



**Q&A from NCFRP Webinar:
The Effects of Climate Change on Pregnancy and Reproductive Health
January 31, 2023**

Q: Why does gender based violence increase in disasters?

A: Women often bear the brunt of the health harms from climate disasters and forced migration due to climate change–related civil unrest, food insecurity, personal stress, family separation, and gender inequality.

Sources: Detraz N, Windsor L. Evaluating climate migration: population movement, insecurity, and gender. *Int Fem J Polit*. 2014;16: 127–146.

Sorensen C, Murray V, Lemery J, et al. Climate change and women's health: impacts and policy directions. *PLoS Med*. 2018;15:e1002603.

Parkinson D, Zara C. The hidden disaster: domestic violence in the aftermath of natural disaster. *Aust J Emerg Manage*. 2013;28:28–35.

Q: What role does previous traumatic climate related events have on a pregnant woman?

A: Interesting question—one study examining posttraumatic stress disorder (PTSD) in children in the year after Hurricane Katrina found that children's new PTSD symptoms strongly correlated with caregivers with new PTSD symptoms, highlighting the impact of caregiver-children relationship following trauma. I could imagine similar issues in pregnant people and their families.

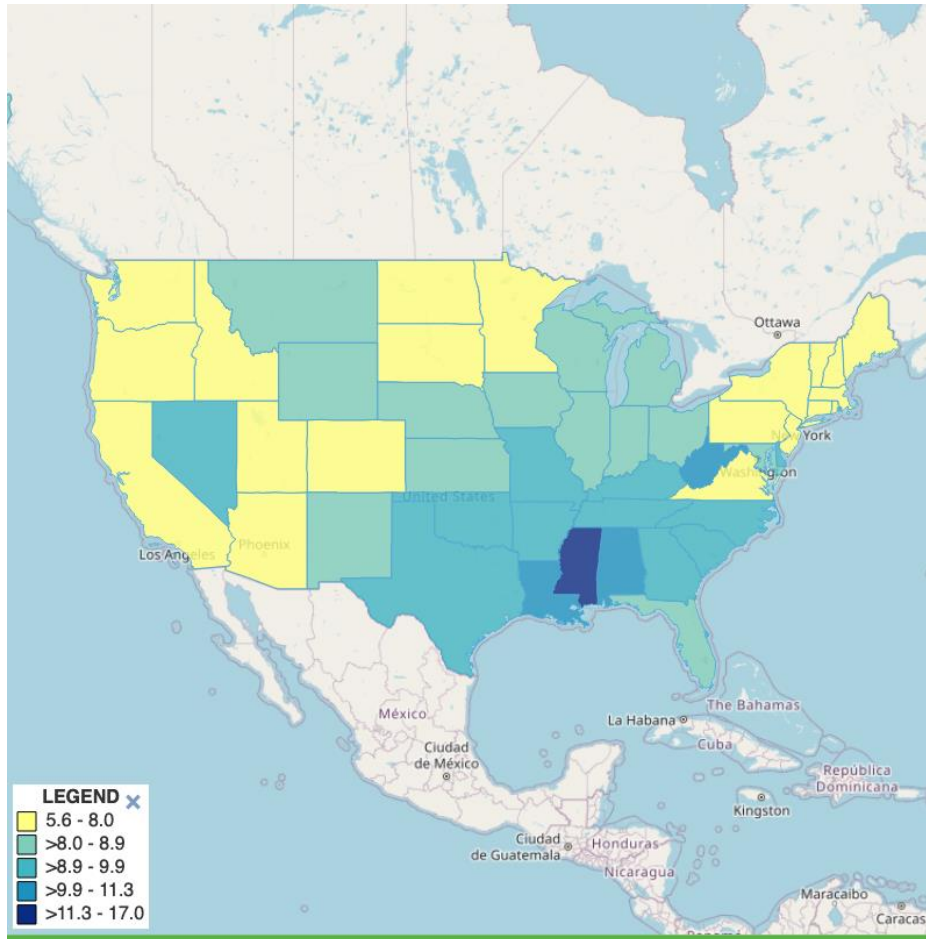
Source: Scheeringa MS, Zeanah CH. Reconsideration of harm's way: onsets and comorbidity patterns of disorders in preschool children and their caregivers following Hurricane Katrina. *J Clin Child Adolesc Psychol*. 2008;37:508–518.

Q. How does a lack of communication outlets during climate disasters effect the stress of pregnant woman and their partners. How can pregnant woman and their partners prepare for these communication breakdowns?

A. Great question, I'm not familiar with any research on this. The emergency plans from the Red Cross, etc (<https://www.redcross.org/get-help/how-to-prepare-for-emergencies/make-a-plan.html>) emphasize ways to plan to communication between family members and using a battery- or solar-powered radio for news.

Q. What states are noted for environmental justice guidelines re: pregnancy.

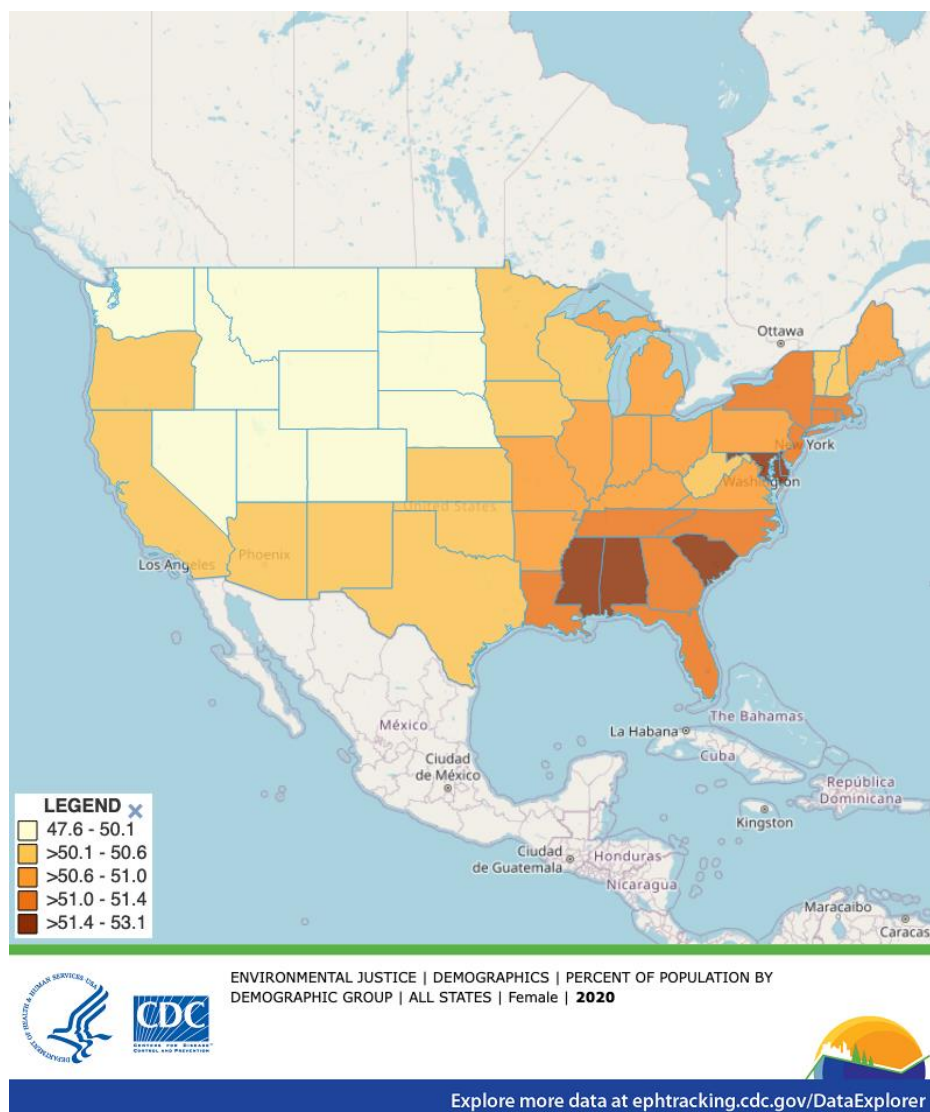
I've attached a recent report that looks at what a number of states are doing re: Environmental Justice. in general (Washington, California, Colorado, Maryland, & North Carolina all have mapping tools, which seem like important transparency measures). Another interesting site is the CDC's Environmental Public Health Tracking website: <https://ephtracking.cdc.gov/DataExplorer/>. If you compare maps of preterm birth and Environmental Justice, there is a lot of overlap.



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Q. What birth defects were associated with heat? I missed that.

A. High heat (from fever, hot tubs) in early pregnancy has long been known to increase the risks of neural tube defects. Research is now showing similar effects, also cardiac, eye anomalies with environmental heat.

Sources: Zhang W, Spero TL, Nolte CG, Garcia VC, Lin Z, Romitti PA, et al. 2019. Projected changes in maternal heat exposure during early pregnancy and the associated congenital heart defect burden in the United States. *J Am Heart Assoc* 8(3):e010995, PMID: 30696385, <https://doi.org/10.1161/JAHA.118.010995>.

Auger N, Fraser WD, Arbour L, Bilodeau-Bertrand M, Kosatsky T. 2017. Elevated ambient temperatures and risk of neural tube defects. *Occup Environ Med* 74(5):315–320, PMID: 27881468, <https://doi.org/10.1136/oemed-2016-103956>.

Van Zutphen AR, Lin S, Fletcher BA, Hwang S-A. 2012. A population-based case–control study of extreme summer temperature and birth defects. *Environ Health Perspect* 120(10):1443–1449, PMID: 23031822, <https://doi.org/10.1289/ehp.1104671>.

Auger N, Fraser WD, Sauve R, Bilodeau-Bertrand M, Kosatsky T. 2017. Risk of congenital heart defects after ambient heat exposure early in pregnancy. *Environ Health Perspect* 125(1):8–14, PMID: 27494594, <https://doi.org/10.1289/EHP171>.

Lin S, Lin Z, Ou Y, Soim A, Shrestha S, Lu Y, et al. 2018. Maternal ambient heat exposure during early pregnancy in summer and spring and congenital heart defects—a large US population-based, case-control study. *Environ Int* 118:211–221, PMID: 29886237, <https://doi.org/10.1016/j.envint.2018.04.043>.

Q. Do you share this information with organizations that provide services to fathers and families?

A. Creating more training opportunities and sharing this information with the community will be a focus for 2023. The training will include anyone who is interested in supporting or are currently a pregnant/postpartum person along with their baby's father/partners and/or caregivers. This is important because some families I serve live in the homes of other family members who may offer support during the pregnancy/postpartum phase. It takes a village to keep a family safe through climate change and natural disasters, like hurricanes.

Q. How do you include fathers/partners in your doula activities?

A. I always do my best to include the father or partner in my work from the initial consultation, through birth, breastfeeding, and the postpartum period. As a matter of fact, there are times when it is the father/partner who finds my services before the pregnant partner can find me. However, the reality is that due to social determinants of health, some families have a partner who may or may not be as readily available throughout the entire process. For instance, this can be the case with families where the father/partner is let's say a truck driver for instance or the main person able to provide financial support to the birthing person. The presence of the father throughout can vary if the couple is dealing with an unplanned pregnancy or in a strained relationship (in which case I recommend resources like mental health therapy and tools). There are times when the partner simply chooses not to be present at every prenatal visit or educational class or participate in the pregnancy or birthing experience. As doulas, we seek to serve all and meet the family wherever our client is most comfortable meeting us. We seek to understand the needs of the family and their unique family dynamics, observe how we can assist, share resources, and aim to provide non-judgmental, informational, emotional, and physical support within our scope of practice.