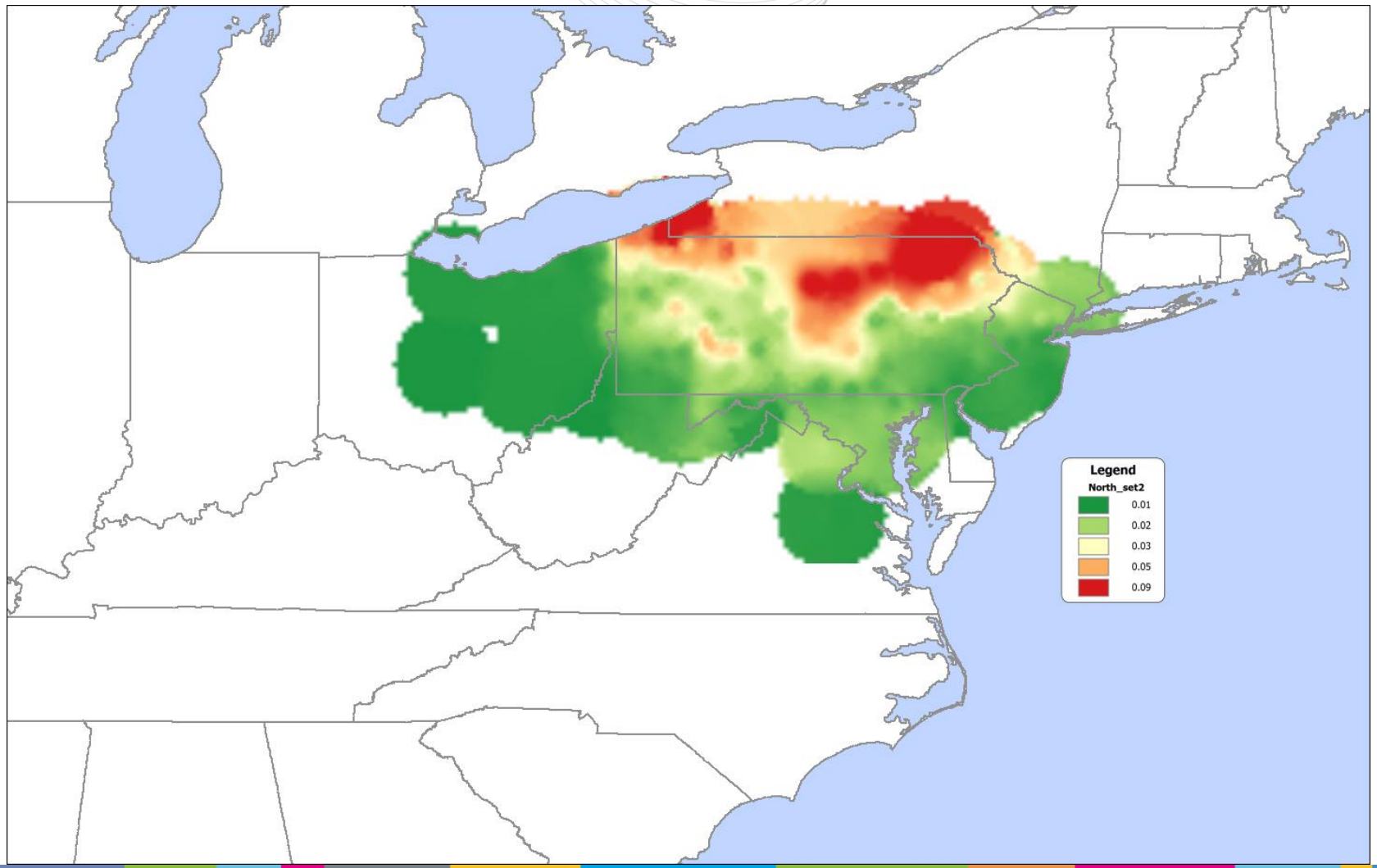
Review of Distribution Factor Impacts

North, all kV levels



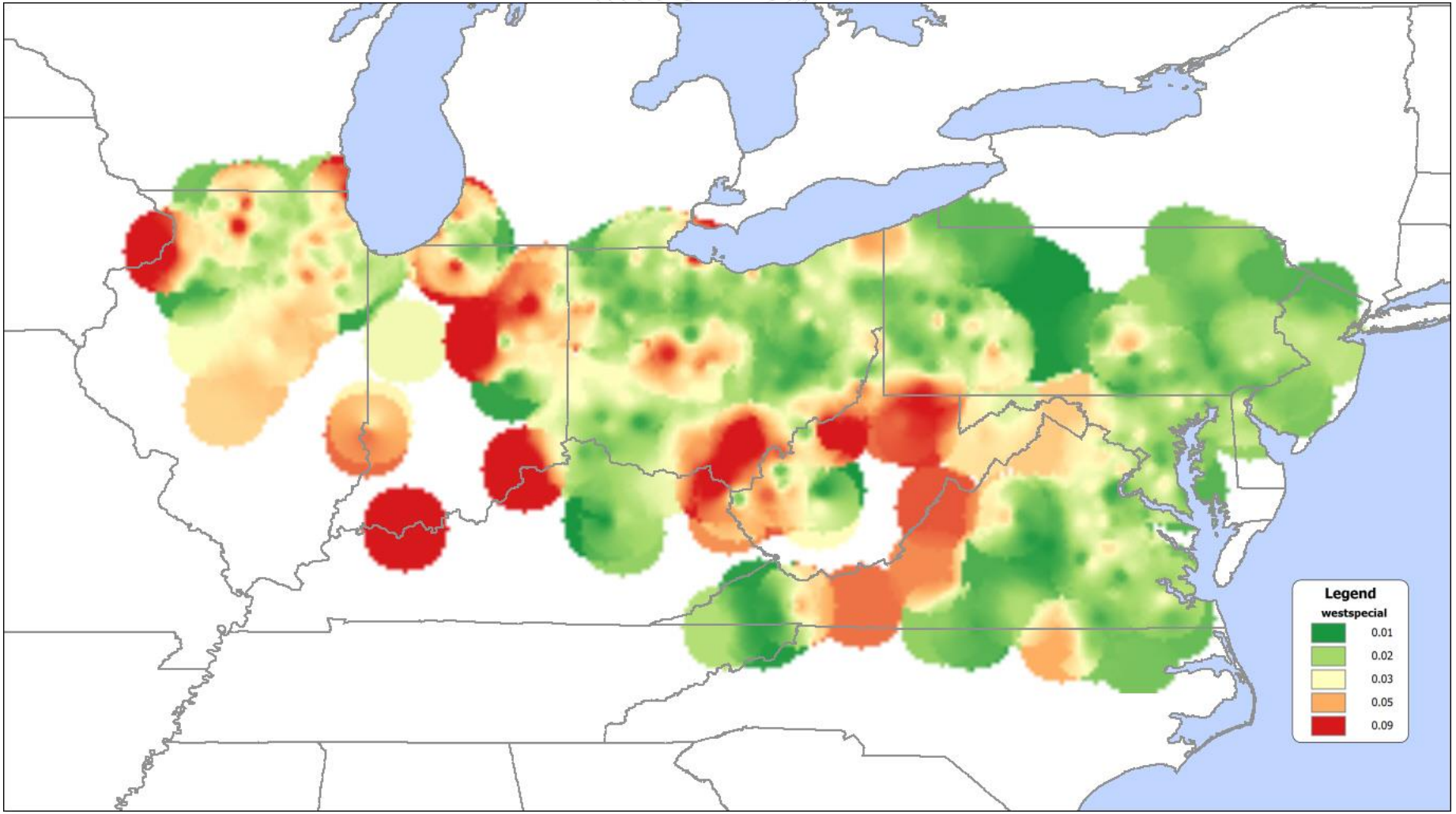
Review of Distribution Factor Impacts

- North, <345kV



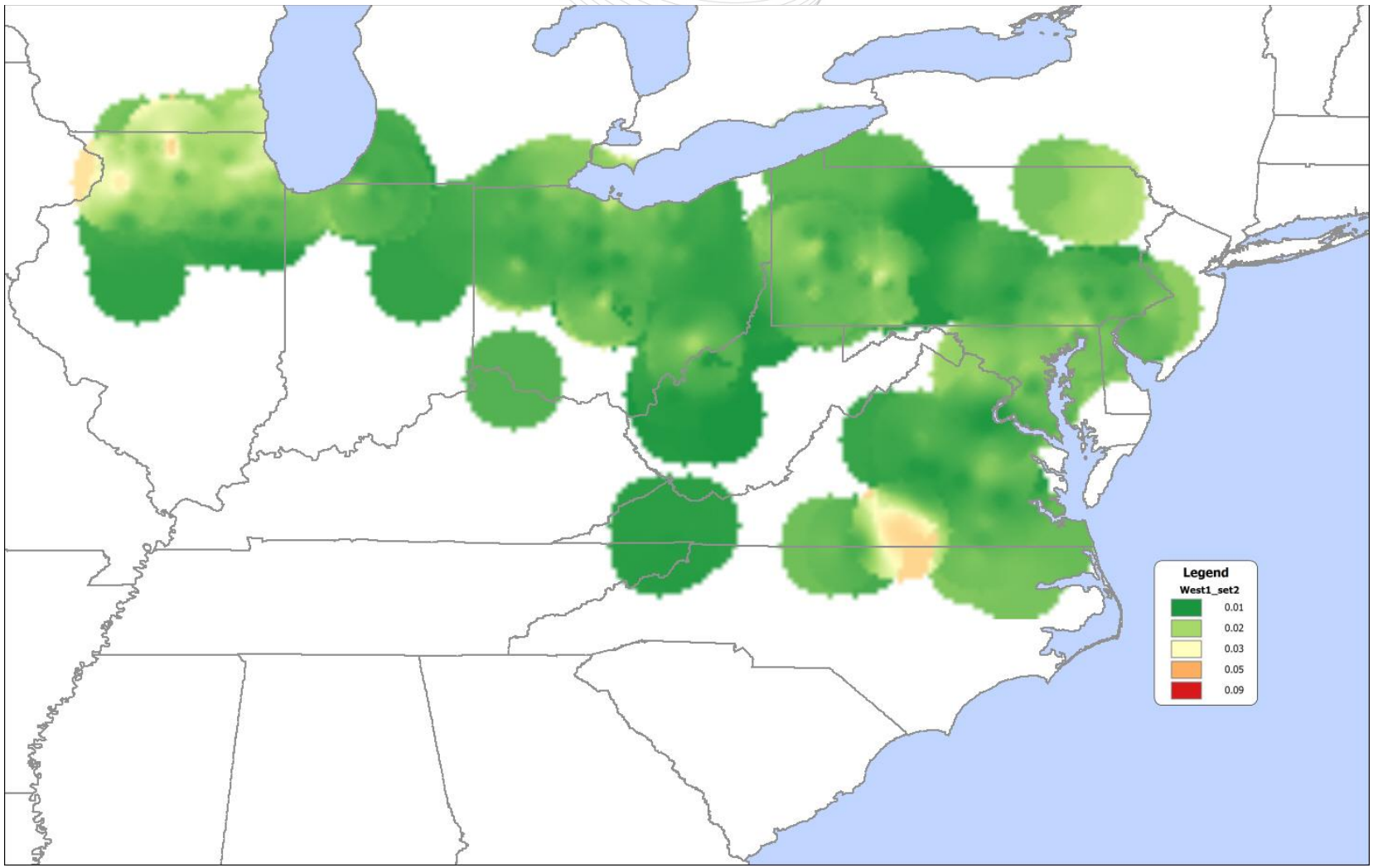
Review of Distribution Factor Impacts

West 1, all kV levels



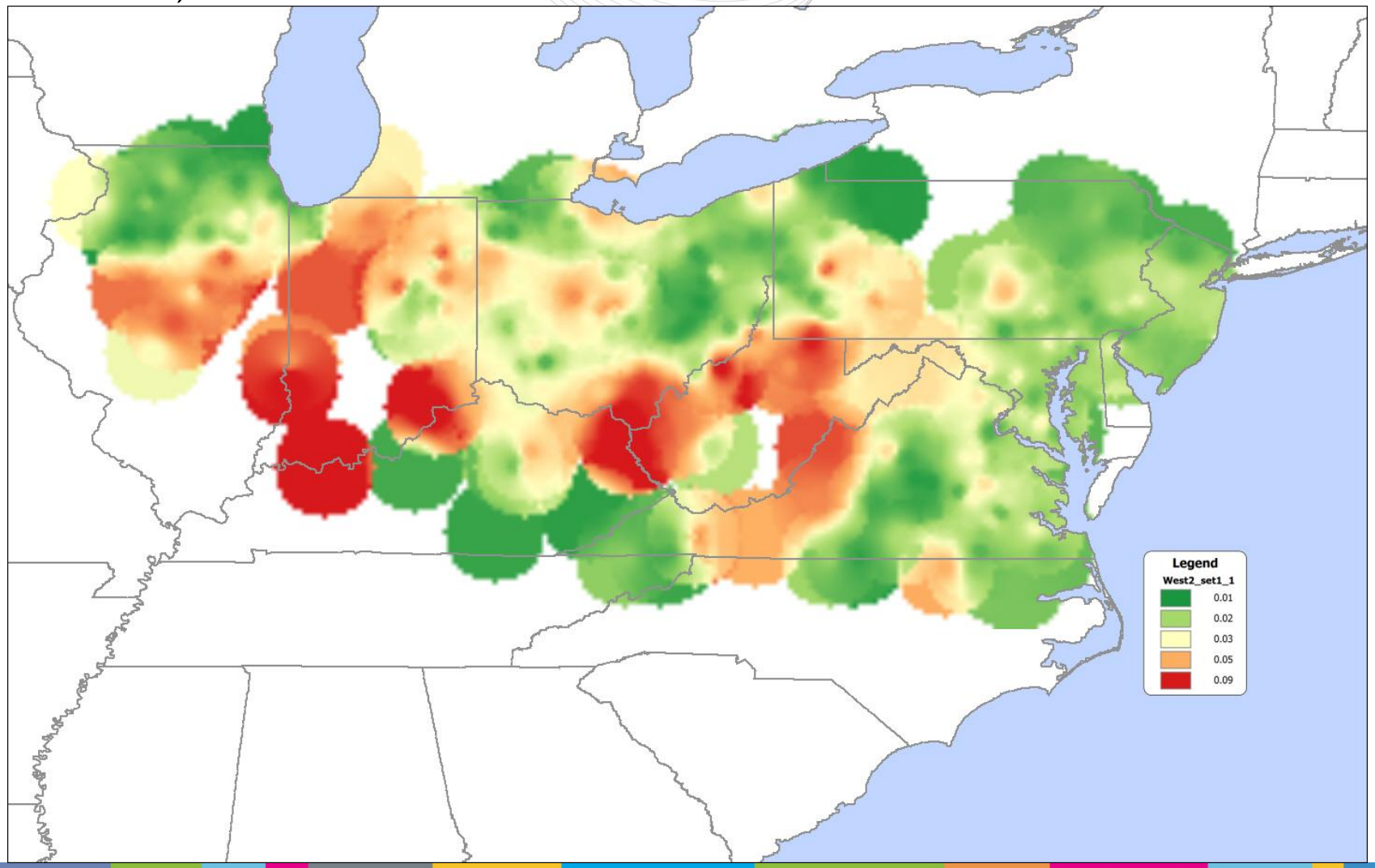
Review of Distribution Factor Impacts

West 1, <345kV



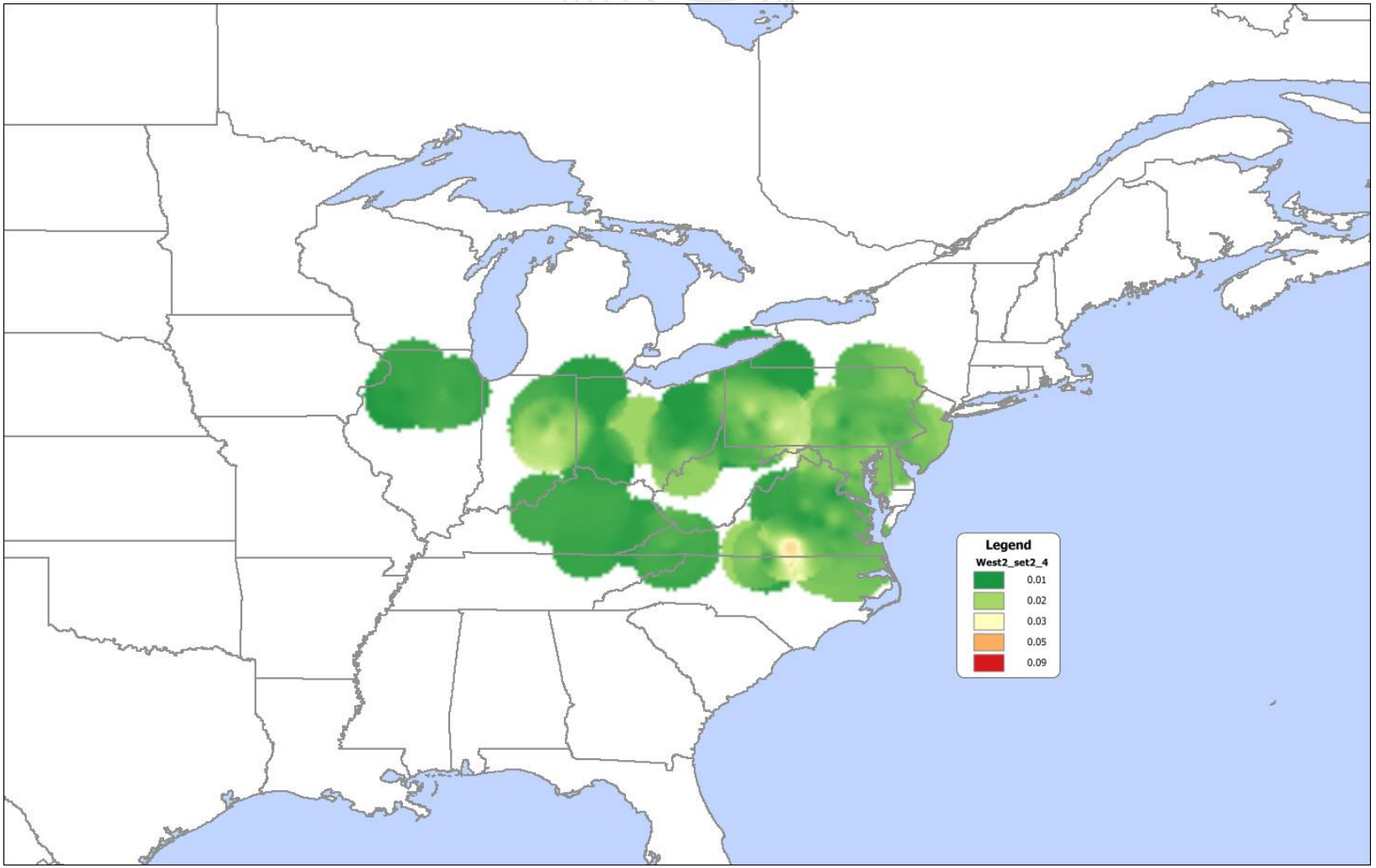
Review of Distribution Factor Impacts

West 2, all kV levels



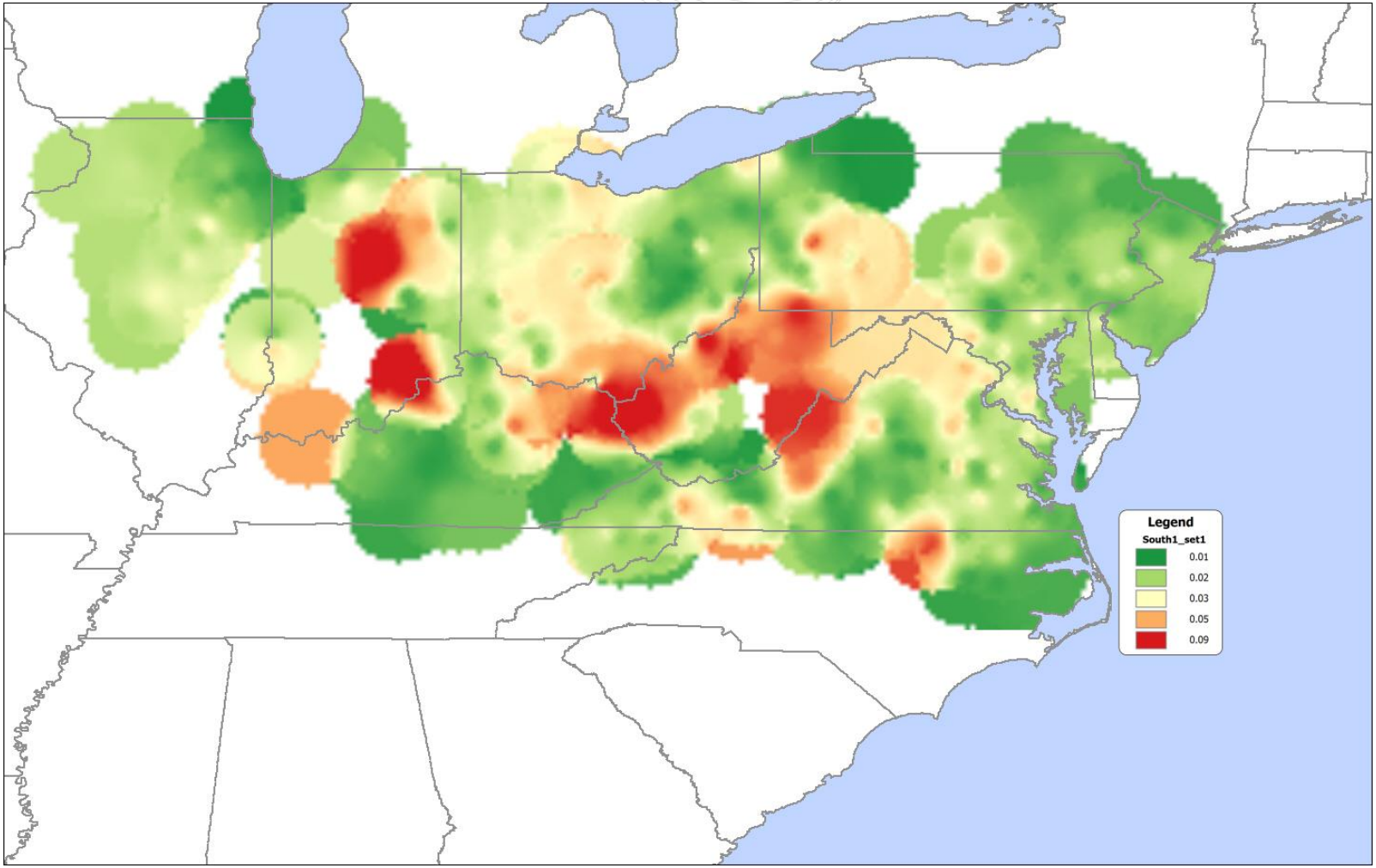
Review of Distribution Factor Impacts

West 2, <345kV



Review of Distribution Factor Impacts

South 1, all kV levels



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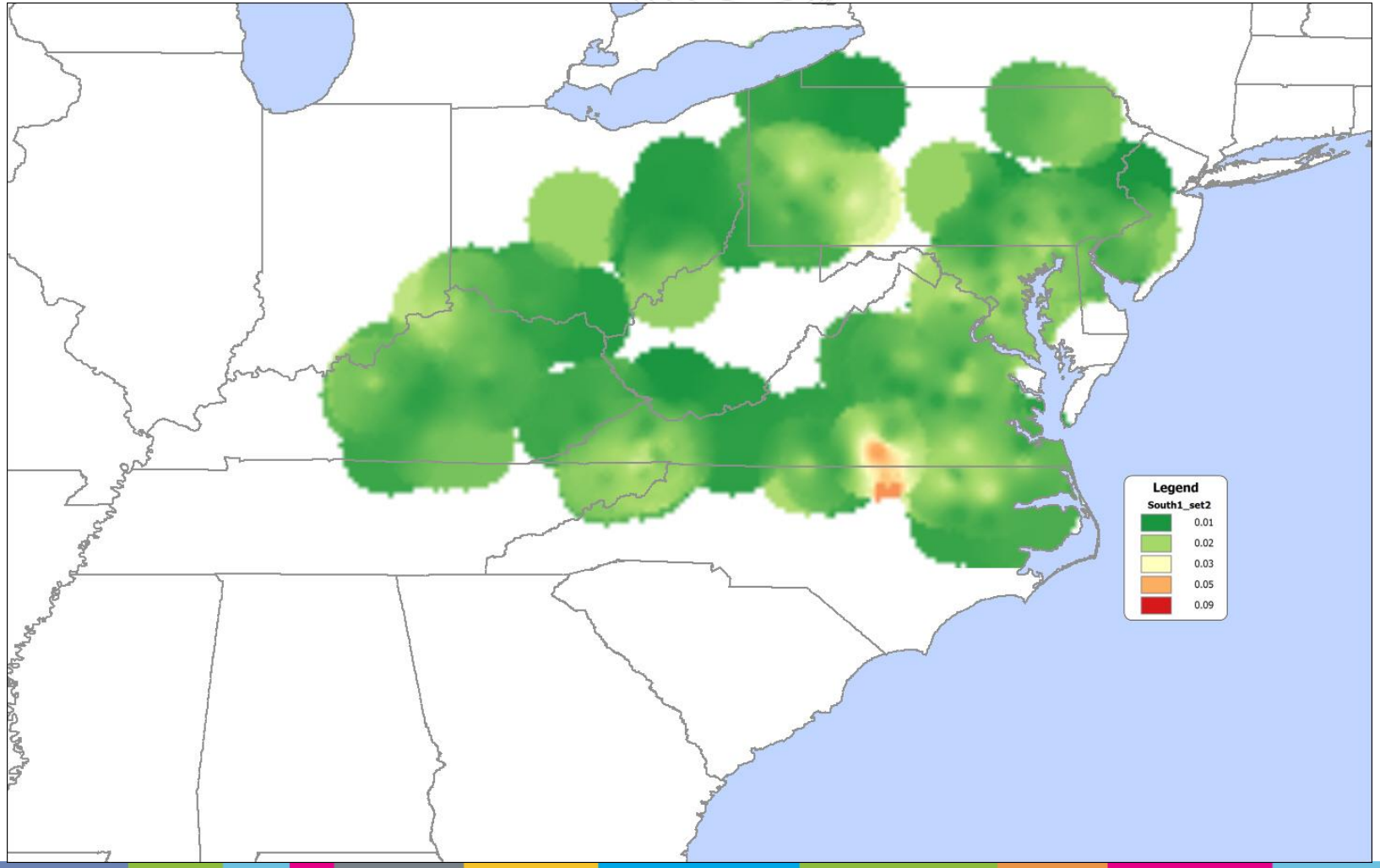
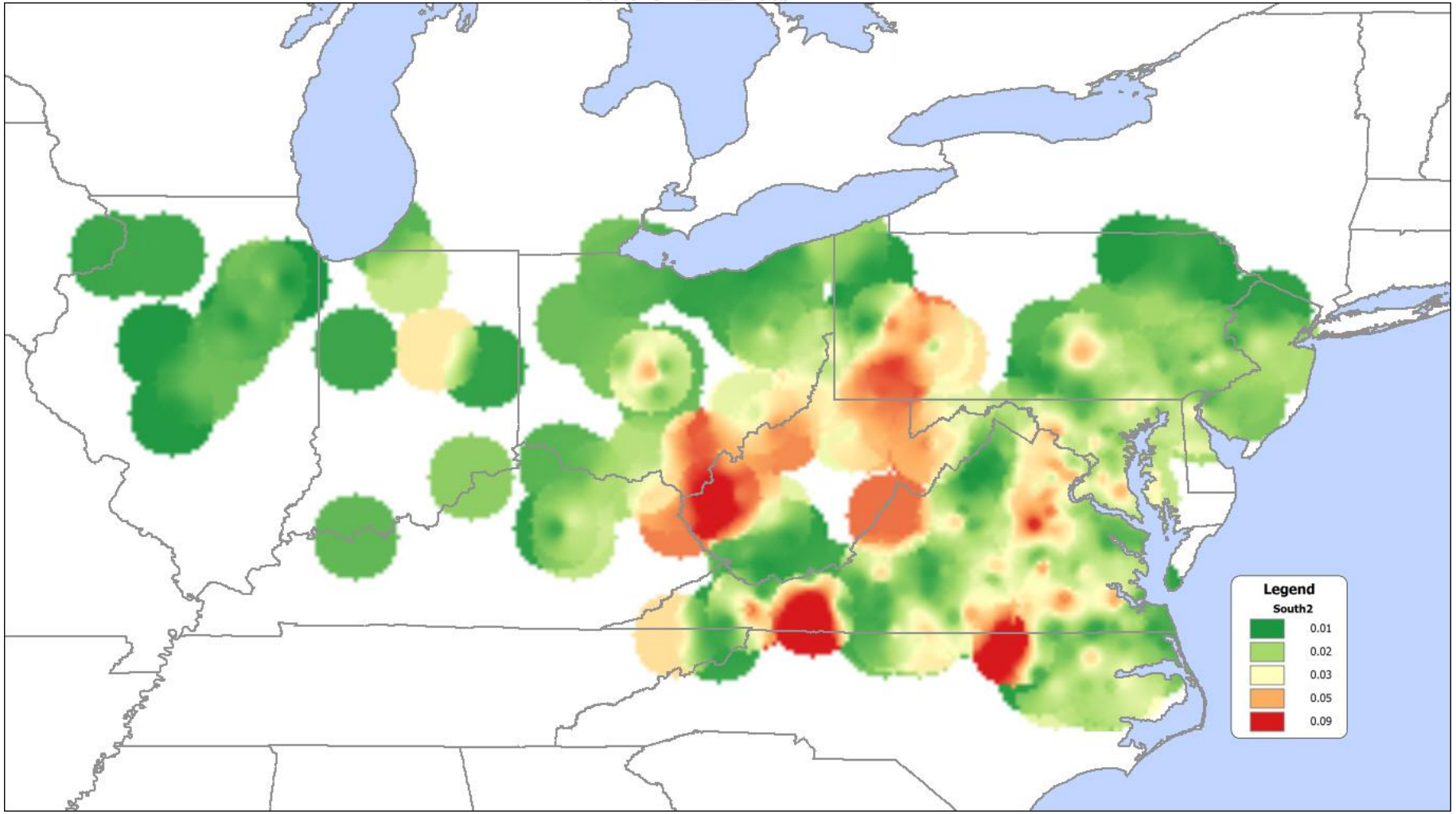
South 1, <345kV



Review of Distribution Factor Impacts

South 2, all kV levels



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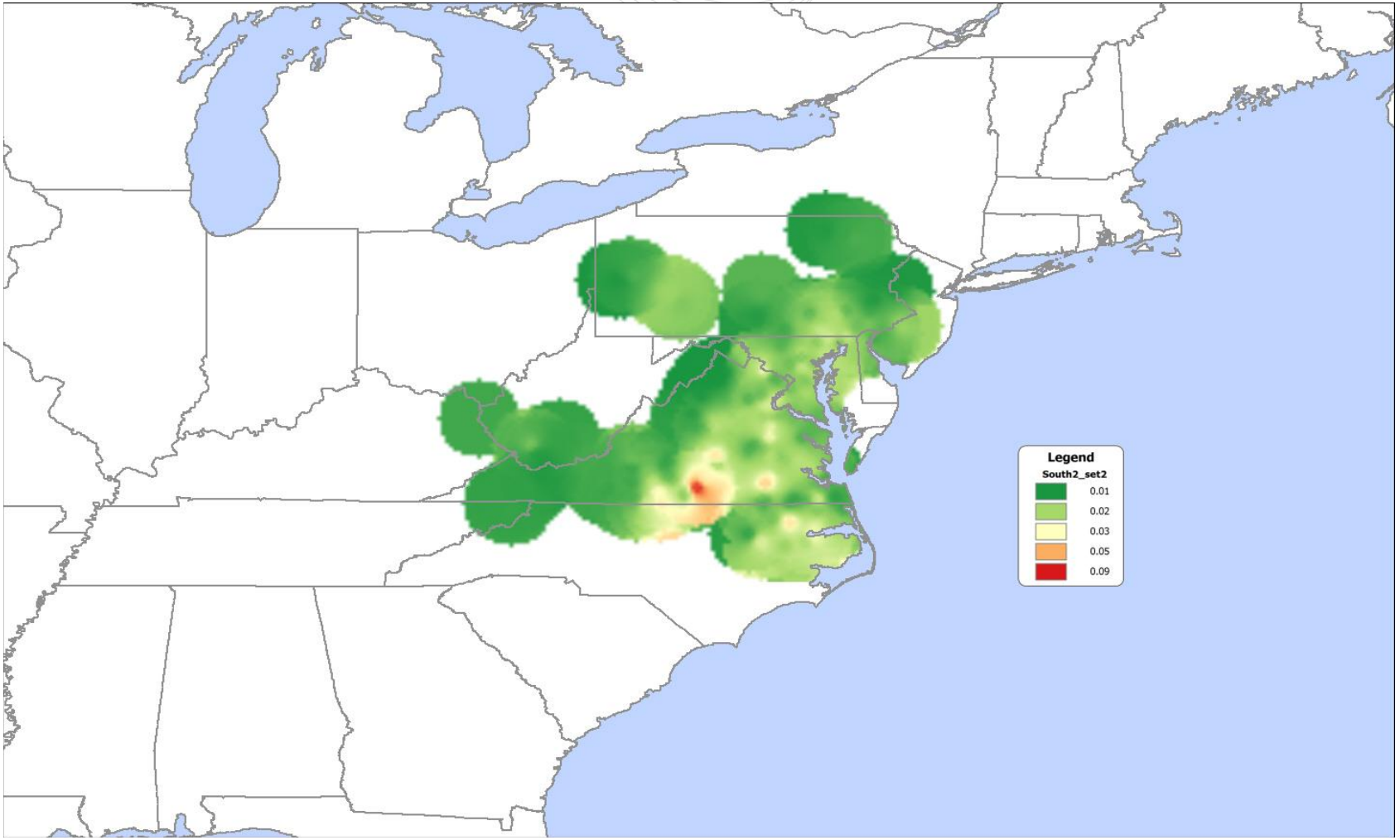
South 2, <345kV

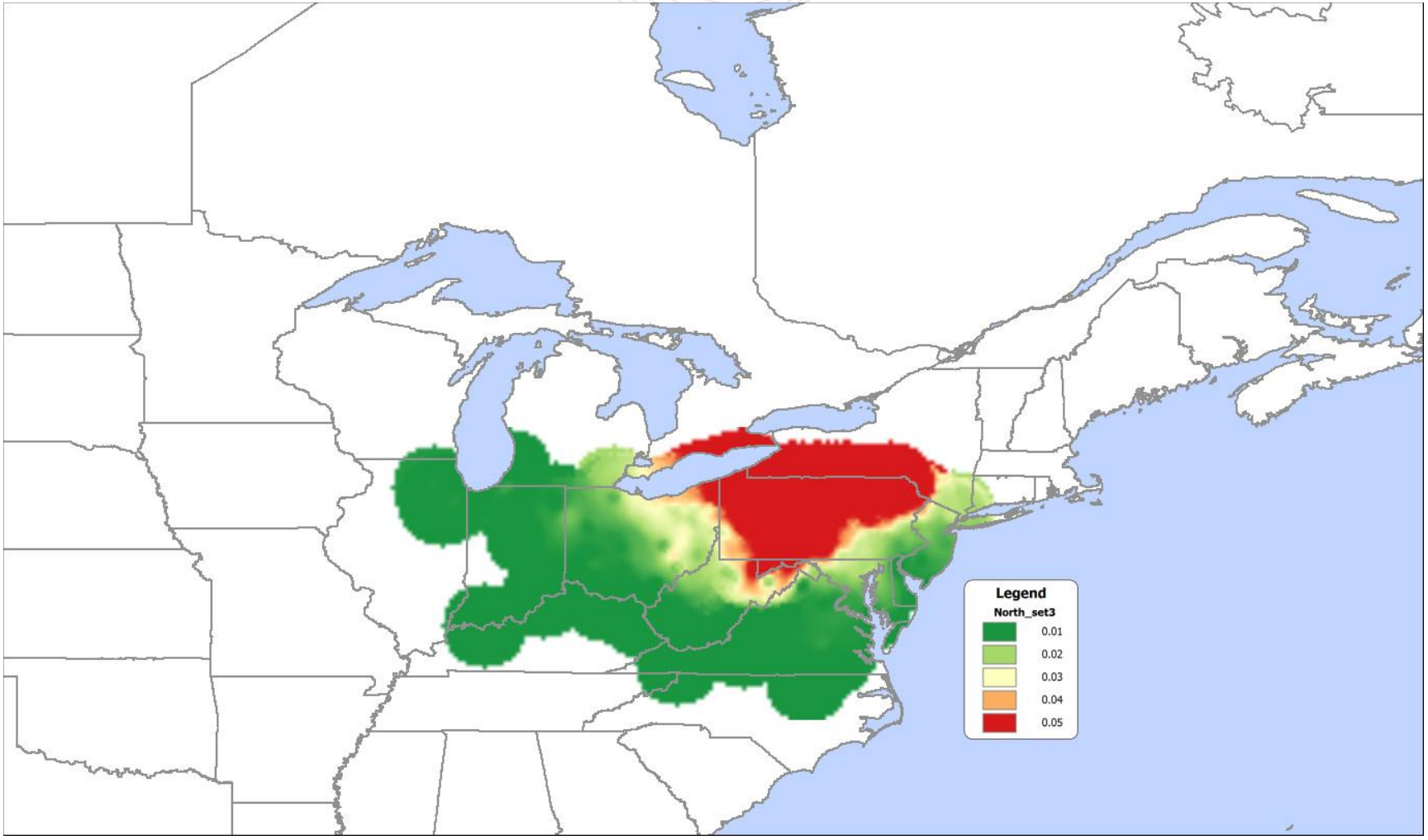


Review of Percentage Threshold Impacts

- Transfer studies initiated from Capacity Import Limit (CIL) zones
- Studies conducted on summer peak planning cases
- Transfers include incorporation of CBM
- The slides which follow show the range of impacts associated with the measurement of those impacts against the element ratings
  - Range of impacts:
    - 5%
    - 4%
    - 3%
    - 2%
    - 1%

Review of Percentage Threshold Impacts

North, all kV levels



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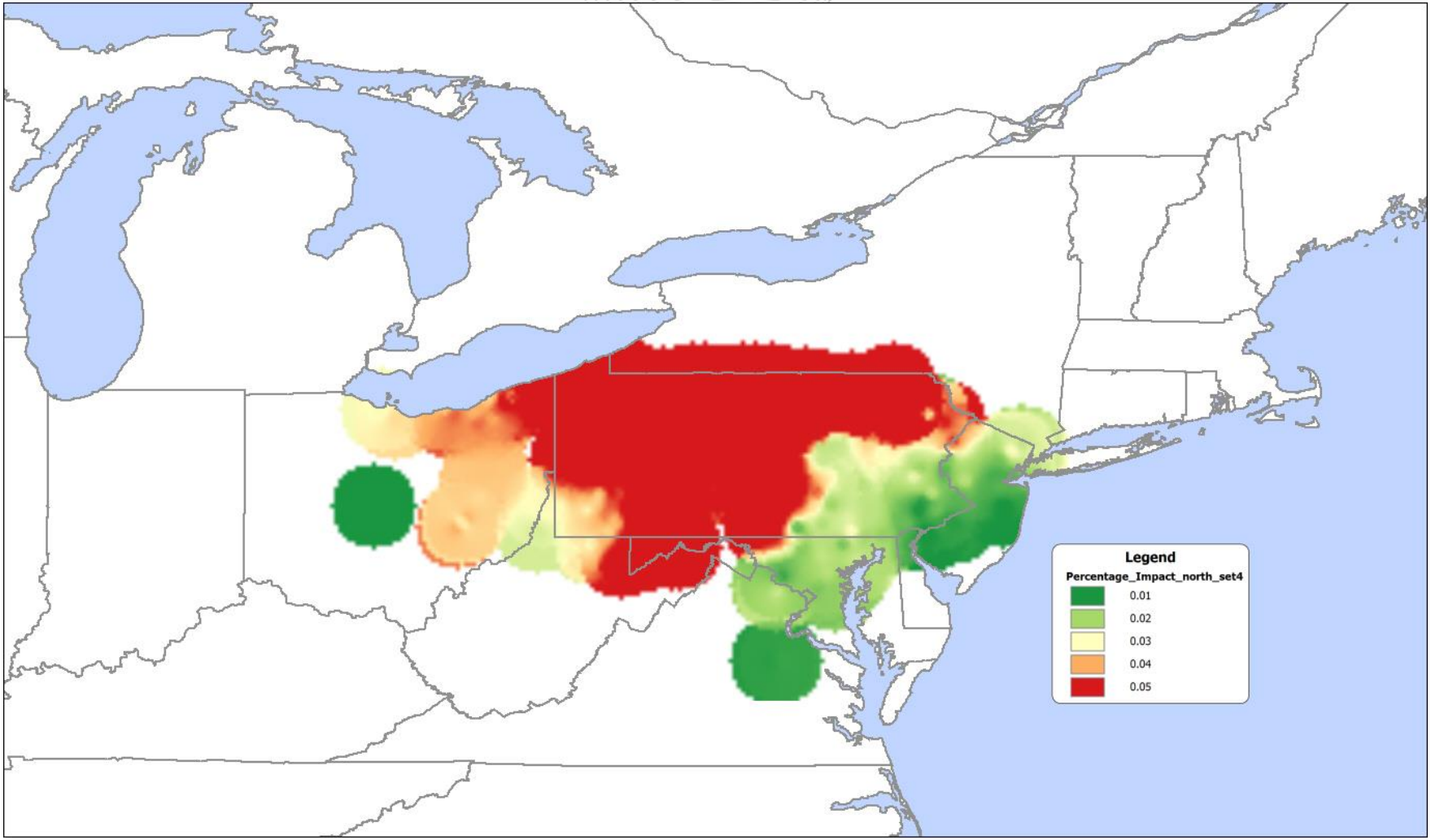
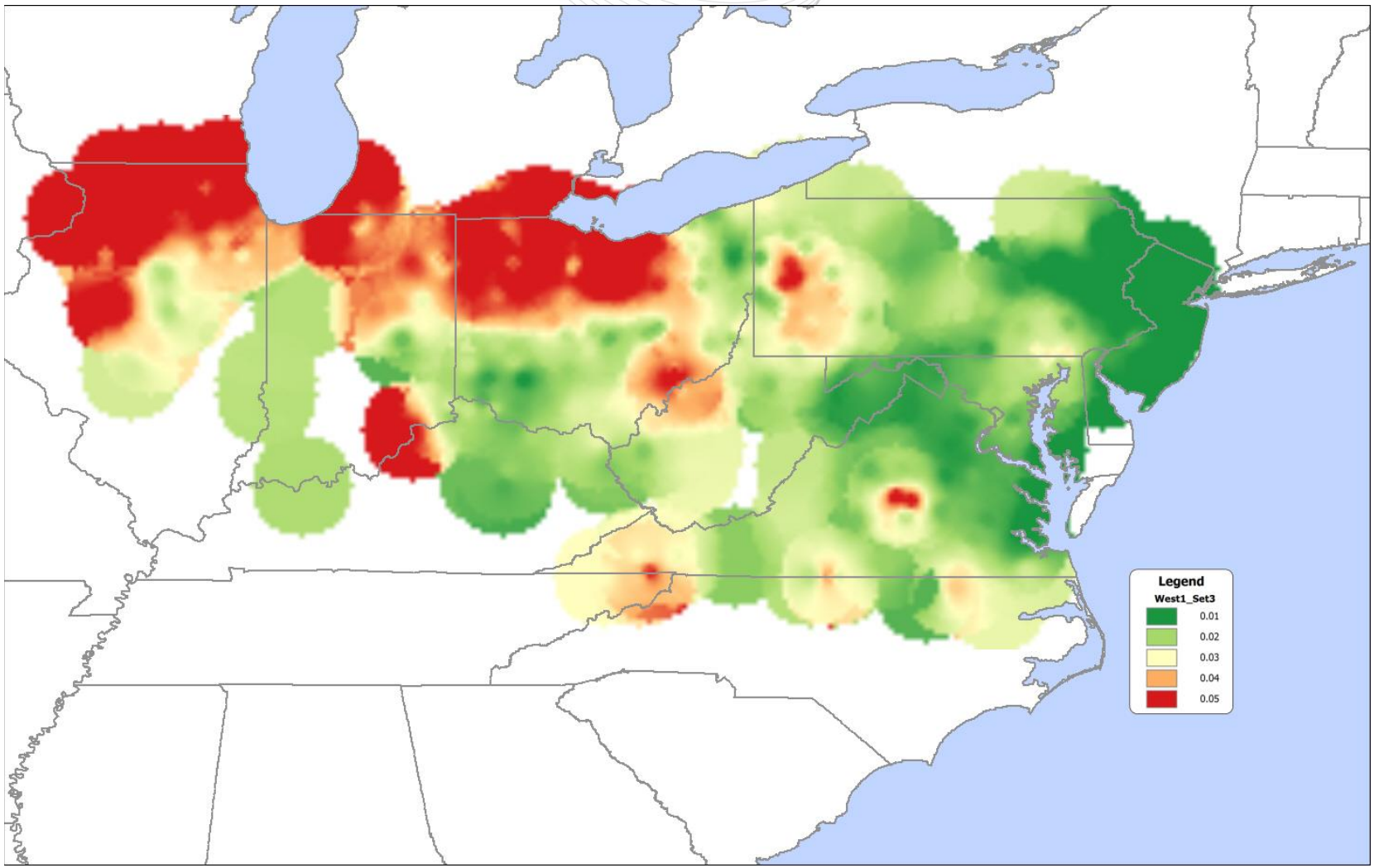


Review of Percentage Threshold Impacts

West 1, all kV levels



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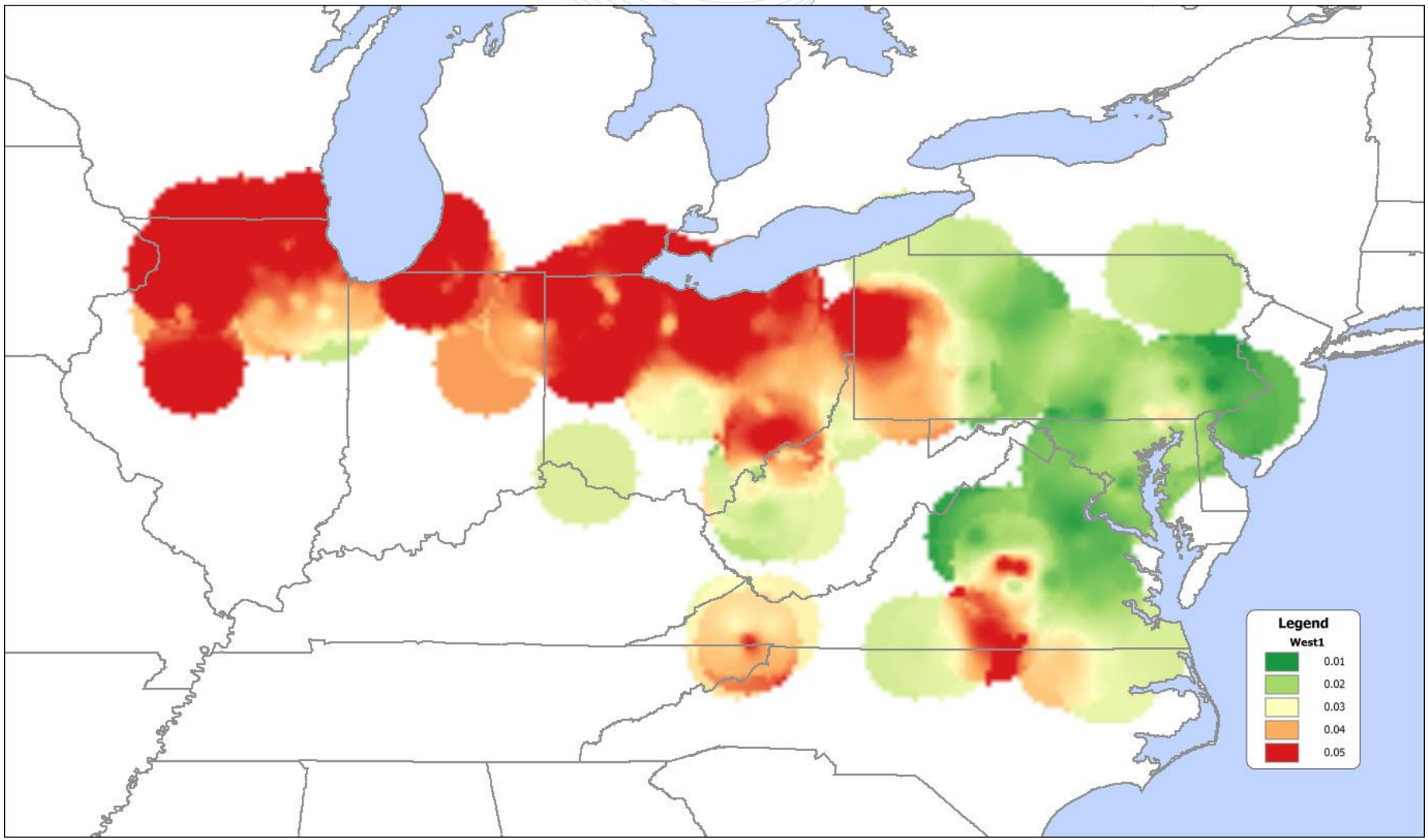
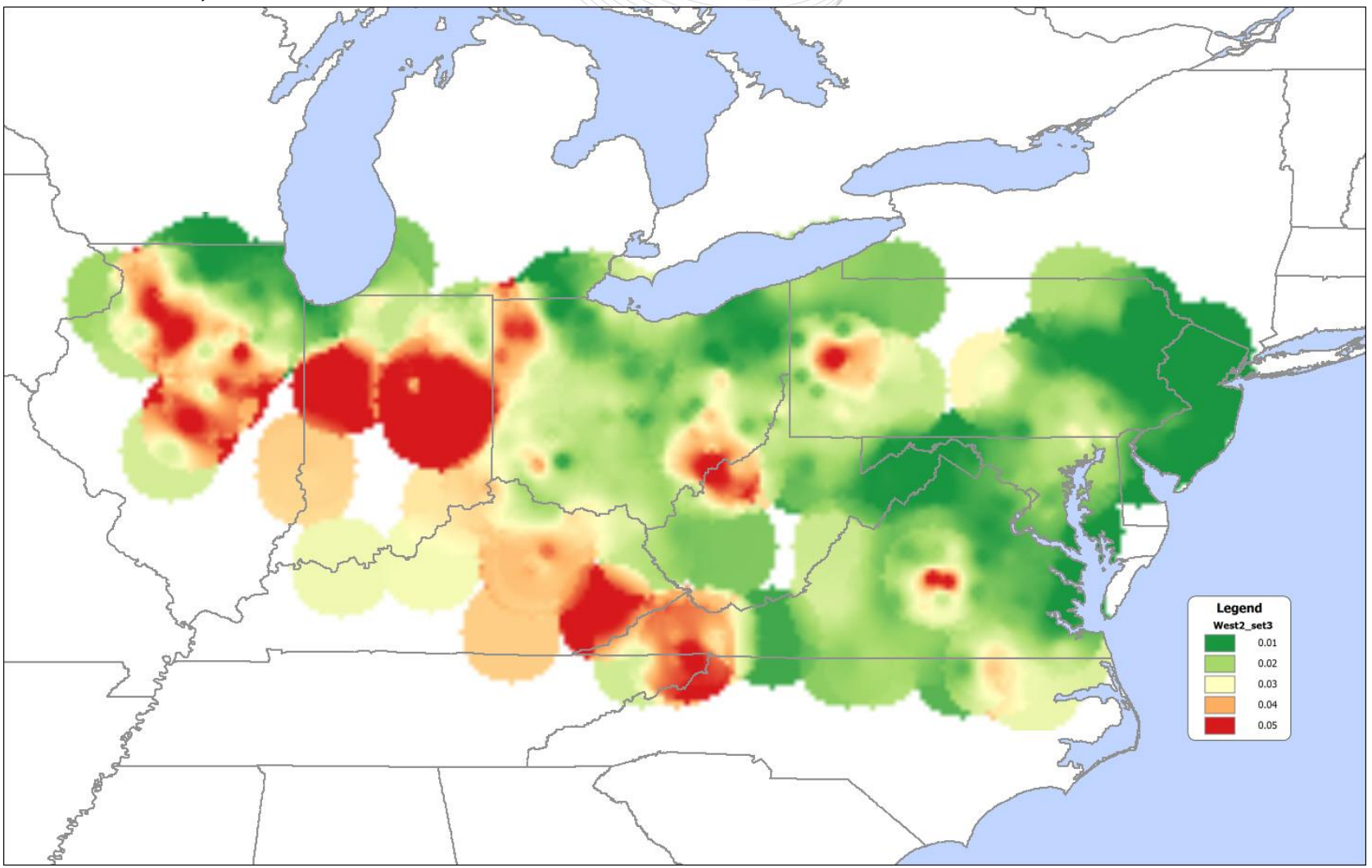


Review of Percentage Threshold Impacts

West 2, all kV levels



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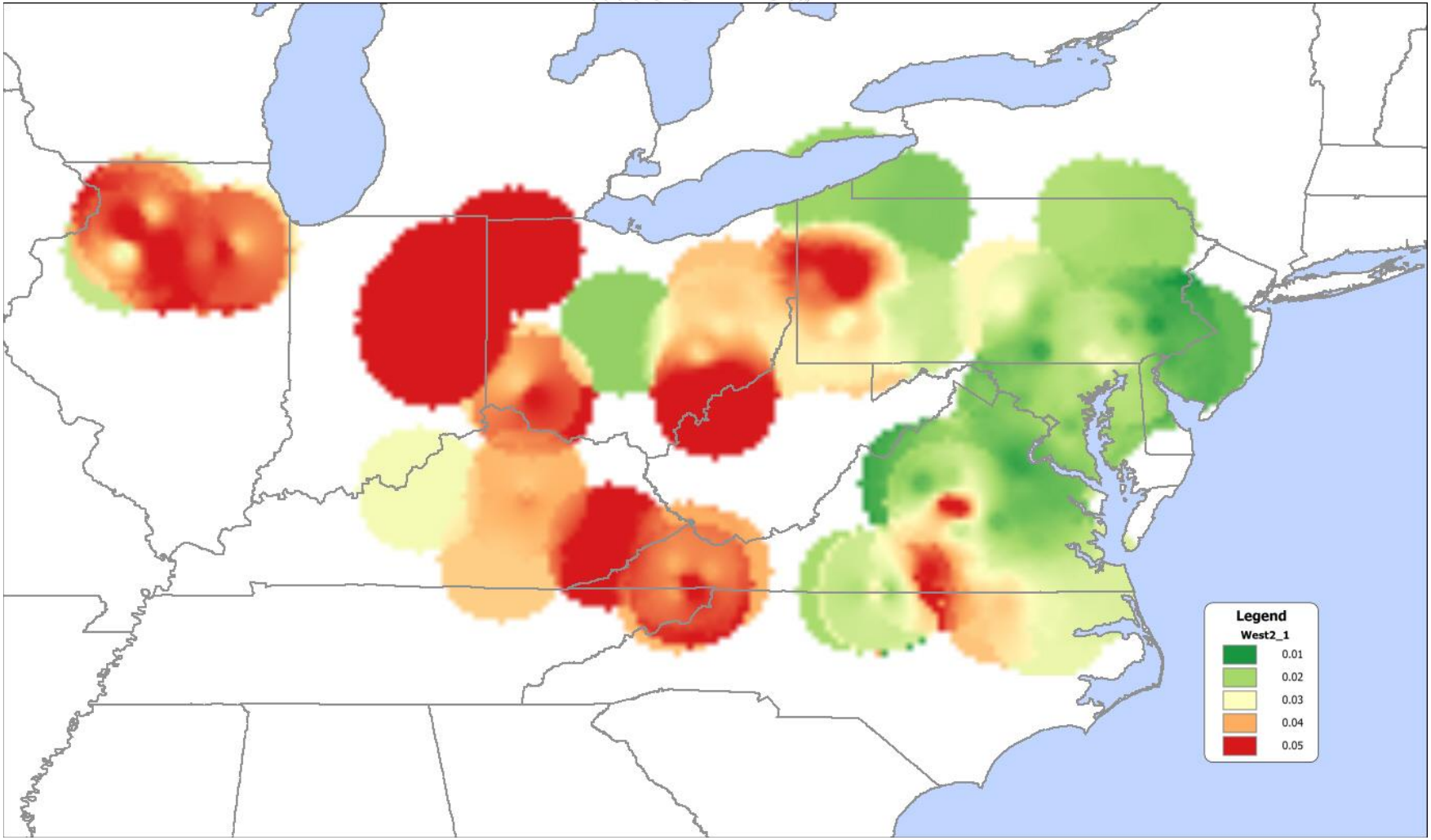
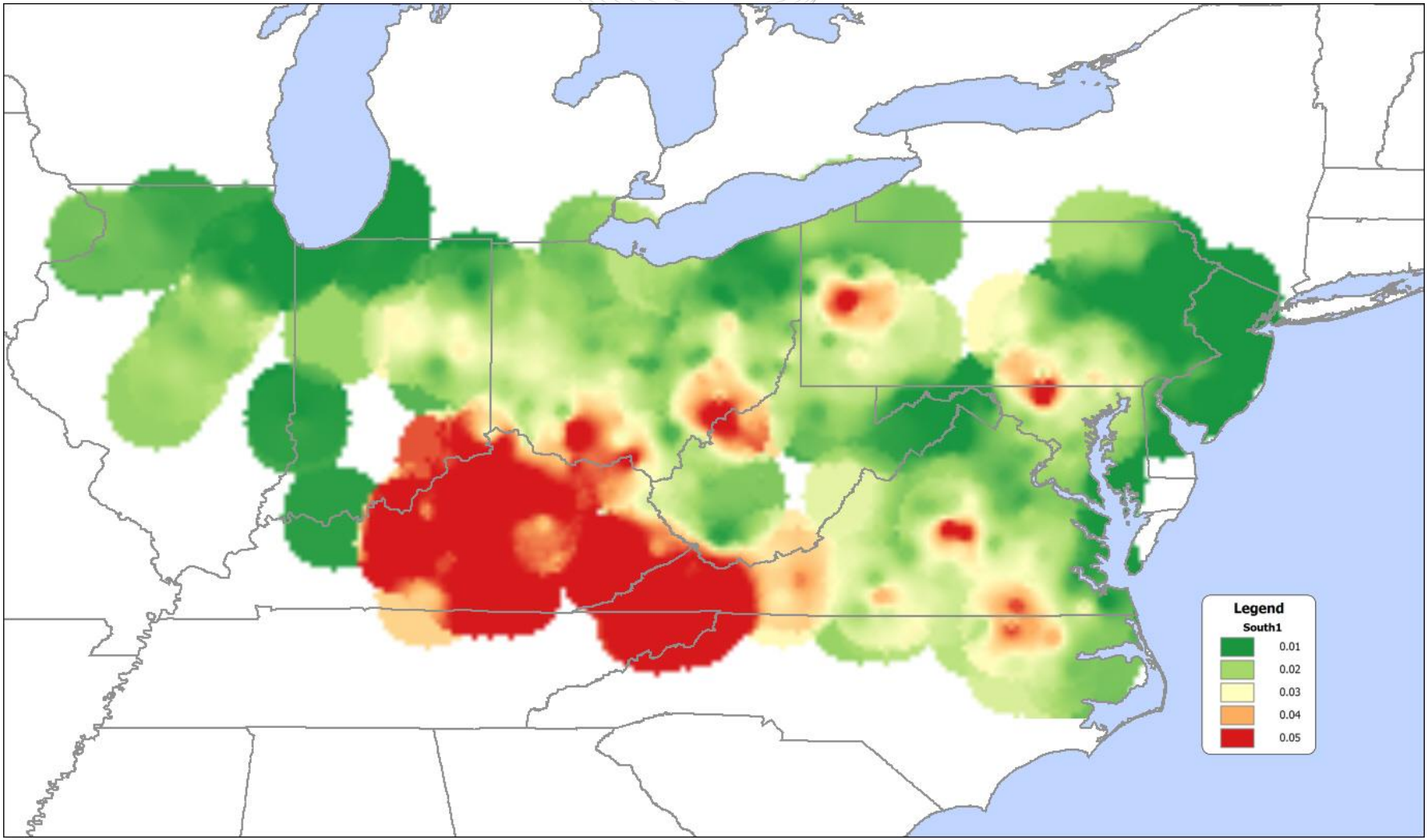
West 2, <345kV



Review of Percentage Threshold Impacts

South 1, all kV levels



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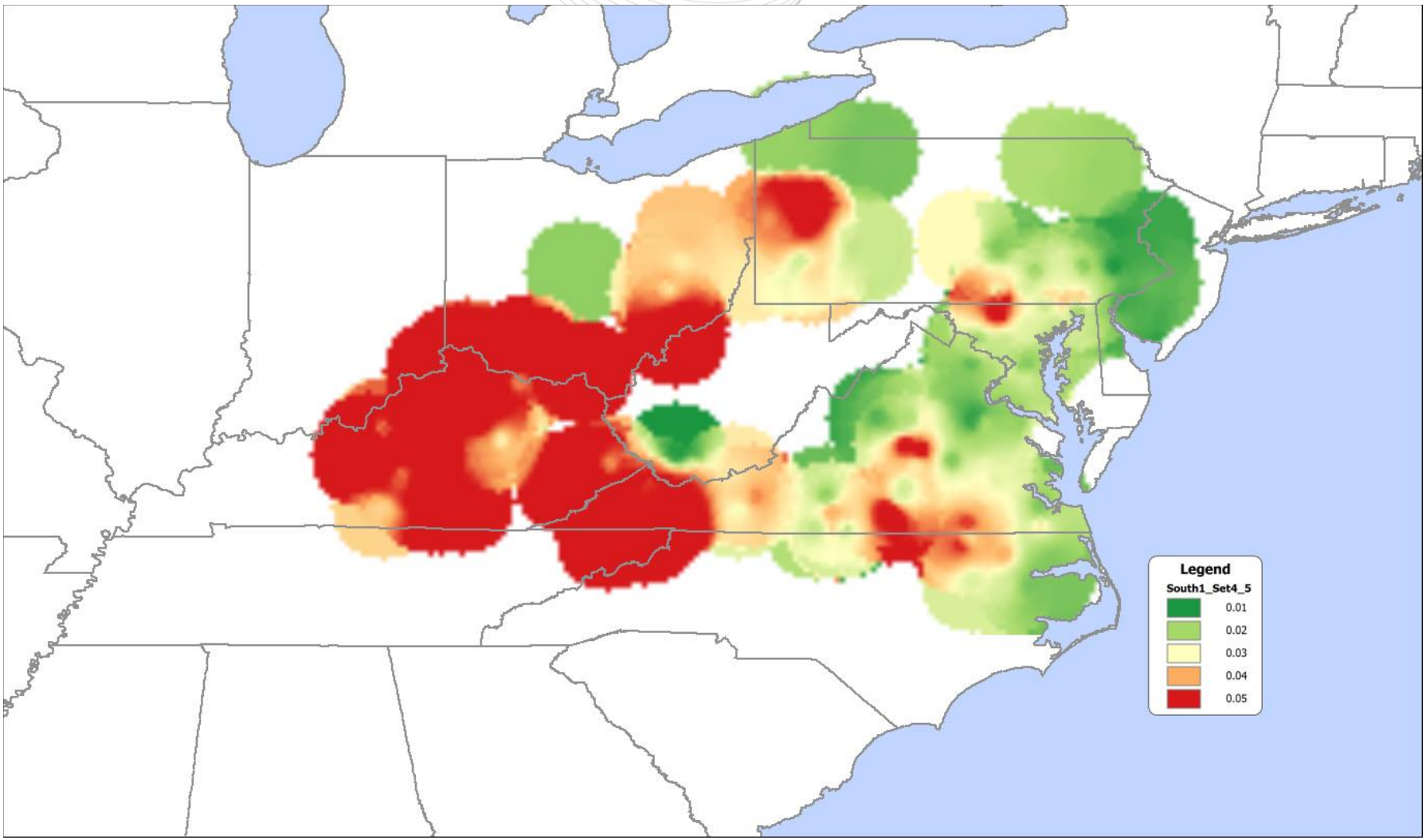
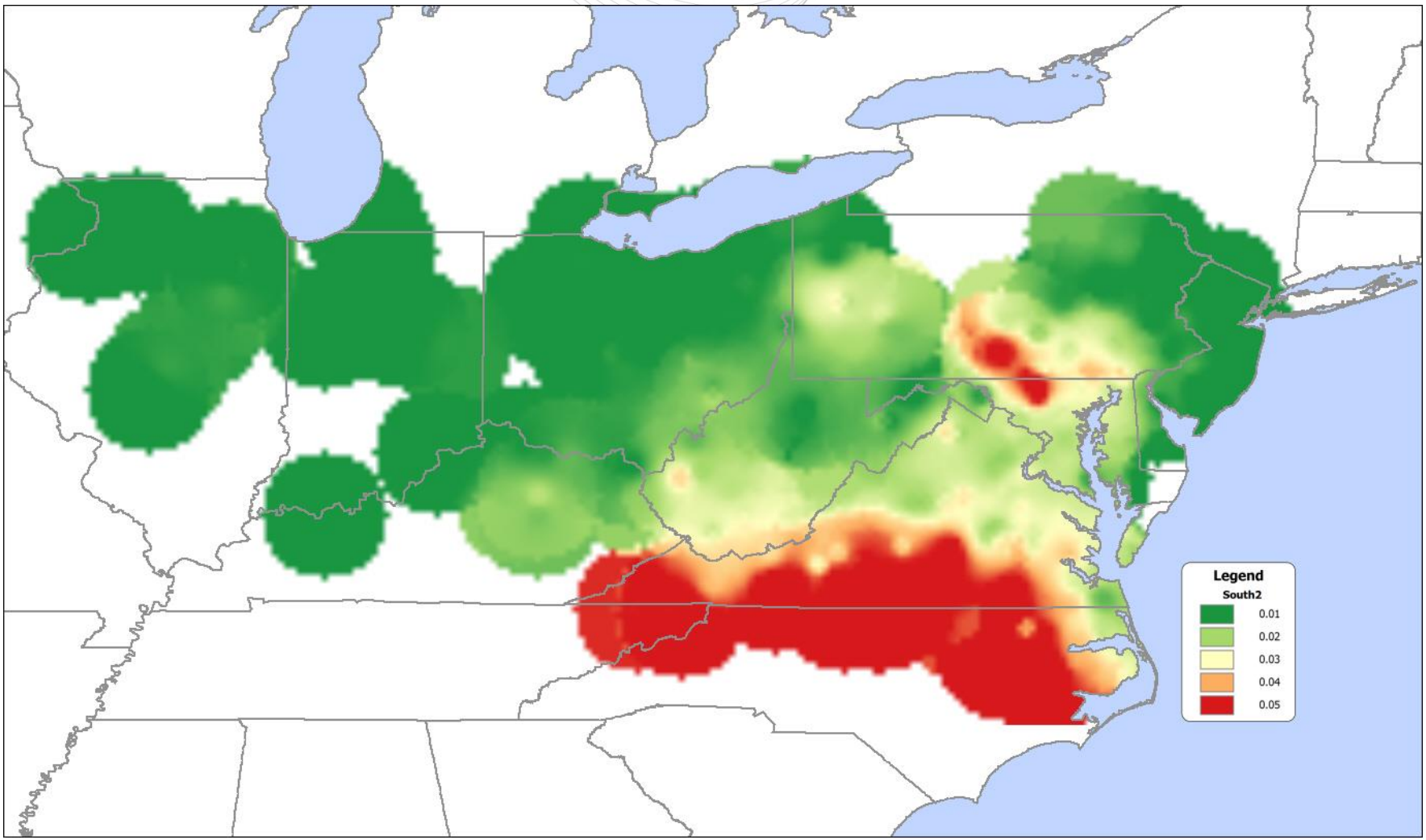


Review of Percentage Threshold Impacts

South 2, all kV levels



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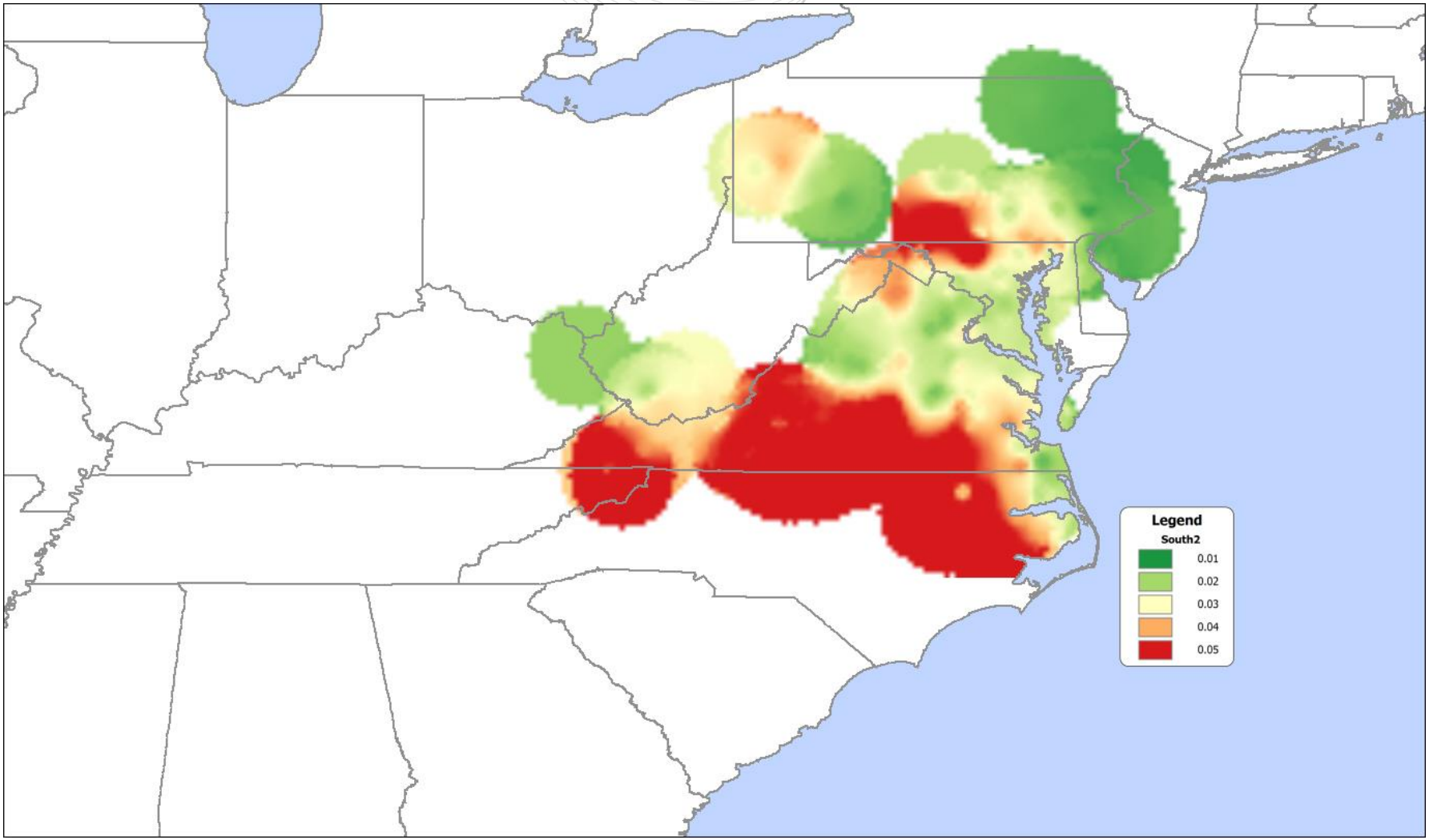
South 2, <345kV



Current Conditions

- Transfer studies initiated with existing confirmed service
- Transfers include incorporation of CBM
- Violations identified based on studies which incorporated a transfer of 1000MWs of service requested from each CIL zone individually
- Study initiated under two conditions
  - 5% distribution factor or 5% element rating: Existing thresholds
  - 3% distribution factor or 3% element rating: Proposed thresholds

Review of Percentage Threshold Impacts

Area	North		South 1		South 2		West 1		West 2	
	5 DF or 5% Rating	3 DF or 3% Rating	5 DF or 5% Rating	3 DF or 3% Rating	5 DF or 5% Rating	3 DF or 3% Rating	5 DF or 5% Rating	3 DF or 3% Rating	5 DF or 5% Rating	3 DF or 3% Rating
APS	2	10	1	7	1	7	1	7	1	7
ATSI	1	6	1	3	1	3	1	7	1	4
AEP	2	8	2	8	2	8	2	9	2	8
ATSI - AEP		1								
AEP - APS		1		1		1		1		1
AEP - DEOK	1	1	1	1	1	1	1	1	1	1
DEOK		1		1		1		1		1
ComEd	4	4	4	5	4	5	4	5	4	5
ComEd-AMIL		3		3		3		3		3
NYISO-Penelec	2	5		1		2		2		2
Penelec	8	19	2	10	2	10	2	10	2	10
PPL	3	4	3	4	3	4	3	4	3	4
EKPC-LGEE		1		1		1		1		1
DOM		6		7		9		6		7
BGE-PEPCO		1		1		1		1		1
DPL		1		1		1		1		1
Penelec-PPL		1								
METED		5		4		4		4		4
NYISO	2	6								
LGEE-OVEC	1									
LGEE		1		1		1		1		1
AMIL		2		2		2		2		2

Next Steps

- Discuss any feedback regarding new thresholds and modeling methodology proposed for imports
- Review export studies
- Determine group feedback to Planning Committee

Revisions

Revisions 1:

- Page 6: Corrected designation of subsequent slides indicating they are evaluation of distribution factor impacts, added information indicating transfers initiated on summer peak case
- Page 17: Added information indicating transfers initiated on summer peak case
- Pages 19-27: Correct page titles
- All other pages original