profilepoint analysis alluvial deposits

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October 24, 2017

0 1 6 7

Loading required package: knitr
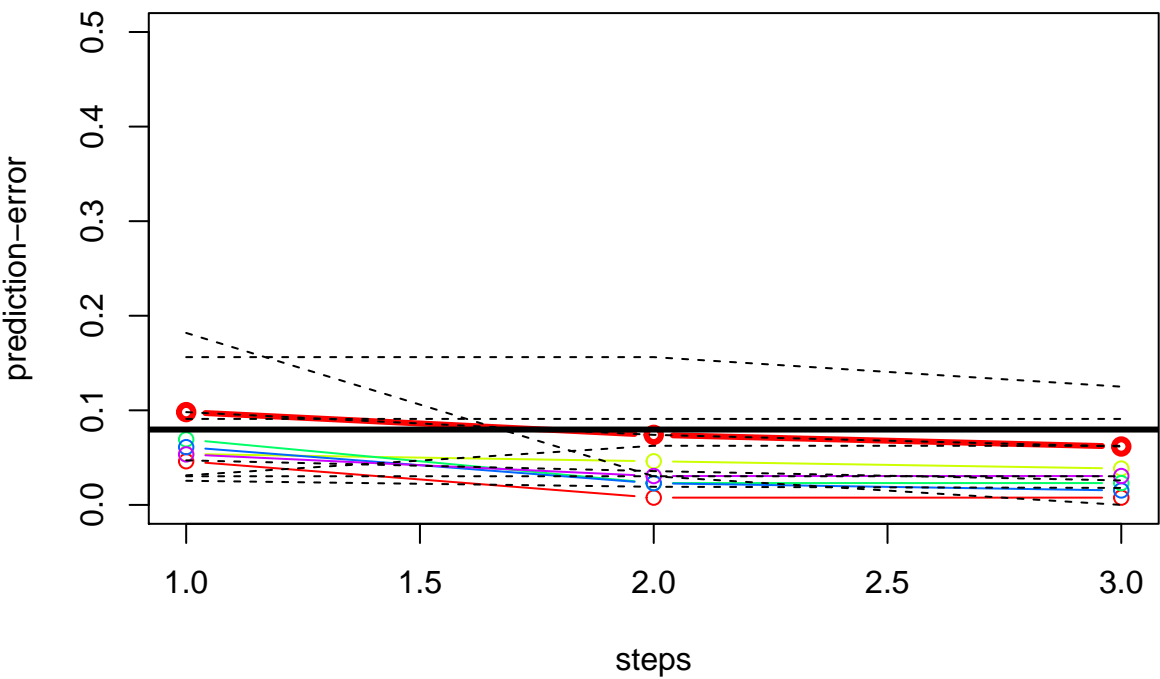
[1] "OBB error with all predictors of allpreds is 0.0769230769230769"

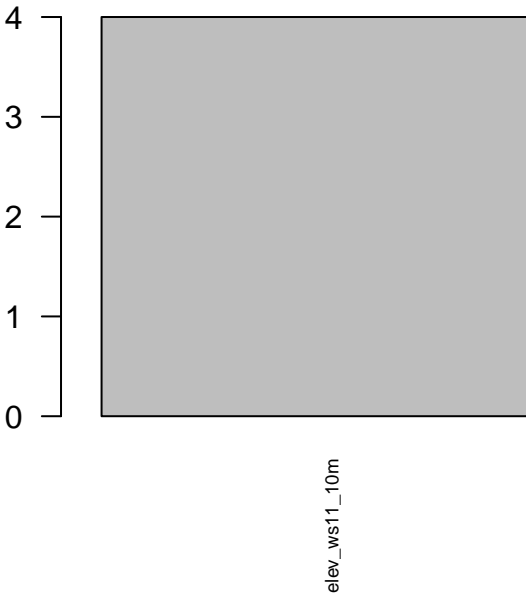|	0	1	MeanDecreaseAccuracy	MeanDecre
geom__hr__L50m__fl1__rpliprichness__UE__hr__20cells__hr	0.0143333	0.0126667	0.0128667	0.
vectorstrength__hr__ws41__hr	0.0100000	0.0108333	0.0094667	0.
fischerk__ws47__hr	0.0120000	0.0085000	0.0091333	0.
vectorstrength__hr__ws59__hr	0.0091667	0.0090000	0.0086667	0.
fischerk__ws53__hr	0.0110000	0.0081667	0.0083333	0.
vectorstrength__hr__ws55__hr	0.0090000	0.0103333	0.0083333	0.
vectorstrength__hr__ws53__hr	0.0075000	0.0095000	0.0076381	0.
fischerk__ws49__hr	0.0080000	0.0078333	0.0073333	0.
vectorstrength__hr__ws57__hr	0.0096667	0.0060000	0.0064667	0.
geom__hr__L50m__fl1__rpliprichness__UE__hr__40cells__hr	0.0076667	0.0053333	0.0060667	0.
[1] "OBB error with all predictors of roughness i	s 0.0769230	769230769"		

	0	1	MeanDecreaseAccuracy	MeanDec
fischerk__ws59__hr	0.0160000	0.0113333	0.0109333	(
fischerk__ws55__hr	0.0111667	0.0100000	0.0100667	(
vectorstrength__hr__ws55__hr	0.0121667	0.0115000	0.0099333	(
vectorstrength__hr__ws57__hr	0.0120000	0.0095000	0.0096000	(
vectorstrength__hr__ws51__hr	0.0130000	0.0085000	0.0092667	(
geom__hr__L50m__fl1__rpliprichness__UE__hr__20cells__hr	0.0126667	0.0076667	0.0091333	(
vectorstrength__hr__ws45__hr	0.0116667	0.0085667	0.0082667	(
fischerk__ws51__hr	0.0086667	0.0083333	0.0078667	(
fischerk__ws39__hr	0.0096667	0.0060000	0.0070000	(
geom__hr__L3__fl1__rplipshannon__UE__hr__40cells__hr	0.0081667	0.0068333	0.0069048	(
[1] "OBB error with all predictors of localterrai	n is 0.6153	84615384615"		

	0	1	MeanDecreaseAccuracy	MeanDecreaseGini
slope__DTM__50m__avg__ws11__50m	0.0120000	0.0087333	0.0086571	0.1784608
slope__DTM__50m__avg__ws5__50m	0.0186667	0.0040000	0.0080333	0.2327101
planc__ws5__hr__hr	0.0120000	0.0056667	0.0058857	0.1420883
slope__DTM__50m__avg__ws7__50m	0.0073333	0.0041667	0.0057000	0.2150805
Tangential__Curvature__50m	0.0050000	0.0053333	0.0050667	0.1015145
crosc__ws5__hr__hr	0.0083333	0.0036667	0.0049667	0.1626093
slope__DTM__50m__avg__ws9__50m	0.0053333	0.0040667	0.0040667	0.1245789
Total__Curvature__50m	0.0030000	0.0054667	0.0039667	0.0716838
CrossSectionalCurvature__hr	0.0026667	0.0036667	0.0031000	0.0982542
Plan__Curvature__hr	0.0023333	0.0033333	0.0023000	0.0316624
[](profilesiteanalysis__AD__fi	les/figure-l	atex/unnamed	-chunk-2-1.pdf)	

How are these points morphometrically different from others For instance different to till in general

steps

[1]
"Prediction error at end is: 0.0981060606060606" [2] "Prediction error at end is: 0.0740530303030303"
[3] "Prediction error at end is: 0.0617424242424242" k 1 k 2 1 elev_ws15_10m maxic_ws11_10m 2
geom_hr_L3_fl10_rplipsimpson_UE_hr_60cells_hr elev_ws11_10m 3 geom_hr_L3_fl1_rplippatchnum_UE_hr_60cells_h
elev_ws5_10m k 3 k 4 1 elev_ws11_10m elev_ws11_10m 2 geom_hr_L3_fl1_rplippatchdensity_UE_hr_60cells_hr
dtm_hr_TEXTURE_r5 3 geom_hr_L3_fl1_rplipshannon_UE_hr_5cells_hr TRI_hr_ws5 k 5 1

elev_ws11_10m

dtm_hr_TEXTURE_r5 2 profc_DTM_50m_avg_ws5_50m 3 elev_ws11_10m
allchosen Freq 2 elev_ws11_10m 4 1 dtm_hr_TEXTURE_r5 2 [1] "OBB error with all predictors of allpreds
is 0.0552147239263804"

	AD	TG	MeanDecreaseAccuracy	MeanDecreaseGini
elev_ws15_10m	0.0404984	0.0042872	0.0073816	0.8555305
elev_ws3_10m	0.0474190	0.0037186	0.0069120	1.0453651

2

	AD	TG	MeanDecreaseAccuracy	MeanDecreaseGini
elev_ws11_10m	0.0324611	0.0036518	0.0058448	0.7035052
elev_ws5_10m	0.0300143	0.0029443	0.0050005	0.7104076
ChannelNetworkBaseLevel_10m	0.0100333	0.0012582	0.0019770	0.4354310
Vertical_Distance_to_Channel_Network_hr	0.0063071	0.0013525	0.0017777	0.4503923
Channel_Network_Base_Level_hr	0.0156238	0.0004152	0.0015564	0.4962462
Standardized_Height_50m	0.0087333	0.0010280	0.0014586	0.2810314
Relative_Slope_Position_50m	0.0043667	0.0009044	0.0012618	0.2451296
Vertical_Distance_to_Channel_Network_50m	0.0053333	0.0008173	0.0011724	0.3484730

	AD	TG	MeanDecreaseAccuracy	MeanDecreaseGini
elev_ws15_10m	0.0404984	0.0042872	0.0073816	0.8555305
elev_ws3_10m	0.0474190	0.0037186	0.0069120	1.0453651
elev_ws11_10m	0.0324611	0.0036518	0.0058448	0.7035052
elev_ws5_10m	0.0300143	0.0029443	0.0050005	0.7104076
ChannelNetworkBaseLevel_10m	0.0100333	0.0012582	0.0019770	0.4354310
Vertical_Distance_to_Channel_Network_hr	0.0063071	0.0013525	0.0017777	0.4503923
Channel_Network_Base_Level_hr	0.0156238	0.0004152	0.0015564	0.4962462
Standardized_Height_50m	0.0087333	0.0010280	0.0014586	0.2810314
Relative_Slope_Position_50m	0.0043667	0.0009044	0.0012618	0.2451296
Vertical_Distance_to_Channel_Network_50m	0.0053333	0.0008173	0.0011724	0.3484730

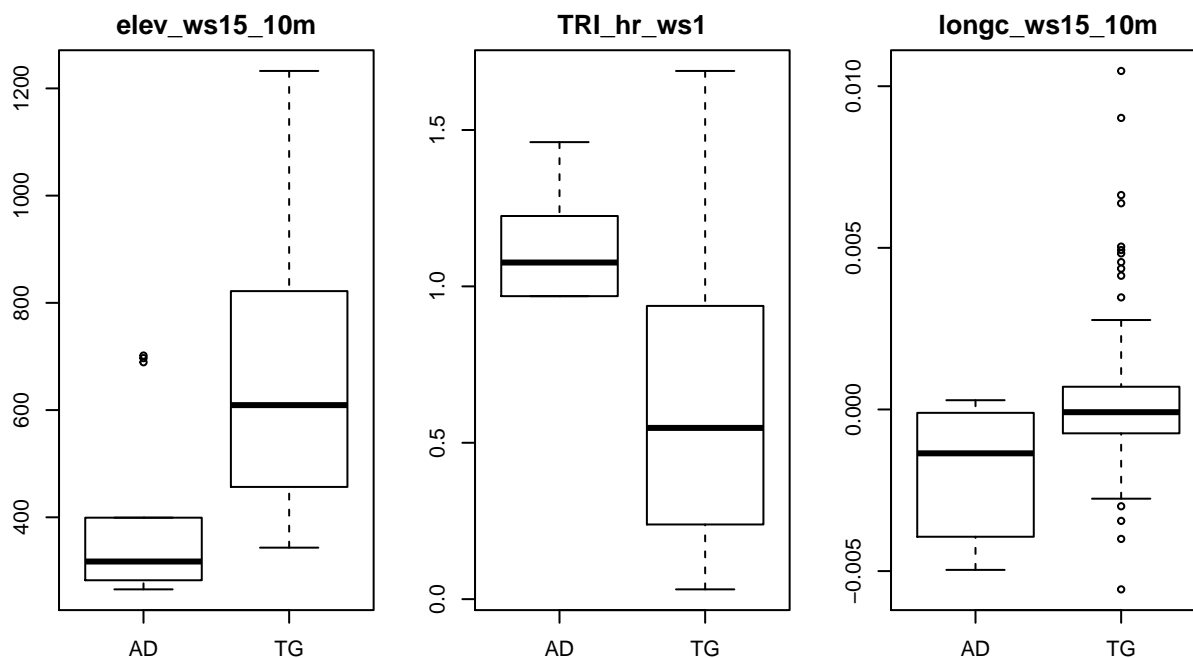[1] "OBB error with all predictors of roughness is 0.0674846625766871"

	AD	TG	MeanDecreaseAccuracy	MeanDecrea
TRI_hr_ws1	0.0046857	0.0028748	0.0029765	0.2
geom_hr_L50m_fl10_rplipsimpson_UE_hr_60cells_hr	0.0041405	0.0013365	0.0016700	0.2
dtm_hr_TEXTURE_r20	0.0007381	0.0016741	0.0016508	0.14
TRI_hr_ws3	-0.0007143	0.0018007	0.0016175	0.13
vectorstrength_hr_ws15_hr	0.0008333	0.0015948	0.0015319	0.06
geom_hr_L50m_fl10_rplipshape_UE_hr_60cells_hr	0.0037333	0.0012435	0.0014490	0.17
vectorruggedness_hr_ws51	0.0016190	0.0014156	0.0014332	0.24
geom_hr_L3_fl1_rplipdominance_UE_hr_60cells_hr	0.0026190	0.0013162	0.0013822	0.20
fischerk_ws5_hr	0.0044667	0.0011552	0.0013584	0.09
fischerk_ws17_hr	0.0012024	0.0013728	0.0013530	0.13

	AD	TG	MeanDecreaseAccuracy	MeanDecrea
TRI_hr_ws1	0.0046857	0.0028748	0.0029765	0.2
geom_hr_L50m_fl10_rplipsimpson_UE_hr_60cells_hr	0.0041405	0.0013365	0.0016700	0.2
dtm_hr_TEXTURE_r20	0.0007381	0.0016741	0.0016508	0.14
TRI_hr_ws3	-0.0007143	0.0018007	0.0016175	0.13
vectorstrength_hr_ws15_hr	0.0008333	0.0015948	0.0015319	0.06
geom_hr_L50m_fl10_rplipshape_UE_hr_60cells_hr	0.0037333	0.0012435	0.0014490	0.17
vectorruggedness_hr_ws51	0.0016190	0.0014156	0.0014332	0.24
geom_hr_L3_fl1_rplipdominance_UE_hr_60cells_hr	0.0026190	0.0013162	0.0013822	0.20
fischerk_ws5_hr	0.0044667	0.0011552	0.0013584	0.09
fischerk_ws17_hr	0.0012024	0.0013728	0.0013530	0.13

[1] "OBB error with all predictors of localterrain is 0.0797546012269939"

	AD	TG	MeanDecreaseAccuracy	MeanDecreaseGini
longc_ws15_10m	0.0190381	0.0015245	0.0027598	0.7226834
longc_DTM_50m_avg_ws5_50m	0.0095294	0.0017344	0.0024552	0.6231451
Convexity_50m	0.0150008	0.0014163	0.0024032	0.7822687
Slope_10m	0.0003810	0.0021844	0.0020392	0.1894148
longc_DTM_50m_avg_ws3_50m	0.0063214	0.0016977	0.0019282	0.3781914
longc_ws11_10m	0.0057000	0.0016103	0.0019220	0.5077040
Convergence_Index_50m	0.0016333	0.0018874	0.0018595	0.1600173
minic_ws15_10m	0.0071095	0.0014317	0.0018028	0.3729106
profc_DTM_50m_avg_ws5_50m	0.0107000	0.0009883	0.0017008	0.4784875
slope_ws3_hr_hr	0.0035667	0.0014765	0.0016355	0.2808688

	AD	TG	MeanDecreaseAccuracy	MeanDecreaseGini
longc_ws15_10m	0.0190381	0.0015245	0.0027598	0.7226834
longc_DTM_50m_avg_ws5_50m	0.0095294	0.0017344	0.0024552	0.6231451
Convexity_50m	0.0150008	0.0014163	0.0024032	0.7822687
Slope_10m	0.0003810	0.0021844	0.0020392	0.1894148
longc_DTM_50m_avg_ws3_50m	0.0063214	0.0016977	0.0019282	0.3781914
longc_ws11_10m	0.0057000	0.0016103	0.0019220	0.5077040
Convergence_Index_50m	0.0016333	0.0018874	0.0018595	0.1600173
minic_ws15_10m	0.0071095	0.0014317	0.0018028	0.3729106
profc_DTM_50m_avg_ws5_50m	0.0107000	0.0009883	0.0017008	0.4784875
slope_ws3_hr_hr	0.0035667	0.0014765	0.0016355	0.2808688

elev_ws15_10m **TRI_hr_ws1** **longc_ws15_10m**

How does this compare to the differences between the units on the geological map?

[1] "OBB error with all predictors of allpreds is 0.0453131941359396"

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	AD	TG	MeanDecreaseAccuracy	MeanDecreaseGini
elev_ws11_10m	0.0584112	0.0414297	0.0477627	142.08096
elev_ws3_10m	0.0464590	0.0375061	0.0407968	119.50306
Channel_Network_Base_Level_hr	0.0413358	0.0397201	0.0402691	118.51073
elev_ws5_10m	0.0438865	0.0378851	0.0400816	108.53556
elev_ws15_10m	0.0390372	0.0359845	0.0371169	99.85683
ChannelNetworkBaseLevel_10m	0.0413005	0.0262352	0.0317981	86.35132
Standardized_Height_50m	0.0399833	0.0231556	0.0293929	82.44284
Relative_Slope_Position_50m	0.0335533	0.0083546	0.0176855	51.87953
Vertical_Distance_to_Channel_Network_50m	0.0282863	0.0098224	0.0166598	55.19780
Normalized_Height_50m	0.0277168	0.0101535	0.0165344	54.32284

[1] "OBB error with all predictors of roughness is 0.123889875666075"

	AD	TG	MeanDecreaseAccuracy	MeanDecreaseGin
dtm_hr_TEXTURE_r30	0.0323381	0.0229413	0.0264129	74.8053
TRI_hr_ws49	0.0235658	0.0124946	0.0166273	59.8214
TRI_hr_ws50	0.0237876	0.0103504	0.0153378	40.3523
TRI_hr_ws48	0.0238627	0.0088255	0.0143223	45.4046
TRI_hr_ws46	0.0192575	0.0106716	0.0138093	45.1601
dtm_hr_TEXTURE_r20	0.0145147	0.0123256	0.0131366	33.5067
TRI_hr_ws47	0.0185111	0.0096872	0.0130076	40.8989
geom_hr_L3_fl1_rplipsimpson_UE_hr_60cells_hr	0.0077907	0.0155705	0.0126818	24.7600
TRI_hr_ws45	0.0186928	0.0088299	0.0124753	37.3675
TRI_hr_ws43	0.0164523	0.0088094	0.0116457	30.5548

	AD	TG	MeanDecreaseAccuracy	MeanDecreaseGin
TRI_hr_ws43	0.0164523	0.0088094	0.0116457	30.5548

[1] "OBB error with all predictors of localterrain is 0.096874307248947"

	AD	TG	MeanDecreaseAccuracy	MeanDecreaseGini
Convexity_50m	0.0603630	0.0388209	0.0467807	129.47088
slope_DTM_50m_avg_ws5_50m	0.0405580	0.0159203	0.0250876	85.75575
slope_DTM_50m_avg_ws7_50m	0.0326598	0.0147579	0.0213623	79.46768
slope_DTM_50m_avg_ws9_50m	0.0249844	0.0159160	0.0192530	67.99480
slope_ws15_10m	0.0259563	0.0145413	0.0187811	79.96633
slope_DTM_50m_avg_ws3_50m	0.0267753	0.0132667	0.0182947	85.67842
maxic_DTM_50m_avg_ws11_50m	0.0257891	0.0115158	0.0167533	31.58236
longc_DTM_50m_avg_ws11_50m	0.0293727	0.0092163	0.0167211	26.41648
profc_DTM_50m_avg_ws11_50m	0.0269928	0.0068665	0.0142829	27.47427
maxic_DTM_50m_avg_ws9_50m	0.0266999	0.0065666	0.0140297	21.20760

elev_ws11_10m   **dtm_hr_TEXTURE_r30**   **Convexity_50m**