Supplementary Material IV: Spatial Variations in the Number of Eyes and Margin Points

As a measure of the number of eyes that contribute to a conditional mean geographic atrophy (GA) growth rate estimate, we computed:

$$N_{e|x}(x) = \frac{\sum_{i=1}^{n_e} K_h\left(\min_{x_j \in X^{(i)}} \|x_j - x\|\right)}{K_h\left(\min_{i} \min_{x_j \in X^{(i)}} \|x_j - x\|\right)} \quad (1)$$

where x is the covariate of interest (i.e., margin eccentricity, $x = r$; margin angle, $x = \theta$; or growth angle, $x = \psi$), $N_{e|x}$ is the number of eyes contributing to the growth rate measurement conditioned on x, n_e is the number of eyes in the study (in our study n_e = 38), $X^{(i)}$ is the set of covariate values from the *i*-th eye ($X^{(i)} = R^{(i)}$, $X^{(i)} = \Theta^{(i)}$, or $X^{(i)} = \Psi^{(i)}$), and $\|\cdot\|$ and K_h are the distance function and Gaussian kernel defined in *Supplementary Material III*. The bandwidths h were matched to those specified in *Supplementary Material III*.

As a measure of the number of margin points contributing to a conditional mean GA growth rate estimate, we computed:

$$N_{p|x}(x) = \frac{\sum_{i=1}^{n_p} K_h(\|x_i - x\|)}{K_h\left(\min_{i} \|x_i - x\|\right)} \quad (2)$$

where x is the covariate of interest, $N_{p|x}$ is the number of margin points contributing to the growth rate measurement conditioned on x, n_p is the number of margin points included in the analysis (in this study n_p= 88,356), and $\|\cdot\|$ and K_h are the distance function and Gaussian kernel defined in *Supplementary Material III*. Again, the bandwidths h were matched to those specified in *Supplementary Material III*.