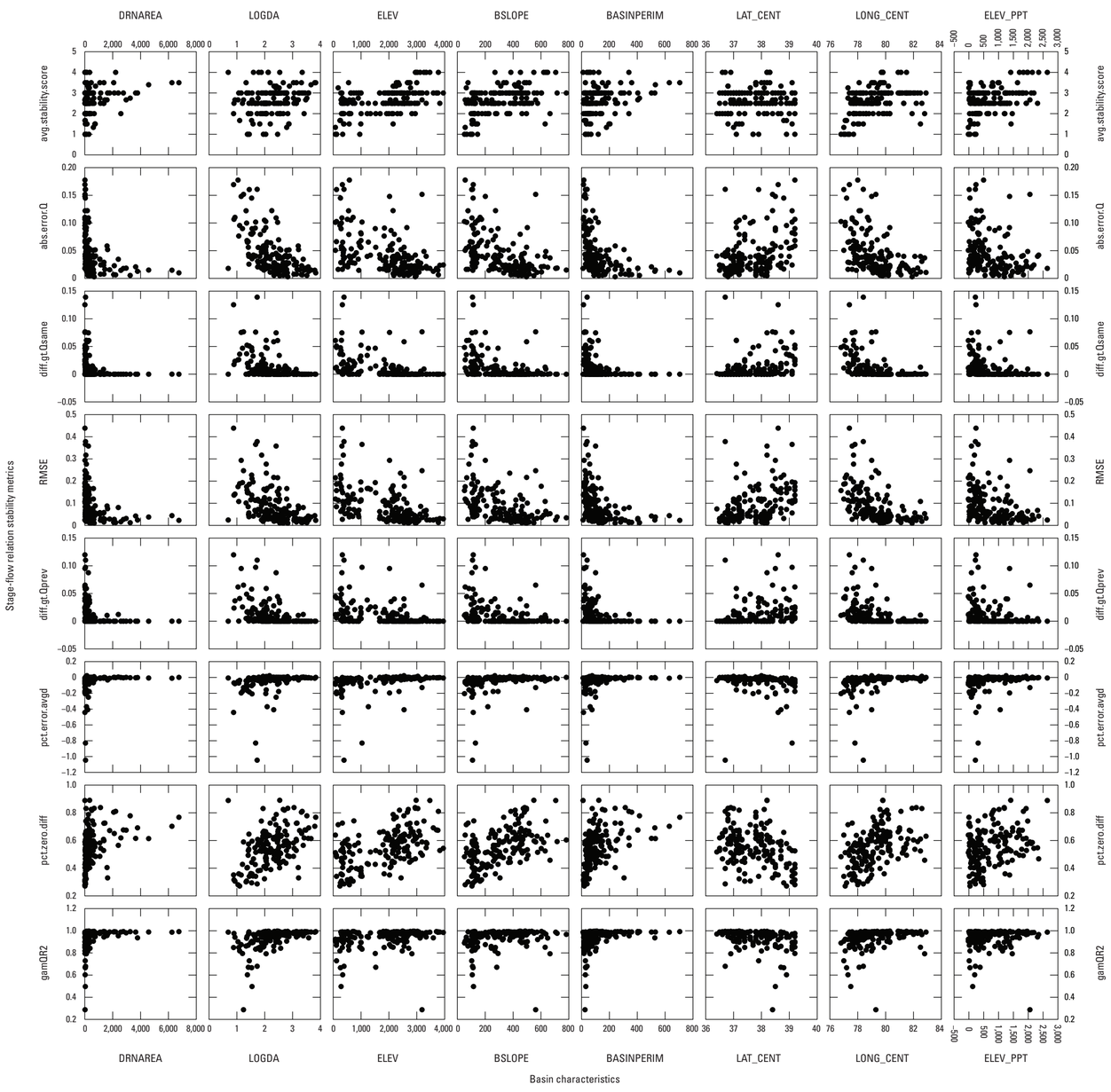
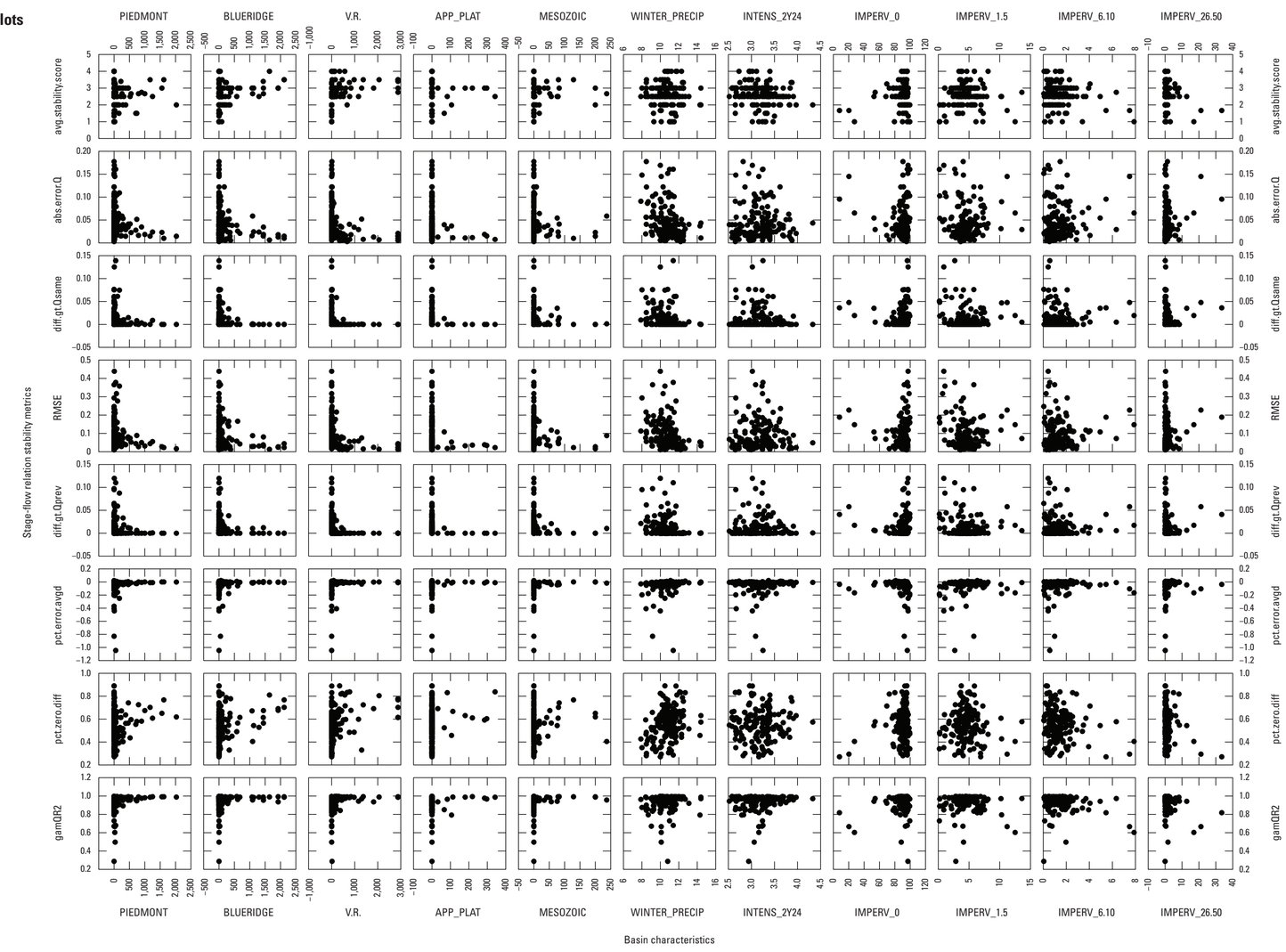
A. **64 plots**



B. **88 plots**



EXPLANATION

[Basin characteristics from Austin and others, 2011. RMSE, root mean square error; AltFlows, alternative flow tables; >, greater than; <, less than; Q_{same}, the flow value from the shifted rating table used to compute the daily flow value at the time of the most recent flow measurement that corresponds to the gage height of each day's daily flow value; Q_{prev}, the flow value from the shifted rating table in effect at the time of the previous flow measurement that corresponds to the gage height of each day's daily flow value; R^2, coefficient of determination; GAM, generalized additive model]

Variable name	Description of variable
avg.stability.score	Average of stability class assessements made by senior hydrographers, where 4 = excellent, 3 = good, 2 = fair, and 1 = poor
RMSE	Root-mean-square error of AltFlows, in log units
diff.gt.Qsame	Proportion of days when $Q_{prev} - Q_{same} > Q_{same}$
abs.error.Q	For AltFlows, sum of absolute values of error divided by sum of flow
pct.error.avgd	Daily percent error, averaged
diff.gt.Qprev	Proportion of days when $Q_{prev} - Q_{same} < Q_{prev}$
gamQR2	R^2 of GAM models of flow as a function of gage height from discharge measurements, for the most recent rating family
pct.zero.diff	Proportion of days of AltFlow record when $Q_{prev} = Q_{same}$

Basin characteristic	Abbreviation	Units	Definition
Mean elevation	ELEV	feet (ft)	The average elevation in the basin
Drainage area	DRNAREA	square miles (mi^2)	Published values of surface drainage area for each basin in the study
Log_{10} of drainage area	LOGDA	log_{10} of mi^2	Drainage area in square miles after a log_{10} transformation
Basin slope	BSLOPE	feet per mile (ft/mi)	The average slope of the basin from upland to outlet
Perimeter	BASINPERIM	mile (mi)	The length of the basin boundary
Latitude	LAT_CENT	decimal degrees (DD)	The east-west coordinate at the centroid of the basin boundary
Longitude	LONG_CENT	decimal degrees (DD)	The north-south coordinate at the centroid of the basin boundary
Elevation	ELEV_PPT	percentage × 100	Distance above sea level
Basin area in Piedmont Physiographic Province	PIEDMONT	square miles (mi^2)	Area within the Piedmont Physiographic Province
Basin area in Blue Ridge Physiographic Province	BLUERIDGE	square miles (mi^2)	Area within the Blue Ridge Physiographic Province
Basin area in Valley and Ridge Physiographic Province	V.R.	square miles (mi^2)	Area within the Valley and Ridge Physiographic Province
Basin area in Appalachian Plateaus Physiographic Province	APP_PLAT	square miles (mi^2)	Area within the Appalachian Plateaus Physiographic Province
Basin area in Mesozoic Basins part of the Piedmont Physiographic Province	MESOZOIC	square miles (mi^2)	Area within the Mesozoic Basins part of the Physiographic Province
Mean January-February-March precipitation	WINTER_PRECIP	inches (in.)	Mean January-February-March precipitation falling on the basin, averaged over the whole basin
2-year, 24-hour precipitation intensity	INTENS_2Y24	inches (in.)	Basin average rainfall at the 24-hour, 2-year recurrence interval
Basin area with no impervious surface	IMPERV_0	percent (%)	Percent of the basin coded as 0-percent impervious
Basin area with 1 to 5 percent impervious surface	IMPERV_1.5	percent (%)	Percent of the basin coded as 1- to 5-percent impervious
Basin area with 6 to 10 percent impervious surface	IMPERV_6.10	percent (%)	Percent of the basin coded as 6- to 10-percent impervious
Basin area with 26 to 50 percent impervious surface	IMPERV_26.50	percent (%)	Percent of the basin coded as 26- to 50-percent impervious

Scatterplot matrixes of stage-flow relation stability metrics in relation to selected basin characteristics for *A*, 64 plots and, *B*, 88 plots, for streamgages in Virginia, water years 1991–2013

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