APPENDIX B: Z-SCORES

Table B.1.1: The z-score of the discharge of all peaks-above-base in the Central Highlands for each flood-producing mechanism.

	AR	Non-AR Winter	Convective
AFR-May	0.808	-0.427	-0.44
BLK-Fta	0.269	-0.125	-0.514
BON-Mor	0.26	-0.261	-0.035
CHE-Glo	0.457	-0.589	-0.55
CIB-Chr	0.338	-0.606	0.034
DBV-Rim	0.517	-0.509	-0.443
EAG-Mor	0.606	-0.139	-0.414
EFW-Fta	0.067	-0.126	0.17
GIL-Blu	0.629	0.053	-0.477
Gil-Cal	0.488	-0.092	-0.907
GIL-Sol	0.524	0.012	-0.888
NEW-Rck	0.393	-0.295	-0.248
OAK-Crn	0.61	-0.735	-0.707
SCL-Per	0.523	-0.335	-0.534
SFR-Clf	0.452	-0.083	-0.605
SLT-Roo	0.487	-0.437	-0.643
SYC-Mcd	0.457	-0.624	-0.136
TON-Roo	0.331	-0.502	-0.489
VRD-Crk	0.4	-0.42	-0.634
VRD-Hsd	0.571	-0.546	-1.029
WCL-Cmp	0.404	-0.192	-0.494

Table B.1.2: The z-score of the discharge of all annual peaks in the Central Highlands for each flood-producing mechanism.

	AR	Non-AR Winter	Convective
AFR-May	1.052	-0.265	-0.937
BLK-Fta	0.522	-0.392	-0.533
BON-Mor	0.224	-0.375	0.062
CHE-Glo	0.654	-0.529	-0.416
CIB-Chr	0.575	-0.792	-0.084
DBV-Rim	0.762	-0.652	-0.423
EAG-Mor	0.796	-0.404	-0.369
EFW-Fta	0.101	-0.426	0.046
GIL-Blu	0.518	0.365	-0.727
GIL-Cal	0.507	-0.095	-0.843
GIL-Sol	0.618	0.048	-0.65
NEW-Rck	0.55	-0.357	-0.48
OAK-Crn	0.83	-0.976	-0.49
SCL-Per	0.459	-0.43	-0.464
SFR-Clf	0.701	-0.197	-0.45
SLT-Roo	0.387	-0.385	-0.612
SYC-Mcd	0.47	-0.893	-0.032
TON-Roo	0.527	-0.446	-0.768
VRD-Crk	0.351	-0.319	-0.425
VRD-Hsd	0.489	-0.69	-1.063
WCL-Cmp	0.456	-1.082	-0.322

Table B.2.1: The z-score of the discharge of all peaks-above-base in the Colorado Plateau for each flood-producing mechanism.

	AR	Non-AR Winter	Convective
CHN-Nmw	-0.083	0.069	-0.121
LCO-Cam	0.772	-0.24	0.199
LCO-Stj	-0.31	-0.521	0.363
MKW-Mnk	-0.194	-0.304	0.241
PAR-Lee	-0.579	0.096	0.093

Table B.2.2: The z-score of the discharge of all annual peaks in the Colorado Plateau for each flood-producing mechanism.

	AR	Non-AR Winter	Convective
CHN-Nmw	-0.266	0.094	-0.072
LCO-Cam	1.164	-0.179	0.519
LCO-Stj	-0.398	-0.36	0.37
MKW-Mnk	-0.55	-0.298	0.36
PAR-Lee	-0.407	0.066	0.172

Table B.3.1: The z-score of the discharge of all peaks-above-base in the Basin and Range for each flood-producing mechanism.

	AR	Non-AR Winter	Convective
ARV-Mth	0.218	0.204	-0.323
BSN-Wku	0.392	-0.432	-0.241
SCR-Loc	0.967	-1.65	0.054
SCR-Nog	0.63	-0.046	-0.241
SCR-Tuc	-0.164	0.389	0.086
SPD-Cha	0.492	0.488	-0.068
SPD-Pal	0.15	0.465	-0.219

Table B.3.2: The z-score of the discharge of all annual peaks in the Basin and Range for each flood-producing mechanism.

	AR	Non-AR Winter	Convective
ARV-Mth	0.22	0.23	-0.267
BSN-Wku	0.512	-0.842	-0.078
SCR-Loc	1.016	-1.314	0.253
SCR-Nog	1.104	-0.199	-0.195
SCR-Tuc	-0.253	0.189	0.196
SPD-Cha	0.468	0.553	-0.155
SPD-Pal	-0.088	0.589	-0.256

APPENDIX C: CONTINGENCY TABLES

Table C.1.1: Contingency table of direct discharge for the Gila watershed

	AR-Related	**Non-AR Winter**	**Convective**	**Tropical**	**Total**
Top Third	17	15	4	0	36
Medium Third	5	18	9	3	35
Bottom Third	6	8	19	2	36
Total	28	42	32	5	107

Table C.1.2: Contingency table of z-score of discharge for the Gila watershed

	AR-Related	**Non-AR Winter**	**Convective**	**Tropical**	**Total**
Top Third	16	15	5	0	36
Medium Third	6	16	10	3	35
Bottom Third	6	11	17	2	36
Total	28	42	32	5	107

Table C.2.1: Contingency table of direct discharge for the Verde watershed

	AR-Related	**Non-AR Winter**	**Convective**	**Tropical**	**Total**
Top Third	23	3	1	2	29
Medium Third	10	15	2	1	28
Bottom Third	5	16	7	1	29
Total	38	34	10	4	86

Table C.2.2: Contingency table of z-score of discharge for the Verde watershed

	AR-Related	**Non-AR Winter**	**Convective**	**Tropical**	**Total**
Top Third	23	3	1	2	29
Medium Third	9	15	2	2	28
Bottom Third	6	16	7	0	29
Total	38	34	10	4	86

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Table C.3.1: Contingency table of direct discharge for the Santa Cruz watershed.

	AR-Related	**Non-AR Winter**	**Convective**	**Tropical**	**Total**
Top Third	2	5	24	3	34
Medium Third	3	5	21	5	34
Bottom Third	3	3	25	3	34
Total	8	13	70	11	102

Table C.3.2: Contingency table of z-score of discharge for the Santa Cruz watershed.

	AR-Related	**Non-AR Winter**	**Convective**	**Tropical**	**Total**
Top Third	3	4	24	3	34
Medium Third	3	5	20	6	34
Bottom Third	2	4	26	2	34
Total	8	13	70	11	102

Table C.4.1: Contingency table of direct discharge for the Little Colorado watershed.

	AR-Related	**Non-AR Winter**	**Convective**	**Tropical**	**Total**
Top Third	6	10	5	2	23
Medium Third	0	12	11	1	24
Bottom Third	2	11	9	1	23
Total	8	33	25	4	70

Table C.4.2: Contingency table of z-score of discharge for the Little Colorado watershed.

	AR-Related	**Non-AR Winter**	**Convective**	**Tropical**	**Total**
Top Third	3	7	13	0	23
Medium Third	4	8	9	3	24
Bottom Third	1	18	3	1	23
Total	8	33	25	4	70

Table C.5.1: Contingency table of direct discharge for the Salt watershed.

	AR-Related	**Non-AR Winter**	**Convective**	**Tropical**	**Total**
Top Third	24	4	3	3	34
Medium Third	9	12	8	4	33
Bottom Third	14	14	6	0	34
Total	47	30	17	7	101

Table C.5.2: Contingency table of z-score of discharge for the Salt watershed.

	AR-Related	**Non-AR Winter**	**Convective**	**Tropical**	**Total**
Top Third	24	4	3	3	34
Medium Third	9	14	7	3	33
Bottom Third	14	12	7	1	34
Total	47	30	17	7	101

APPENDIX D: PARAMETERS FOR DIFFERENCE IN MEANS

Table D.1: The mean and standard deviations of the logarithmic value of discharge for each flood-producing mechanism by station.

	AR	Non-AR Winter	Convective
BSN-Wku			
Mean	3.884	3.276	3.417
Standard Deviation	0.642	0.811	0.431
CHN-Nmw			
Mean	3.1	3.14	3.09
Standard Deviation	0.34	0.26	0.284
GIL-Sol			
Mean	4.145	3.894	3.453
Standard Deviation	0.496	0.378	0.42
LCO-Cam			
Mean	3.881	3.654	3.75
Standard Deviation	0.23	0.228	0.18
NEW-Rck			
Mean	3.235	2.85	2.88
Standard Deviation	0.546	0.36	0.689
OAK-Crn			
Mean	3.773	3.2	3.21
Standard Deviation	0.372	0.273	0.25
SCR-Nog			
Mean	3.574	3.35	3.285
Standard Deviation	0.252	0.225	0.325
SFR-Clf			
Mean	3.795	3.555	3.32
Standard Deviation	0.395	0.479	0.317
SLT-Roo			
Mean	4.21	3.835	3.75
Standard Deviation	0.448	0.251	0.254
VRD-Hsd			
Mean	4.31	3.8	3.579
Standard Deviation	0.451	0.23	0.288

Table D.2: The pooled variances, degrees of freedom, and rejection regions for each pair of comparisons at the select gauging stations.

	AR vs. Non-AR Winter	AR vs. Convective
BSN-Wku		
Pooled variance (s^2)	0.5184	0.3614
Degrees of freedom	67	49
t-statistic at 0.010	2.158 – 2.39	3.90 – 2.423
CHN-Nmw		
Pooled variance (s^2)	0.08	0.0868
Degrees of freedom	36	51
t-statistic at 0.010	2.423 – 2.457	2.39 – 2.423
GIL-Sol		
Pooled variance (s^2)	0.1958	0.2214
Degrees of freedom	37	29
t-statistic at 0.010	2.423 – 2.457	2.462
LCO-Cam		
Pooled variance (s^2)	0.0523	0.0425
Degrees of freedom	26	10
t-statistic at 0.010	2.479	2.764
NEW-Rck		
Pooled variance (s^2)	0.226	0.339
Degrees of freedom	70	52
t-statistic at 0.010	2.158 – 2.39	2.39 – 2.423
OAK-Crn		
Pooled variance (s^2)	0.1164	0.1243
Degrees of freedom	41	33
t-statistic at 0.010	2.39 – 2.423	2.423 – 2.457
SCR-Nog		
Pooled variance (s^2)	0.0557	0.0968
Degrees of freedom	10	19
t-statistic at 0.010	2.764	2.539
SFR-Clf		
Pooled variance (s^2)	0.1864	0.1383
Degrees of freedom	39	34
t-statistic at 0.010	2.423 – 2.457	2.423 – 2.457
SLT-Roo		
Pooled variance (s^2)	0.1513	0.1685
Degrees of freedom	50	42
t-statistic at 0.010	2.39 – 2.423	2.39 -2.423
VRD-Hsd		
Pooled variance (s^2)	N/A[1]	0.1852
Degrees of freedom	53	40
t-statistic at 0.010	2.39 – 2.423	2.423