

Supporting Information

Exposures to particle beta radiation in greater Massachusetts and factors influencing their spatial and temporal variability

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Table S1: Monitor correlations and counts of overlapping days, displayed as correlation (counts)

	Albany, NY	Boston, MA	Concord, NH	Hartford, CT	Portland, ME	Providence, RI	Worcester, MA
Albany, NY	1 (6109)	0.6 (3049)	0.63 (4615)	0.61 (5241)	0.5 (2319)	0.48 (2550)	0.62 (2527)
Boston, MA	0.6 (3049)	1 (3382)	0.66 (2663)	0.62 (3073)	0.65 (1889)	0.54 (2257)	0.69 (2119)
Concord, NH	0.63 (4615)	0.66 (2663)	1 (4971)	0.7 (4590)	0.6 (1500)	0.41 (2097)	0.58 (1802)
Hartford, CT	0.61 (5241)	0.62 (3073)	0.7 (4590)	1 (5652)	0.49 (2333)	0.52 (2290)	0.62 (2553)
Portland, ME	0.5 (2319)	0.65 (1889)	0.6 (1500)	0.49 (2333)	1 (2620)	0.37 (1666)	0.53 (2245)
Providence, RI	0.48 (2550)	0.54 (2257)	0.41 (2097)	0.52 (2290)	0.37 (1666)	1 (2810)	0.54 (1934)
Worcester, MA	0.62 (2527)	0.69 (2119)	0.58 (1802)	0.62 (2553)	0.53 (2245)	0.54 (1934)	1 (2844)

Figure S1: Average silhouette width by trajectory cluster number. The final cluster number (4) is highlighted by the dashed red lines

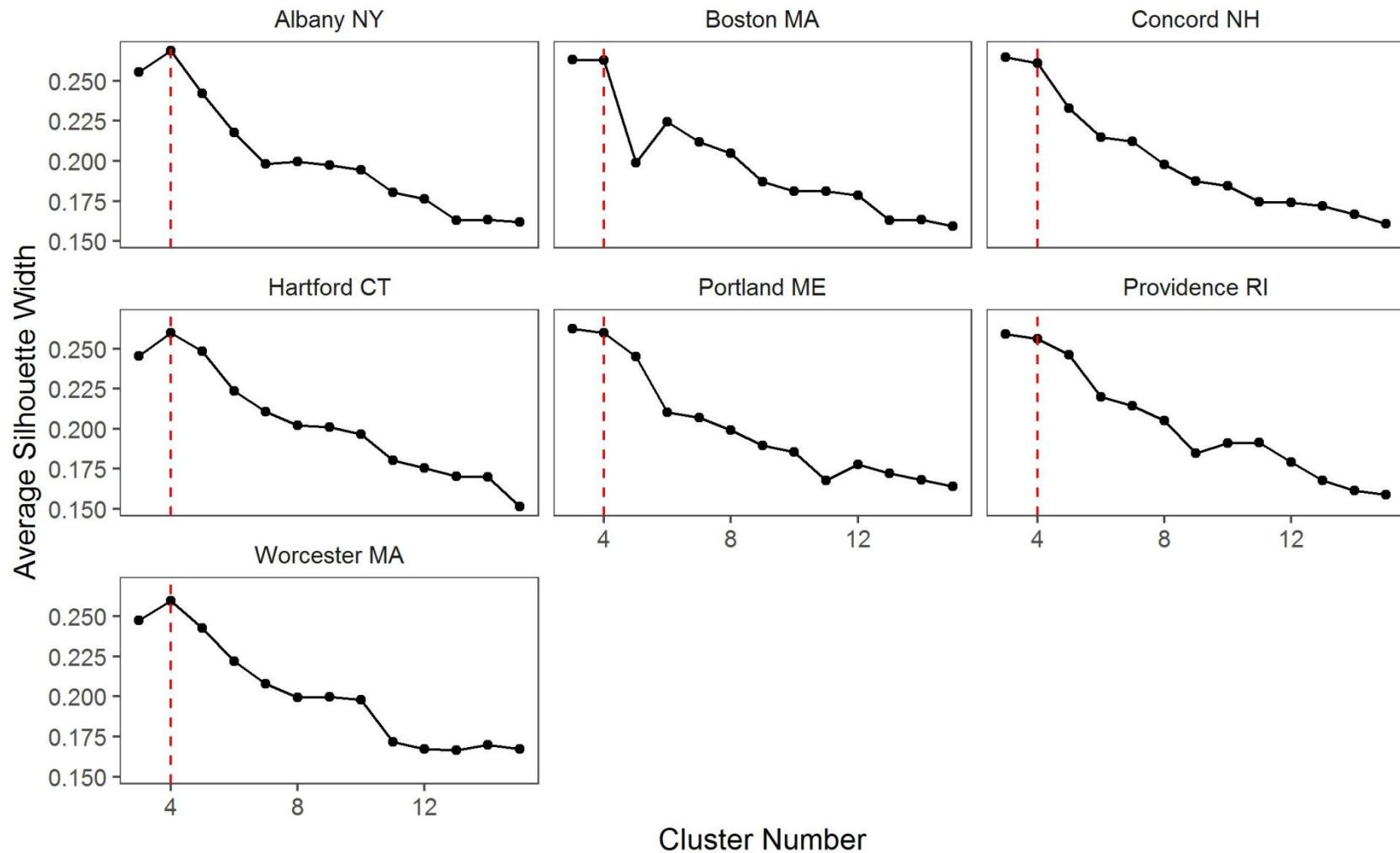
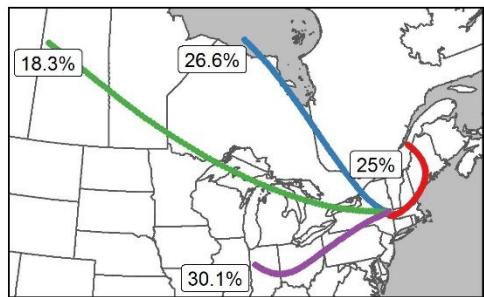
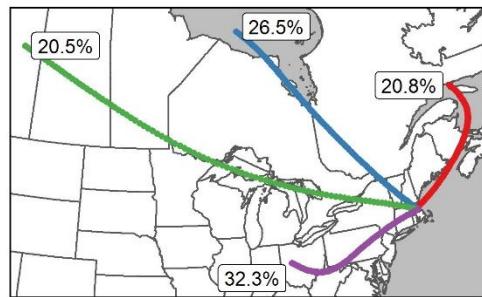


Figure S2: Trajectory cluster medioids and frequencies

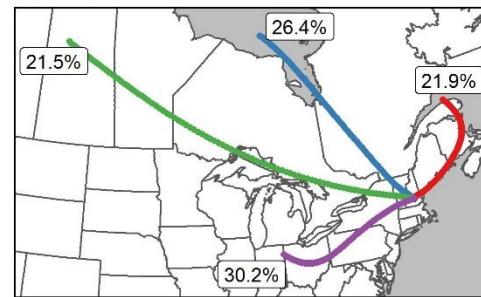
Albany NY



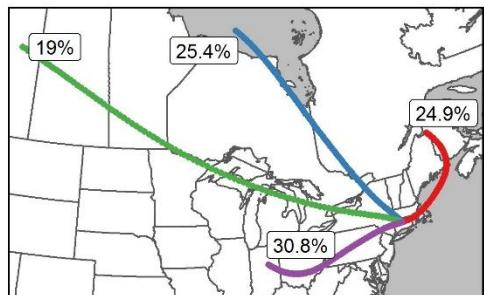
Boston MA



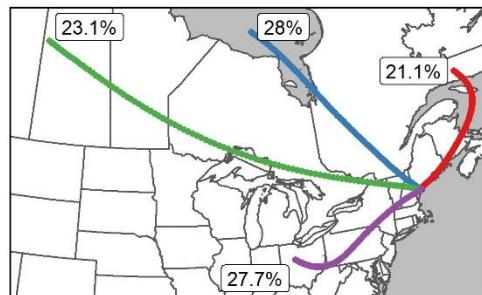
Concord NH



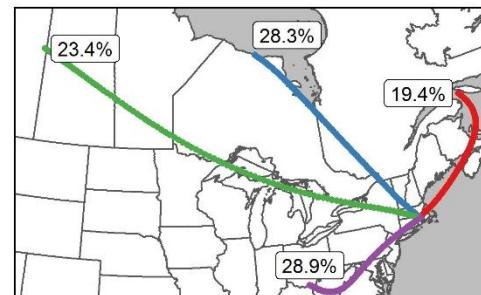
Hartford CT



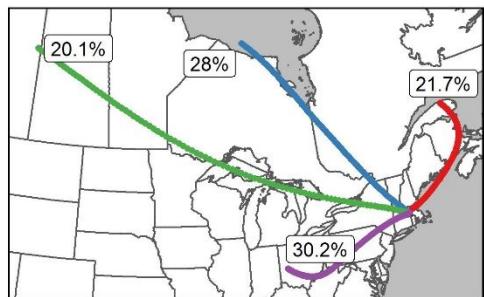
Portland ME



Providence RI



Worcester MA



Trajectory	
●	N
●	NW
●	W
●	SW

Figure S3: Monthly trajectory cluster frequencies

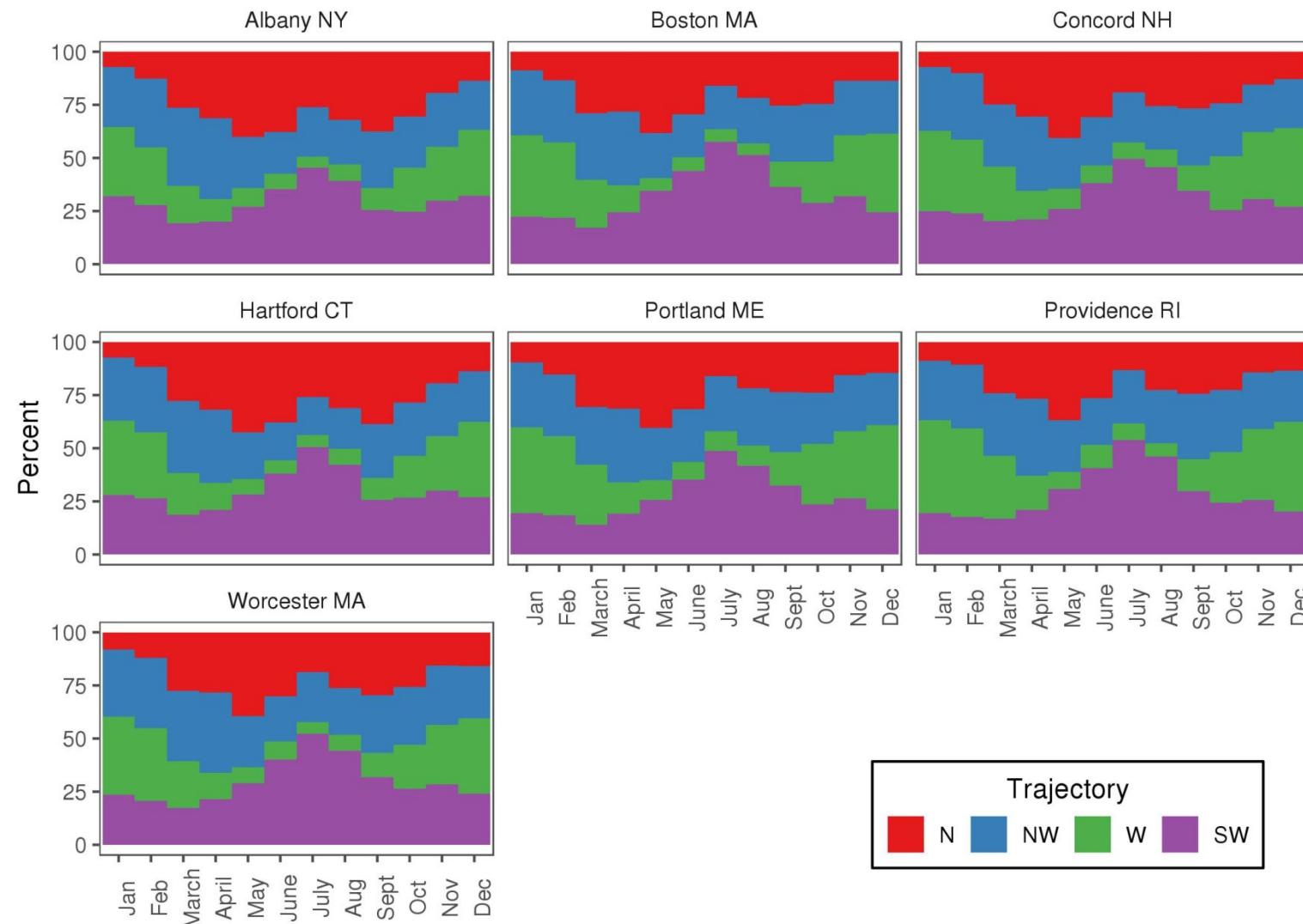


Figure S4: Distribution of beta by trajectory cluster. Mean beta values are indicated by the dashed lines

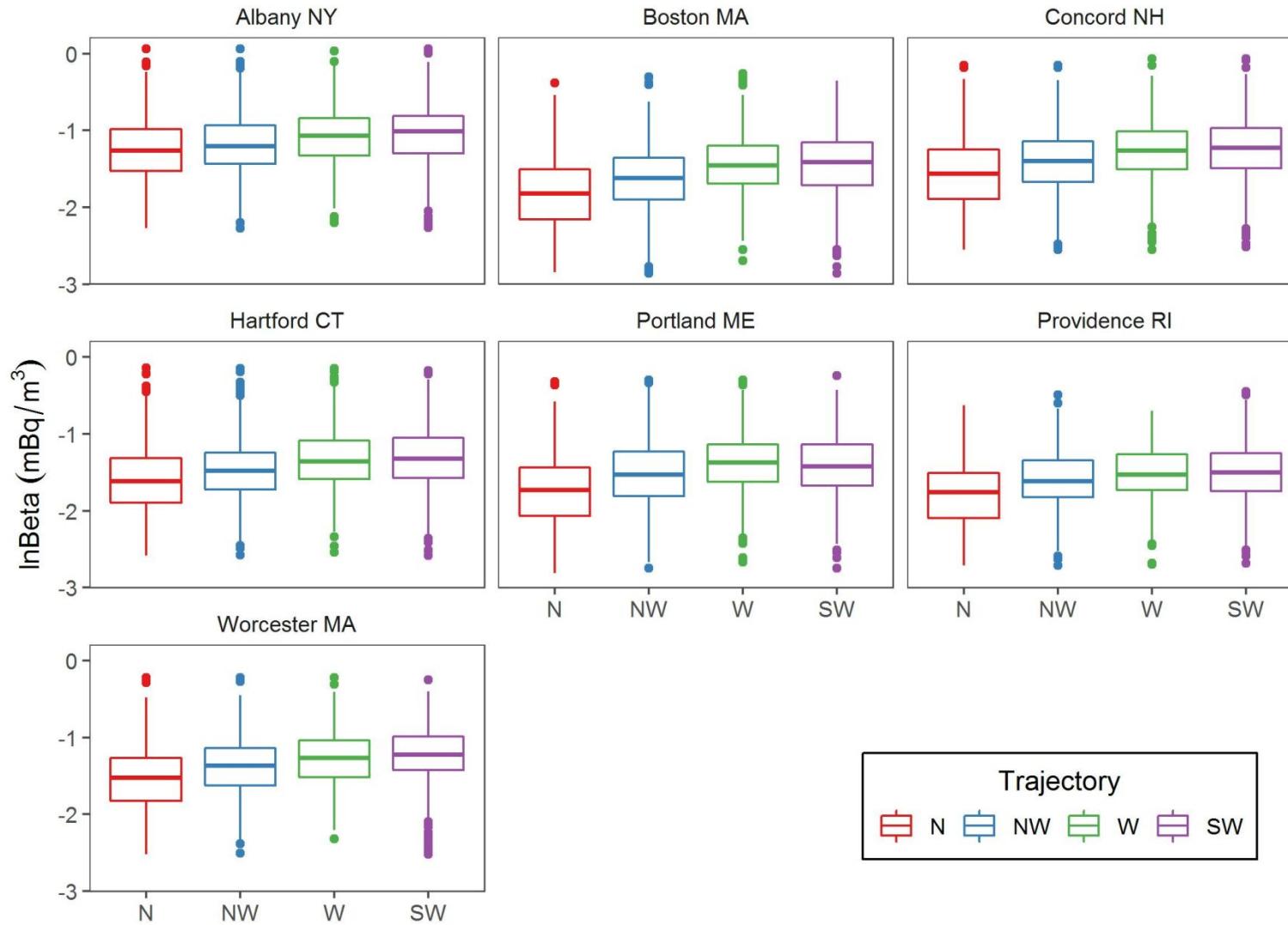


Figure S5: Change in beta per change in temperature, relative to the median temperature (10.9°C)

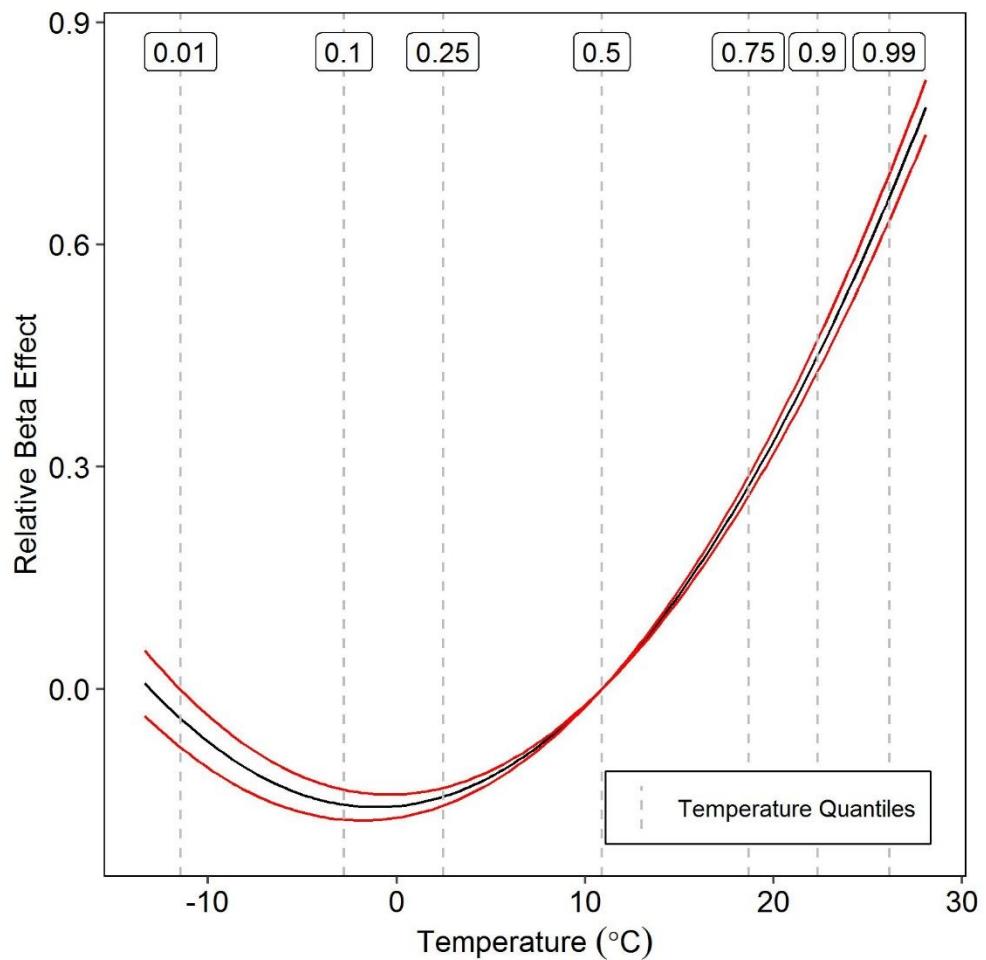


Figure S6: Density plot of observed versus predicted daily ln(beta) concentrations in the hold-out validation dataset

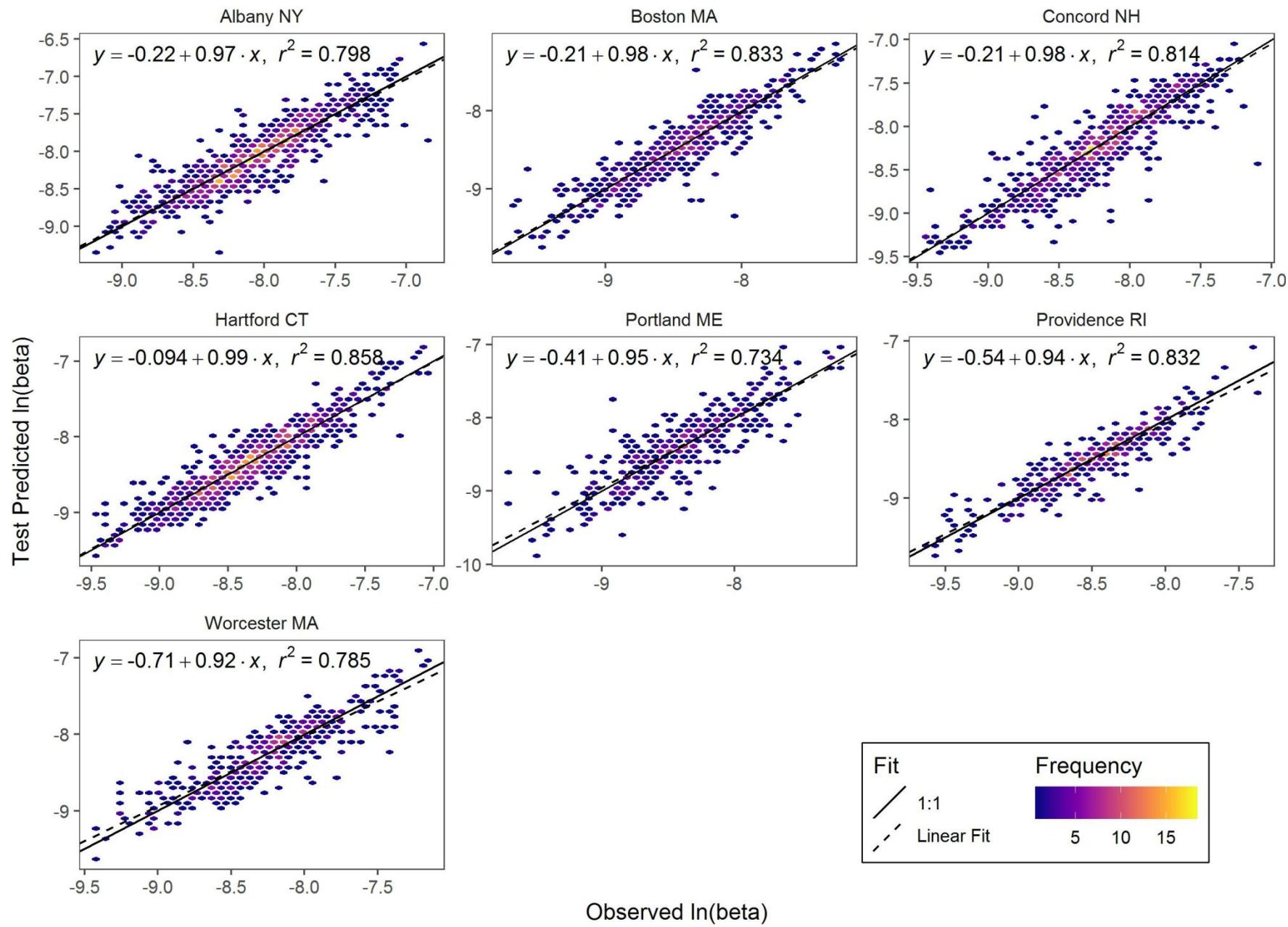


Figure S7: Variable importance for each beta monitor random forest model, shown for the top 15 most important variables in each model

