

# Southern Dunes

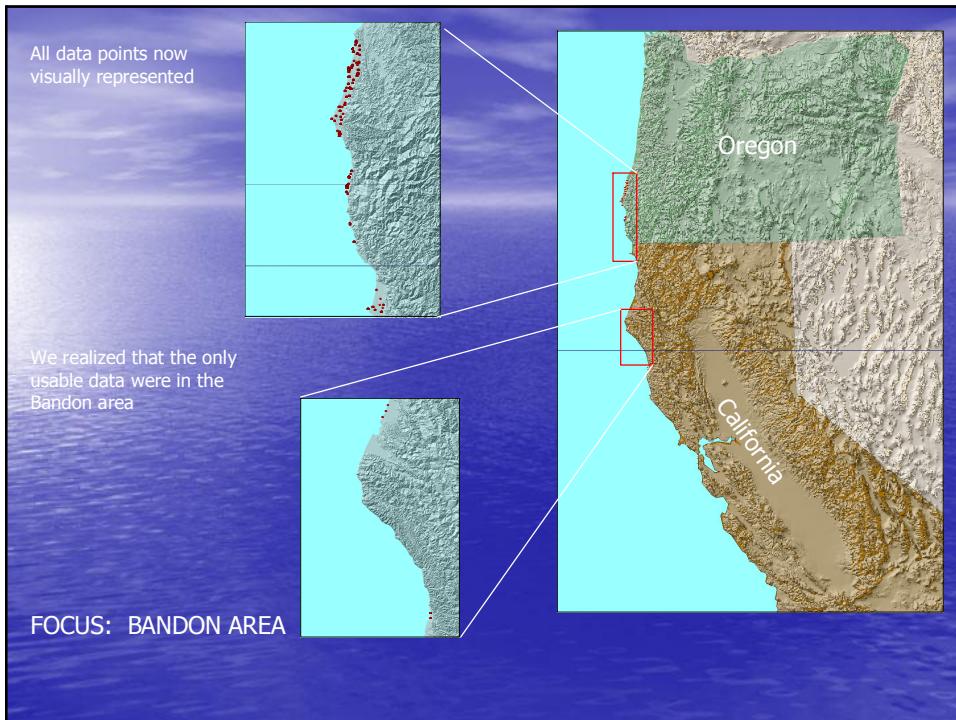
Sustainability issues along the coast  
due to intense development

Jim Randall  
Paolo Weatherbee

## INTRODUCTION

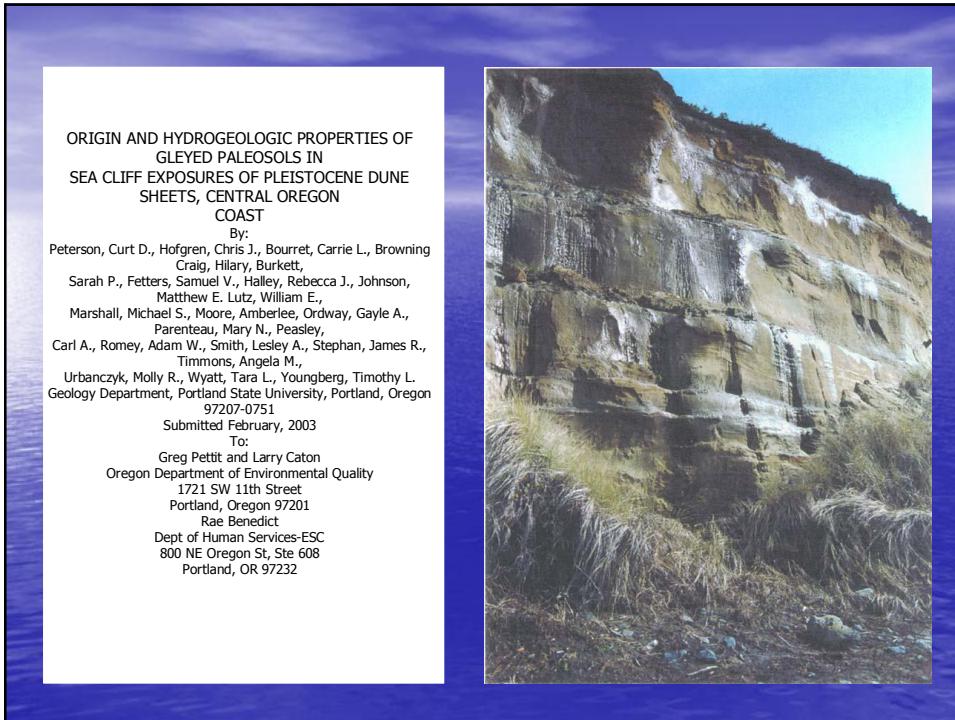
Reconnaissance mapping of 25 west coast  
dune sheets to establish;

- landward extent of Pleistocene dunes
- Transition from Holocene to Pleistocene dunes
- Morphostratigraphic development of coastal plain dune sheet deposits



## Attributes critical to regional mapping of dunal properties for:

- Drainage
- Slope stability
- Wetlands
- Aquifer potential



## METHODS

Data in its  
original format  
before being  
Given to us

L6	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
2	Dune Sheet	Zone/HAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure							
3	BAD1	N10/83	4790980	382920	10	50	5/27/2001	RC							
4	Site Notes:	Site is at a roadcut on Seven Devils Road just south of Two Mile Creek.													
5	Units	Depth cm	Grain Size	Bedding	Color	P kg/cm <sup>2</sup>	Structure	Diagenesis							
6	Lbw	0-10					1.25	Very Weak B							
7	PDCo	10-100	ML				7.5YR4/3	1.25	Very Weak B						
8	PDCo	50-100	ML						2.0	Very Weak B					
9	PDC	100-200	ML				2.5YR1/8								
10															
11															
12															
13															
14	Dune Sheet	Zone/HAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure							
15	BAD2	N10/83	4790730	388400	7	85	12/16/2001	RC							
16	Site Notes:	Site is west of cranberry bog development south of Two Mile Creek on Seven Devils Road.													
17	Units	Depth cm	Grain Size	Bedding	Color	P kg/cm <sup>2</sup>	Structure	Diagenesis							
18	PDA	0-18						1.25	Very Weak B						
19	PDBw	18-58	PU				5YR4/6		2.0	Weak Blocky					
20	PDCo	58-72							1.25	Very Weak B					
21	PDBg	72-112					Truncated			2.0	Very Weak B				
22	PDCo	112-192													
23	PV	192-232													
24	T	232-382													
25															
26	Dune Sheet	Zone/HAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure							
27	BAD3	N10/83	4790310	388250	13	50	12/15/2001	RC							
28	Site Notes:	Site is located 200 m north of Three Mile Creek (Agate Beach Trail) crossing Seven Devils Road.													
29	Units	Depth cm	Grain Size	Bedding	Color	P kg/cm <sup>2</sup>	Structure	Diagenesis							
30	Lbw	0-40	Silt					1.25	Very Weak B						
31	PDBw	40-55	PU				7.5YR5/8	2.0	Weak Blocky						
32	PDCo	55-60	ML				2.5YR5/8	4.5	Very Weak B						
33	T	150-275													
34															
35	Dune Sheet	Zone/HAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure							
36	BAD4	N10/83	4788880	388103	10	63	12/15/2001	RC							
37	Site Notes:	Site is located 200 m north of Three Mile Creek (Agate Beach Trail) crossing Seven Devils Road.													
38	Units	Depth cm	Grain Size	Bedding	Color	P kg/cm <sup>2</sup>	Structure	Diagenesis							
39	PDA	0-10						1.25	Very Weak B						
40	PDBw	10-50	PU				SVR3/4	2.5	Weak Blocky						
41	PDCo	50-350	PU						Very Weak B						
42	Dune Sheet	Zone/HAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure							
43	BAD5	N10/83	4785300	389700	11	11	12/15/2001	RC							
44	Site Notes:	Site is at the North end of Broadfoot's Cut. The section is measured from just west of the cut.													
45	The intact top-soil was measured just west of the cut, and the P3 (shoreface deposits) is from the pit.														
46	Units	Depth cm	Grain Size	Bedding	Color	P kg/cm <sup>2</sup>	Structure	Diagenesis							
47	Lbw	0-55						1.25	Very Weak B						
48	PDBg	55-75					Truncated		4.5	Weak Blocky					
49	PUCo	75-78							Very Weak B						
50	PDCo	78-125							2.5	Weak Blocky					
51	PSB	125-150	PL						4.5	Columnar					
52	PSC	150-450													
53															
54	Dune Sheet	Zone/HAD	UTM-N	UTM-E	EPE (m)	Alt (m)	Date	Exposure							

Data was modified  
for ease and imported  
into ArcGIS

Set up coordinate system  
using display "XY" data menu"

Set to UTM Zone 10 N

L6	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	ID	UTM-N	UTM-E	Depth, cm	Strat, setting	Depth, m	TL/OSL	Age	TYLPB, Isk Reference						
2	BAD1	4785180	389520	0		0	TL	54.34±4	This Report						
3	BAD2	4785190	389520	72											
4	BAD3	4785190	389520	72											
5	BAD4	4785190	389520	113											
6	BAD5	4785190	389520	166											
7	BAD6	4785190	389520	200											
8	BAD7	4785190	389520	232											
9	BAD8	4785190	389520	260											
10	BAD9	4785190	389520	290											
11	BAD10	4785190	389520	320											
12	BAD11	4785190	389520	350											
13	BAD12	4785190	389520	370											
14	BAD13	4785190	389520	390											
15	BAD14	4785190	389520	410											
16	SANF9	4180195	543300	0											
17	SANF10	4180195	543300	54											
18	SANF11	4180195	543300	104											
19	SANF12	4180195	543300	154											
20	SANF13	4180195	543300	204											
21	SANF14	4180195	543300	254											
22	SANF15	4180195	543300	304											
23	SANF16	4180195	543300	354											
24	SANF17	4180195	543300	404											
25	SANF18	4180195	543300	454											
26	SANF19	4180195	543300	504											
27	SANF20	4180195	543300	554											
28	SANF21	4180195	543300	604											
29	SANF22	4180195	543300	654											
30	SANF23	4180195	543300	704											
31	SANF24	4180195	543300	754											
32	SANF25	4180195	543300	804											
33	SANF26	4180195	543300	854											
34	SANF27	4180195	543300	904											
35	SANF28	4180195	543300	954											
36	SANF29	4180195	543300	1004											
37	SANF30	4180195	543300	1054											
38	SANF31	4180195	543300	1104											
39	SANF32	4180195	543300	1154											
40	SANF33	4180195	543300	1204											
41	SANF34	4180195	543300	1254											
42	SANF35	4180195	543300	1304											
43	SANF36	4180195	543300	1354											
44	SANF37	4180195	543300	1404											
45	SANF38	4180195	543300	1454											
46	SANF39	4180195	543300	1504											
47	SANF40	4180195	543300	1554											
48	SANF41	4180195	543300	1604											
49	SANF42	4180195	543300	1654											
50	SANF43	4180195	543300	1704											

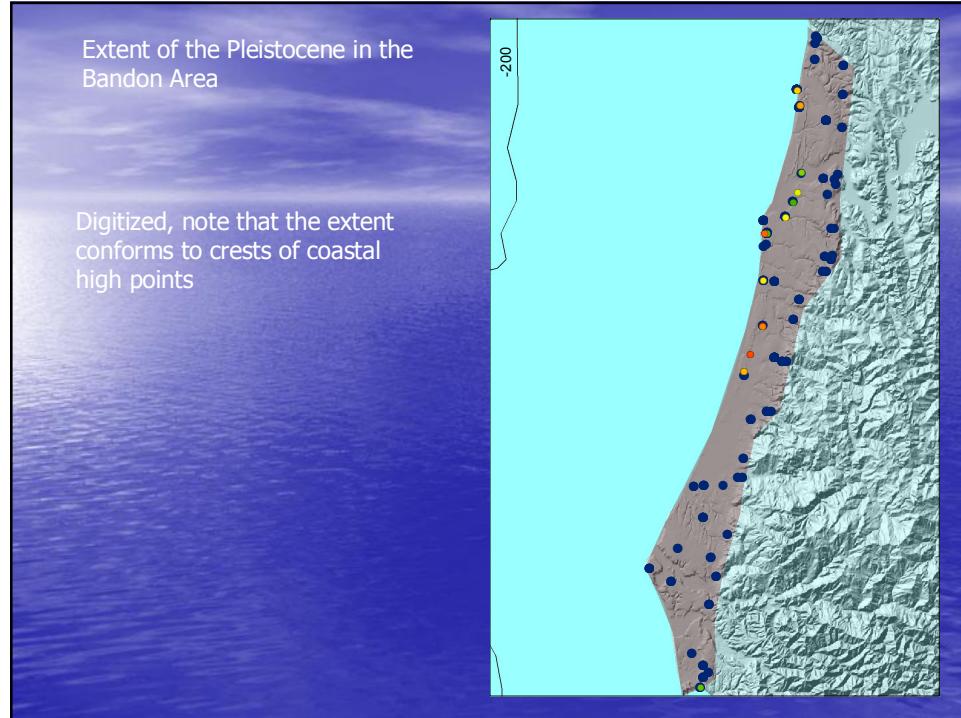
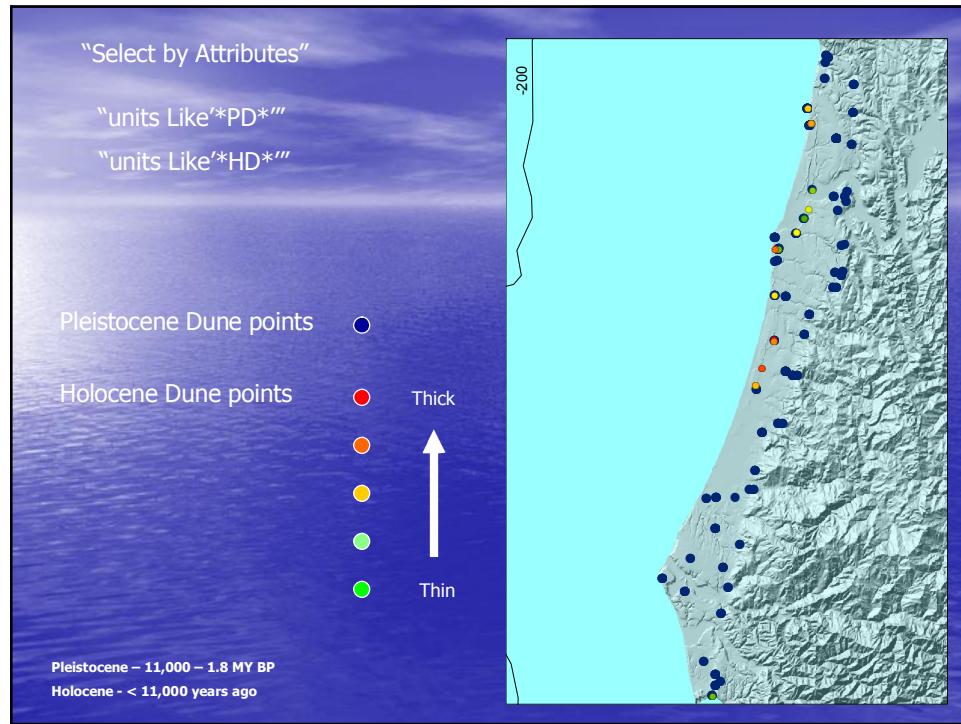
Tables as they appear in ArcMap after:  
Projected coordinate System was defined

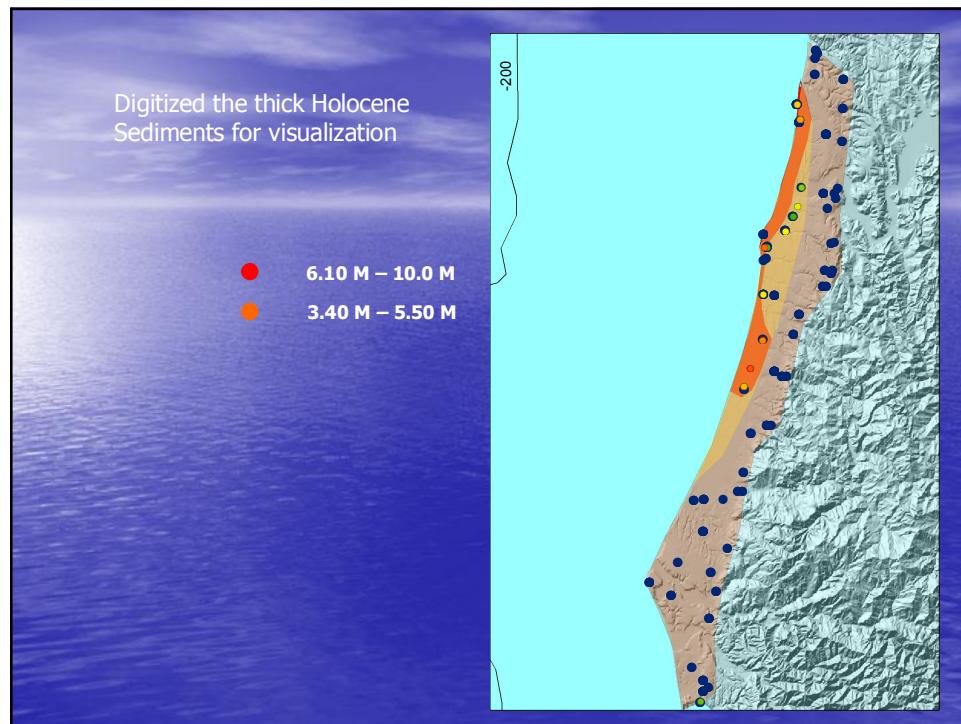
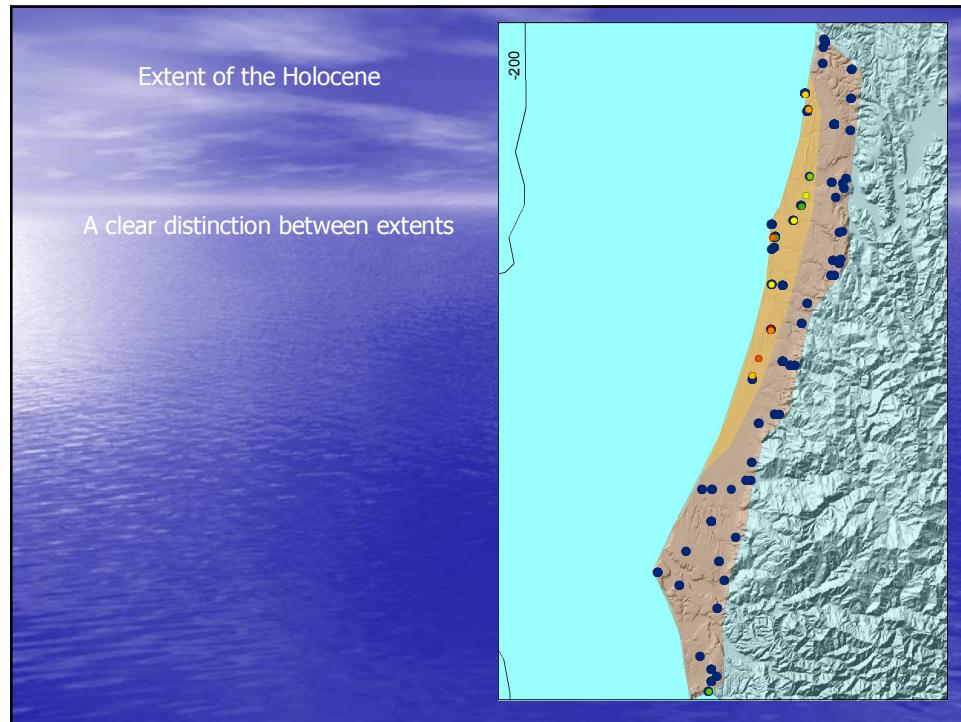
We then turned this into a feature class as seen in the next slide

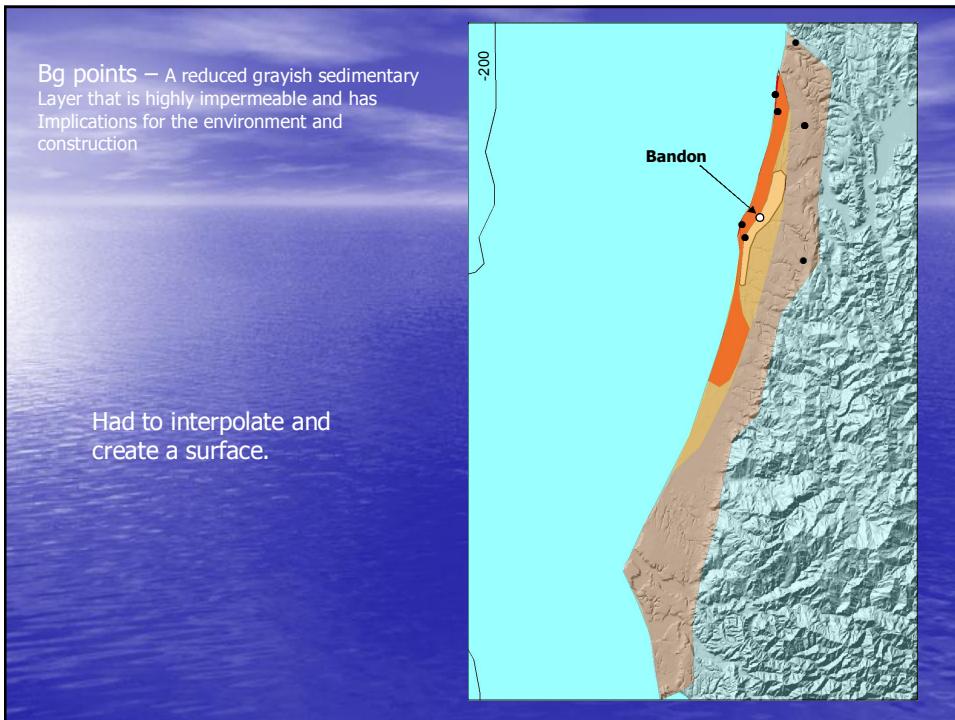
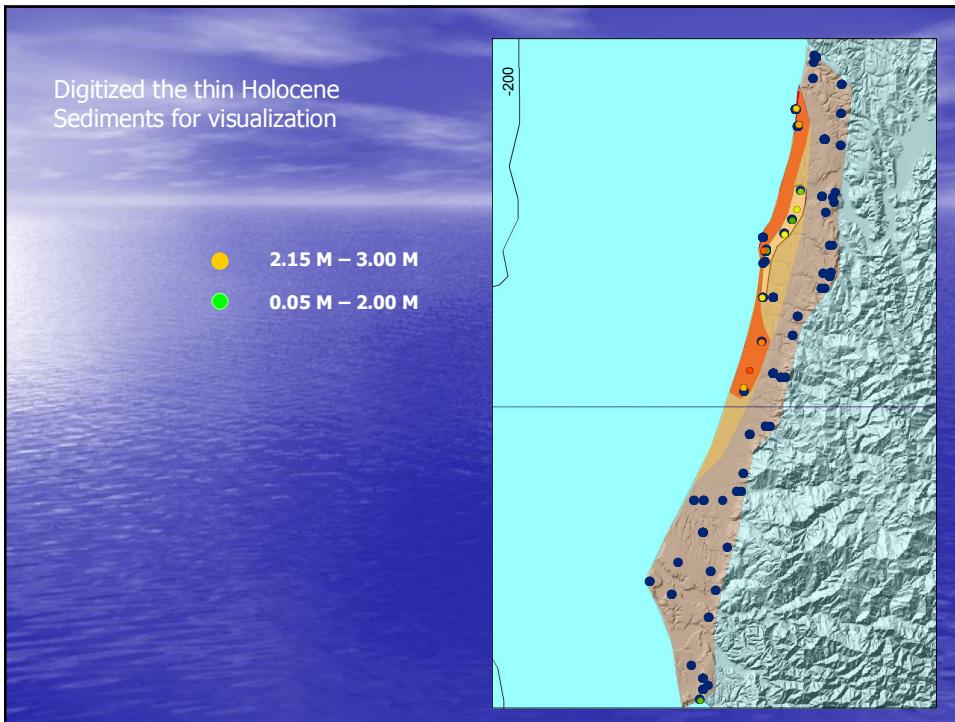
**Most work involved:**

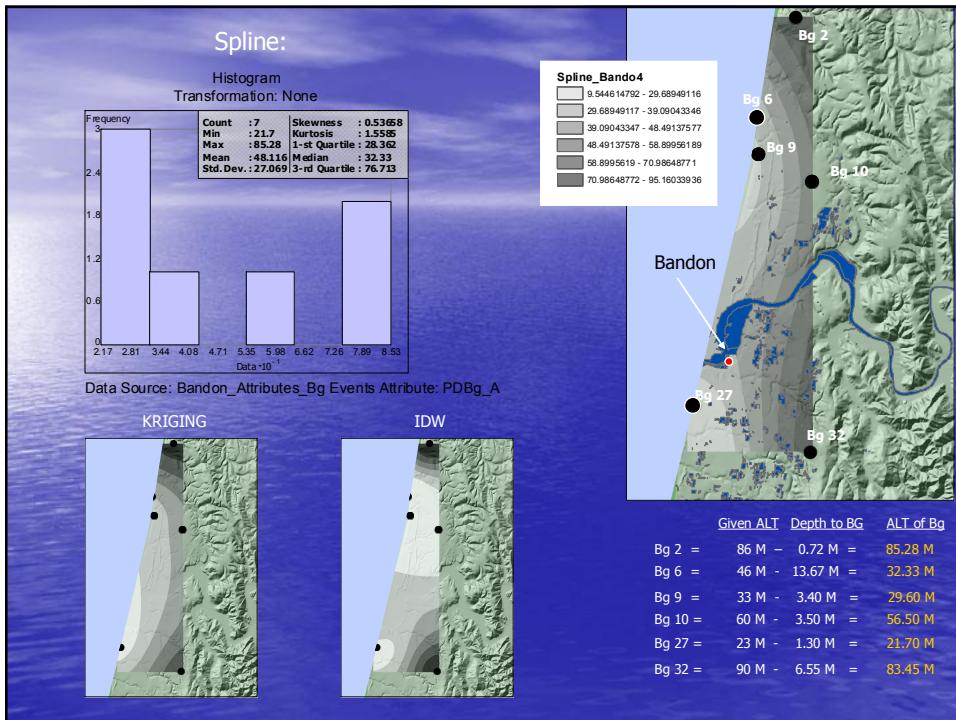
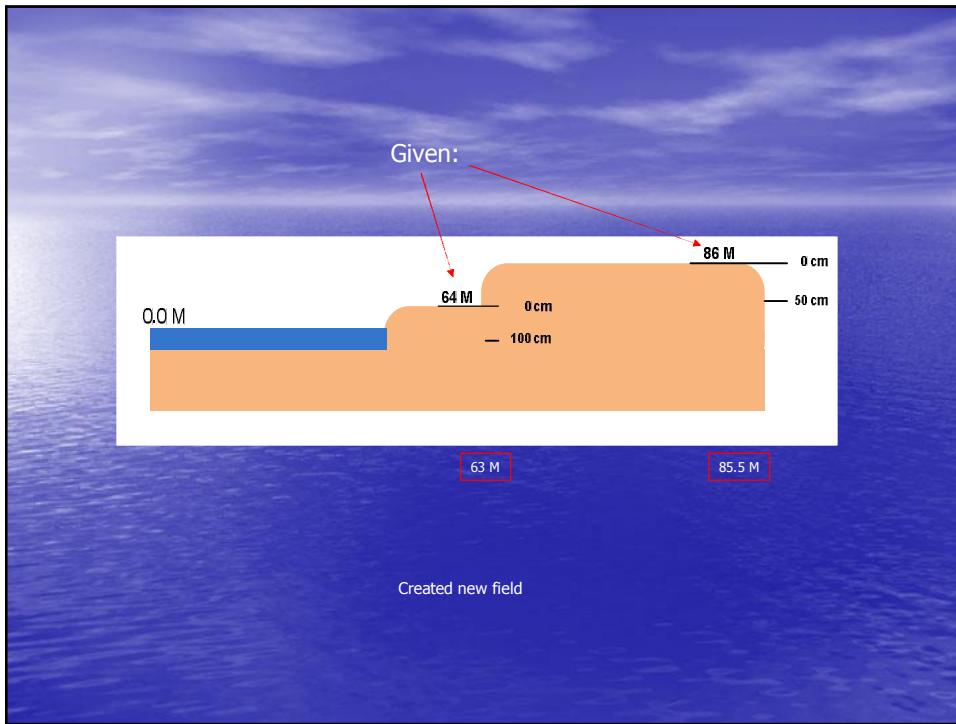
- Manipulation of tables
- Relate
- Joins
- Select by attributes
- Interpolation

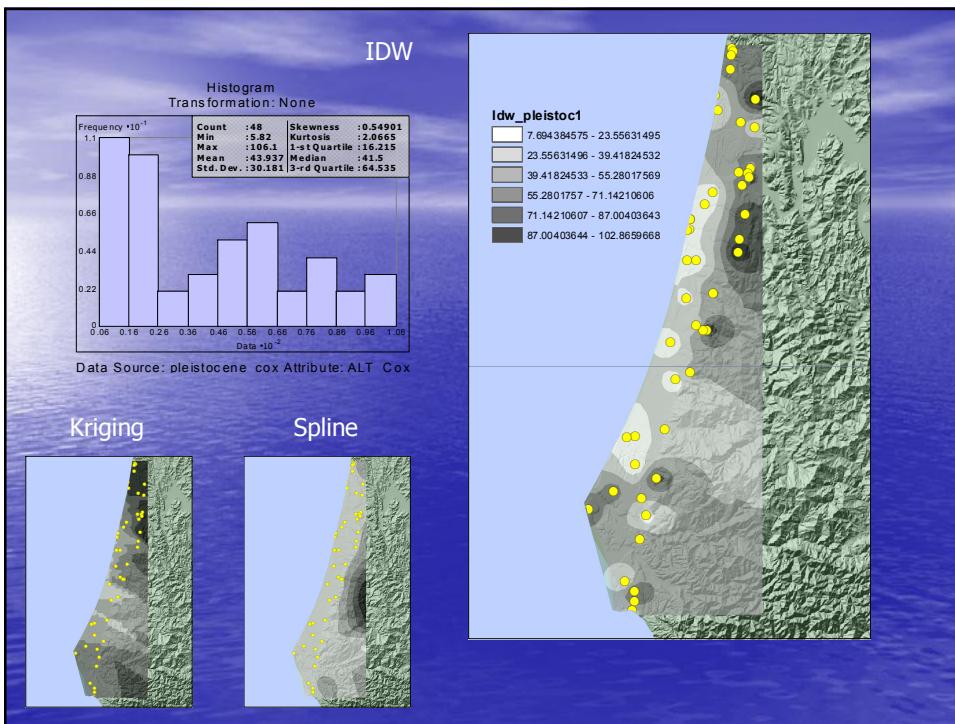
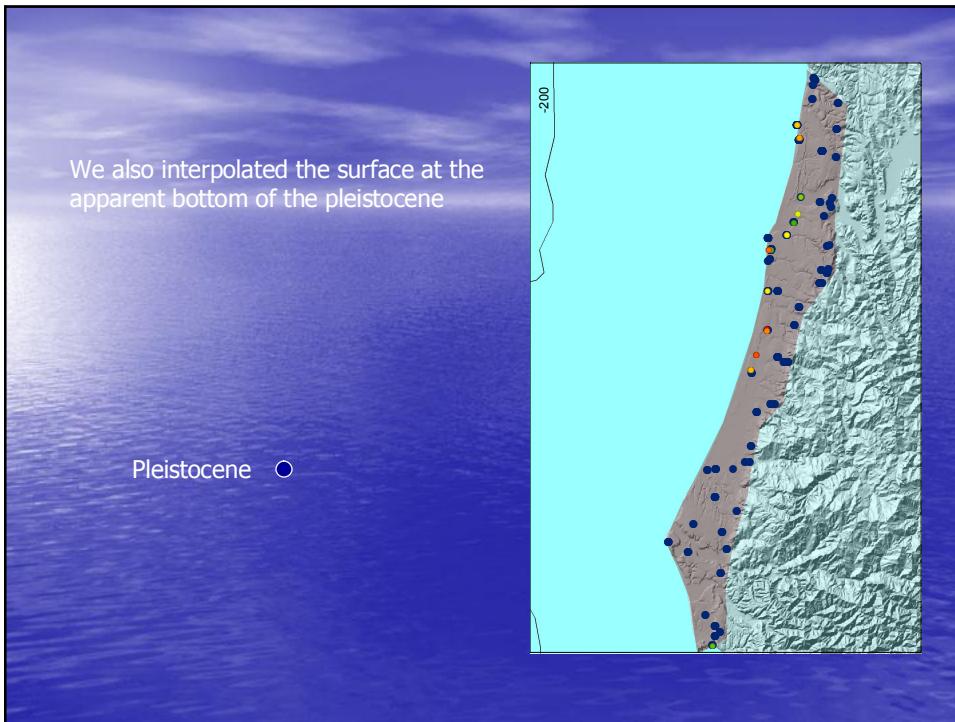
ID	Order	ID	Utrv	Uthr	Depth_cm	Grain_Size	Rocking	Color	P	Structure	Degradation	and more...	Object ID	Bl.	
1	34401	1	Utrv	5-10	50	club	club	club	1.25	Very Inest. S	club	club	1	Bandon	1
2	34401	1	ROtv	10-50	50	club	club	club	2	Very Inest. S	club	club	1	Bandon	1
3	34401	1	ROtx	50-100	50	club	club	club	2.5	Inest. S	club	club	1	Bandon	1
4	34401	1	ROz	100-200	50	club	club	club	2.5	Inest. S	club	club	1	Bandon	1
5	34401	1	ROy	200-300	50	club	club	club	3	Very Inest. S	club	club	1	Bandon	1
6	34402	2	Utrv	5-10	50	club	club	club	2.5	Inest. S	club	club	2	Bandon	2
7	34402	2	ROtv	10-50	50	club	club	club	2.5	Inest. S	club	club	2	Bandon	2
8	34402	2	ROtx	50-100	50	club	club	club	2.5	Very Inest. S	club	club	2	Bandon	2
9	34402	2	ROz	100-200	50	club	club	club	2.5	Very Inest. S	club	club	2	Bandon	2
10	34402	2	ROy	200-300	50	club	club	club	3	Very Inest. S	club	club	2	Bandon	2
11	34402	2	POtv	65-100	50	club	club	club	2.5	Inest. S	club	club	2	Bandon	2
12	34403	3	Utrv	5-10	50	club	club	club	1	Very Inest. S	club	club	3	Bandon	3
13	34403	3	ROtv	10-50	50	club	club	club	1	Very Inest. S	club	club	3	Bandon	3
14	34403	3	ROtx	50-100	50	club	club	club	1	Very Inest. S	club	club	3	Bandon	3
15	34403	3	ROz	100-200	50	club	club	club	1	Very Inest. S	club	club	3	Bandon	3
16	34403	3	ROy	200-300	50	club	club	club	1	Very Inest. S	club	club	3	Bandon	3
17	34404	4	Utrv	5-10	50	club	club	club	2.5	Inest. S	club	club	4	Bandon	4
18	34404	4	ROtv	10-50	50	club	club	club	2.5	Inest. S	club	club	4	Bandon	4
19	34405	5	Utrv	5-10	50	club	club	club	2.5	Inest. S	club	club	5	Bandon	5
20	34405	5	ROtv	10-50	50	club	club	club	2.5	Inest. S	club	club	5	Bandon	5
21	34405	5	ROtx	50-100	50	club	club	club	2.5	Inest. S	club	club	5	Bandon	5
22	34405	5	ROz	100-200	50	club	club	club	2.5	Very Inest. S	club	club	5	Bandon	5
23	34405	5	ROy	200-300	50	club	club	club	3	Very Inest. S	club	club	5	Bandon	5
24	34405	5	POtv	65-100	50	club	club	club	4.5	Crustose	club	club	5	Bandon	5
25	34406	6	Utrv	5-10	50	club	club	club	1	Loose	club	club	6	Bandon	6
26	34406	6	ROtv	10-50	50	club	club	club	1	Loose	club	club	6	Bandon	6
27	34406	6	ROtx	50-100	50	club	club	club	1	Loose	club	club	6	Bandon	6
28	34406	6	ROz	100-200	50	club	club	club	1	Loose	club	club	6	Bandon	6
29	34406	6	ROy	200-300	50	club	club	club	1	Loose	club	club	6	Bandon	6
30	34407	7	Utrv	5-10	50	club	club	club	2.5	Inest. S	club	club	7	Bandon	7
31	34407	7	ROtv	10-50	50	club	club	club	2.5	Inest. S	club	club	7	Bandon	7
32	34407	7	ROtx	50-100	50	club	club	club	2.5	Inest. S	club	club	7	Bandon	7
33	34407	7	ROz	100-200	50	club	club	club	2.5	Inest. S	club	club	7	Bandon	7
34	34407	7	ROy	200-300	50	club	club	club	3	Very Inest. S	club	club	7	Bandon	7
35	34408	8	Utrv	5-10	50	club	club	club	4.5	club	club	club	8	Bandon	8
36	34408	8	ROtv	10-50	50	club	club	club	4.5	club	club	club	8	Bandon	8
37	34408	8	ROtx	50-100	50	club	club	club	4.5	club	club	club	8	Bandon	8
38	34408	8	ROz	100-200	50	club	club	club	4.5	club	club	club	8	Bandon	8
39	34408	8	ROy	200-300	50	club	club	club	4.5	club	club	club	8	Bandon	8
40	34409	9	Utrv	5-10	50	club	club	club	1	Loose	club	club	9	Bandon	9
41	34409	9	ROtv	10-50	50	club	club	club	1	Loose	club	club	9	Bandon	9
42	34409	9	ROtx	50-100	50	club	club	club	1	Loose	club	club	9	Bandon	9
43	34409	9	ROz	100-200	50	club	club	club	1	Loose	club	club	9	Bandon	9
44	34409	9	ROy	200-300	50	club	club	club	1	Loose	club	club	9	Bandon	9
45	34410	10	Utrv	5-10	50	club	club	club	2.5	Inest. S	club	club	10	Bandon	10
46	34410	10	ROtv	10-50	50	club	club	club	2.5	Inest. S	club	club	10	Bandon	10
47	34410	10	ROtx	50-100	50	club	club	club	2.5	Inest. S	club	club	10	Bandon	10
48	34410	10	ROz	100-200	50	club	club	club	2.5	Inest. S	club	club	10	Bandon	10
49	34410	10	ROy	200-300	50	club	club	club	2.5	Inest. S	club	club	10	Bandon	10
50	34411	11	Utrv	5-10	50	club	club	club	3	Very Inest. S	club	club	11	Bandon	11
51	34411	11	ROtv	10-50	50	club	club	club	3	Very Inest. S	club	club	11	Bandon	11
52	34411	11	ROtx	50-100	50	club	club	club	3	Very Inest. S	club	club	11	Bandon	11
53	34411	11	ROz	100-200	50	club	club	club	3	Very Inest. S	club	club	11	Bandon	11
54	34411	11	ROy	200-300	50	club	club	club	3	Very Inest. S	club	club	11	Bandon	11
55	34412	12	Utrv	5-10	50	club	club	club	4.5	club	club	club	12	Bandon	12
56	34412	12	ROtv	10-50	50	club	club	club	4.5	club	club	club	12	Bandon	12
57	34412	12	ROtx	50-100	50	club	club	club	4.5	club	club	club	12	Bandon	12
58	34412	12	ROz	100-200	50	club	club	club	4.5	club	club	club	12	Bandon	12
59	34412	12	ROy	200-300	50	club	club	club	4.5	club	club	club	12	Bandon	12
60	34413	13	Utrv	5-10	50	club	club	club	5.15	club	club	club	13	Bandon	13
61	34413	13	ROtv	10-50	50	club	club	club	5.15	club	club	club	13	Bandon	13
62	34413	13	ROtx	50-100	50	club	club	club	5.15	club	club	club	13	Bandon	13
63	34413	13	ROz	100-200	50	club	club	club	5.15	club	club	club	13	Bandon	13
64	34413	13	ROy	200-300	50	club	club	club	5.15	club	club	club	13	Bandon	13
65	34414	14	Utrv	5-10	50	club	club	club	5.15	club	club	club	14	Bandon	14
66	34414	14	ROtv	10-50	50	club	club	club	5.15	club	club	club	14	Bandon	14
67	34414	14	ROtx	50-100	50	club	club	club	5.15	club	club	club	14	Bandon	14
68	34414	14	ROz	100-200	50	club	club	club	5.15	club	club	club	14	Bandon	14
69	34414	14	ROy	200-300	50	club	club	club	5.15	club	club	club	14	Bandon	14
70	34415	15	Utrv	5-10	50	club	club	club	5.15	club	club	club	15	Bandon	15
71	34415	15	ROtv	10-50	50	club	club	club	5.15	club	club	club	15	Bandon	15
72	34415	15	ROtx	50-100	50	club	club	club	5.15	club	club	club	15	Bandon	15
73	34415	15	ROz	100-200	50	club	club	club	5.15	club	club	club	15	Bandon	15
74	34415	15	ROy	200-300	50	club	club	club	5.15	club	club	club	15	Bandon	15
75	34416	16	Utrv	5-10	50	club	club	club	5.15	club	club	club	16	Bandon	16
76	34416	16	ROtv	10-50	50	club	club	club	5.15	club	club	club	16	Bandon	16
77	34416	16	ROtx	50-100	50	club	club	club	5.15	club	club	club	16	Bandon	16
78	34416	16	ROz	100-200	50	club	club	club	5.15	club	club	club	16	Bandon	16
79	34416	16	ROy	200-300	50	club	club	club	5.15	club	club	club	16	Bandon	16
80	34417	17	Utrv	5-10	50	club	club	club	5.15	club	club	club	17	Bandon	17
81	34417	17	ROtv	10-50	50	club	club	club	5.15	club	club	club	17	Bandon	17
82	34417	17	ROtx	50-100	50	club	club	club	5.15	club	club	club	17	Bandon	17
83	34417	17	ROz	100-200	50	club	club	club	5.15	club	club	club	17	Bandon	17
84	34417	17	ROy	200-300	50	club	club	club	5.15	club	club	club	17	Bandon	17
85	34418	18	Utrv	5-10	50	club	club	club	5.15	club	club	club	18	Bandon	18
86	34418	18	ROtv	10-50	50	club	club	club	5.15	club	club	club	18	Bandon	18
87	34418	18	ROtx	50-100	50	club	club	club	5.15	club	club	club	18	Bandon	18
88	34418	18	ROz	100-200	50	club	club	club	5.15	club	club	club	18	Bandon	18
89	34418	18	ROy	200-300	50	club	club	club	5.15	club	club	club	18	Bandon	18
90	34419	19	Utrv	5-10	50	club	club	club	5.15	club	club	club	19	Bandon	19
91	34419	19	ROtv	10-50	50	club	club	club	5.15	club	club	club	19	Bandon	19
92	34419	19	ROtx	50-100	50	club	club	club	5.15	club	club	club	19	Bandon	19
93	34419	19	ROz	100-200	50	club	club	club	5.15	club	club	club	19	Bandon	19
94	34419	19	ROy	200-300	50	club	club	club	5.15	club	club	club	19	Bandon	19
95	34420	20	Utrv	5-10	50	club	club	club	5.15	club	club	club	20	Bandon	20
96	34420	20	ROtv	10-50	50	club	club								











# Closing Remarks

We were given the southern portion of the study area.

Not many points south of Bandon – likely because of the funding (Oregon funding)

With respect to limited amount of data, we found extents of Holocene and Pleistocene (more extensive).

Found depths of the gleyed layer (Bg) in the Bandon area

Depths for the Pleistocene

Need more data points and info in the area that we concentrated on.  
For example: "surface breaks" ?

