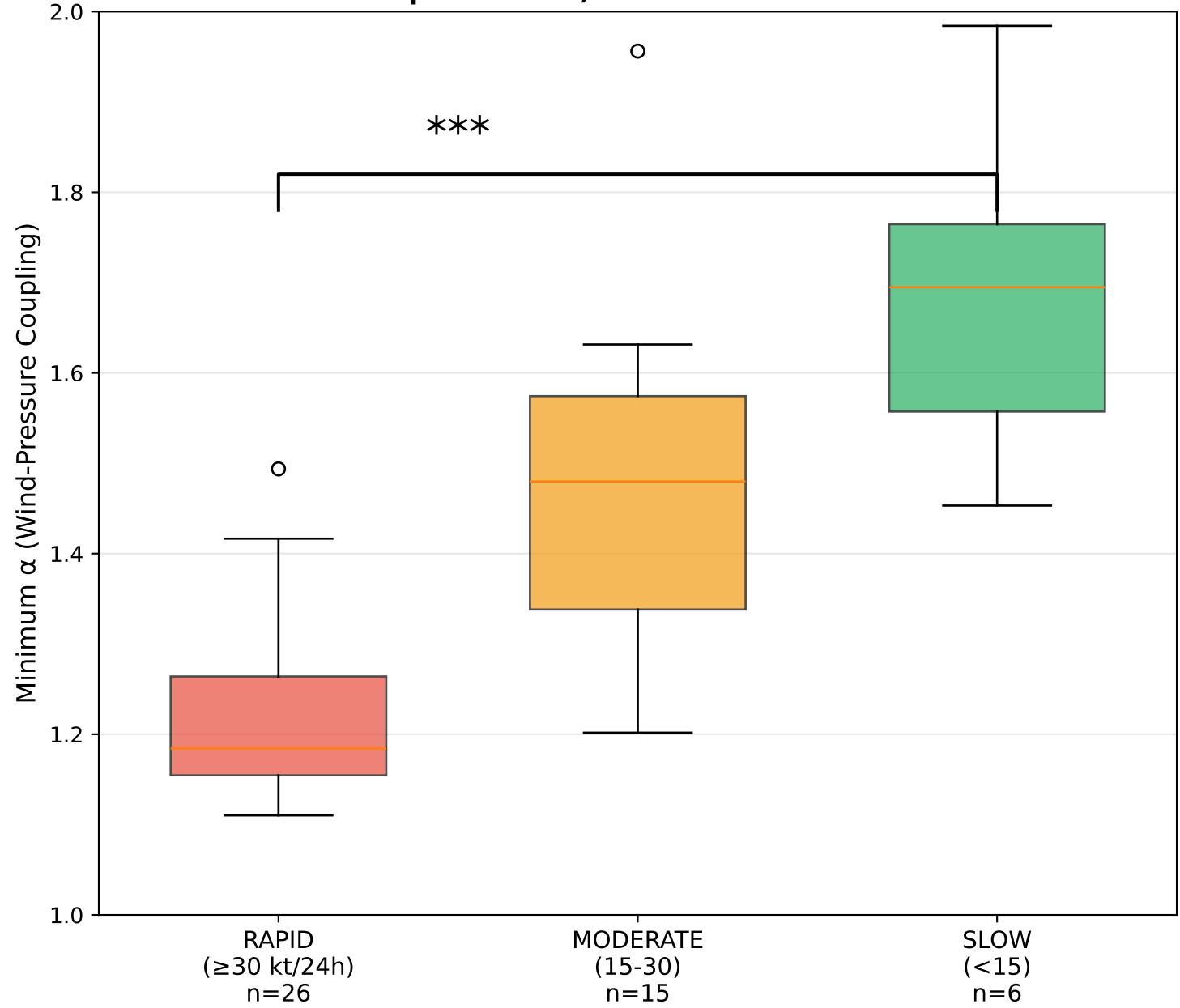
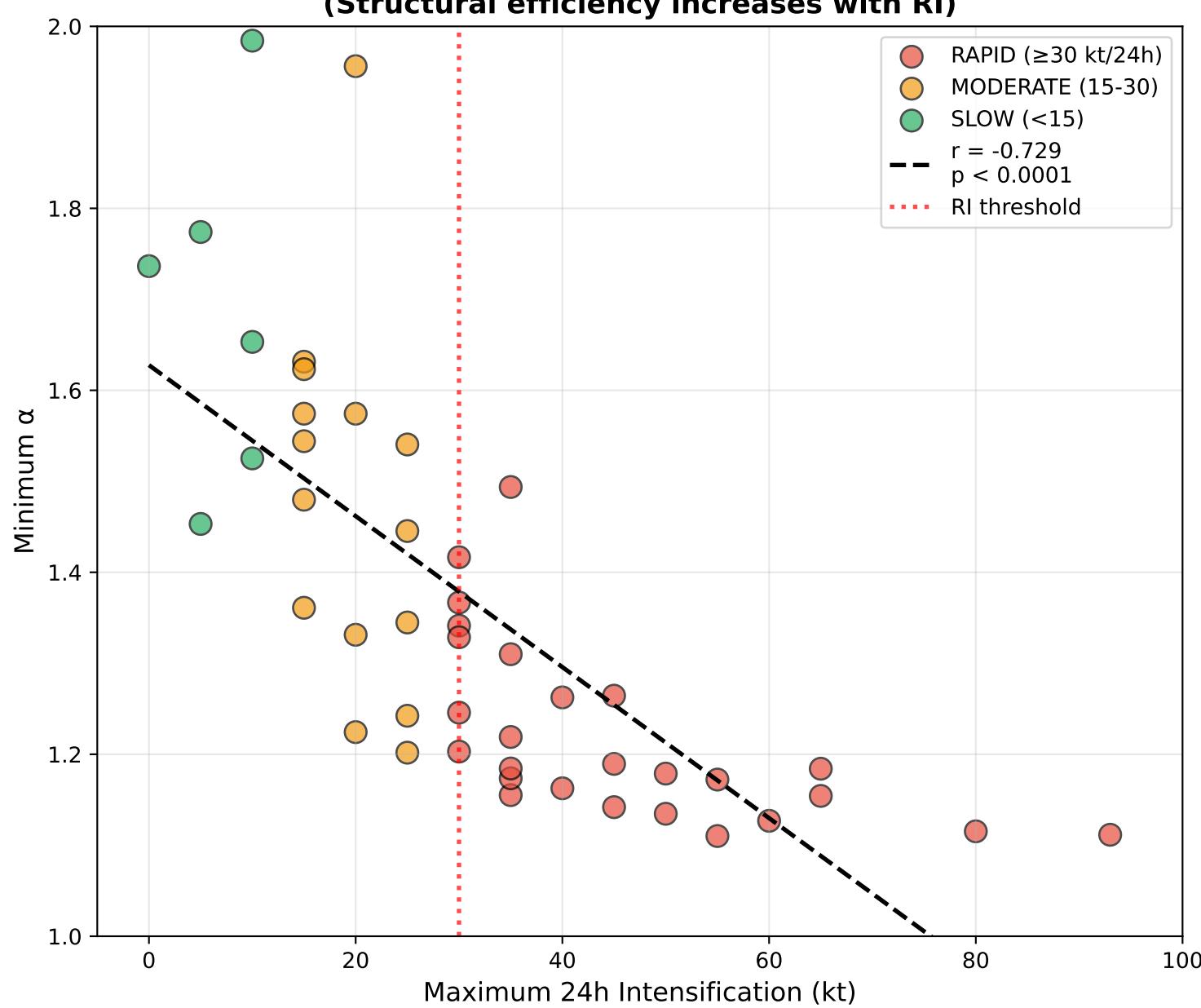


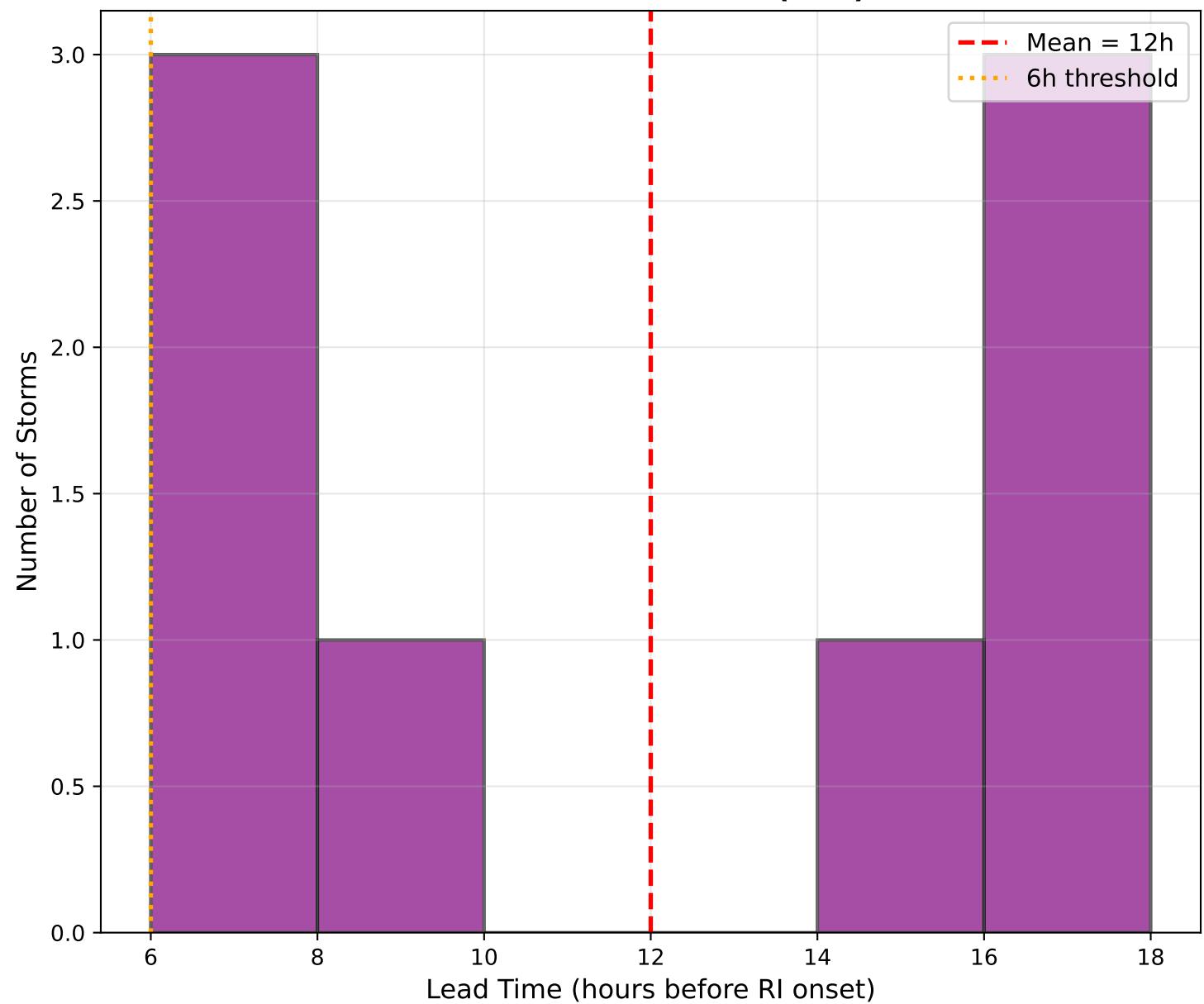
**Lower  $\alpha$  = More Efficient Storm Structure  
 $p < 0.0001$ , Cohen's  $d = 3.07$**



**Intensification Rate Strongly Predicts  $\alpha_{\min}$   
(Structural efficiency increases with RI)**



**$\alpha$ -Drop Provides 6-18 Hours Warning  
Mean lead time: 12h (n=8)**



**Top 12 Rapid Intensifiers (EP 2021-2024)  
OTIS leads with 93 kt/24h**

