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Deformation of the substratum of a large shield volcano: triggering factor for past flank collapses in the old volcanic edifice of La Gomera, Canary Islands

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This Repository Data item contains exhaustive additional information about the orientation of the basic dikes of the Basal Complex of La Gomera (Canary Islands). This includes:

1.- A set of tables with the results of the relevant statistical indicators at each measured site and for each dike set (see main article for location of the sites of dike measurement). These indicators include the eigenvalues and eigenvectors of the orientation tensor computed for each sample (poles to the measured dikes). This information allows determining the mean plane or statistical fold axis. See Fisher et al. (1987) for details on the statistical procedures.
2.- A set of equal-area, lower hemisphere diagrams for each dike set and measurement site, including the relevant statistical information (mean plane, fold axis).

(Projection and statistical computations performed with software STEREONET, Allmendinger, 2004).

References cited in this item:

Allmendinger, R.W., 2004, STEREONET v. 6.4: A computer program for plotting three-dimensional data on a lower hemisphere projection and to perform various operations on linear and planar orientation data: Dept. of Earth & Atmospheric Sciences, Cornell University, Ithaca, NY.

Fisher, N.I., Lewis, T., and Embleton, J.J., 1987, Statistical Analysis of Spherical Data: Cambridge, UK, Cambridge University Press, 329 p.

OLD DIKES: SET 1

		First eigenvalue/eigenvector			*Second eigenvalue/eigenvector*			*Third eigenvalue/eigenvector*			***Mean plane***		***Fold axis***	
Site	n	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Azimuth	Dip	Trend	Plunge
3	7	0.7482	227	13	0.2212	137	2	0.0306	37	77	**137**	**77 NE**		
4	6	0.7479	86	6	0.2304	327	78	0.0217	178	11	**176**	**84 W**		
6	24	0.7635	228	0	0.2055	318	6	0.031	137	84	**138**	**90**		
7	1										**140**	**80 SW**		
20	19	0.5944	97	9	0.3642	187	1	0.0413	285	81	**7**	**81 W**		
21	17	0.8499	255	8	0.127	164	9	0.0231	27	78	**165**	**81 NE**		
24	1										**176**	**50 W**		
50	6	0.7854	239	2	0.1709	330	12	0.0437	140	78	**149**	**88 NE**		
51	6	0.8146	254	13	0.1243	156	32	0.0612	4	55	**164**	**77 NE**		
53	9	0.956	98	5	0.0227	4	42	0.0214	194	47	**8**	**85 W**		
54	11	0.7887	63	14	0.1626	123	0	0.0486	243	76	**153**	**76 SW**		
56	2	0.9373	60	0	0.0627	330	0	0	90	90	**150**	**90**		
59	6	0.6142	2	3	0.3731	93	7	0.0126	248	83	**93**	**87 S**		
60	22	0.7037	100	3	0.2831	10	2	0.0132	248	86	**10**	**87 W**		

OLD DIKES: SET 2														
		First eigenvalue/eigenvector			*Second eigenvalue/eigenvector*			*Third eigenvalue/eigenvector*			***Mean plane***		***Fold axis***	
Site	n	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Azimuth	Dip	Trend	Plunge
53	21	0.7272	194	6	0.2312	103	6	0.0416	331	81	**104**	**84 NE**		
54a	12	0.7497	55	4	0.2214	147	18	0.0289	314	72	**145**	**86 SW**		
54b	8	0.8224	71	7	0.1378	340	5	0.0298	216	81	**161**	**83 W**		
55	19	0.9298	196	17	0.0452	299	38	0.025	87	48	**106**	**73 NE**		
56	10	0.8618	207	25	0.0876	109	16	0.0506	350	60	**117**	**65 NE**		
57	8	0.8943	192	21	0.0912	78	47	0.0144	298	36	**102**	**69 NE**		
58	26	0.8997	197	23	0.0713	100	17	0.0291	336	61	**107**	**67 NE**		
59	17	0.7484	232	8	0.1892	138	25	0.0624	338	64	**142**	**82 NE**		
60	7	0.8252	189	39	0.143	87	14	0.0318	341	47	**99**	**51 N**		
61	17	0.938	243	16	0.0349	151	6	0.0271	41	73	**153**	**74 NE**		
62	15	0.7401	205	10	0.1746	94	64	0.0853	297	24	**115**	**80 NE**		
63	7	0.6685	47	5	0.262	138	8	0.0695	288	80	**137**	**85 SW**		
64	29	0.8746	196	21	0.0717	35	68	0.0537	289	7	**106**	**69 NE**		
66	17	0.9283	183	22	0.0488	48	61	0.0229	280	19	**93**	**68 N**		
67	39	0.783	210	22	0.1576	106	30	0.0594	330	51	**120**	**68 NE**		

OLD DIKES: SET 3														
		First eigenvalue/eigenvector			*Second eigenvalue/eigenvector*			*Third eigenvalue/eigenvector*			***Mean plane***		***Fold axis***	
Site	n	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Azimuth	Dip	Trend	Plunge
1	10	0.7798	154	55	0.1939	273	19	0.0262	13	29	**64**	**35NW**		
2	12	0.878	138	15	0.0757	277	70	0.0462	44	12	**48**	**75NW**		
3	27	0.6704	162	18	0.2433	71	5	0.0863	326	73	**72**	**72NW**		
4	19	0.6633	313	51	0.2075	56	10	0.1291	154	37	**43**	**39SE**		
5	8	0.9108	169	40	0.0697	346	50	0.0195	78	2	**79**	**50NW**		
6	17	0.6876	166	27	0.2802	264	17	0.0322	23	58	**76**	**63NW**		
7	6	0.7778	195	63	0.1927	312	13	0.0295	48	24	**105**	**27 NE**		
9 (fold)	38	0.7071	179	18	0.2388	26	70	0.0541	272	8			**272**	**8**
10	33	0.8762	330	51	0.0978	153	39	0.0259	62	2	**60**	**39SE**		
11	14	0.9273	162	37	0.0471	14	48	0.0256	265	16	**72**	**53 NW**		
12	1										**90**	**60 S**		
13	3	0.9487	301	17	0.0512	113	71	0.0001	210	2	**31**	**73SE**		
14	1										**42**	**80 SE**		
14	1										**35**	**60 SE**		
15	9	0.7924	153	2	0.1443	246	52	0.0633	62	38	**63**	**88NW**		
16	11	0.9766	170	43	0.0188	350	47	0.0046	80	0	**80**	**47N**		
19	33	0.8277	163	33	0.136	257	6	0.0364	355	57	**73**	**57NW**		
21	19	0.6779	196	19	0.2353	104	5	0.0869	1	70	**106**	**71N**		
22	32	0.6105	227	45	0.3037	118	18	0.0858	13	39	**137**	**45NE**		
23	1										**90**	**40 N**		
24	3	0.9759	268	68	0.0194	148	12	0.0047	54	19	**178**	**22E**		
25 (fold)	13	0.6633	176	20	0.3111	18	69	0.0256	268	7			**268**	**7**

OLD DIKES: SET 3 (cont.)

		First eigenvalue/eigenvector			*Second eigenvalue/eigenvector*			*Third eigenvalue/eigenvector*			***Mean plane***		***Fold axis***	
Site	n	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Azimuth	Dip	Trend	Plunge
26	17	0.94	189	24	0.0395	294	30	0.0205	67	50	**99**	**66N**		
27 E	6	0.0492	338	50	0.04	192	35	0.0108	89	17	**68**	**40SE**		
27 W	11	0.7074	356	36	0.2447	147	50	0.048	255	15	**86**	**54 S**		
28top (fold)	5	0.7212	180	37	0.2775	350	53	0.0013	87	5			**87**	**5**
28bot. (fold)	3	0.5948	341	6	0.4039	137	83	0.0013	251	3			**251**	**3**
29	1										**60**	**60 S**		
29	1										**65**	**13 S**		
30	1										**97**	**26 S**		
30	1										**80**	**25 S**		
31	7	0.9187	333	45	0.0748	165	44	0.0065	69	6	**63**	**45 SE**		
32	1										**91**	**35 S**		
33	51	0.9379	346	66	0.0437	134	21	0.0183	228	12	**76**	**24 SE**		
33 (fold 1)	13	0.9081	320	51	0.0687	115	36	0.0232	214	12			**214**	**12**
33 (fold 2)	4	0.8375	42	13	0.1573	306	24	0.0053	157	63			**157**	**63**
34 N	7	0.8592	32	71	0.1274	168	14	0.0133	261	13	**122**	**19 SW**		
34 S	6	0.9147	343	3	0.0514	138	87	0.0338	253	1	**73**	**87 SE**		
35	5	0.933	345	8	0.0504	75	4	0.0166	193	81	**75**	**82 SE**		
36 (fold)	9	0.8014	46	62	0.1752	171	17	0.0234	268	22			**268**	**22**
37	6	0.8875	290	39	0.1034	59	37	0.0091	174	29	**20**	**51 SE**		
38	1										**37**	**55 SE**		
38	1										**40**	**43 SE**		

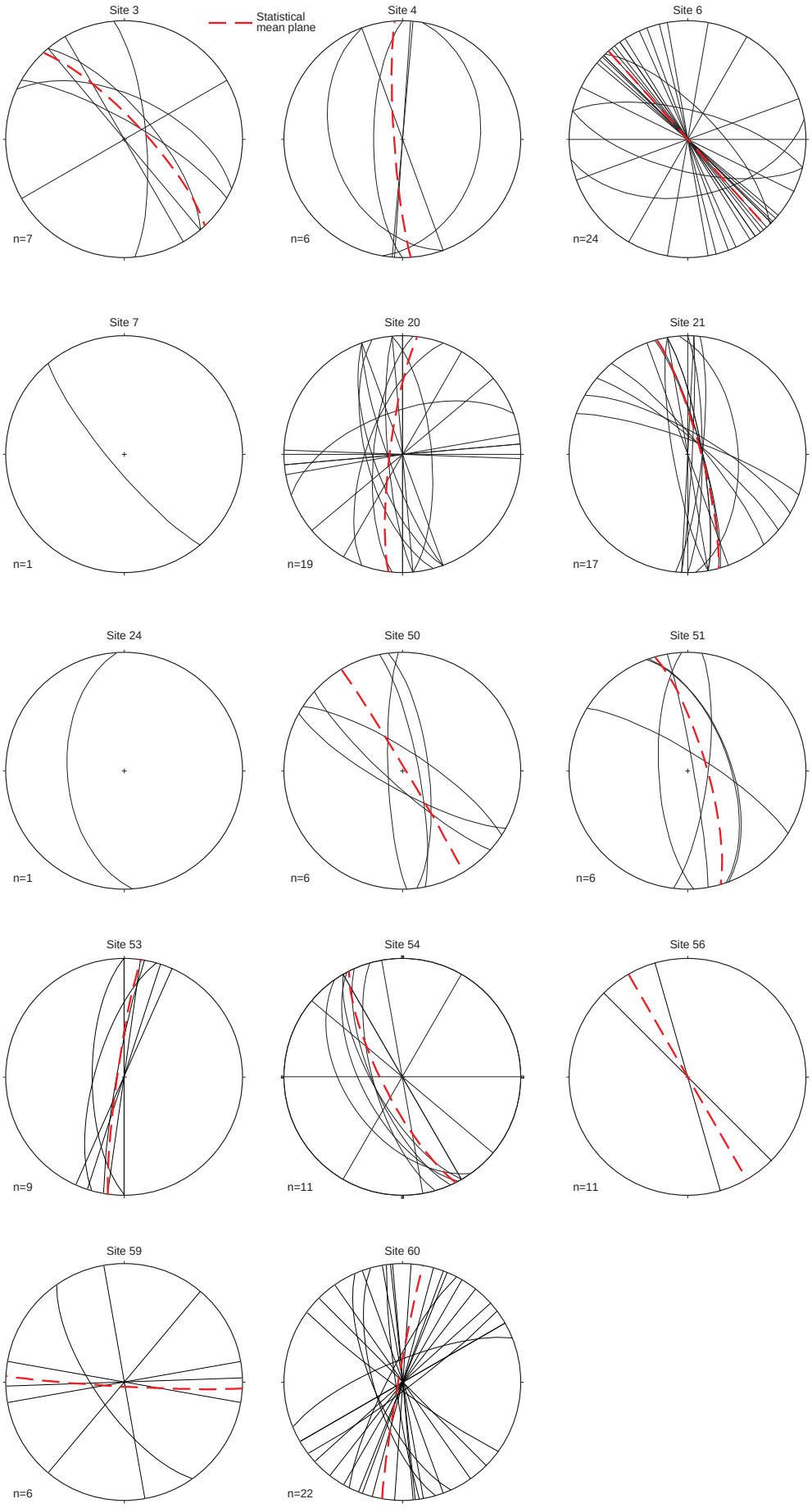
OLD DIKES: SET 3 (cont.)														
		First eigenvalue/eigenvector			*Second eigenvalue/eigenvector*			*Third eigenvalue/eigenvector*			***Mean plane***		***Fold axis***	
Site	n	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Azimuth	Dip	Trend	Plunge
39	14	0.9445	274	48	0.0457	154	24	0.0098	48	32	**4**	**42 E**		
40	1										**93**	**27 S**		
41	12	0.9238	168	17	0.0625	41	64	0.0137	264	20	**78**	**73 NW**		
42	22	0.9199	157	50	0.0552	317	38	0.0248	55	10	**67**	**40 NW**		
43 W	4	0.868	346	46	0.1237	176	43	0.0083	81	5	**76**	**44 SE**		
43 E (fold)	5	0.5081	1	36	0.4469	143	47	0.045	256	20			**256**	**20**
44	1										**67**	**36 N**		
45	1										**118**	**50 N**		
45	1										**94**	**45 N**		
46	3	0.8076	350	19	0.1924	216	64	0	87	18	**80**	**71 SE**		
47	1										**81**	**15 S**		
47	1										**82**	**35 S**		
48	14	0.9273	162	37	0.0471	14	48	0.0256	265	16	**72**	**53 NW**		
49	11	0.94	174	41	0.0445	271	8	0.0155	9	48	**84**	**49 NW**		
50	30	0.8015	130	5	0.1344	222	27	0.0641	31	63	**40**	**85 NW**		
51	17	0.7332	144	10	0.1881	240	30	0.0787	39	58	**54**	**80 NW**		
52	32	0.8498	166	24	0.1161	291	52	0.034	63	28	**76**	**66 NW**		
53	10	0.8033	323	3	0.1424	55	28	0.0543	228	62	**53**	**87 SE**		
54a	15	0.9189	160	12	0.0509	252	9	0.0302	18	75	**70**	**78 NW**		
54b	10	0.8964	160	8	0.0892	27	79	0.0413	251	8	**70**	**82 N**		
55	5	0.8683	160	33	0.1104	32	43	0.0213	270	29	**70**	**57 NW**		

OLD DIKES: SET 3 (cont.)														
		First eigenvalue/eigenvector			*Second eigenvalue/eigenvector*			*Third eigenvalue/eigenvector*			***Mean plane***		***Fold axis***	
Site	n	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Azimuth	Dip	Trend	Plunge
56	20	0.796	155	27	0.1564	255	18	0.0477	15	57	**65**	**63 NW**		
57	25	0.9387	161	29	0.0343	52	31	0.027	285	45	**71**	**61 NW**		
61	2	0.6871	331	1	0.3129	207	88	0	61	2	**61**	**89 SE**		
62	4	0.9178	108	18	0.0776	4	36	0.0046	220	48	**18**	**72 W**		
65	28	0.8595	346	13	0.0878	231	62	0.0528	82	25	**76**	**77 SE**		

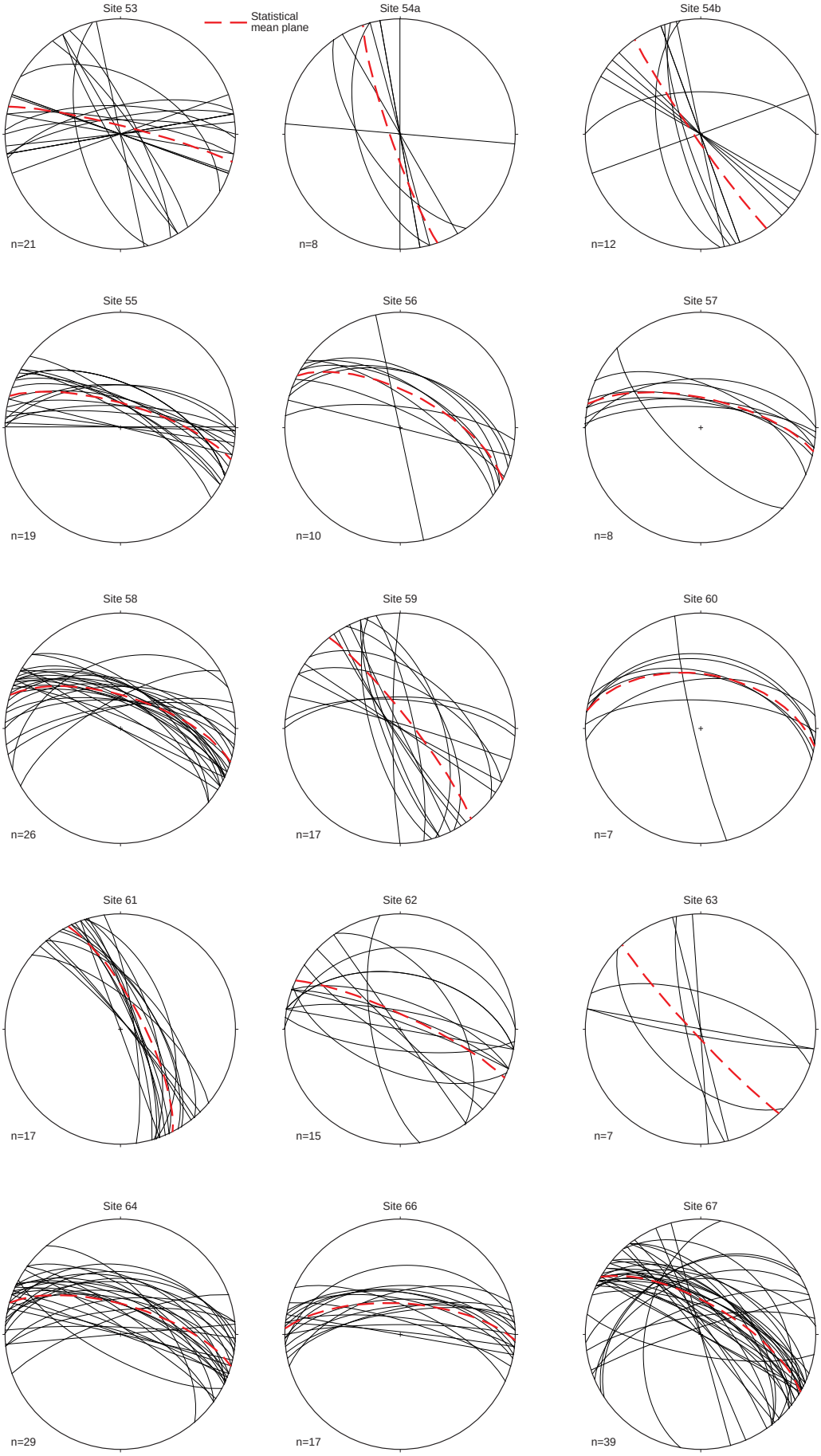
NEW DIKES														
		First eigenvalue/eigenvector			*Second eigenvalue/eigenvector*			*Third eigenvalue/eigenvector*			***Mean plane***		***Fold axis***	
Site	n	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Azimuth	Dip	Trend	Plunge
1	10	0.6056	231	0	0.3614	321	0	0.033	53	89	**141**	**90**		
2	23	0.718	88	0	0.2025	179	15	0.0795	357	75	**178**	**90**		
3	1										**165**	**90**		
5	25	0.8755	67	11	0.0955	309	68	0.0291	161	19	**157**	**79 SW**		
8	13	0.5952	27	23	0.2594	173	62	0.1454	291	14	**117**	**67 SW**		
9	1										**155**	**80 SW**		
10	5	0.886	53	2	0.1116	143	9	0.0024	311	81	**143**	**88 SW**		
11	8	0.8826	64	25	0.0873	240	65	0.0301	333	2	**154**	**65 SW**		
13	1										**140**	**60 SW**		
13	1										**120**	**55 NE**		
14	10	0.9052	214	32	0.0801	87	44	0.0146	324	29	**124**	**58 NE**		
15	1										**160**	**65 NE**		
16	1										**140**	**90**		
16	1										**120**	**60 SW**		
17	9	0.4822	103	25	0.3244	13	2	0.1935	279	65	**13**	**65 NW**		
18	20	0.8376	4	31	0.0917	139	50	0.0717	259	23	**94**	**59 S**		
19	17	0.8695	58	0	0.1087	148	53	0.0219	327	37	**148**	**90**		
21	13	0.8343	241	7	0.1426	150	14	0.0231	357	74	**151**	**83 NE**		
22	10	0.8213	249	0	0.143	159	18	0.0357	340	72	**159**	**90**		
23	1										**180**	**70 E**		
33	5	0.7603	69	8	0.2102	160	8	0.0295	295	79	**159**	**82 SW**		

NEW DIKES (cont.)														
		First eigenvalue/eigenvector			*Second eigenvalue/eigenvector*			*Third eigenvalue/eigenvector*			***Mean plane***		***Fold axis***	
Site	n	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Eigenvalue	Trend	Plunge	Azimuth	Dip	Trend	Plunge
42	1										**139**	**72 NE**		
48	4	0.9888	74	10	0.0108	248	80	0.0004	343	1	**164**	**80 SW**		
49	8	0.851	67	7	0.1277	334	17	0.0213	178	72	**157**	**83 SW**		
50	1										**138**	**75 NE**		
50	1										**125**	**84 NE**		
51	1										**125**	**52 NE**		
51	1										**133**	**50 N**		
52	34	0.7833	258	27	0.1615	117	57	0.0552	357	18	**168**	**63 NE**		
57	2	0.9854	85	15	0.0146	190	44	0	341	42	**175**	**75 W**		
58	4	0.8957	88	17	0.0971	238	70	0.0073	355	10	**178**	**73 W**		
59	6	0.8693	94	6	0.1176	186	20	0.0132	347	69	**4**	**84 W**		
60	3	0.8682	87	12	0.1312	184	30	0.0005	337	57	**177**	**78 W**		
63	4	0.9766	101	4	0.0185	192	8	0.0049	347	81	**11**	**86 W**		
64	12	0.8253	89	24	0.1185	345	30	0.0562	211	50	**179**	**66 W**		
66	2	0.9612	260	10	0.0388	152	60	0	355	28	**170**	**80 E**		

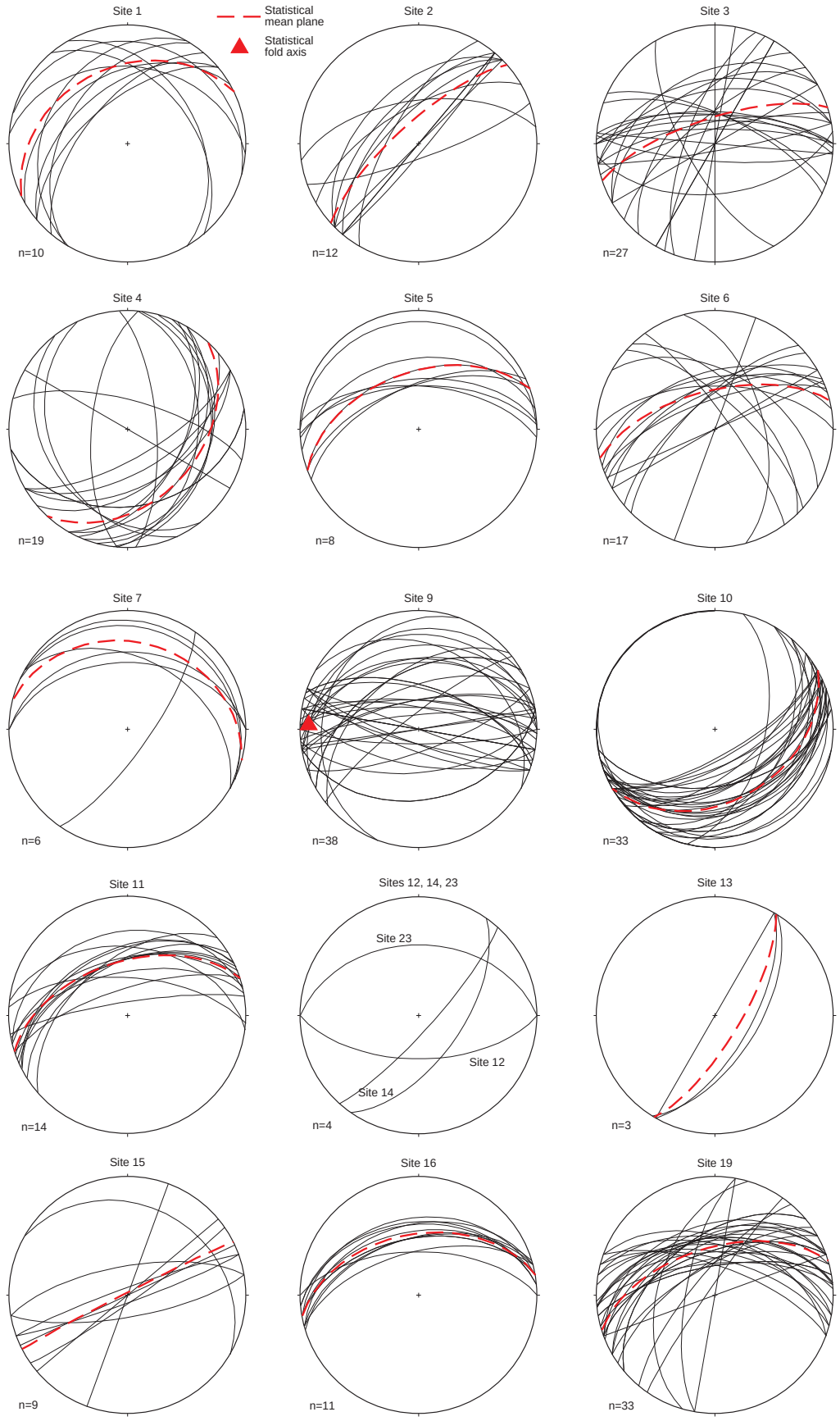
Basal Complex: Old dikes (set 1)



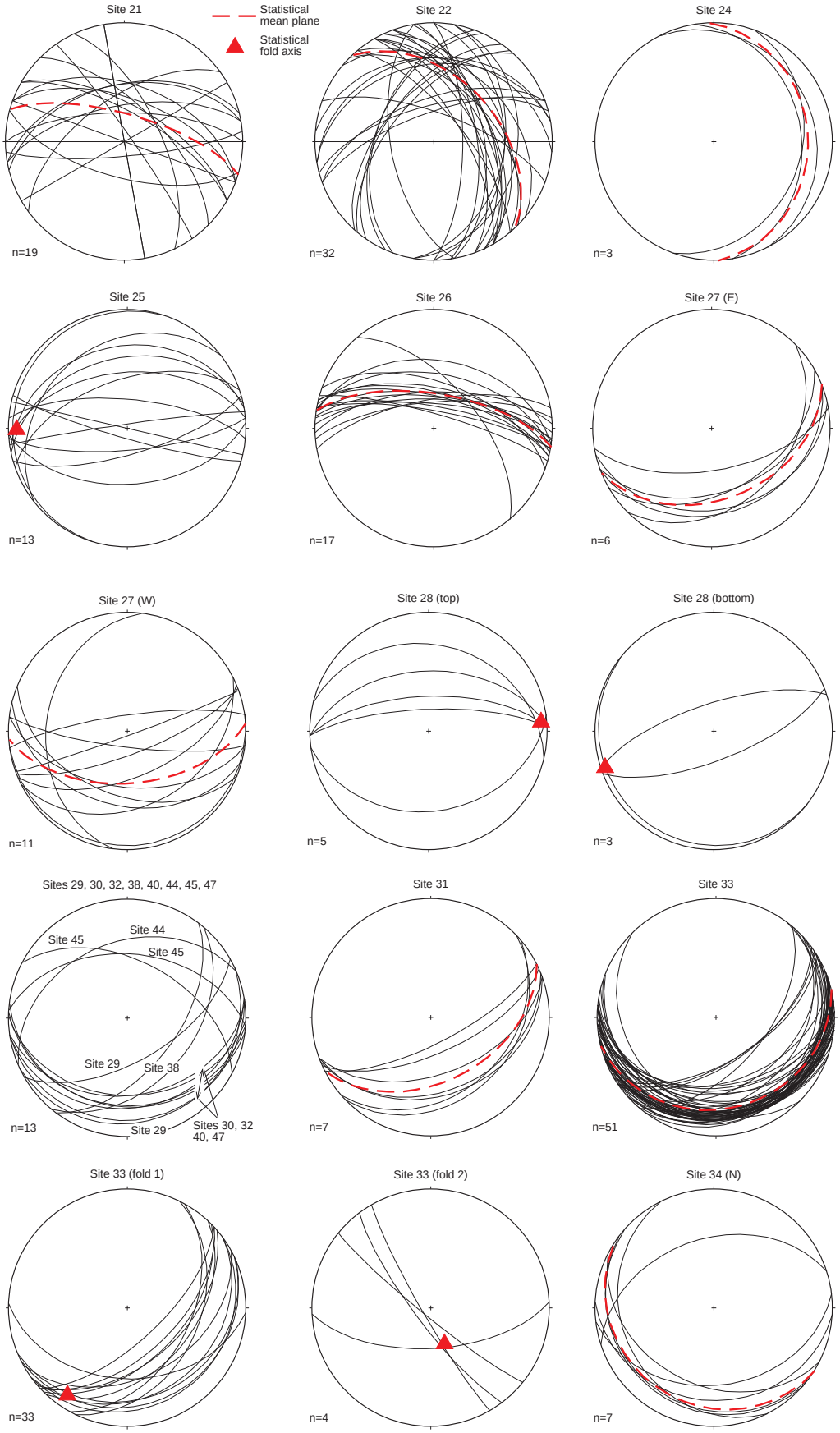
Basal Complex: Old dikes (set 2)



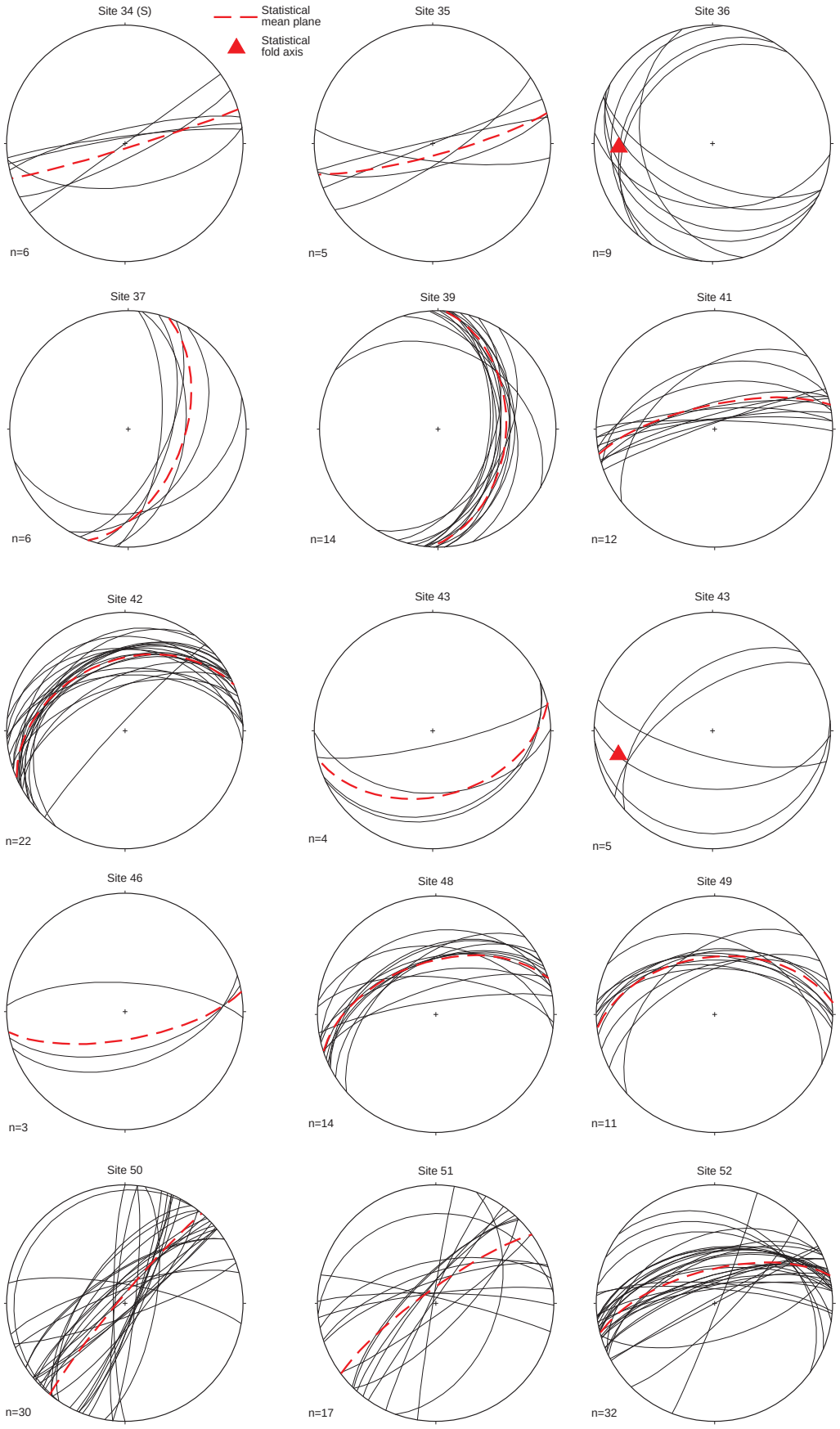
Basal Complex: Old dikes (set 3)



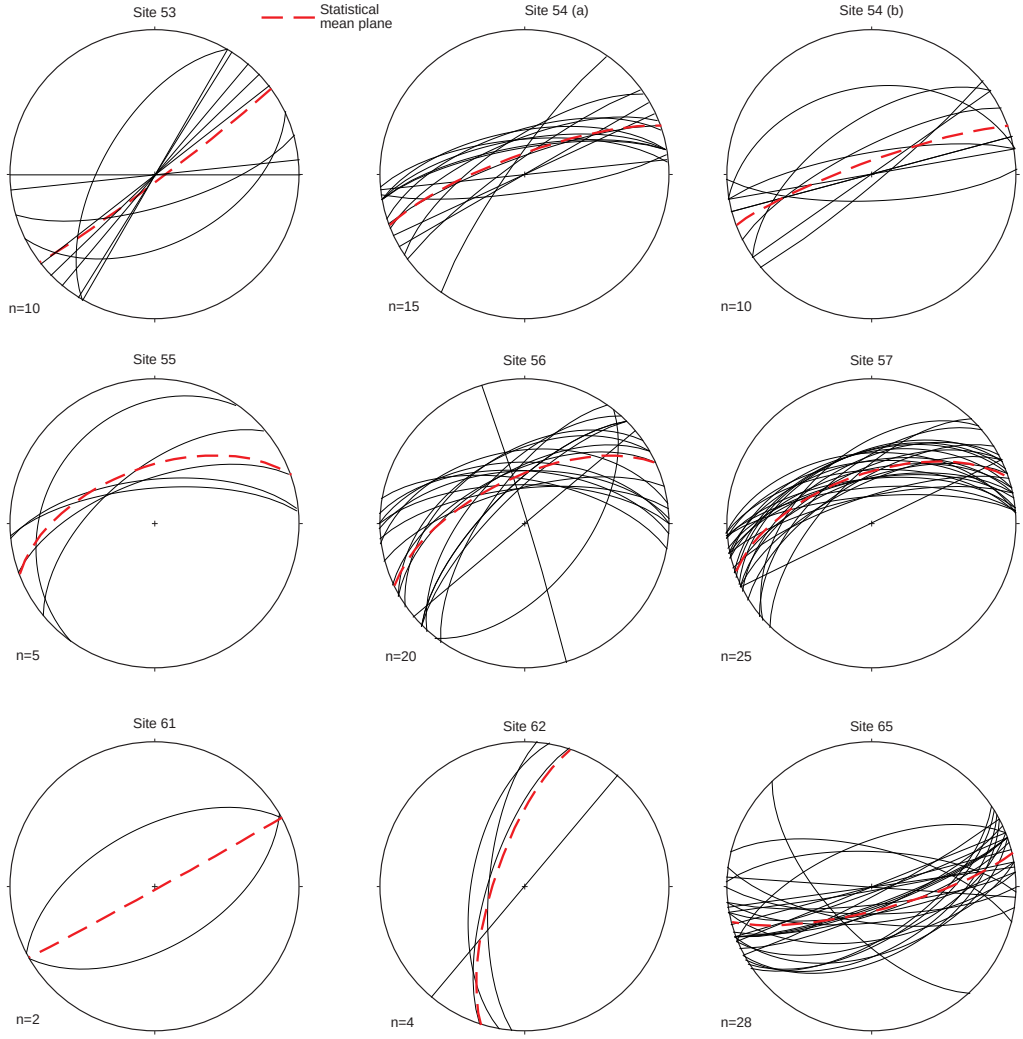
Basal Complex: Old dikes (set 3, cont.)



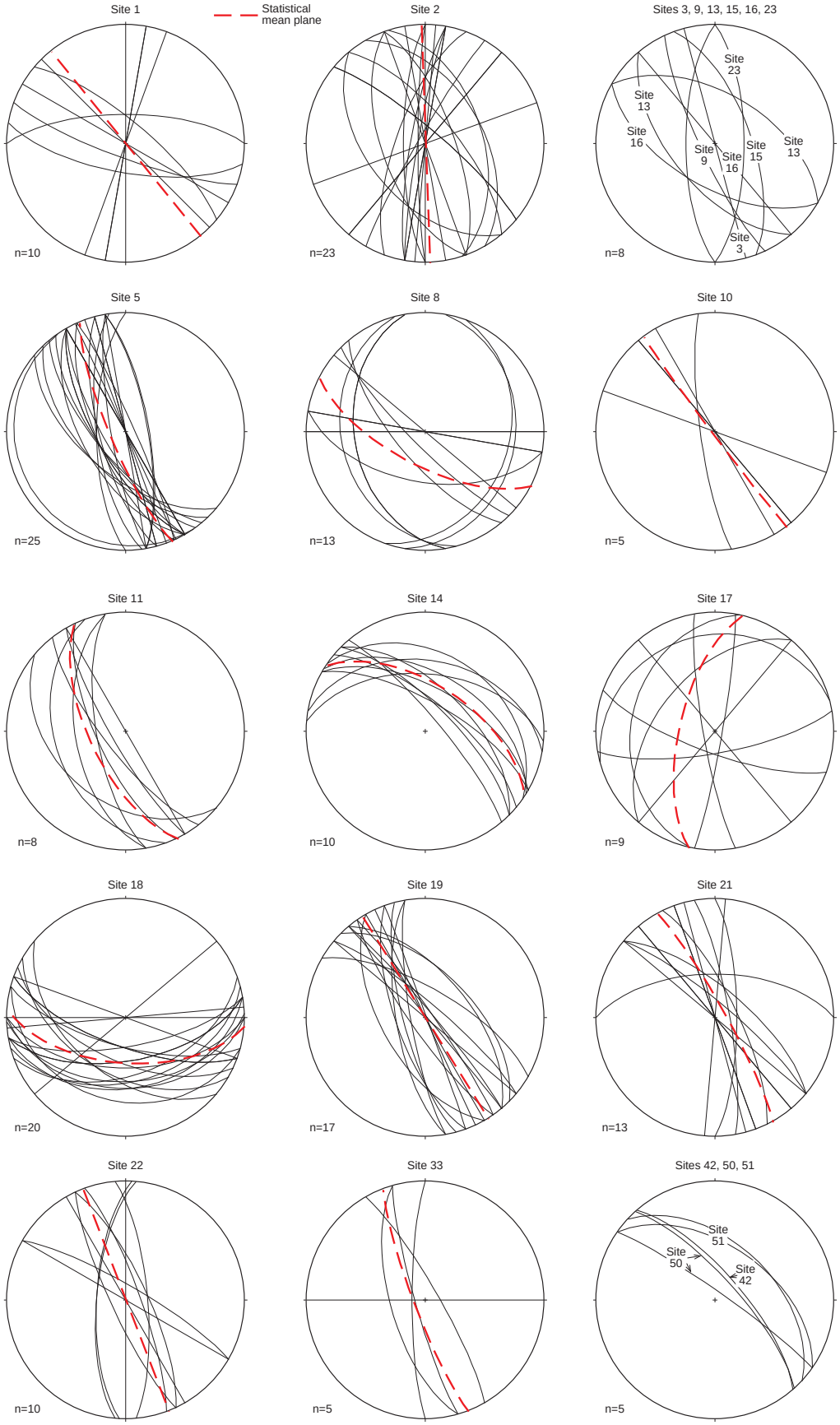
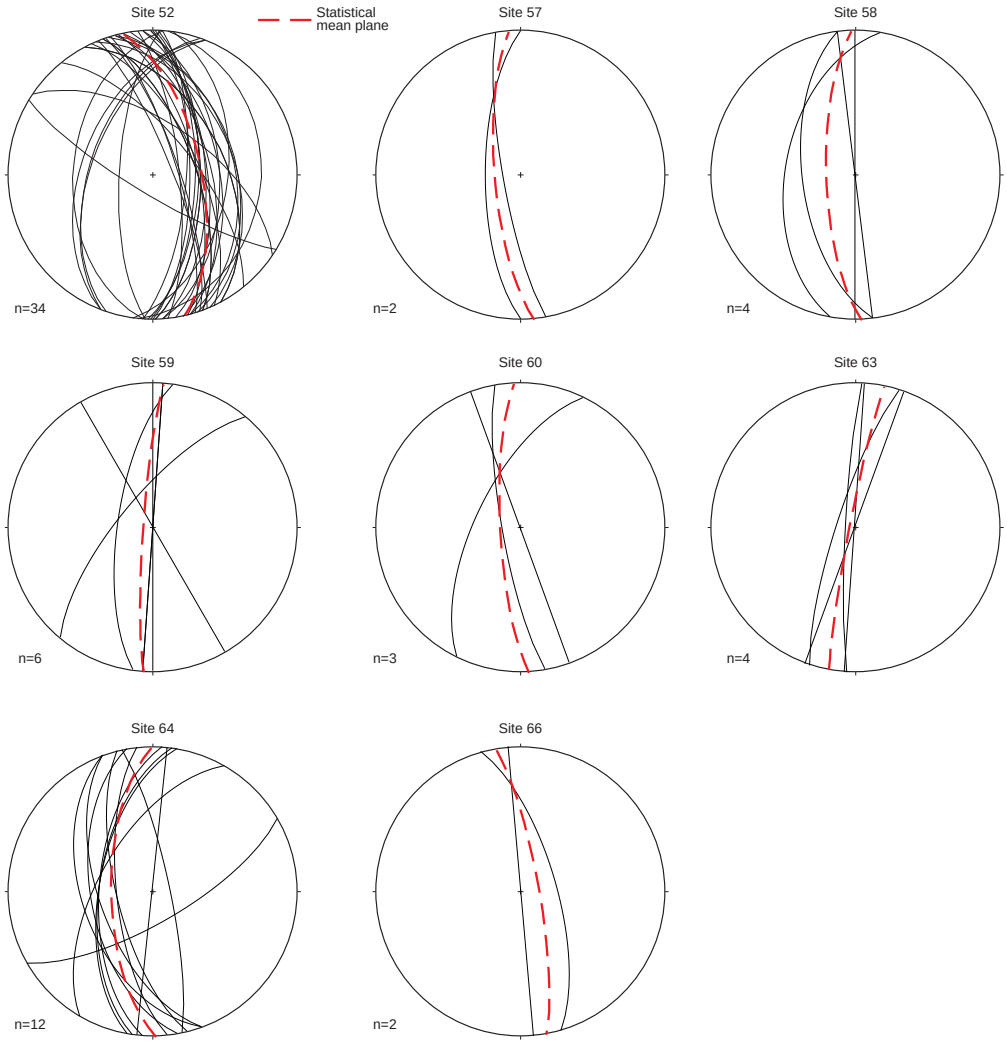
Basal Complex: Old dikes (set 3, cont.)



Basal Complex: Old dikes (set 3, cont.)



Basal Complex: New dikes



Basal Complex: New dikes (cont.)