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ERA5 CLIMATE CRITICAL SUSCEPTIBILITY VALIDATION

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Dataset: ERA5 Reanalysis
Region: Europe (35-70°N, -10-40°E)
Period: 2015-2024 (10 years)
Data points: 26,195,663

VALIDATION RESULTS:

[MARG] H1 INTERIOR PEAK
 $\sigma_c = 163$ km
[MARG] H2 TEMPORAL SCALING
[PASS] H3 SPATIAL RESOLUTION
[PASS] H4 CROSS VALIDATION

- KEY FINDING:
- Critical scale: 163 km
 - 95% CI: [102, 331]
 - Peak clarity $\kappa = 2.16$
 - Physical: Sub-synoptic (regional systems)

Runtime: 1.2 minutes

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