

Supporting information for
**Detecting Wind Farm Impacts on Local Vegetation Growth in Texas and Illinois Using
MODIS Vegetation Greenness Measurements**

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Table S1 Areal mean DNDVI for WFPs and NWFPs during JJA and the growing season (in parenthesis) in Illinois and Texas

Post-Turbine (2010-2014) minus Pre-Turbine (2003-2004)		
	Illinois	Texas
WFPs	-0.011 (-0.014)	-0.011 (<-0.010)
NWFPs	-0.005 (-0.010)	0.004 (0.04)
Post-Turbine (2011-2013) minus Pre-Turbine (2003-2005)		
	Illinois	Texas
WFPs	-0.012 (-0.014)	-0.005 (-0.007)
DNWFPs	-0.009 (-0.010)	0.001 (0.001)
Post-Turbine (2010-2012) minus Pre-Turbine (2004-2005)		
	Illinois	Texas
WFPs	-0.037 (-0.025)	-0.013 (-0.011)
DNWFPs	-0.017 (-0.013)	0.003 (0.001)

Note: WFPs and NWFPs are defined in Figure S2; DNDVI is the NDVI differences between the pre- and post-turbine periods at pixel levels.

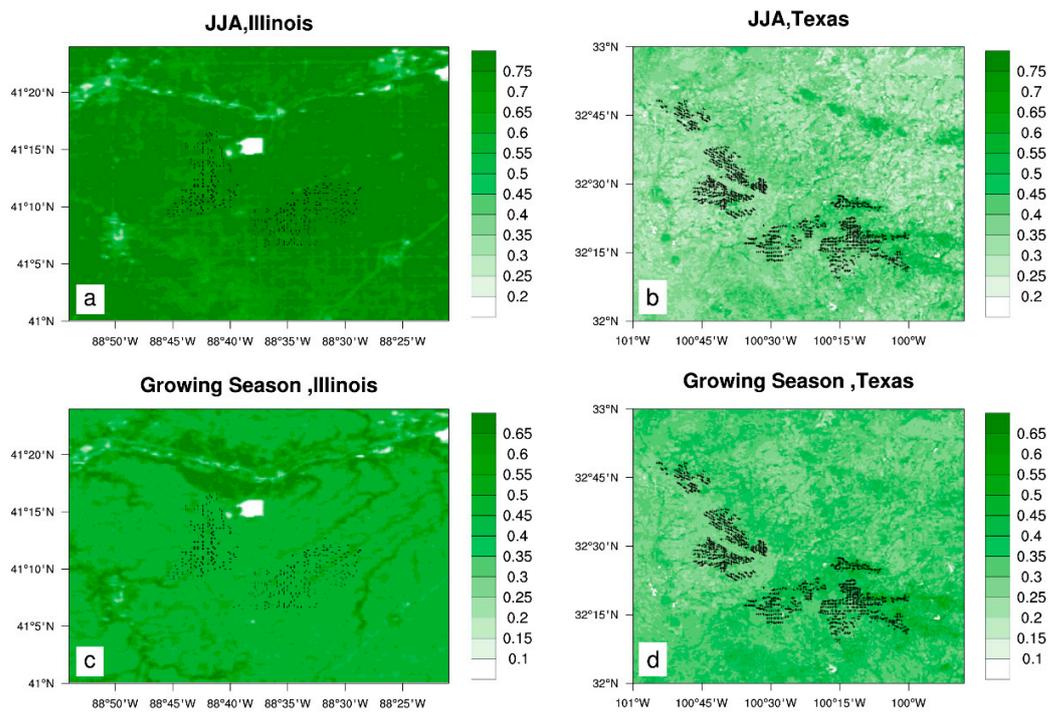


Figure S1. Spatial patterns of NDVI climatology (2003–2014) during JJA and the growing season: **a)** JJA in Illinois, **b)** JJA in Texas, **c)** the growing season in Illinois, **d)** the growing season in Texas. The black dots indicate WFPs

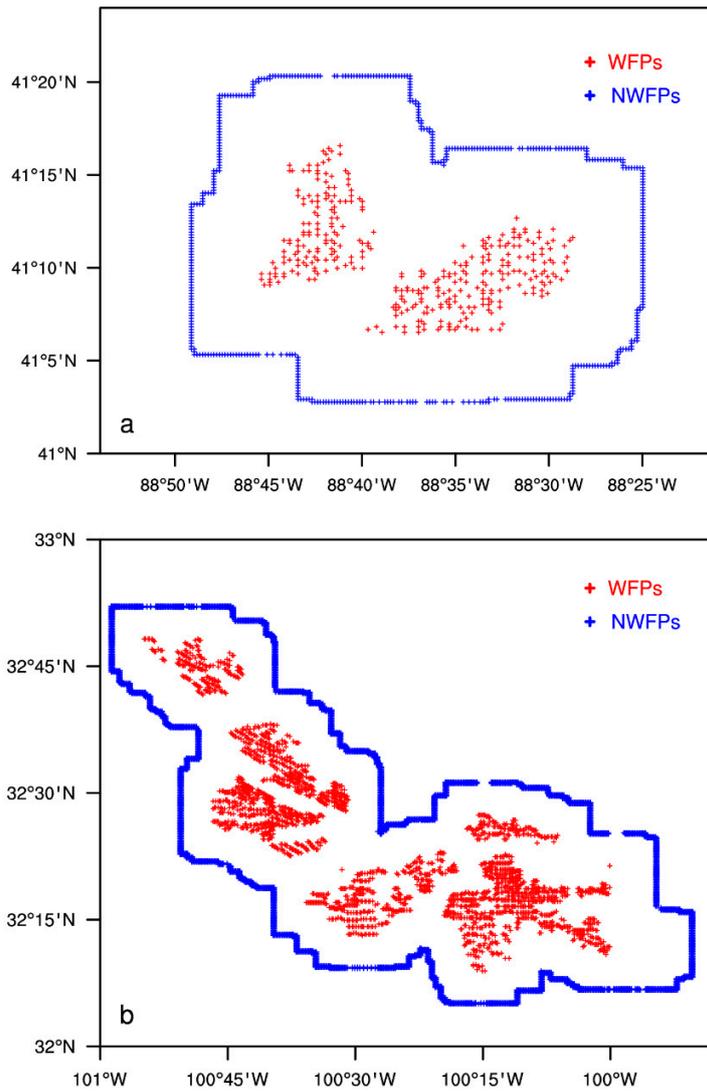


Figure S2. The geographical location of wind farm pixels (WFPs, in red) and non-wind farm pixels (NWFPs, in blue): **a)** Defined WFPs (342 pixels) and NWFPs (531 pixels) and over study region in Illinois, **b)** Defined WFPs (2314 pixels) and NWFPs (3228 pixels) over study region in Texas. WFPs contain all the pixels with one or more wind turbines and NWFPs represent pixels that are within 6 to 7 km away from WFPs.

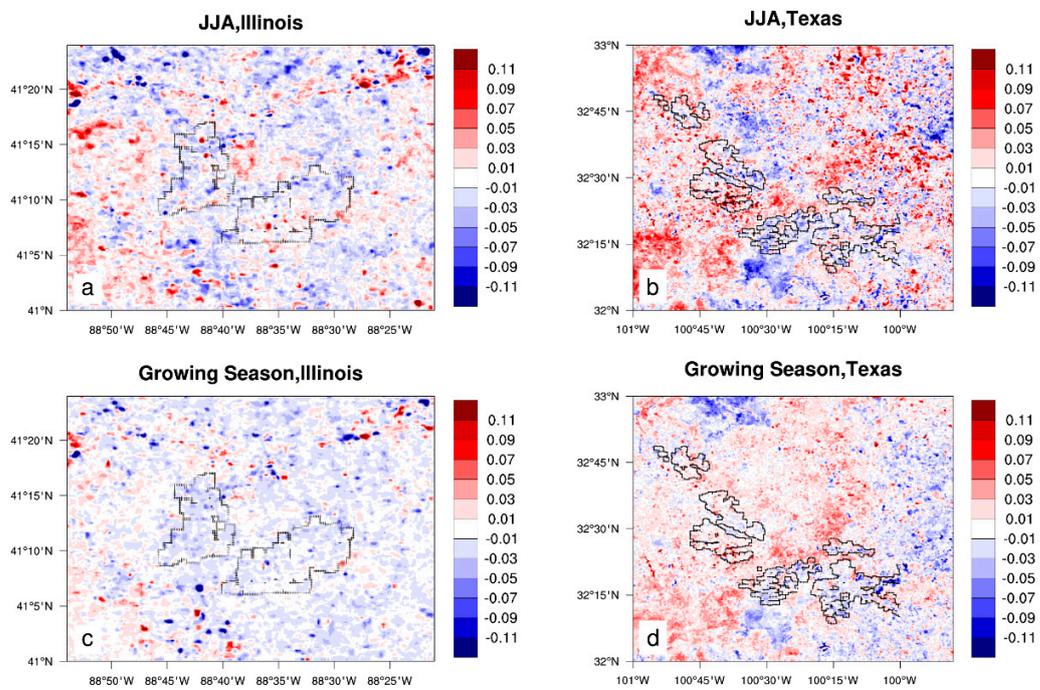


Figure S3. Spatial patterns of DNDVI (2010-2014 averages minus 2003-2004 averages) during JJA and the growing season: **a)** JJA in Illinois, **b)** JJA in Texas, **c)** the growing season in Illinois, **d)** the growing season in Texas. The black dots indicate the boundary of WFPs

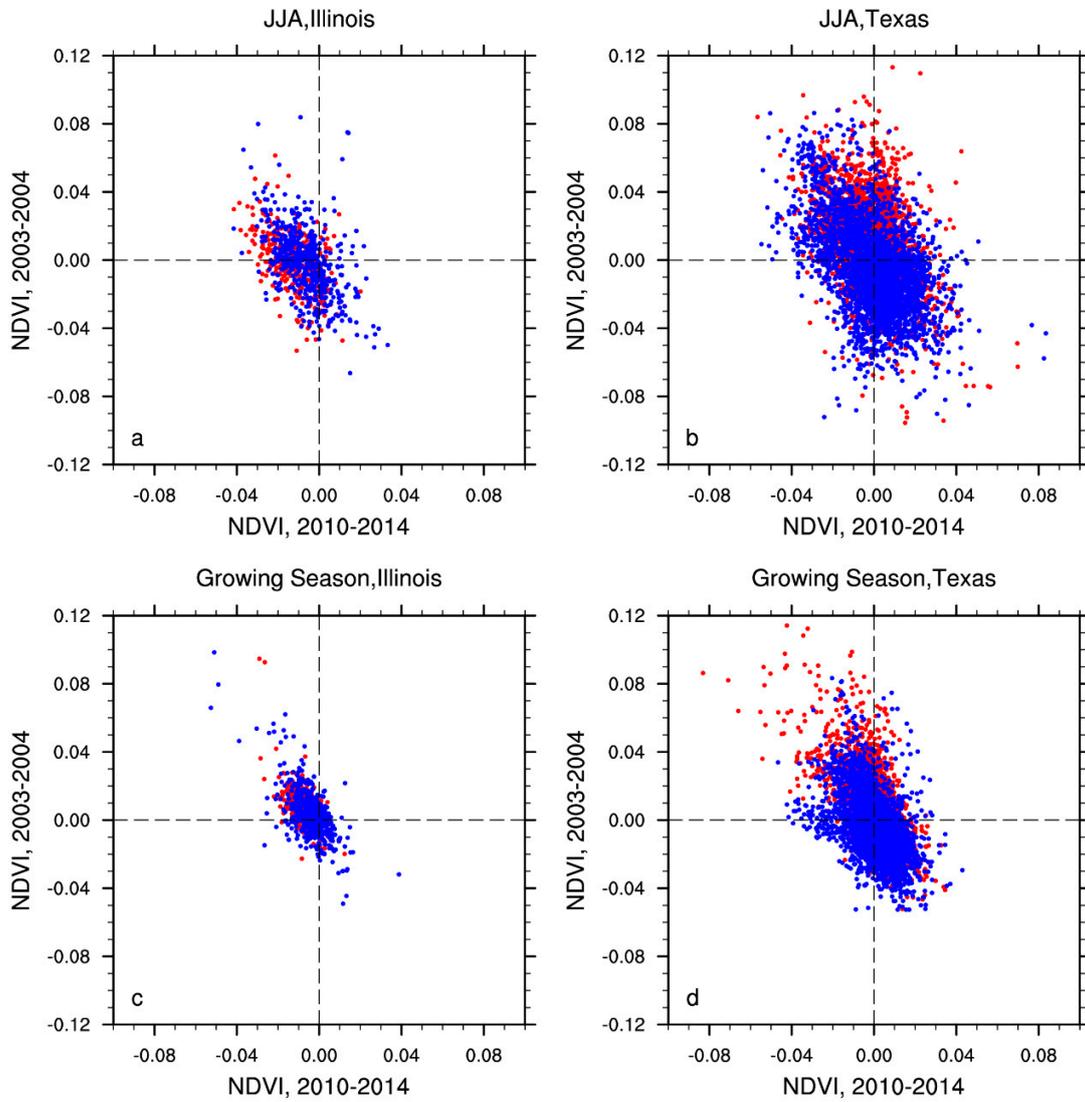


Figure S4. Scatter plots of NDVI anomalies for the pre- (2003-2004) and post- (2010-2014) turbine periods: **a)** JJA in Illinois, **b)** JJA in Texas, **c)** the growing season in Illinois, **d)** the growing season in Texas. The red and blue dots represent WFPs and NWFPs, respectively.

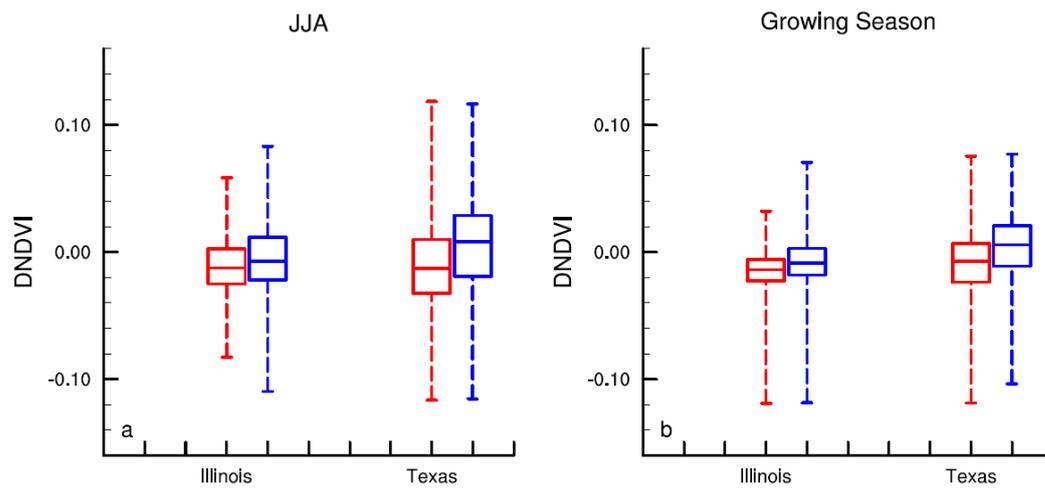


Figure S5. Box-and-whisker diagrams of DNDVI (2010–2014 averages minus 2003–2004 averages) over WFP and NWFPs in Illinois and Texas respectively: **a)** DNDVI in JJA, **b)** DNDVI during the growing season. Each box is used to depict DNDVI from WFPs (in red) and NWFPs (in blue) through their five values: the minimum, 25th percentile, median, 75th percentile, and maximum. The bottom and top of the box are the 25th and 75th percentile (the lower and upper quartiles, respectively), and the horizontal line within the box is the median. WFPs and NWFPs are defined as in Figure S2.

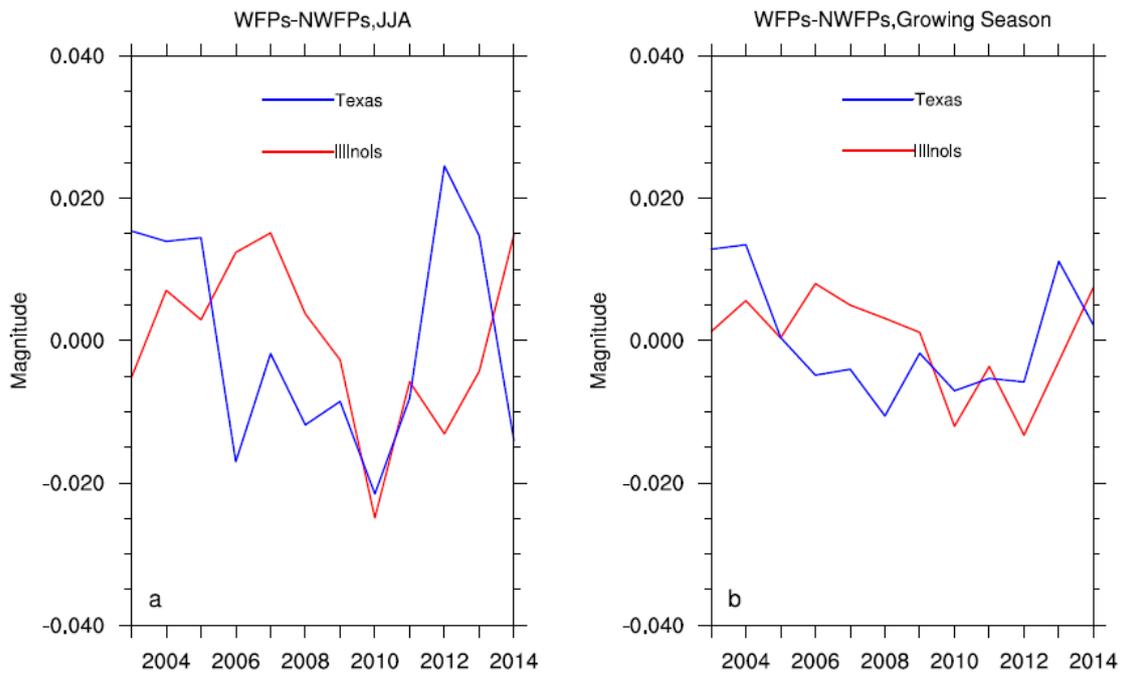


Figure S6. Interannual variations in areal mean Δ NDVI (WFPs minus NWFPs) in Illinois and Texas for the period 2003–2014 during **a)** JJA and **b)** the growing season.

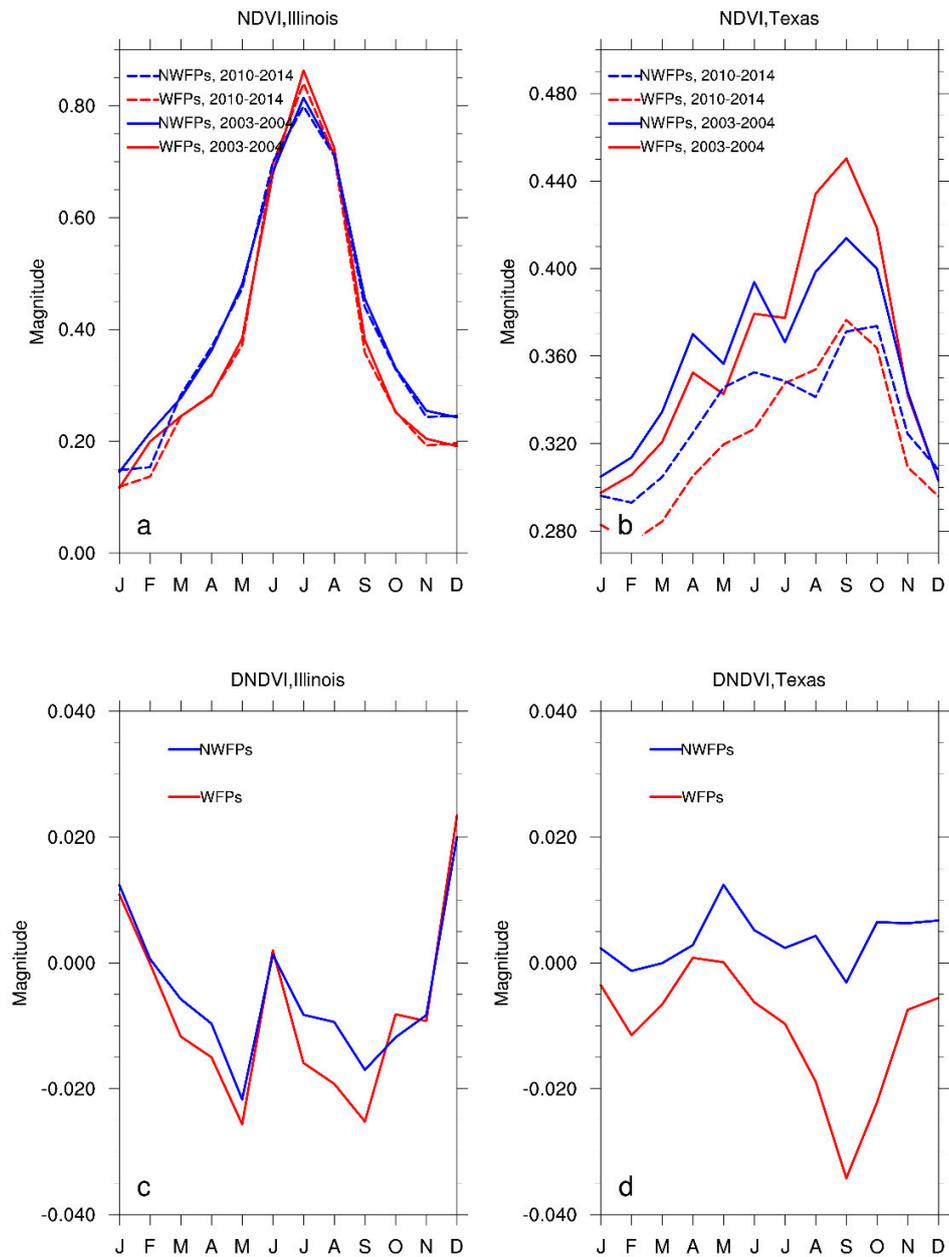


Figure S7. The seasonal cycle of monthly mean NDVI for the pre- (2003–2004, solid) and post- (2010–2014, dashed) turbine periods and DNDVI (2010–2014 averages minus 2003–2004 averages) averaged over WFPs (red) and NWFPs (blue): **a)** NDVI in Illinois, **b)** NDVI in Texas, **c)** DNDVI in Illinois, and **d)** DNDVI in Texas.