

Notes on correlation analysis for scup demand modeling:

1. Groups are labeled and self explanatory until grps8a, grps8b, and final grouping. Group labels for those later files are as follows:
 - a. Group 1 = scup in all files
 - b. Grps 8a
 - i. Group 2 is a mix of reef and bottomfish
 - ii. Group 3 is all other fish and shellfish
 - c. Grps 8b
 - i. Group 2 is similar to Group 2 from 8a, but brings red snapper and some West Coast rockfish into the group
 - ii. Group 3 is all other fish and shellfish
 - d. Final grouping
 - i. Group 2 is the group from 8b
 - ii. Group 3 includes the remainder of West Coast rockfish, drums, triggerfish, tilefish and other groundfish
 - iii. Group 4 includes shellfish
 - iv. Group 5 is all other fish
2. File names do not have anything to do with the number of groups, simply the order they were run. Grps3.htm never existed, it is not missing.
3. It should be fairly obvious looking at the scatter plots why the final grouping was selected.
4. Species groups explanation
 - a. The original grouping and grps2 – grps 7 were based on the groupings used in the summer flounder analysis.
 - i. These groups were based on the knowledge of products in the marketplace
 - ii. These groups worked well for summer flounder, but produced poor model fit when scup was separated into its own grouping.
 - b. Because of the poor demand model fit, correlation analysis was used to re-aggregate these groups based on price similarities and monthly demand quantities.
 - c. Model fit improved dramatically with the final grouping.

Original Groupings

6 Variables:	SCUP BOTTOM NEARSHORE_PELAGIC REEF FLATFISH MISC
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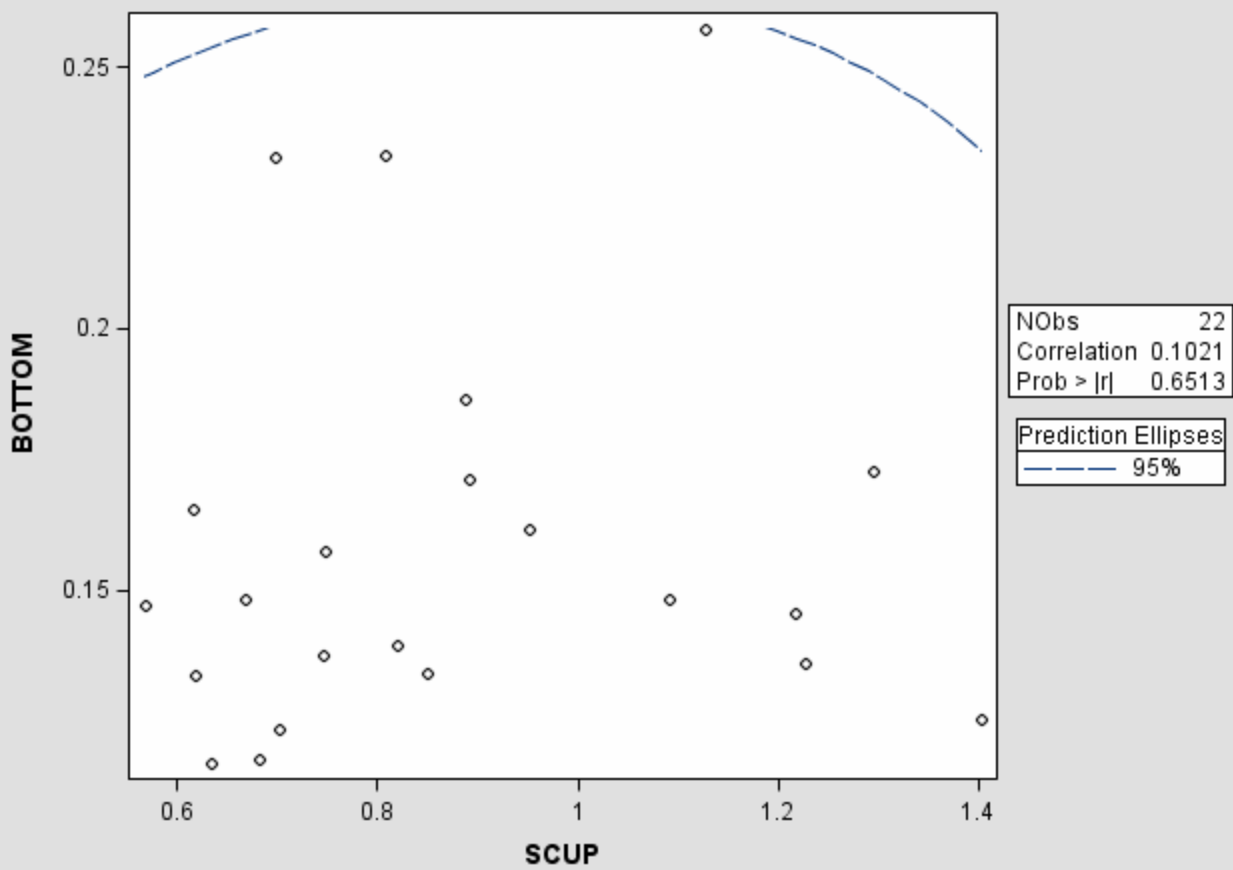
Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
SCUP	2 2	0.8743 6	0.2471 0	19.2358 8	0.56726	1.40236
BOTTOM	2 2	0.1588 1	0.0382 8	3.49392	0.11696	0.25723
NEARSHORE_PELAGIC	2 2	0.4425 6	0.1267 0	9.73633	0.27239	0.82104
REEF	2 2	0.6351 9	0.0980 2	13.9741 0	0.43021	0.78771
FLATFISH	2 2	0.3070 1	0.0794 9	6.75427	0.22560	0.57470
MISC	2 2	0.4402 2	0.2025 7	9.68485	0.13871	0.83827

Pearson Correlation Coefficients, N = 22 Prob > r under H0: Rho=0						
	SCUP	BOTTOM	NEARSHORE_PELAGIC	REEF	FLATFISH	MISC
SCUP	1.0000	0.10206	0.11544 0.6090	0.11605	- 0.18808	0.05987
		0.6513		0.6070	0.4019	0.7913
BOTTOM	0.10206	1.0000	0.71555	0.23423	- 0.26668	- 0.001

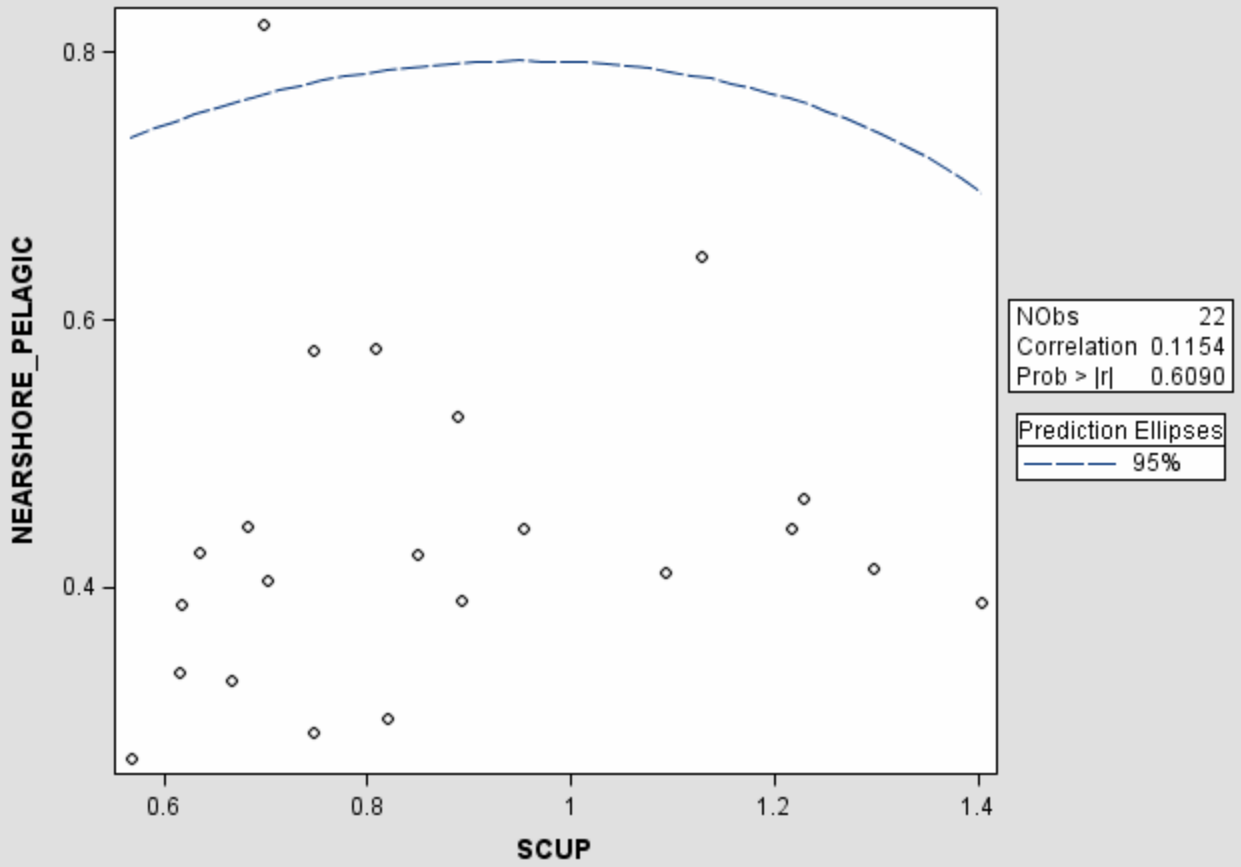
Pearson Correlation Coefficients, N = 22
Prob > |r| under H0: Rho=0

	SCU P	BOTT OM	NEARSHORE_P ELAGIC	REE F	FLATF ISH	MIS C
	0.651 3		0.0002	0.294 1	0.2303	01 0.996 4
NEARSHORE_P ELAGIC	0.115 44 0.609 0	0.7155 5 0.0002	1.00000	0.367 11 0.092 8	- 0.44738 0.0368	- 0.197 72 0.377 8
REEF	0.116 05 0.607 0	0.2342 3 0.2941	0.36711 0.0928	1.000 00	- 0.36753 0.0924	0.303 24 0.170 1
FLATFISH	- 0.188 08 0.401 9	- 0.2666 8 0.2303	-0.44738 0.0368	- 0.367 53 0.092 4	1.00000	- 0.394 93 0.068 9
MISC	0.059 87 0.791 3	- 0.0010 1 0.9964	-0.19772 0.3778	0.303 24 0.170 1	- 0.39493 0.0689	1.000 00

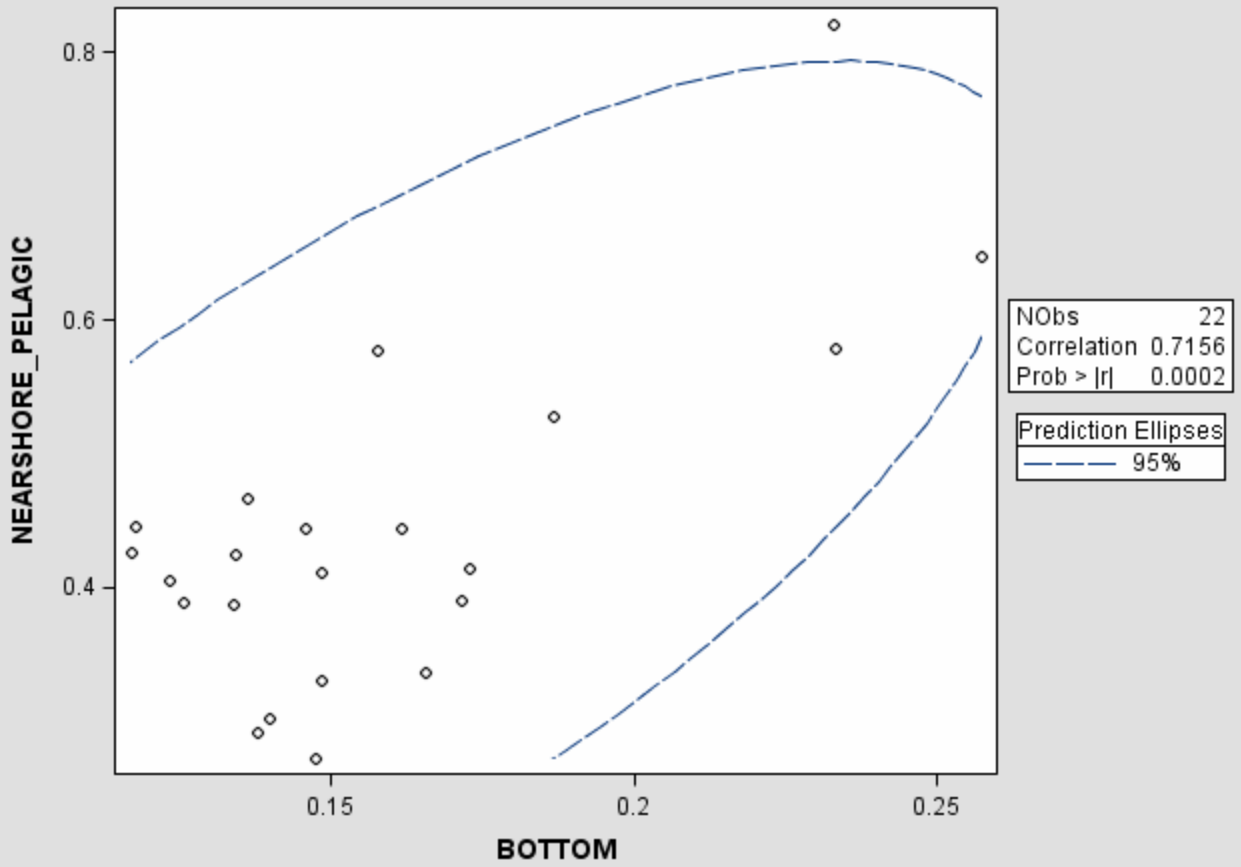
Scatter Plot

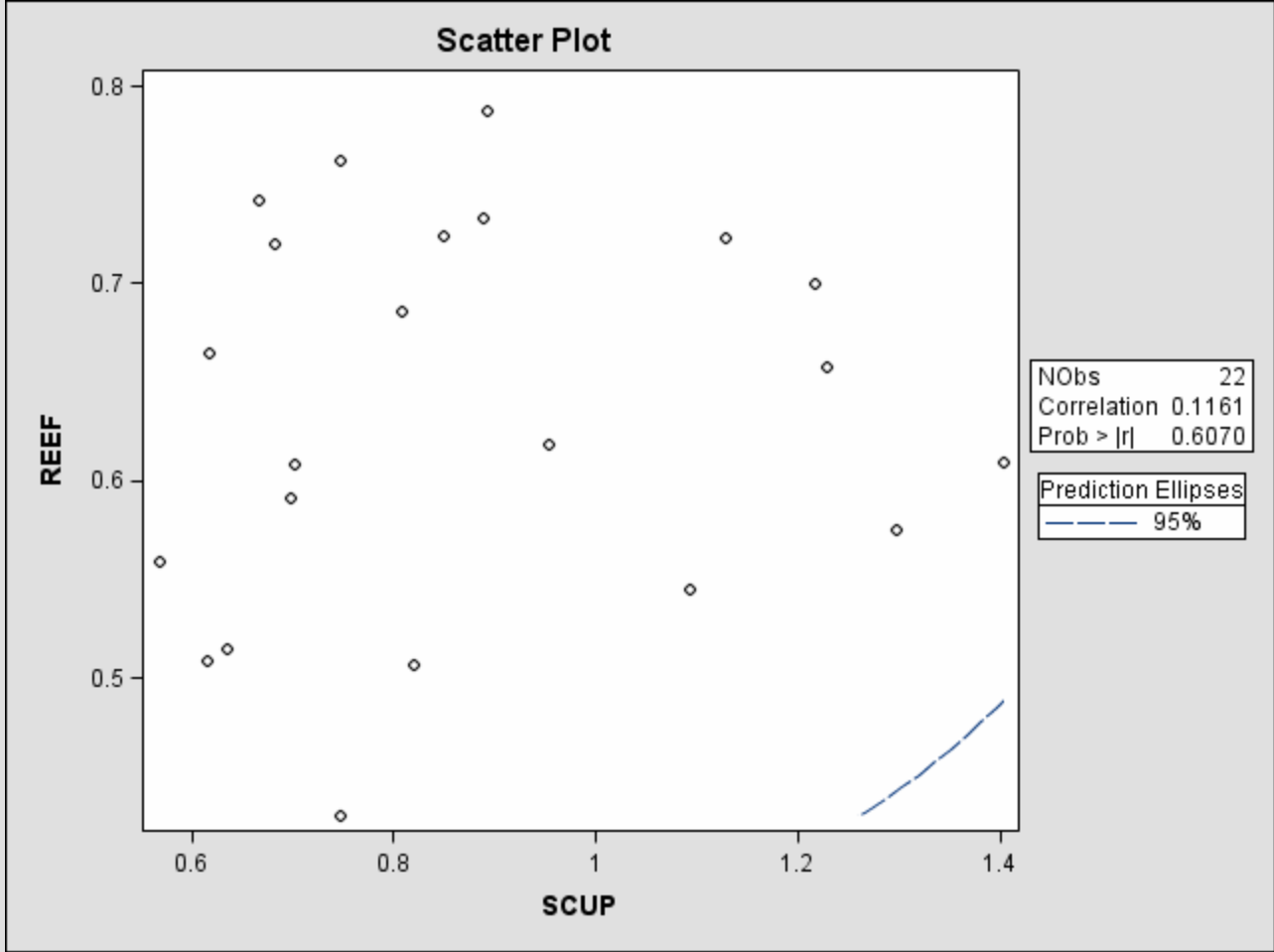


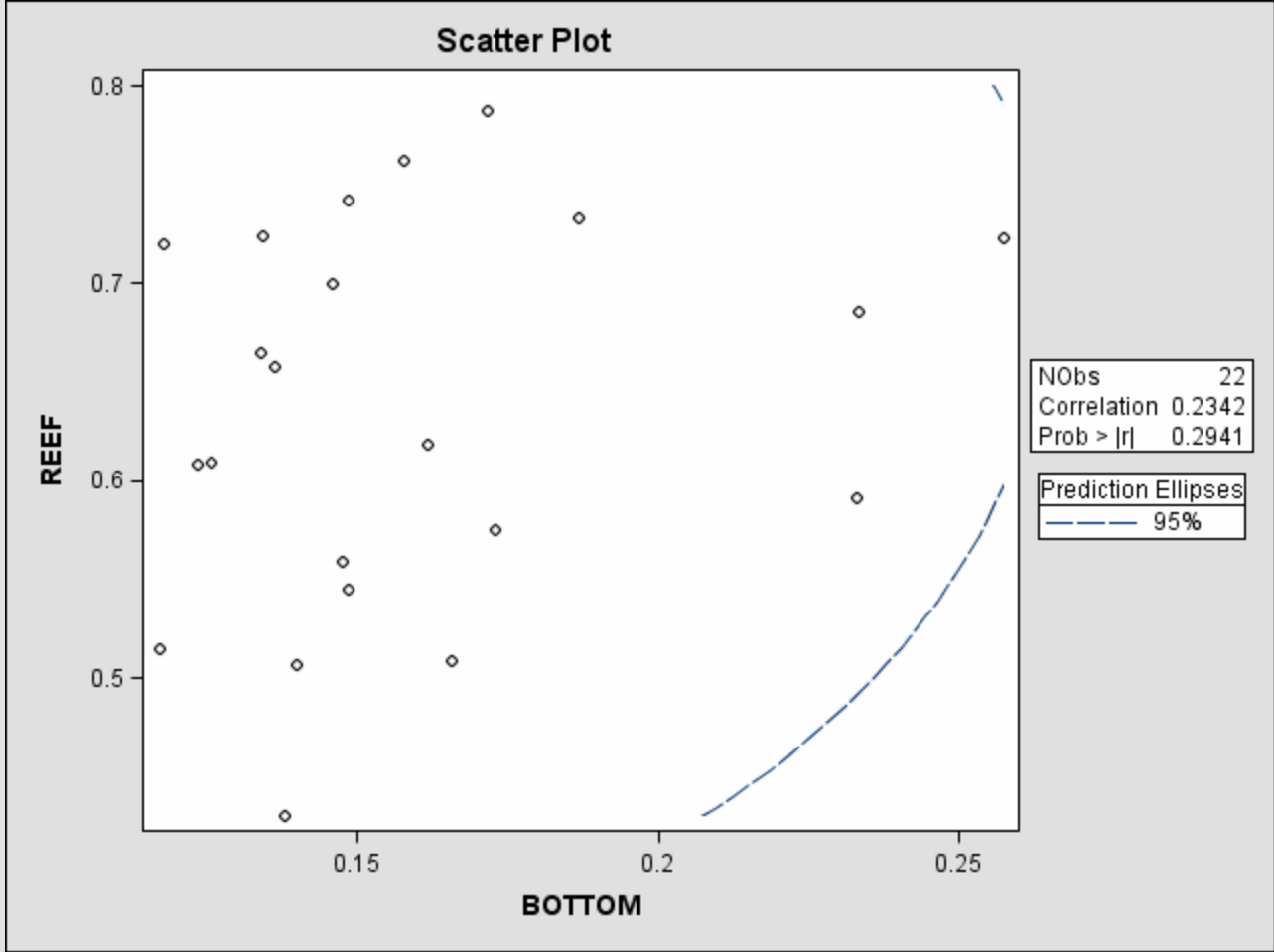
Scatter Plot

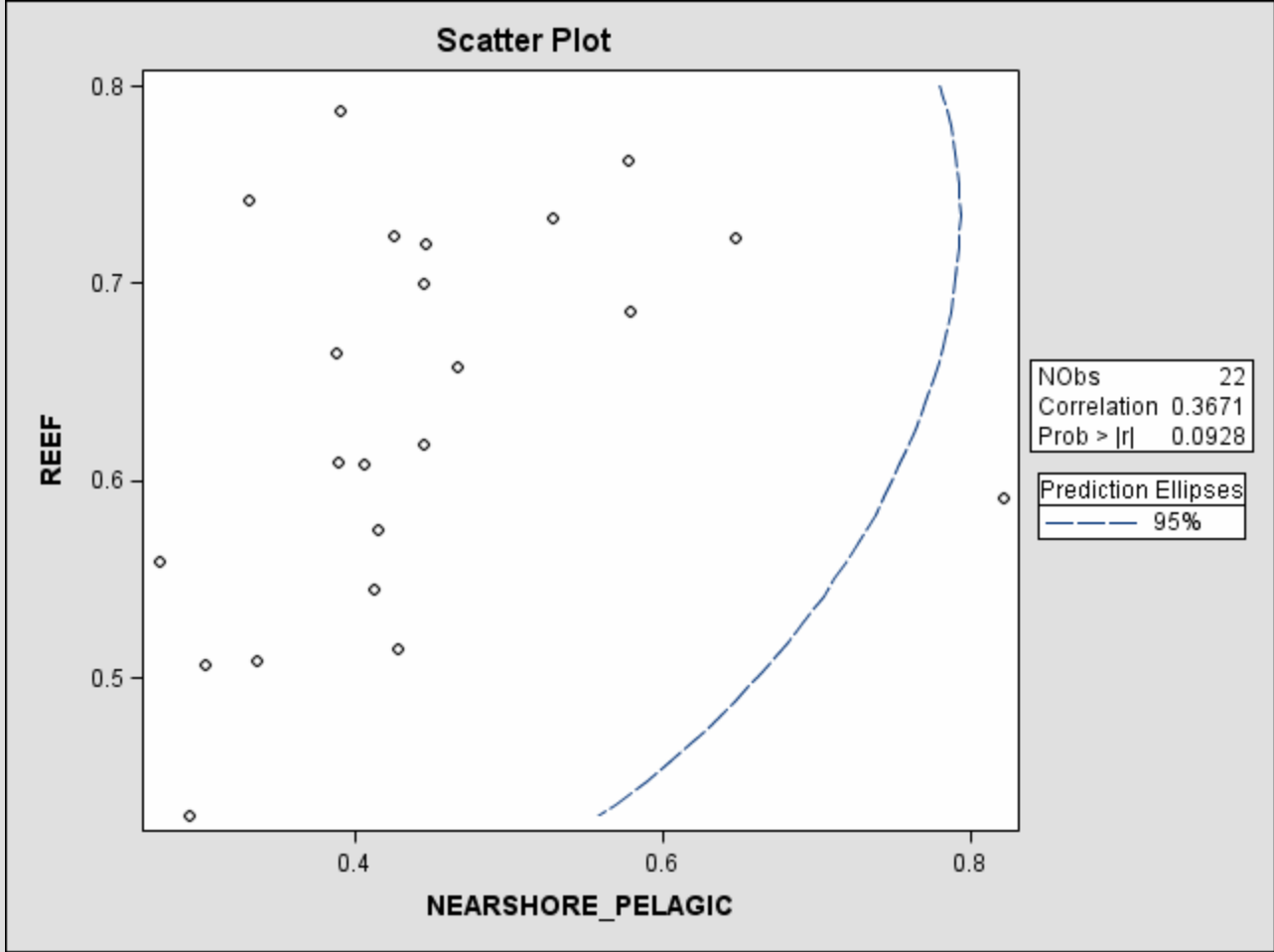


Scatter Plot

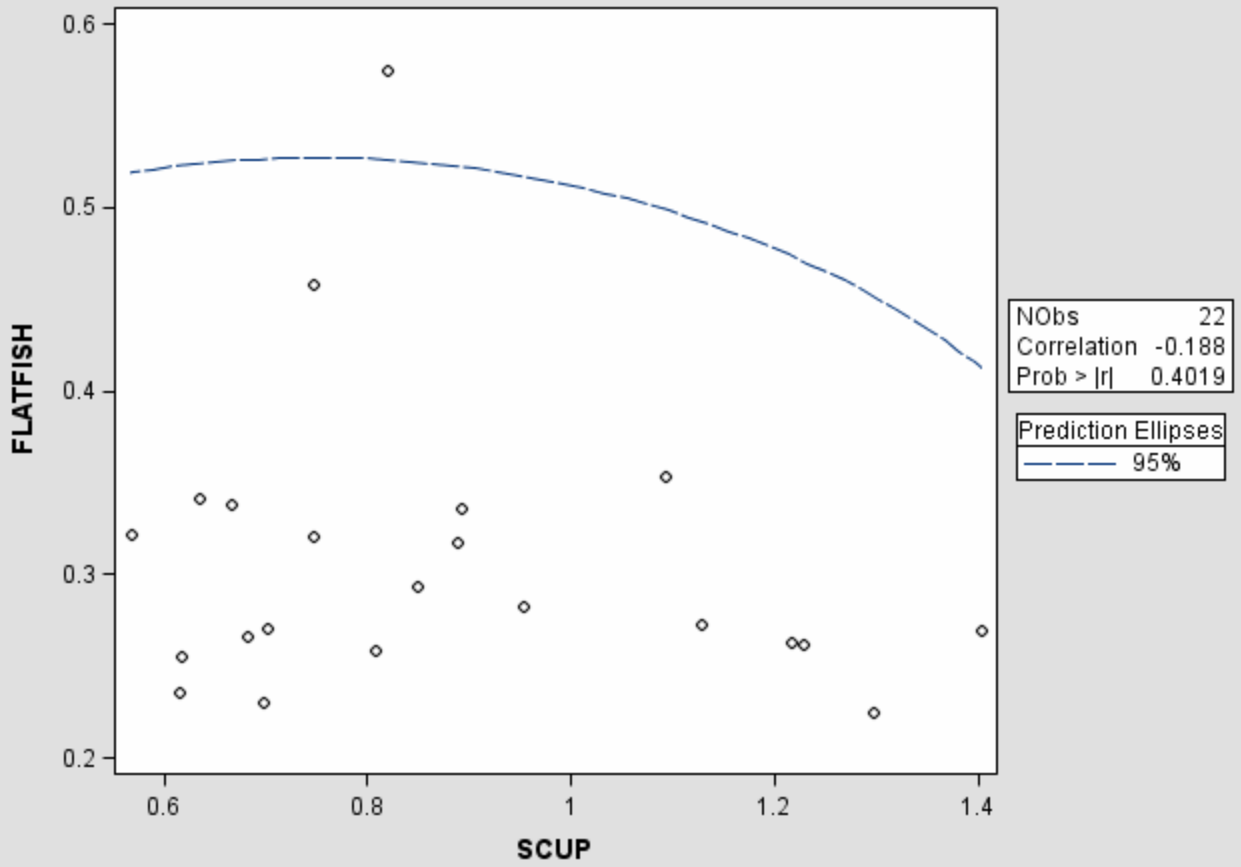




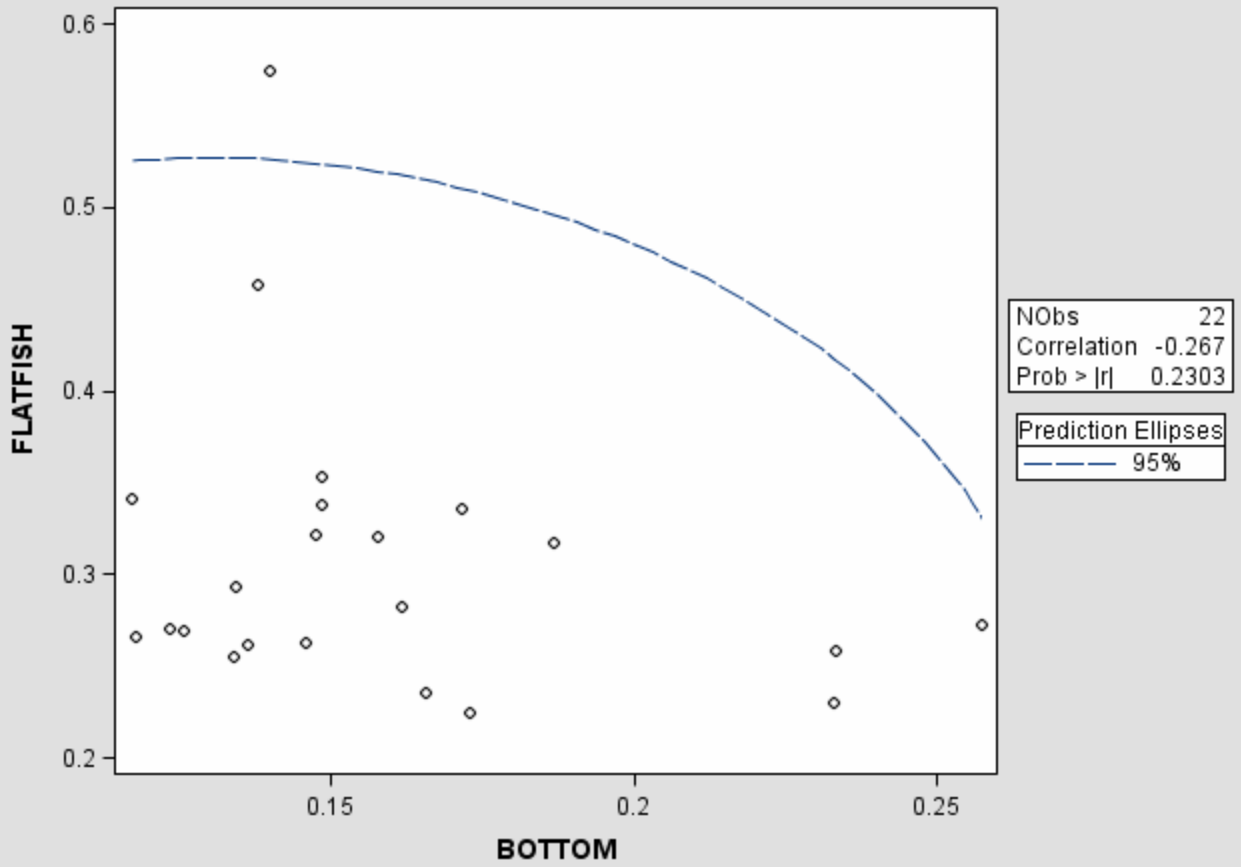




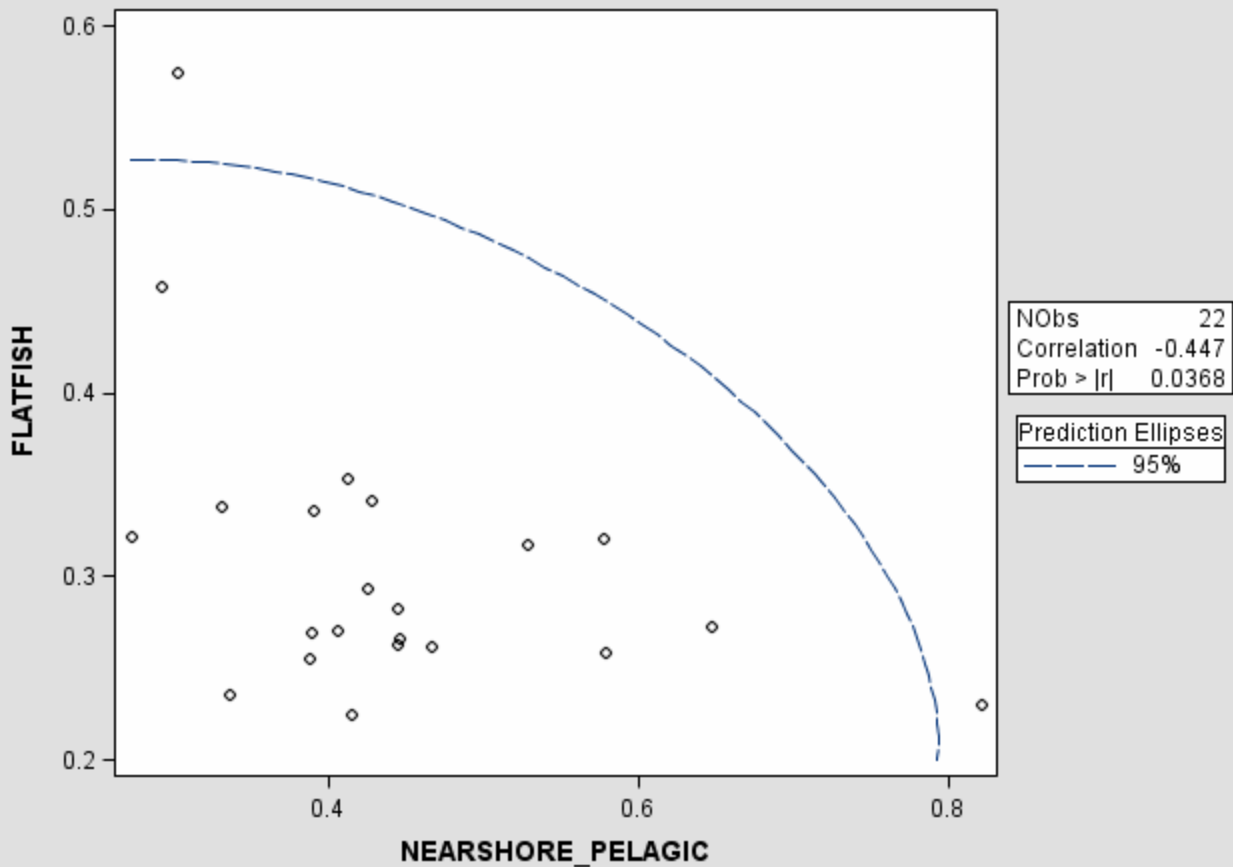
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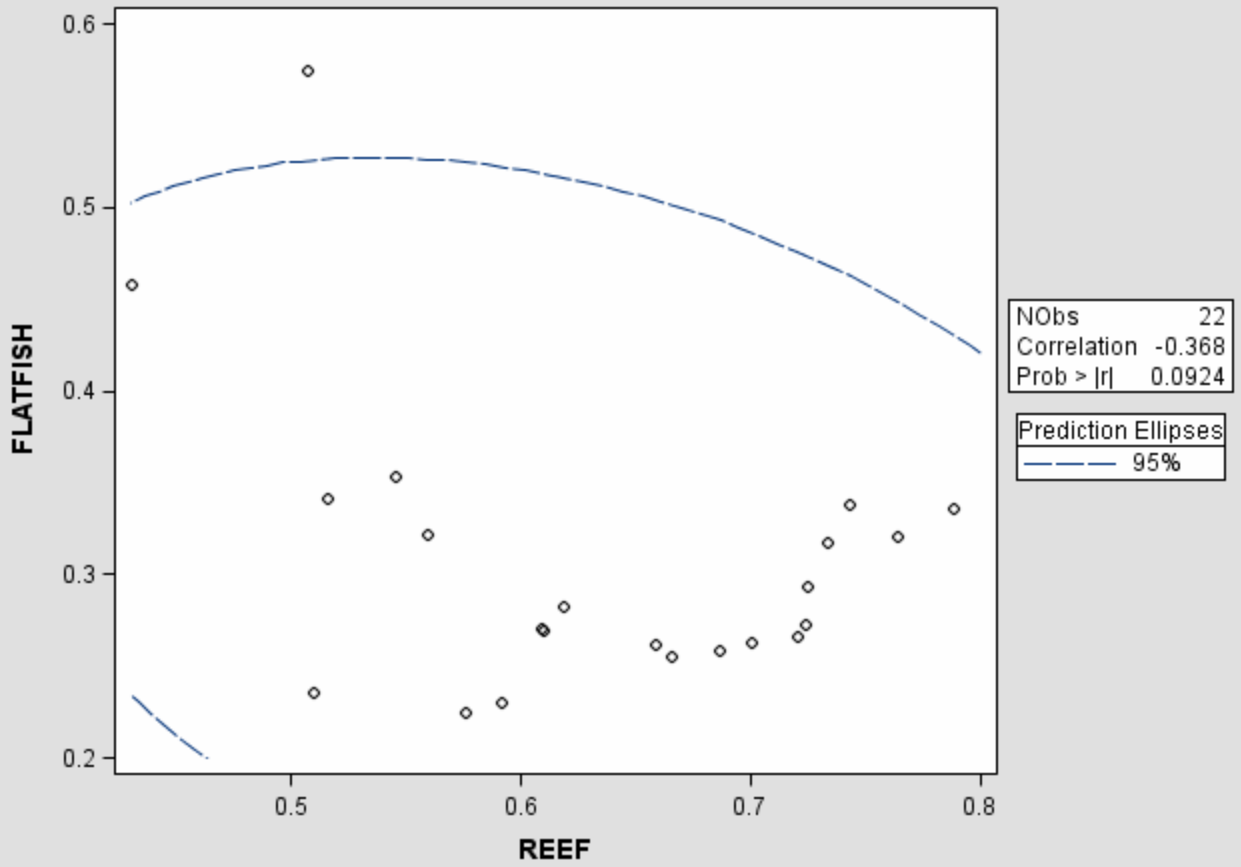
Scatter Plot



Scatter Plot



Scatter Plot



Grps2

The SAS System

The CORR Procedure

6 Variables: SCUP BOTTOM NEARSHORE_PELAGIC REEF MISC FLATFISH

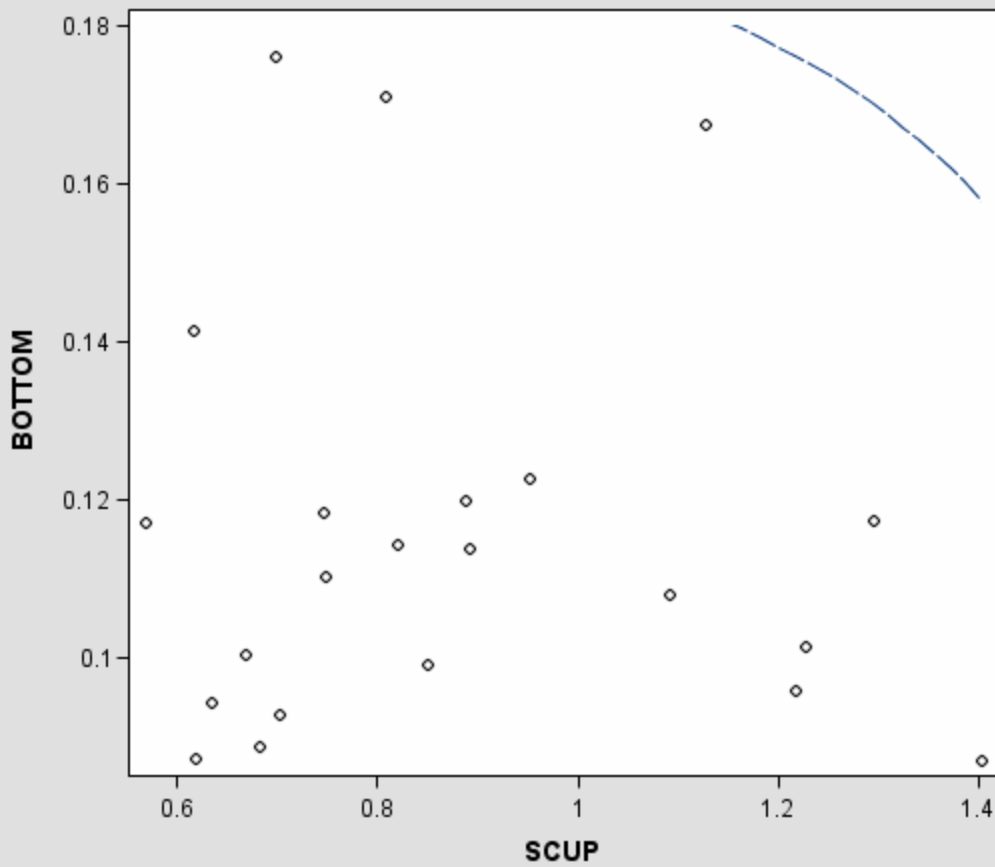
Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
SCUP	2 2	0.8743 6	0.2471 0	19.2358 8	0.56726	1.40236
BOTTOM	2 2	0.1157 8	0.0264 3	2.54723	0.08706	0.17630
NEARSHORE_PELAGIC	2 2	0.6925 7	0.1650 0	15.2364 5	0.51454	1.06977
REEF	2 2	0.6399 6	0.0961 2	14.0792 0	0.43613	0.78580
MISC	2 2	0.3824 1	0.1089 2	8.41297	0.22706	0.66795
FLATFISH	2 2	0.3070 1	0.0794 9	6.75427	0.22560	0.57470

Pearson Correlation Coefficients, N = 22 Prob > r under H0: Rho=0						
	SCUP	BOTTOM	NEARSHORE_PELAGIC	REEF	MISC	FLATFISH
SCUP	1.0000	-0.07403	0.04170 0.8538	0.10965 0.627	0.19407 0.386	-0.18808 0.4019

Pearson Correlation Coefficients, N = 22
Prob > |r| under H0: Rho=0

	SCU P	BOTT OM	NEARSHORE_P ELAGIC	REE F	MIS C	FLATF ISH
		0.7434		1	8	
BOTTOM	- 0.074 03 0.743 4	1.0000 0	0.63348 0.0016	- 0.094 73 0.675 0	0.506 53 0.016 1	- 0.15001 0.5052
NEARSHORE_P ELAGIC	0.041 70 0.853 8	0.6334 8 0.0016	1.00000	0.528 03 0.011 5	0.855 73 <.000 1	- 0.28922 0.1917
REEF	0.109 65 0.627 1	- 0.0947 3 0.6750	0.52803 0.0115	1.000 00	0.667 99 0.000 7	- 0.35862 0.1012
MISC	0.194 07 0.386 8	0.5065 3 0.0161	0.85573 <.0001	0.667 99 0.000 7	1.000 00	- 0.38131 0.0800
FLATFISH	- 0.188 08 0.401 9	- 0.1500 1 0.5052	-0.28922 0.1917	- 0.358 62 0.101 2	- 0.381 31 0.080 0	1.00000

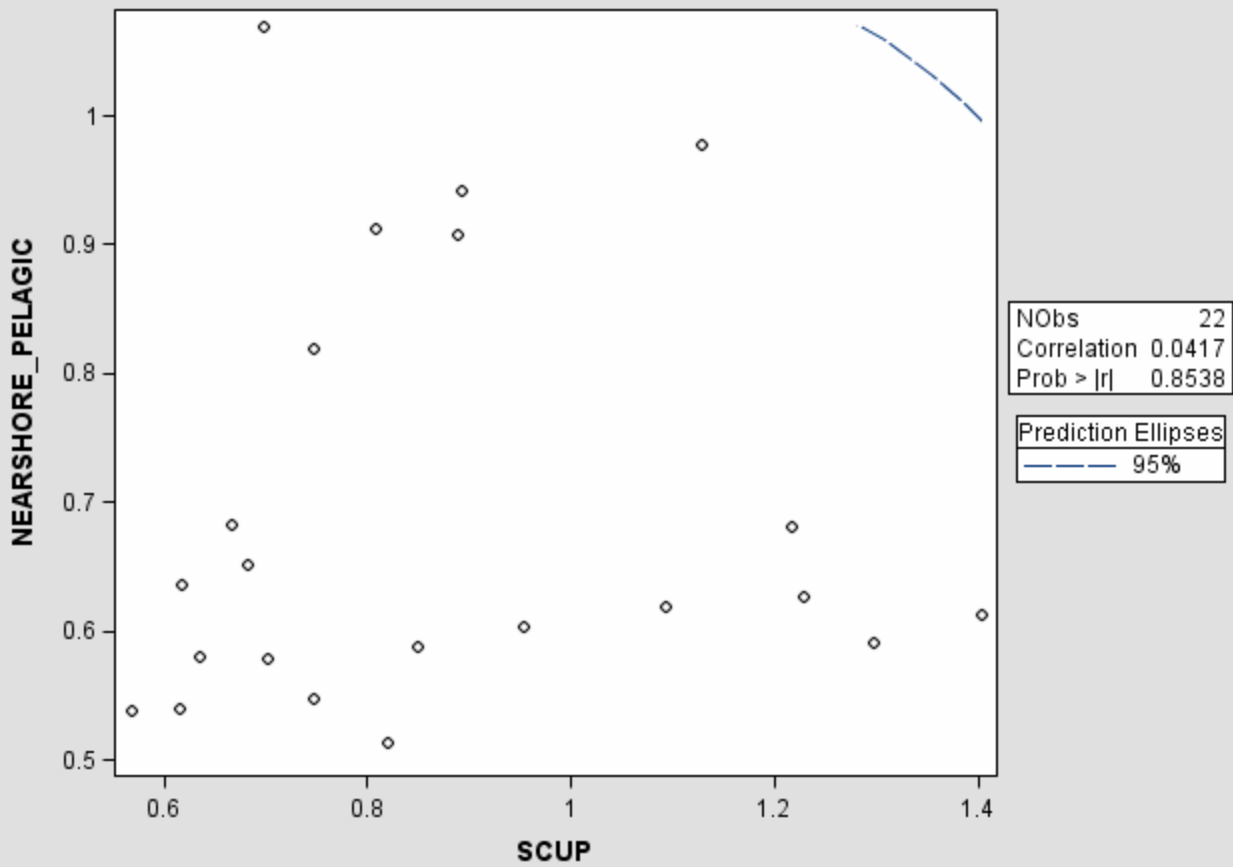
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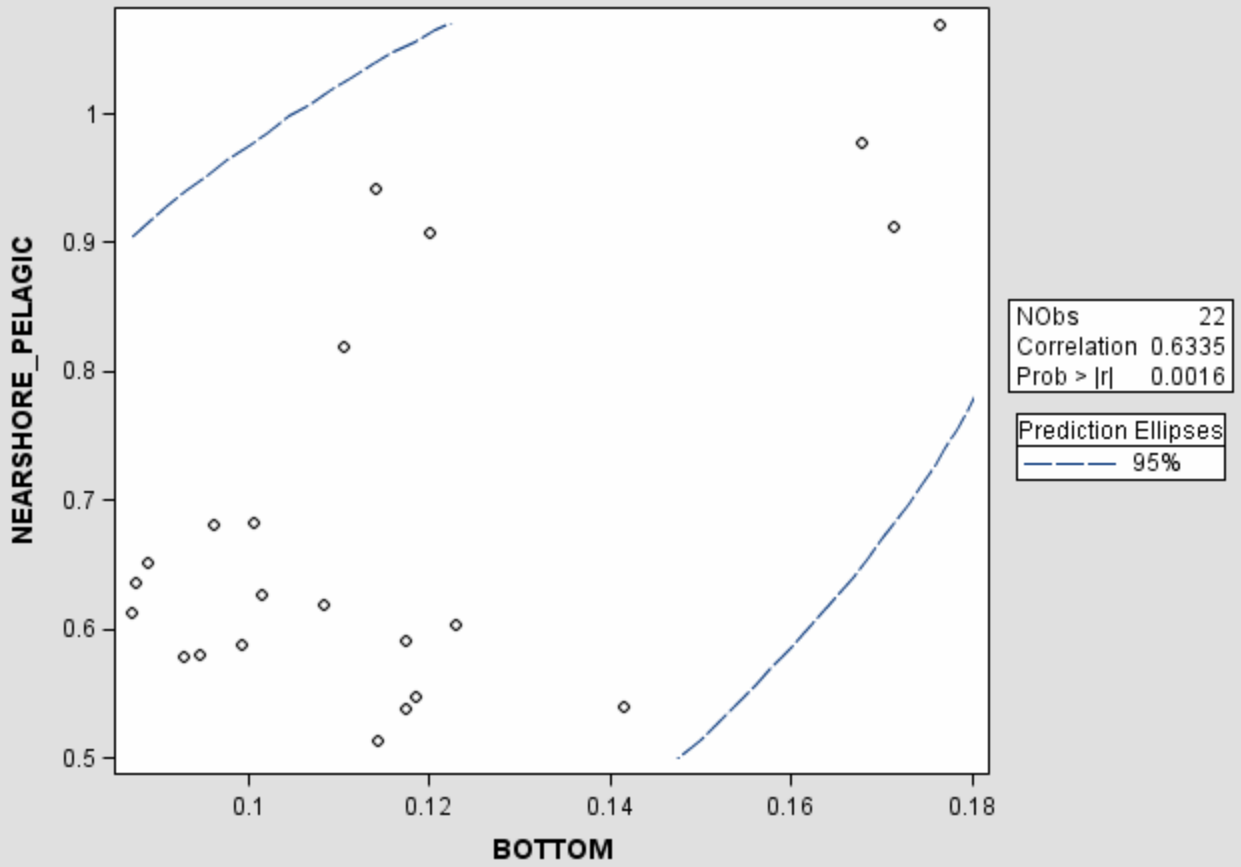
NObs 22
Correlation -0.074
Prob > |r| 0.7434

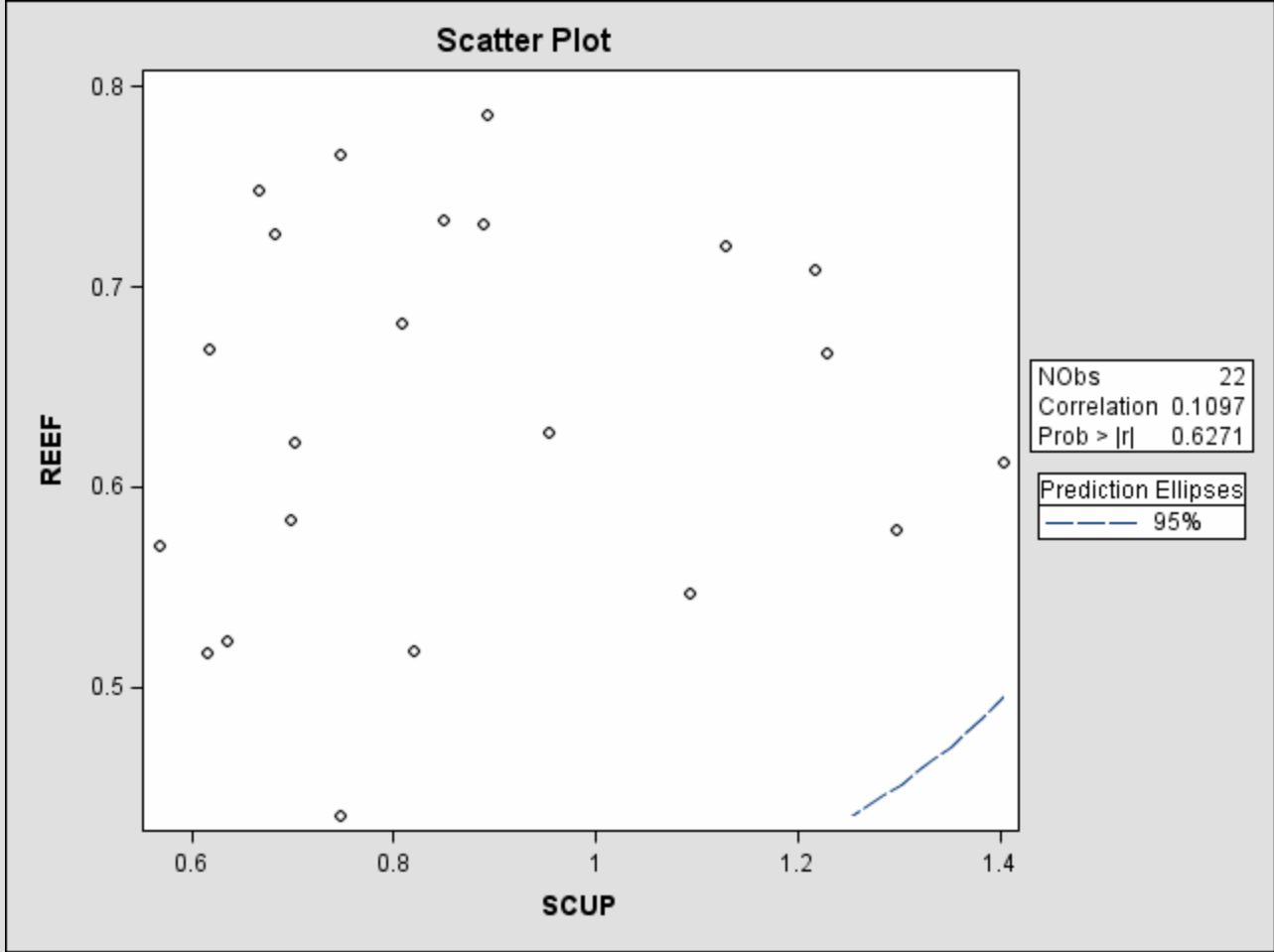
Prediction Ellipses
— 95%

Scatter Plot

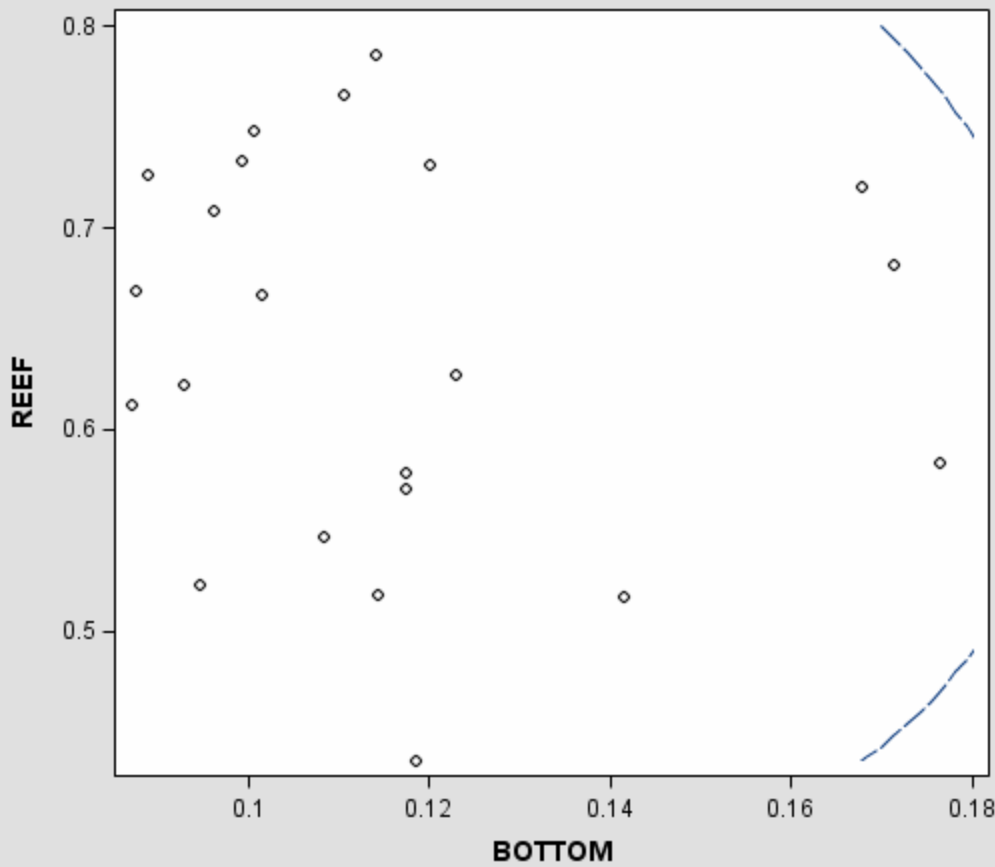


Scatter Plot





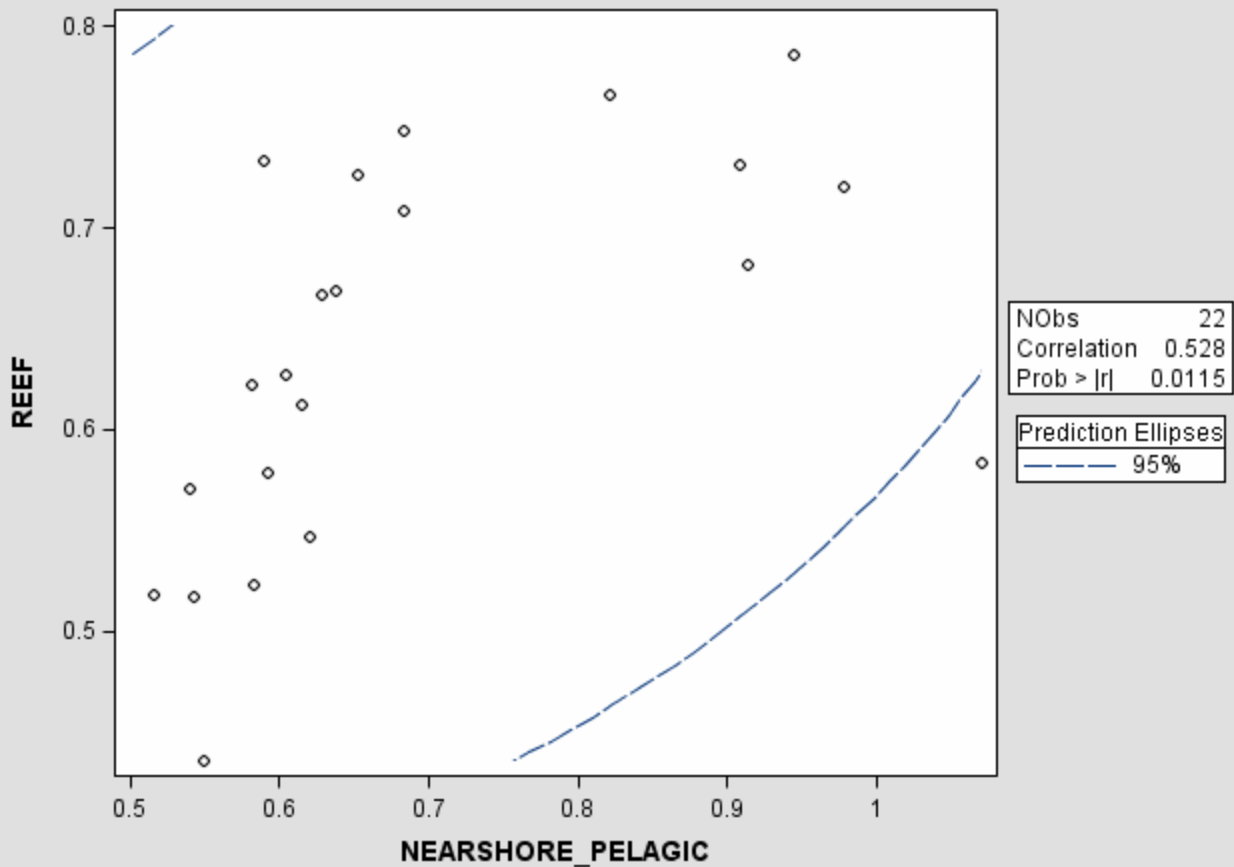
Scatter Plot



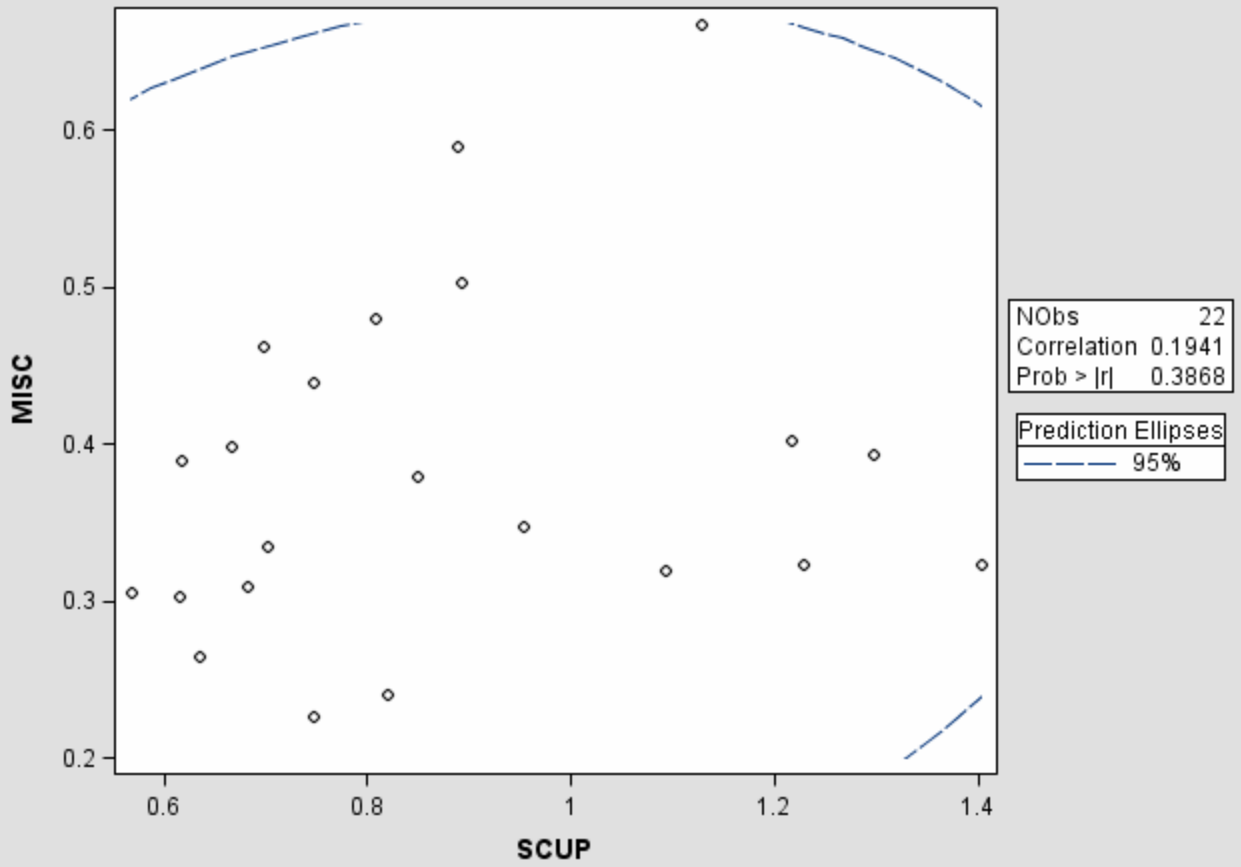
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Correlation -0.095
Prob > |r| 0.6750

Prediction Ellipses
— 95%

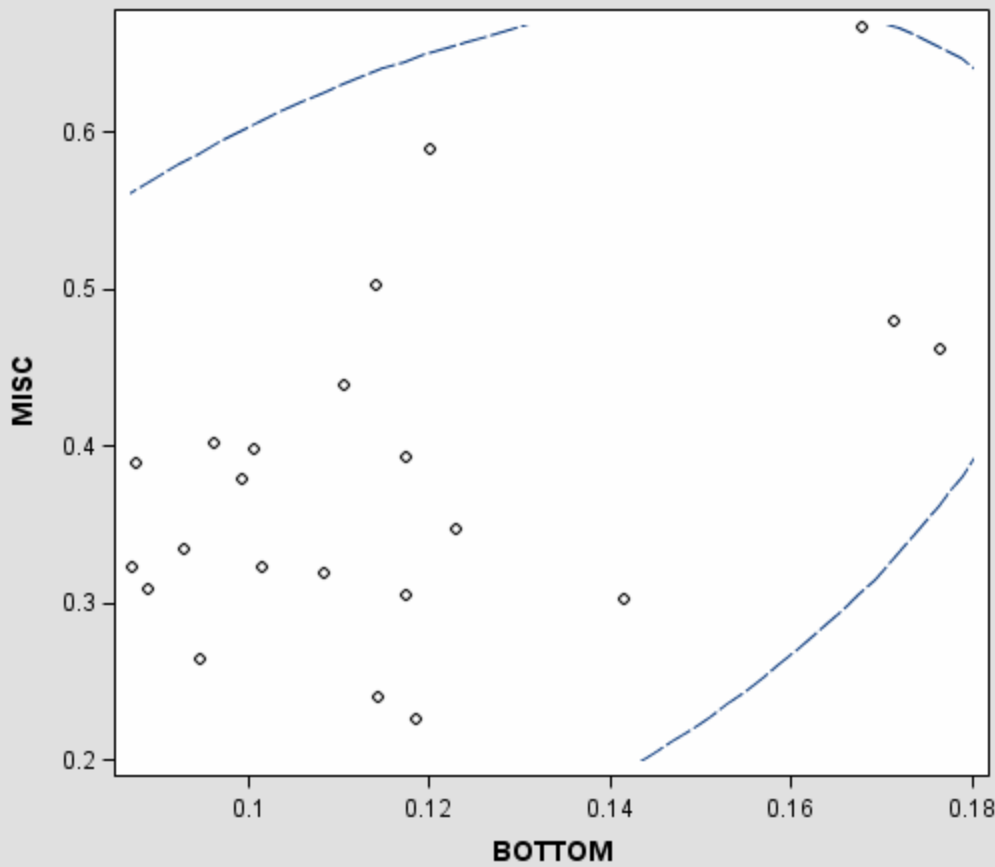
Scatter Plot



Scatter Plot



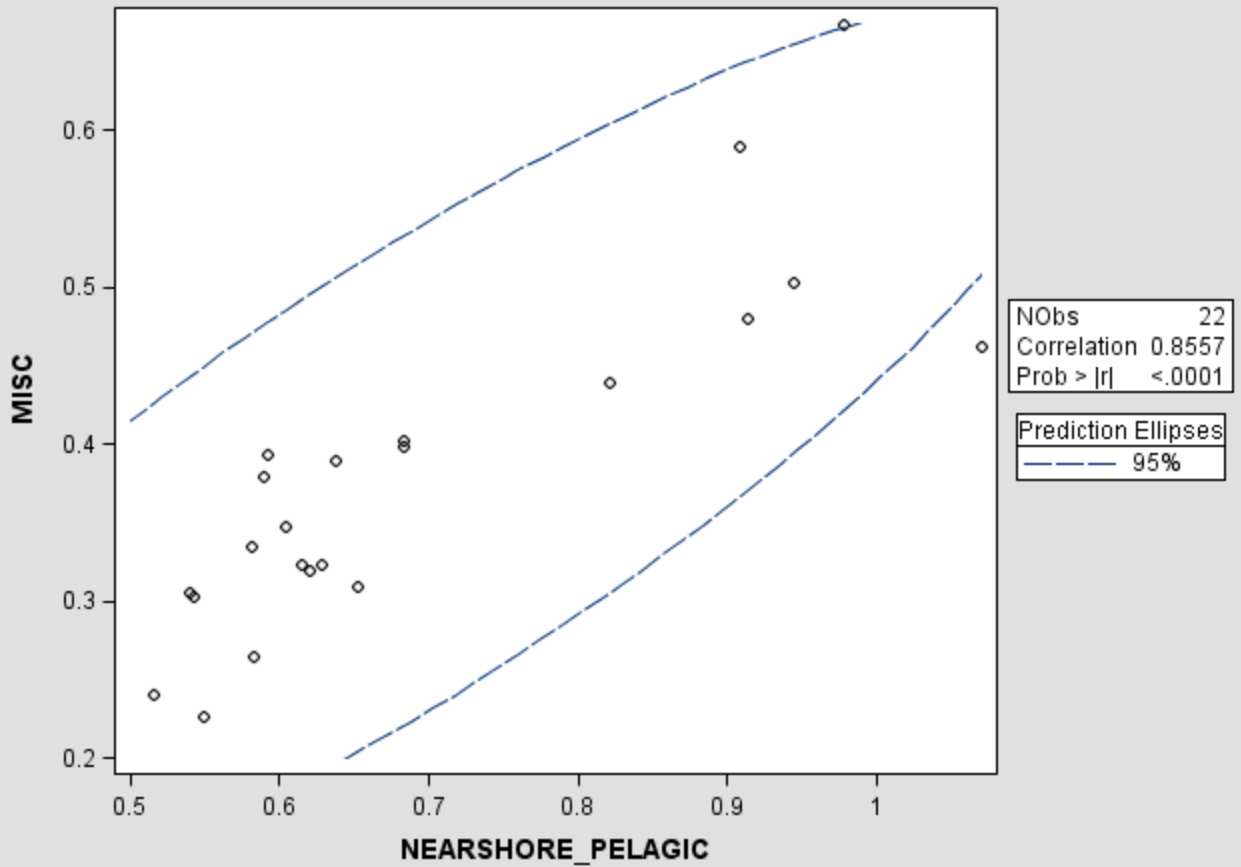
Scatter Plot



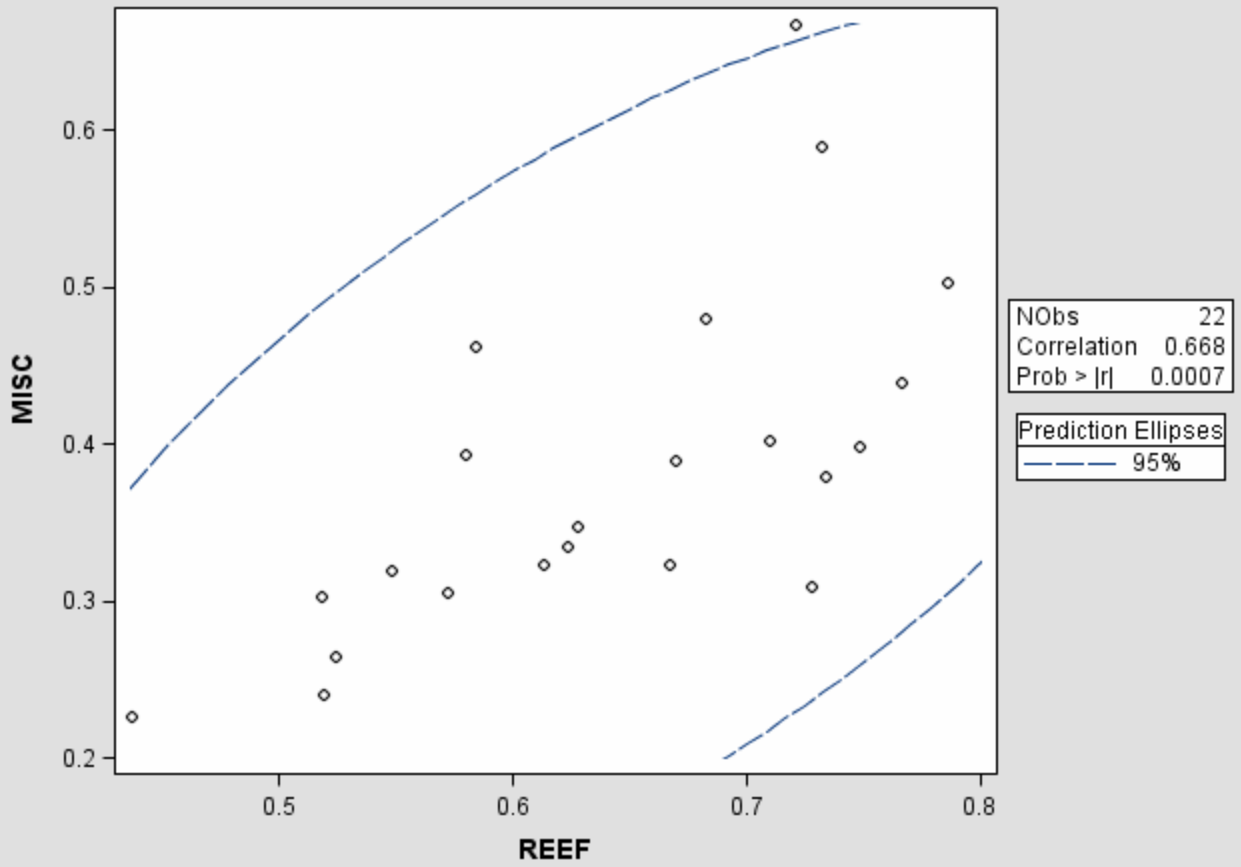
NObs 22
Correlation 0.5065
Prob > |r| 0.0161

Prediction Ellipses
— 95%

Scatter Plot



Scatter Plot



The SAS System

The CORR Procedure

6 Variables: a_scup bottom flatfish misc nearshore_pelagic reef

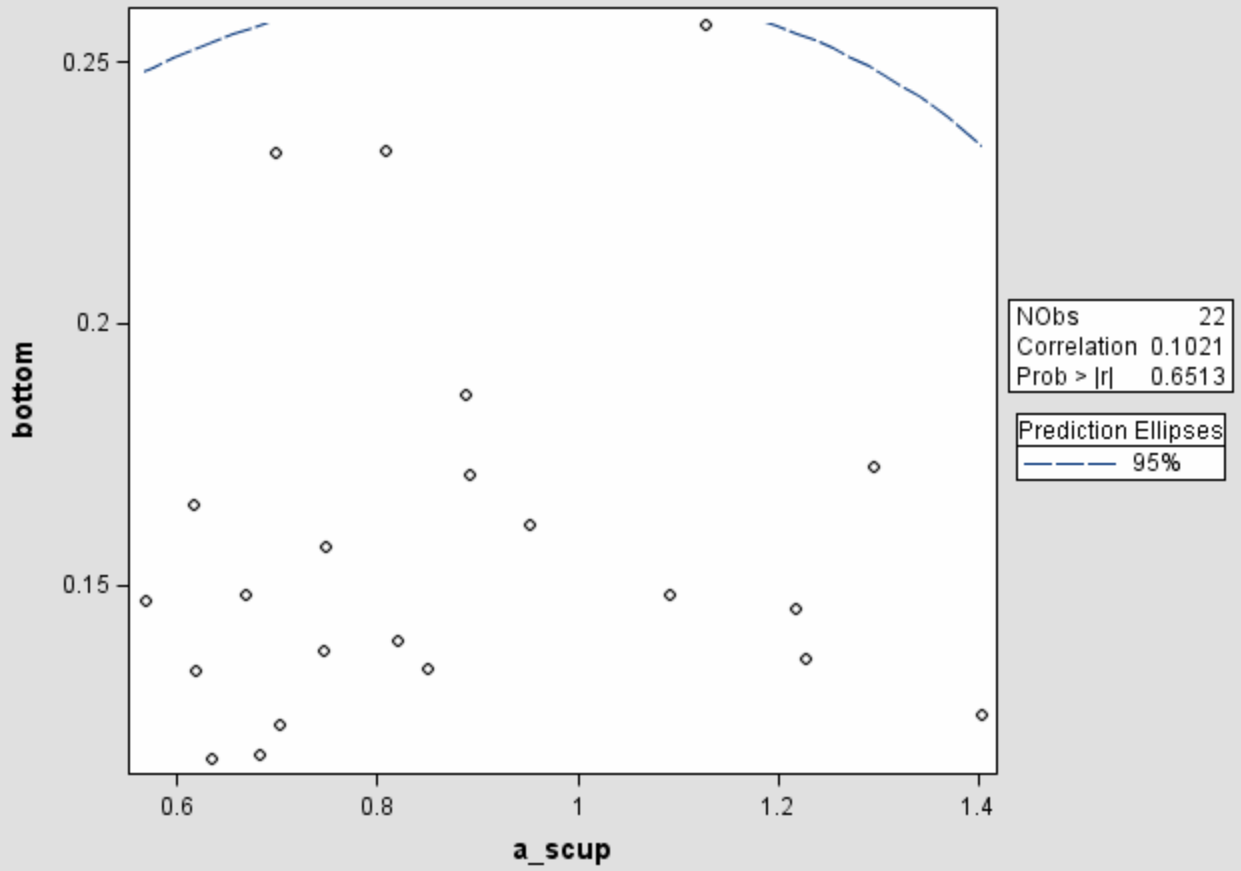
Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
a_scup	22	0.87436	0.24710	19.23588	0.56726	1.40236
bottom	22	0.15881	0.03828	3.49392	0.11696	0.25723
flatfish	22	0.30701	0.07949	6.75427	0.22560	0.57470
misc	22	0.44721	0.06151	9.83857	0.31286	0.53092
nearshore_pelagic	22	0.89669	0.20201	19.72716	0.71708	1.38163
reef	22	0.97647	0.25164	21.48236	0.60119	1.37524

Pearson Correlation Coefficients, N = 22 Prob > r under H0: Rho=0						
	a_scup	bottom	flatfish	misc	nearshore_pelagic	reef
a_scup	1.0000 0	0.1020 6 0.6513	- 0.1880 8 0.4019	0.2720 4 0.2207	-0.14352 0.5240	0.1510 7 0.5022
bottom	0.1020 6 0.6513	1.0000 0	- 0.2666 8	0.3721 7 0.0881	0.84471 <.0001	0.5680 3 0.0058

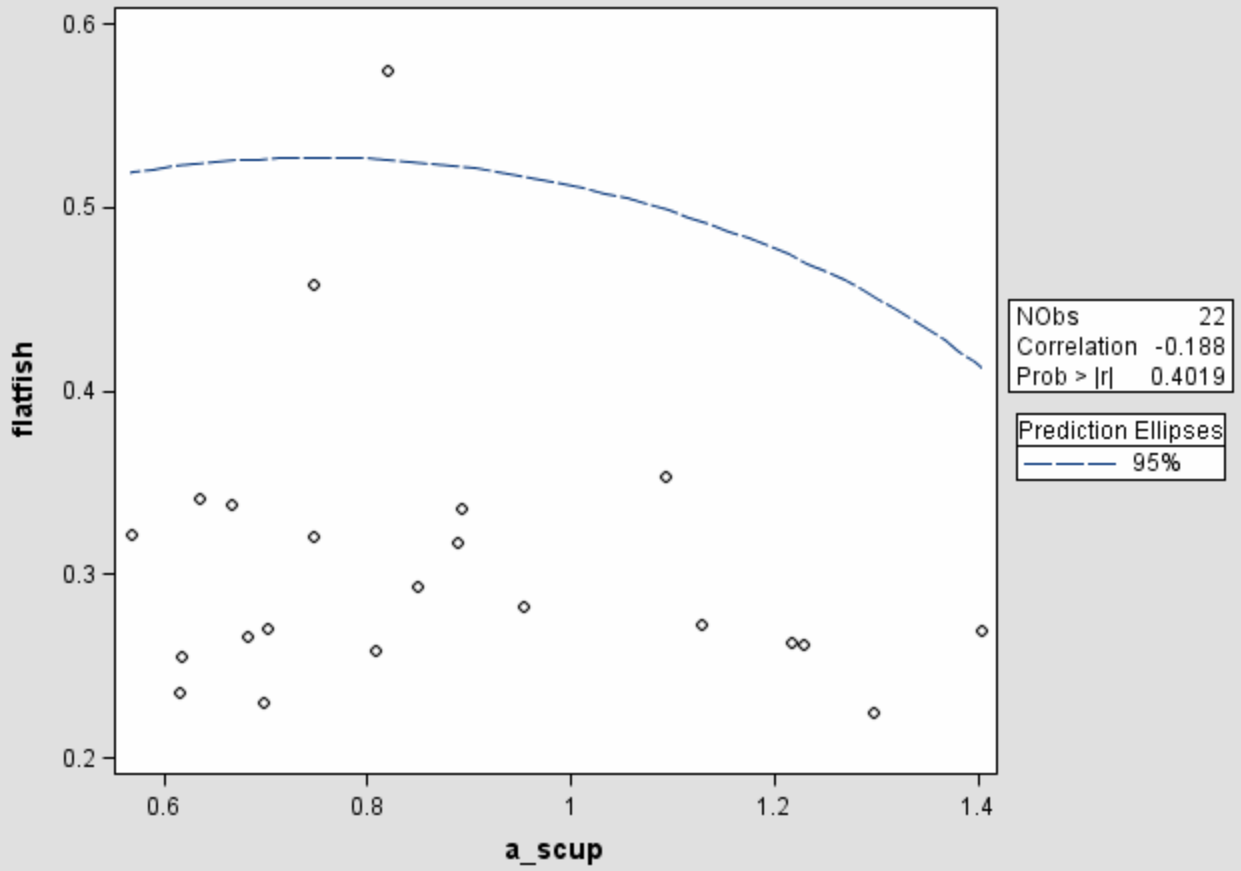
Pearson Correlation Coefficients, N = 22
Prob > |r| under H0: Rho=0

	a_scu p	botto m	flatfis h	misc	nearshore_pel agic	reef
			0.2303			
flatfish	- 0.1880 8 0.4019	- 0.2666 8 0.2303	1.0000 0	- 0.6946 8 0.0003	-0.20377 0.3630	- 0.3841 6 0.0775
misc	0.2720 4 0.2207	0.3721 7 0.0881	- 0.6946 8 0.0003	1.0000 0	0.37564 0.0849	0.6769 8 0.0005
nearshore_pel agic	- 0.1435 2 0.5240	0.8447 1 <.0001	- 0.2037 7 0.3630	0.3756 4 0.0849	1.00000	0.7070 8 0.0002
reef	0.1510 7 0.5022	0.5680 3 0.0058	- 0.3841 6 0.0775	0.6769 8 0.0005	0.70708 0.0002	1.0000 0

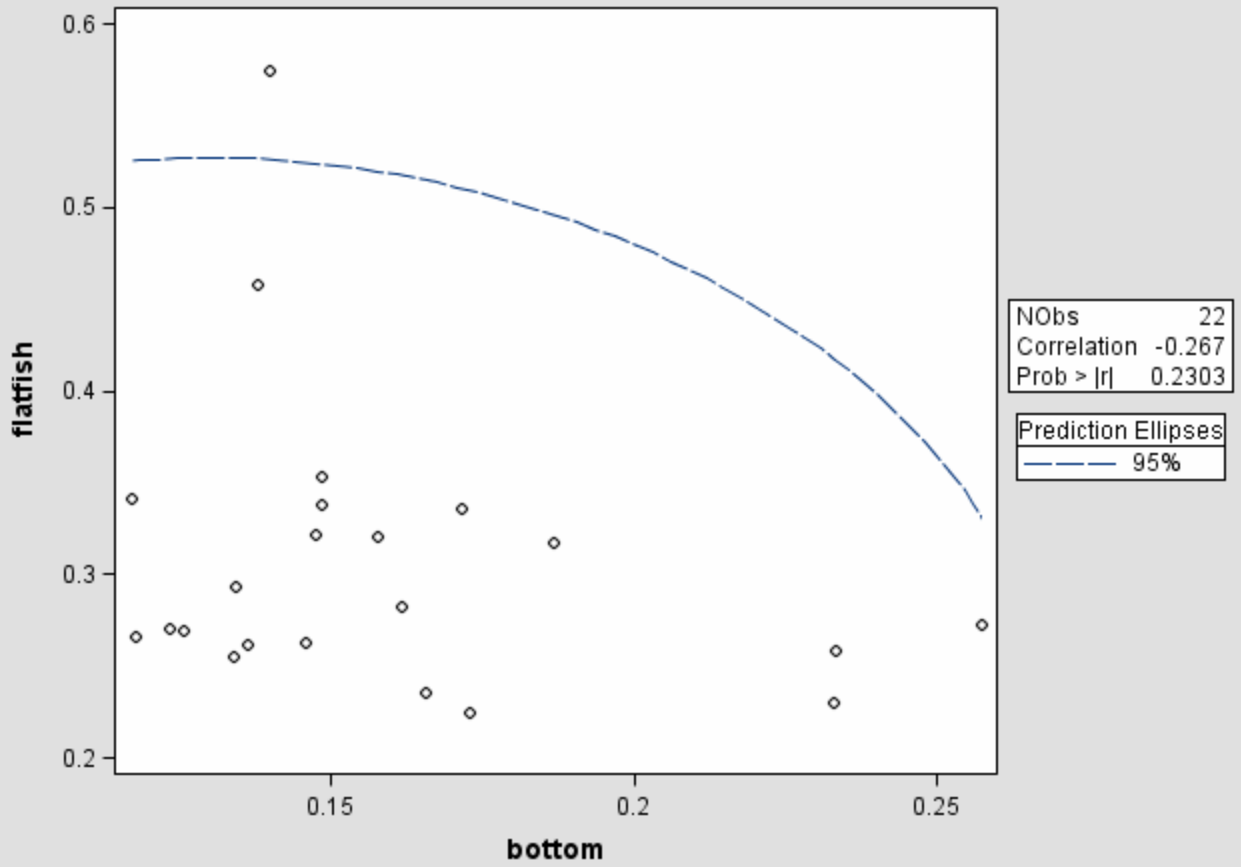
Scatter Plot



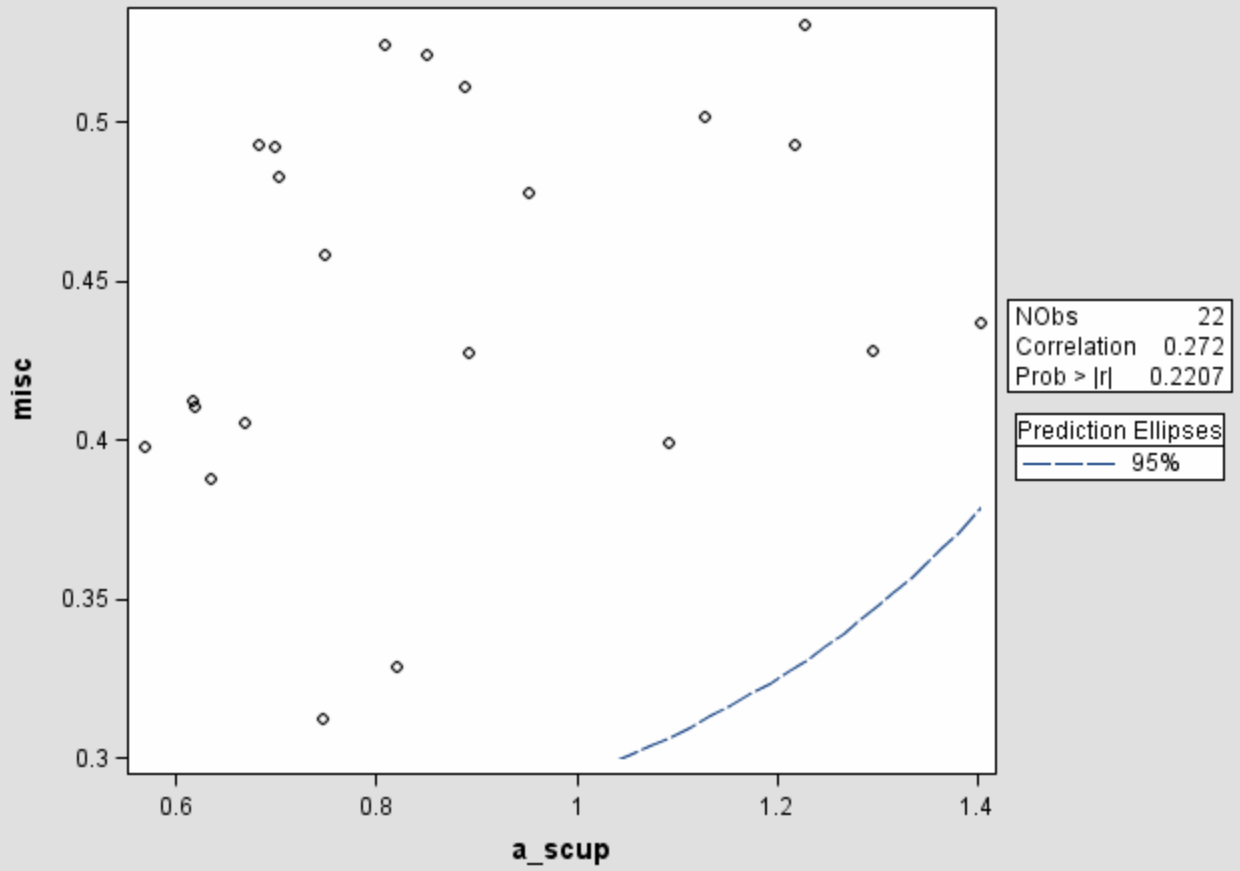
Scatter Plot



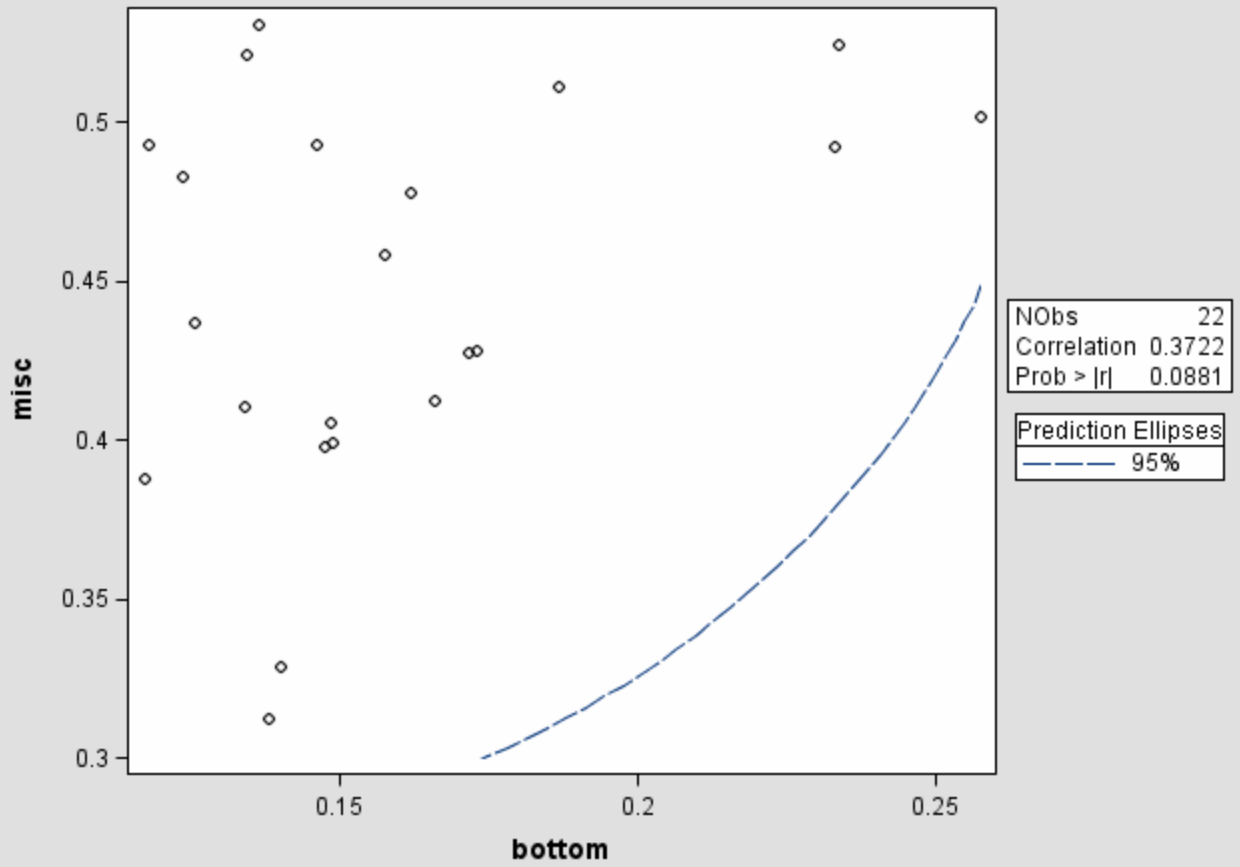
Scatter Plot



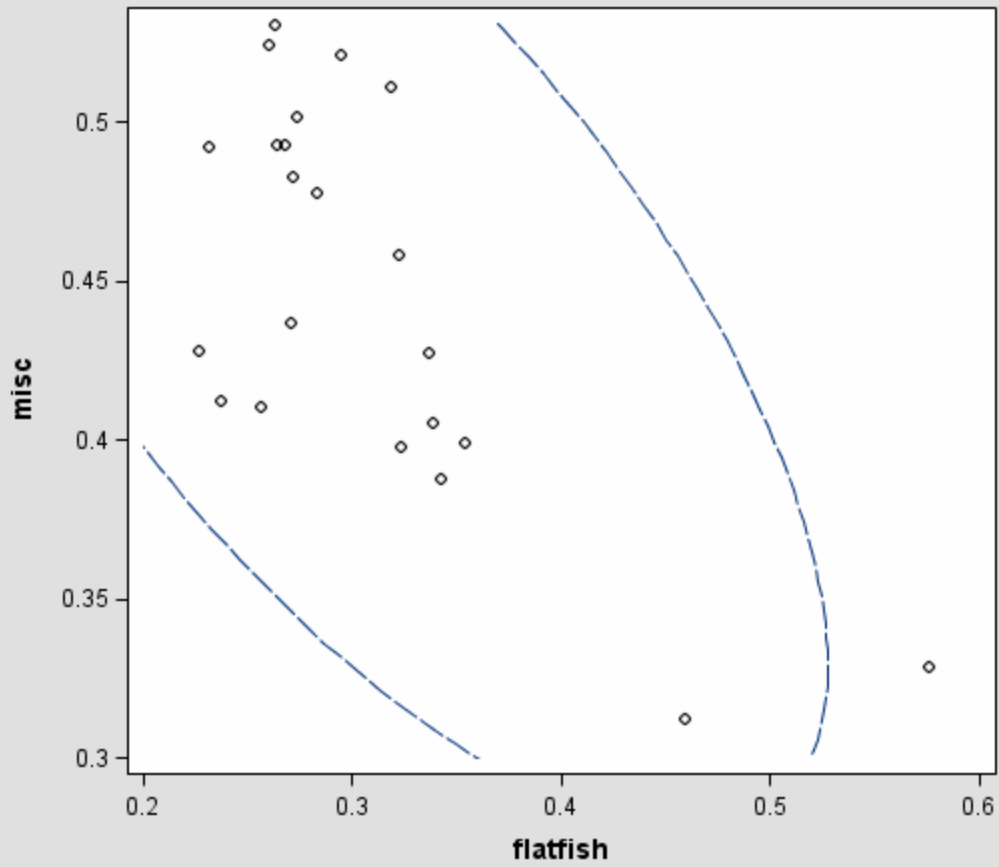
Scatter Plot



Scatter Plot

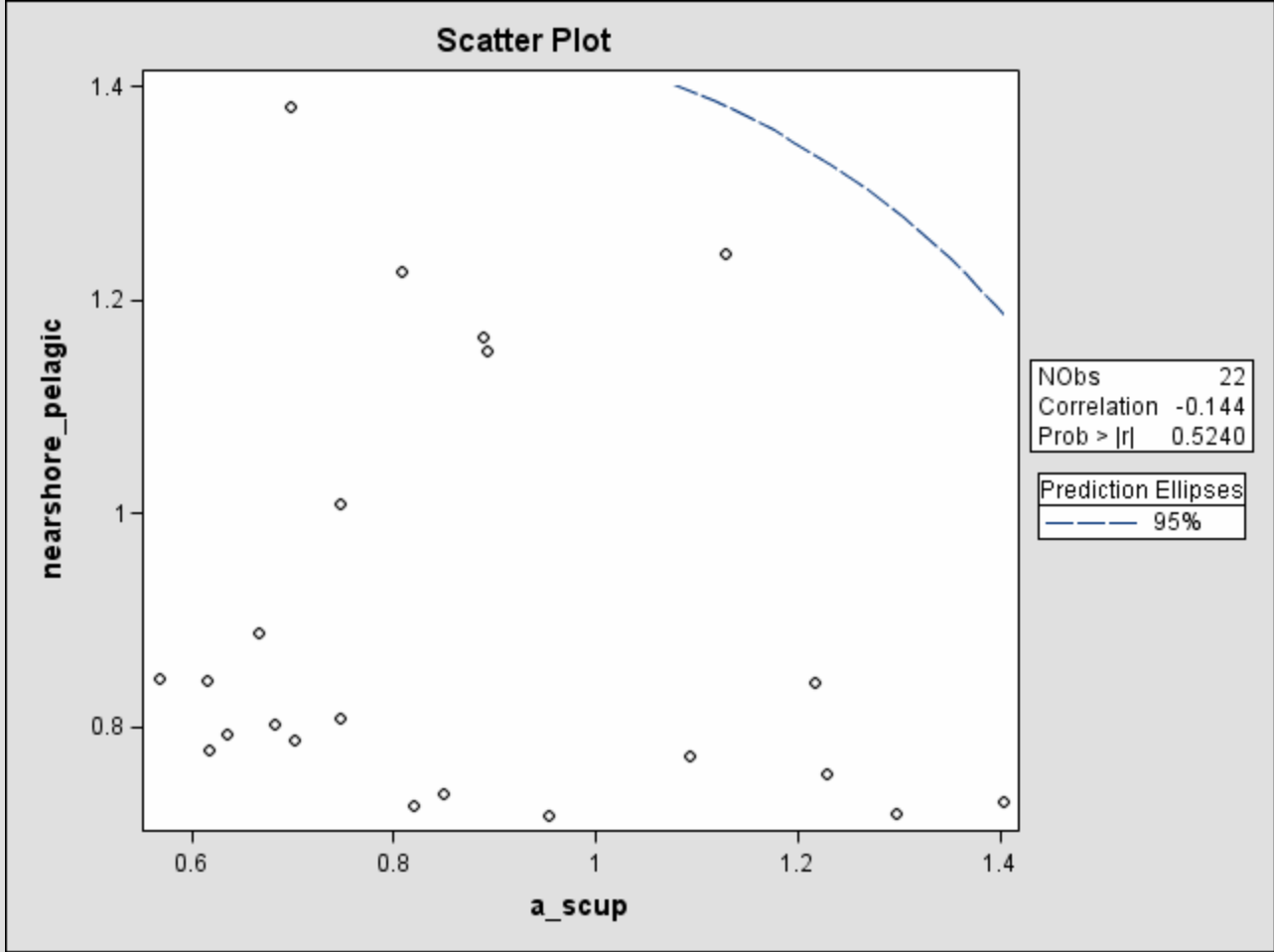


Scatter Plot

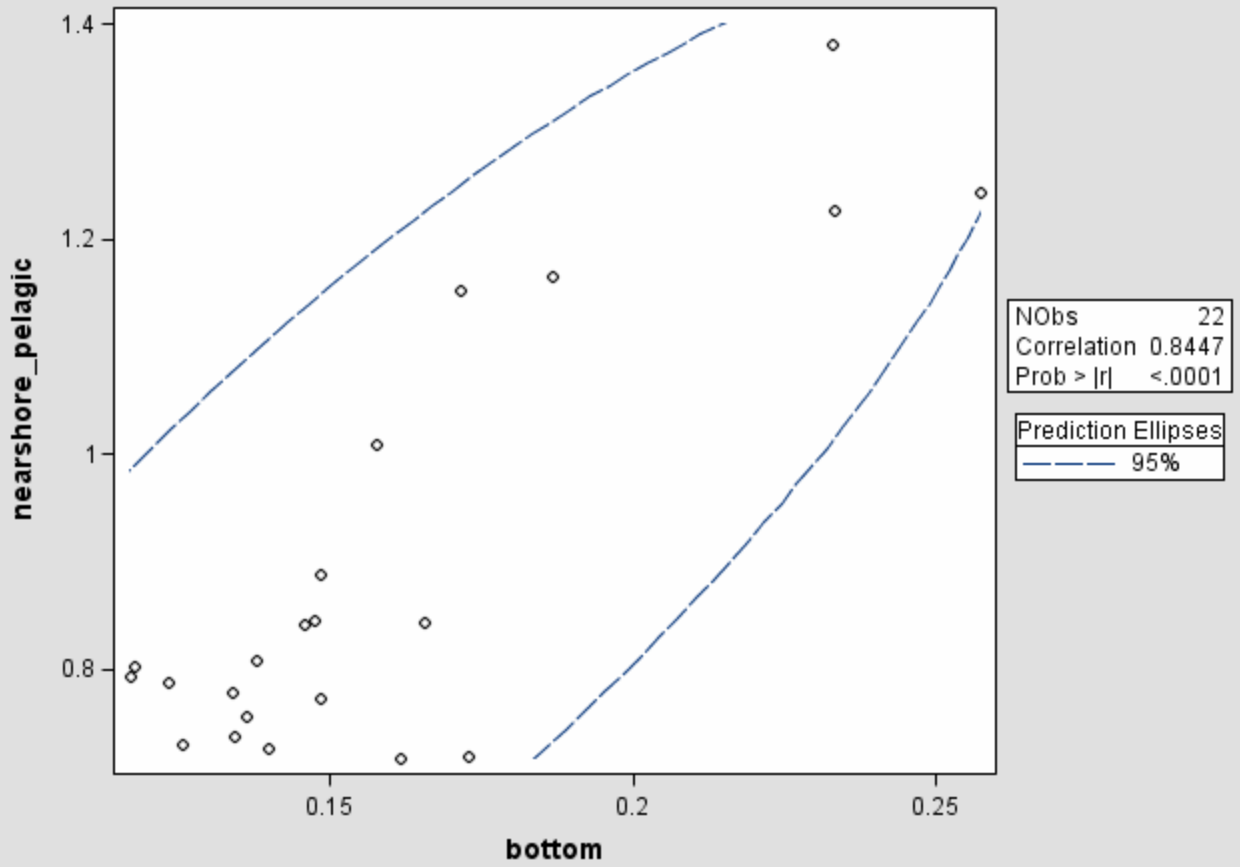


NObs 22
Correlation -0.695
Prob > |r| 0.0003

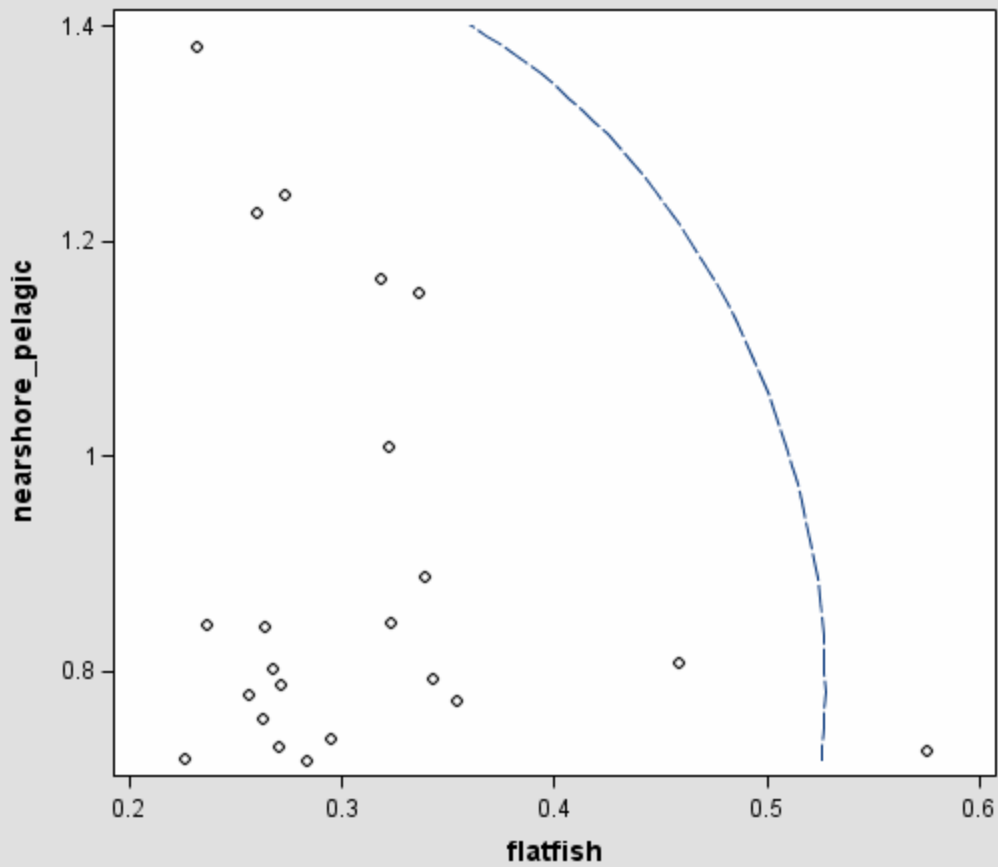
Prediction Ellipses
— 95%



Scatter Plot

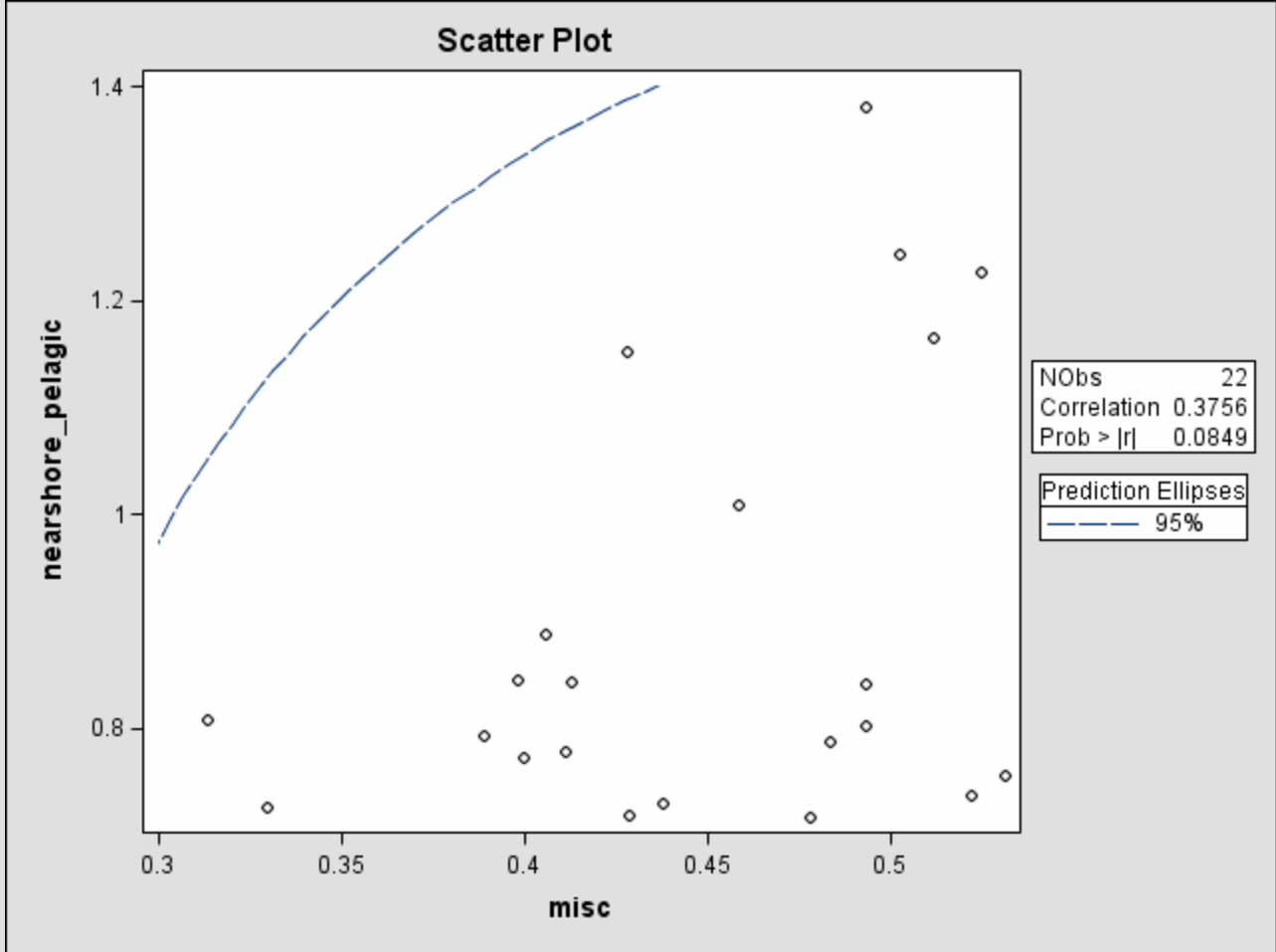


Scatter Plot



NObs	22
Correlation	-0.204
Prob > r	0.3630

Prediction Ellipses	
---	95%



The SAS System

The CORR Procedure

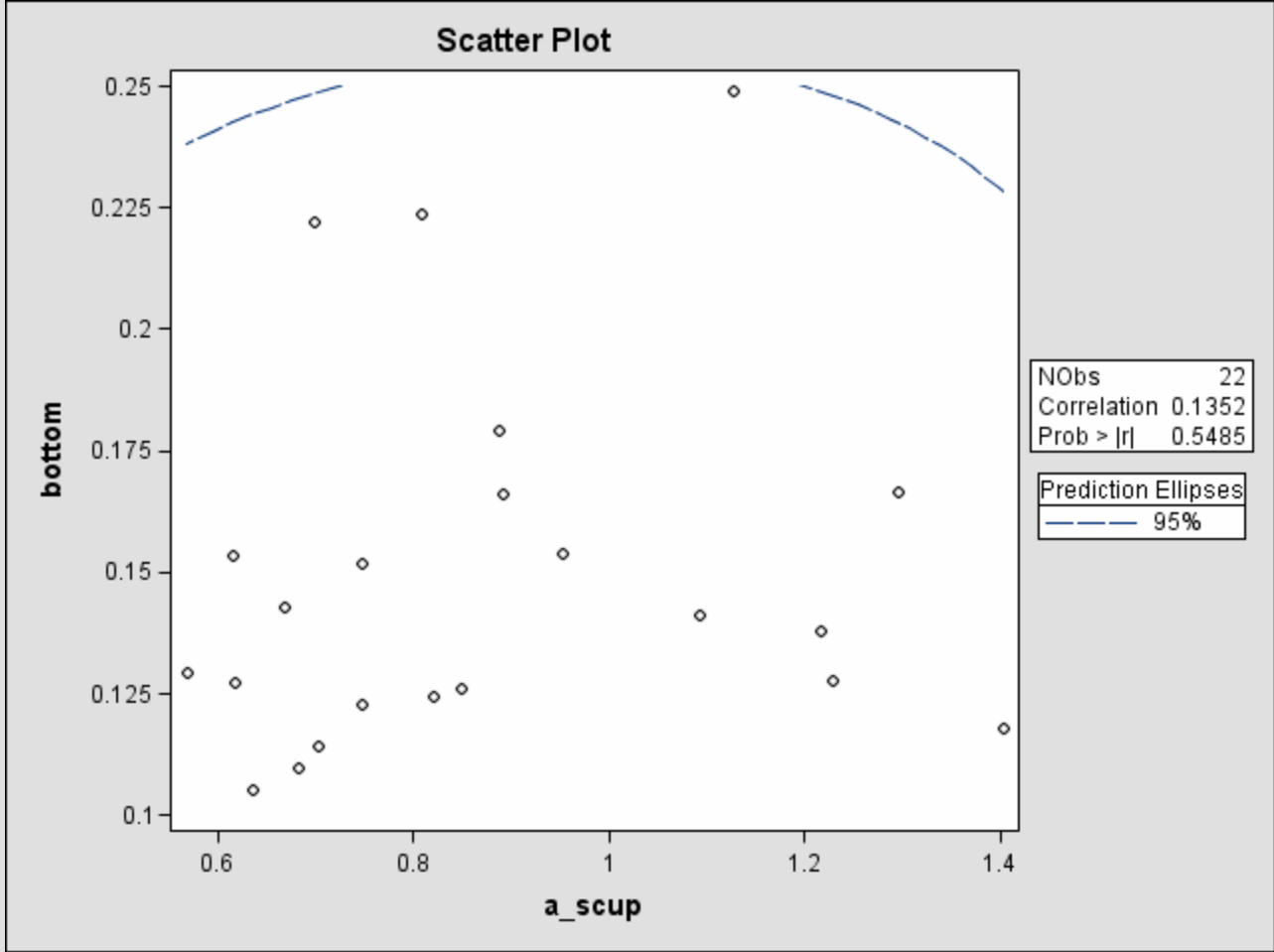
6 Variables: a_scup bottom flatfish misc nearshore_pelagic reef

Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
a_scup	22	0.87436	0.24710	19.23588	0.56726	1.40236
bottom	22	0.14975	0.03871	3.29457	0.10521	0.24927
flatfish	22	0.30701	0.07949	6.75427	0.22560	0.57470
misc	22	0.50890	0.06054	11.19579	0.38610	0.59980
nearshore_pelagic	22	1.54832	0.29963	34.06302	1.11072	2.02808
reef	22	0.97647	0.25164	21.48236	0.60119	1.37524

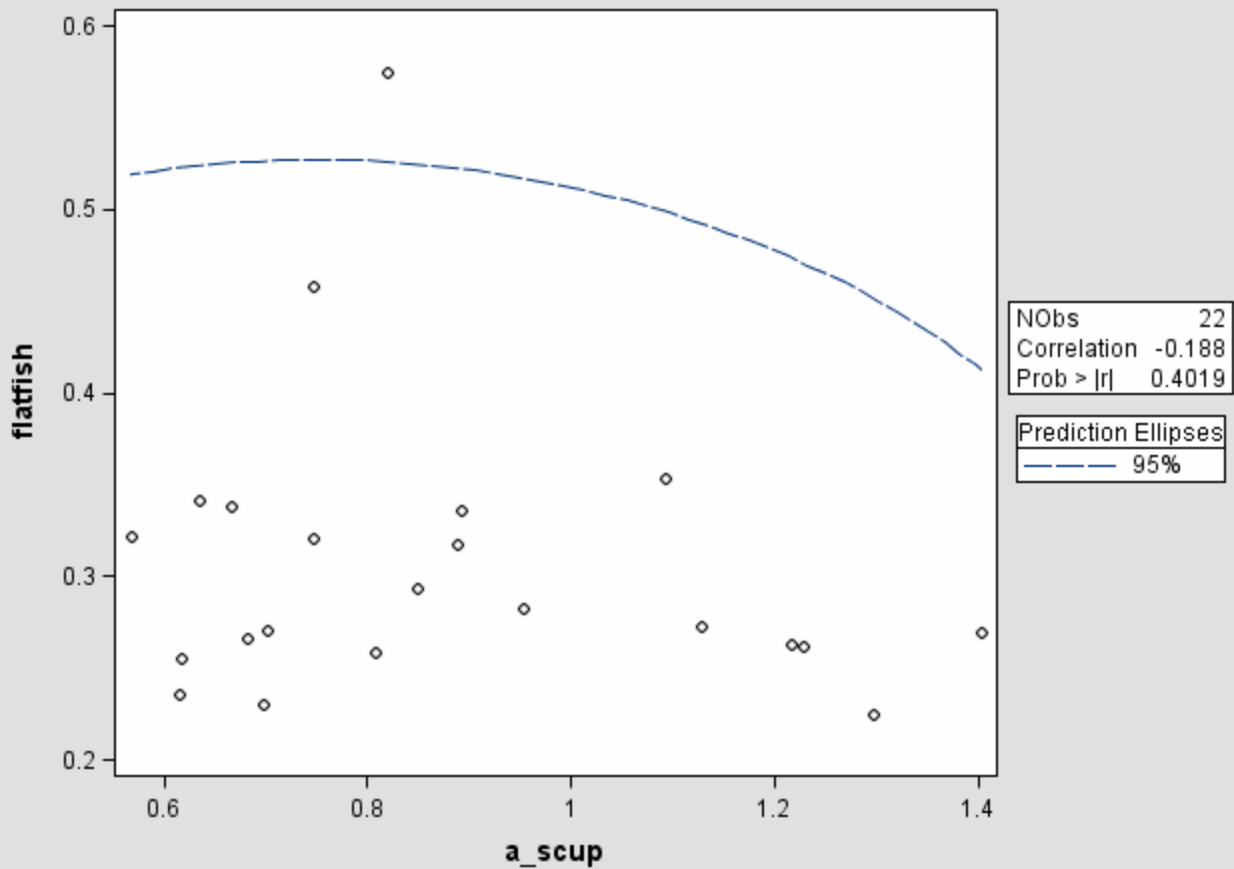
Pearson Correlation Coefficients, N = 22 Prob > r under H0: Rho=0						
	a_scup	bottom	flatfish	misc	nearshore_pelagic	reef
a_scup	1.0000 0	0.1352 1 0.5485	- 0.1880 8 0.4019	0.1006 7 0.6558	0.08055 0.7216	0.1510 7 0.5022
bottom	0.1352 1 0.5485	1.0000 0	- 0.3045 7	0.4922 6 0.0200	0.67882 0.0005	0.6159 4 0.0023

Pearson Correlation Coefficients, N = 22
Prob > |r| under H0: Rho=0

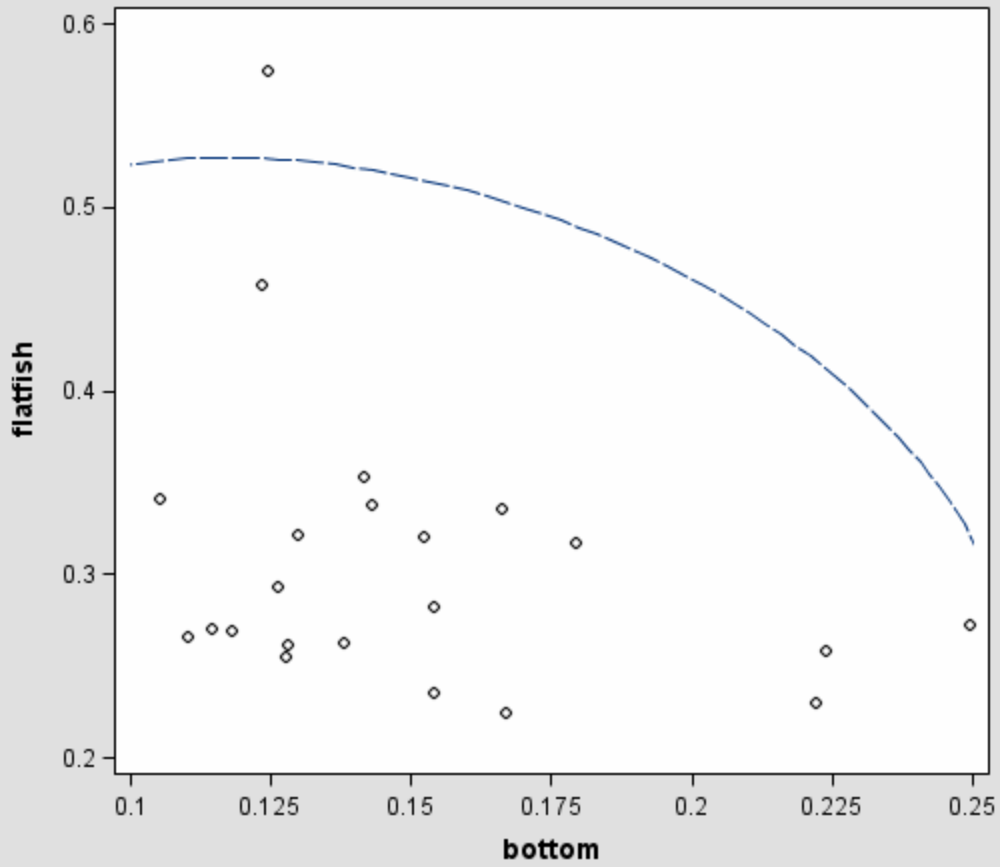
	a_scu p	botto m	flatfis h	misc	nearshore_pel agic	reef
			0.1681			
flatfish	- 0.1880 8 0.4019	- 0.3045 7 0.1681	1.0000 0	- 0.7001 3 0.0003	-0.35827 0.1016	- 0.3841 6 0.0775
misc	0.1006 7 0.6558	0.4922 6 0.0200	- 0.7001 3 0.0003	1.0000 0	0.61689 0.0022	0.6500 7 0.0011
nearshore_pel agic	0.0805 5 0.7216	0.6788 2 0.0005	- 0.3582 7 0.1016	0.6168 9 0.0022	1.00000	0.9590 0 <.0001
reef	0.1510 7 0.5022	0.6159 4 0.0023	- 0.3841 6 0.0775	0.6500 7 0.0011	0.95900 <.0001	1.0000 0



Scatter Plot

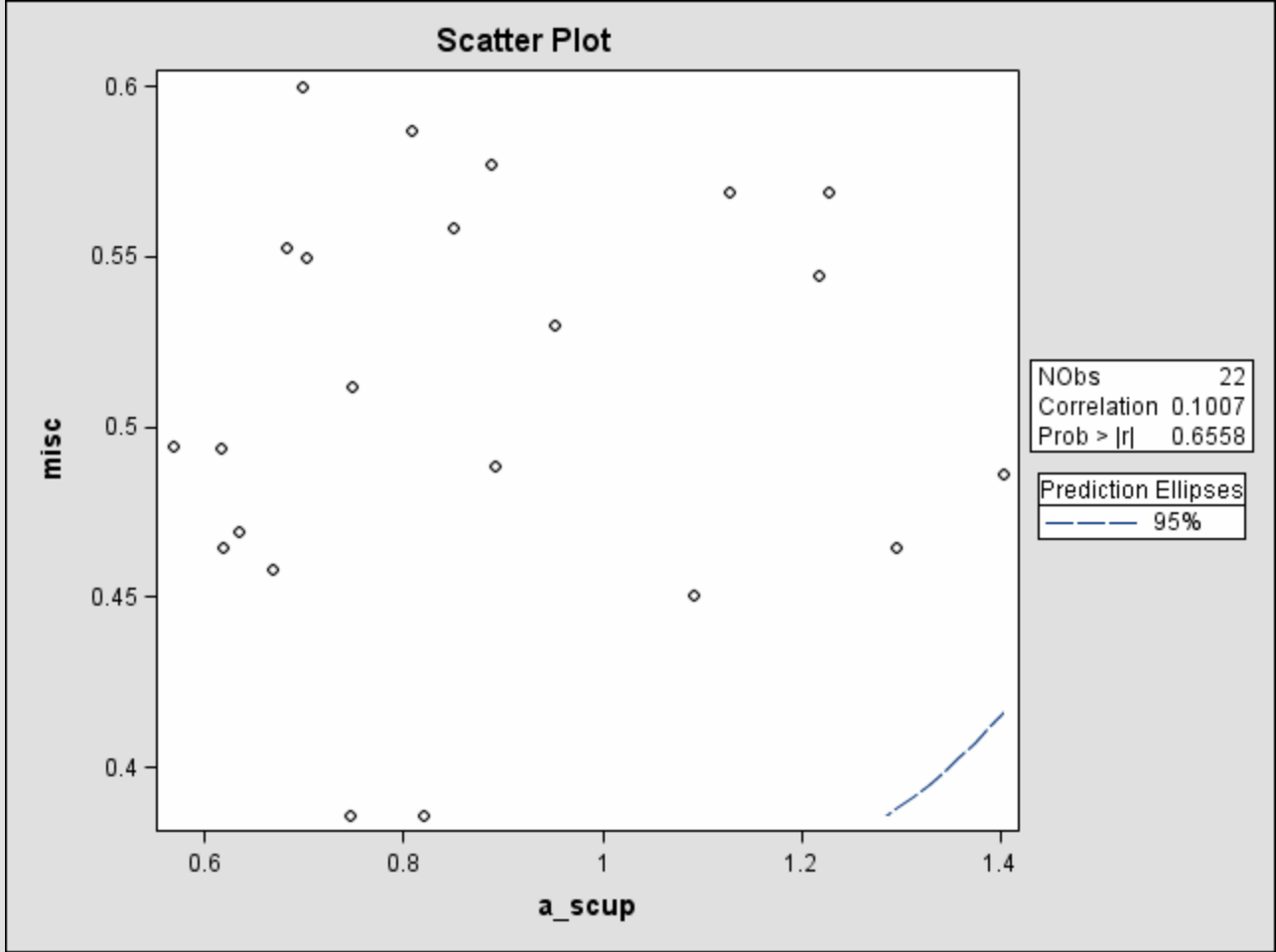


Scatter Plot

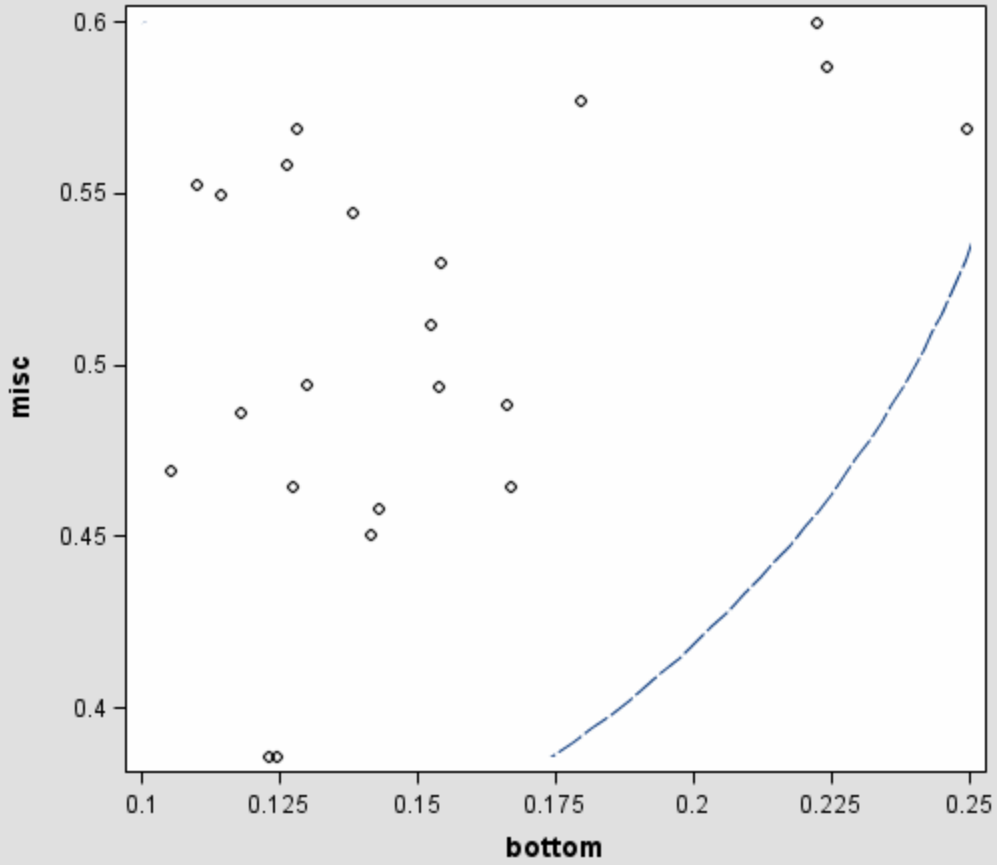


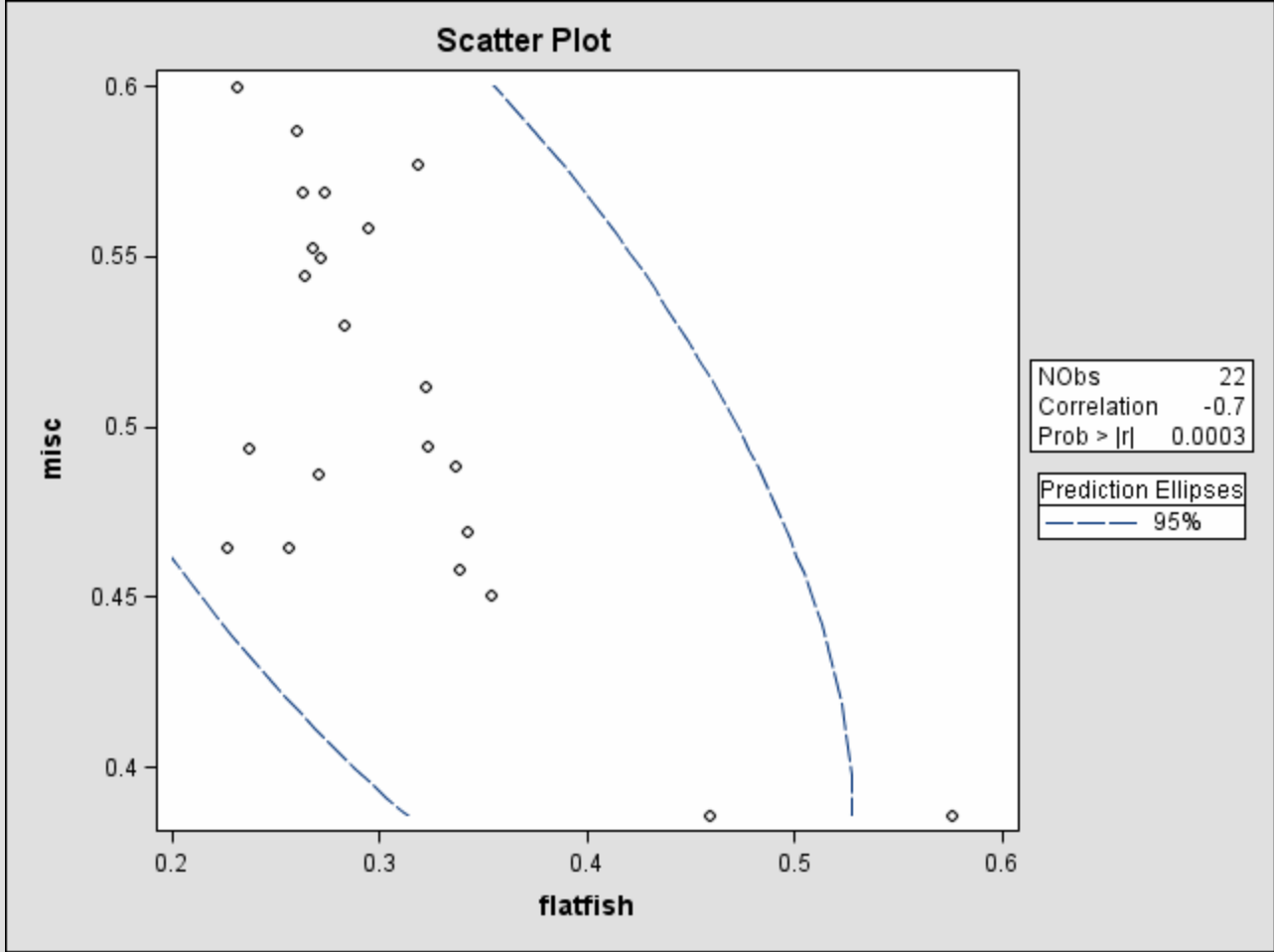
NObs 22
Correlation -0.305
Prob > |r| 0.1681

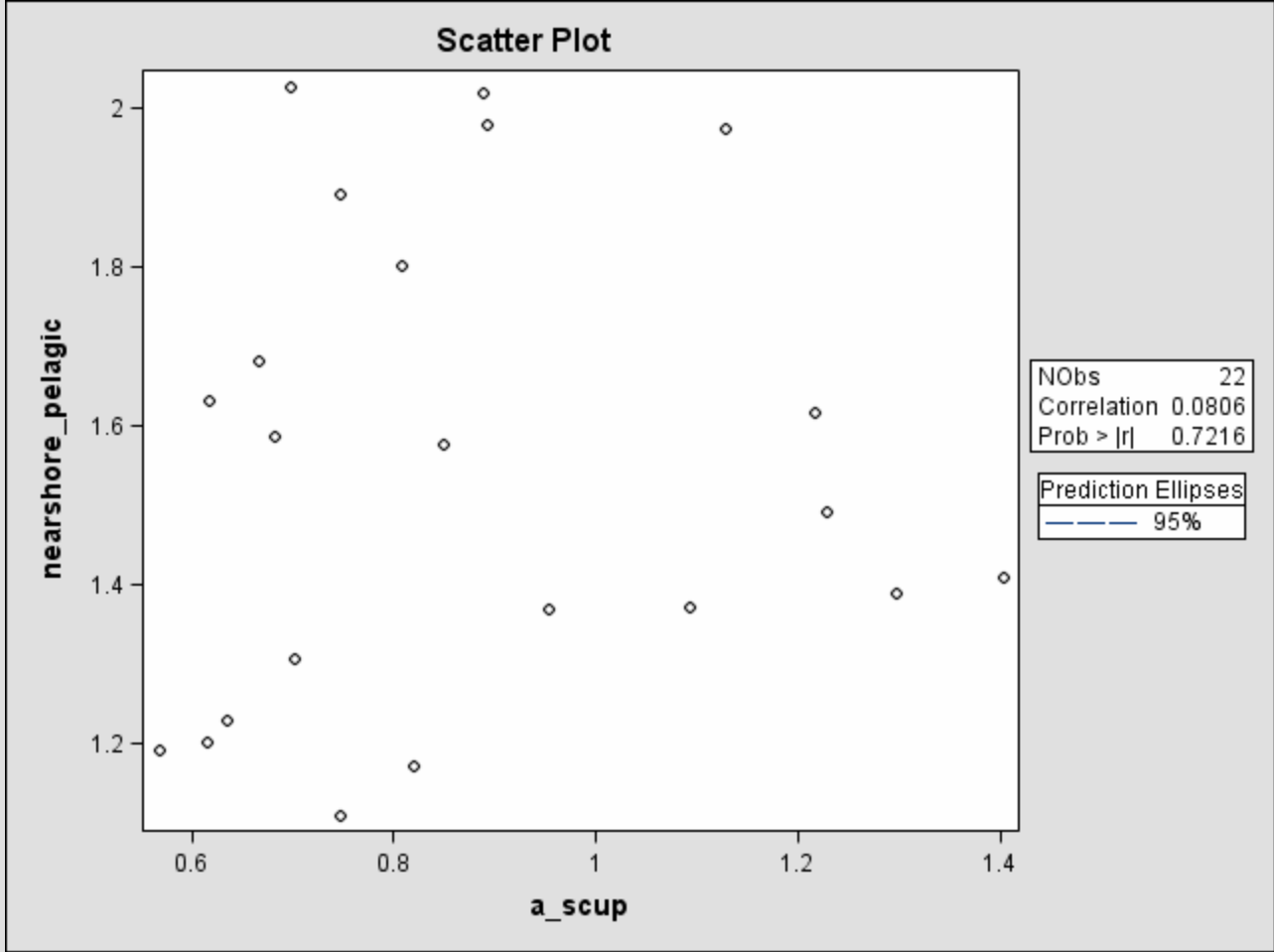
Prediction Ellipses
— 95%



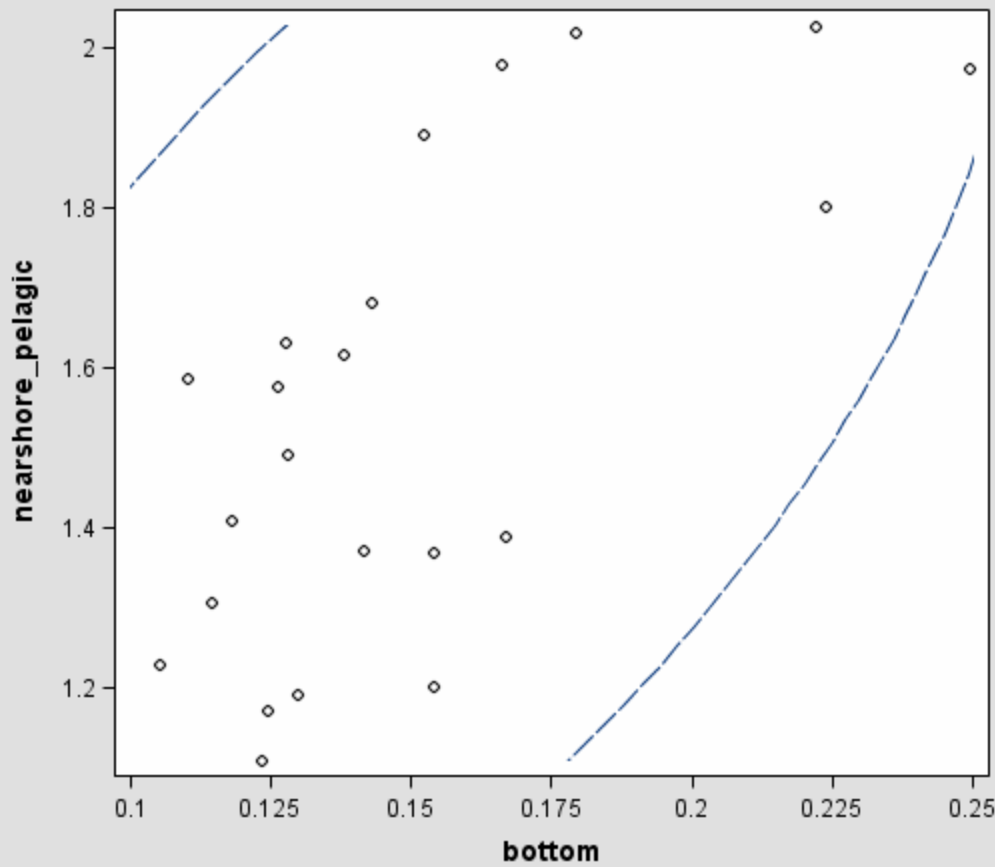
Scatter Plot





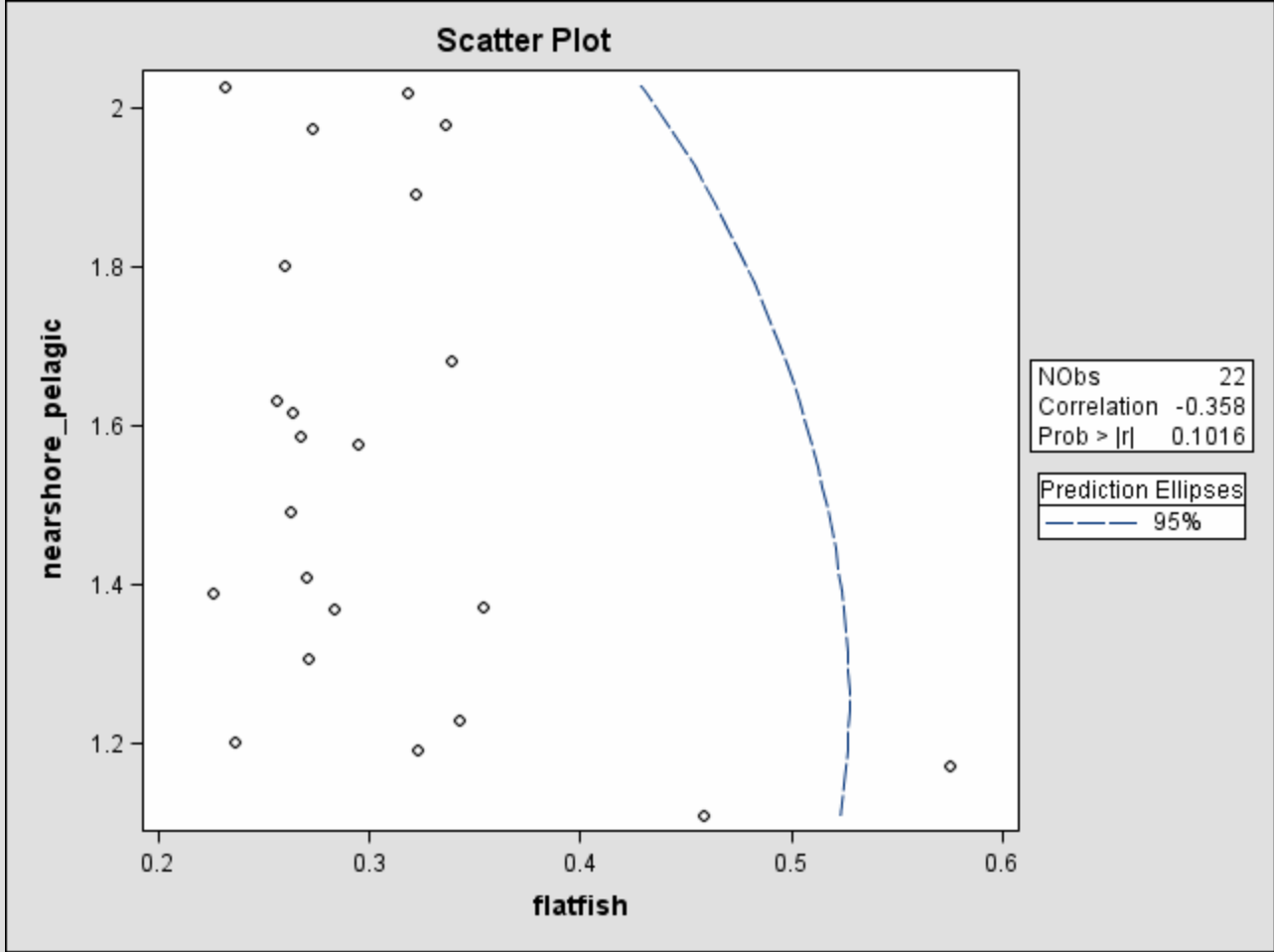


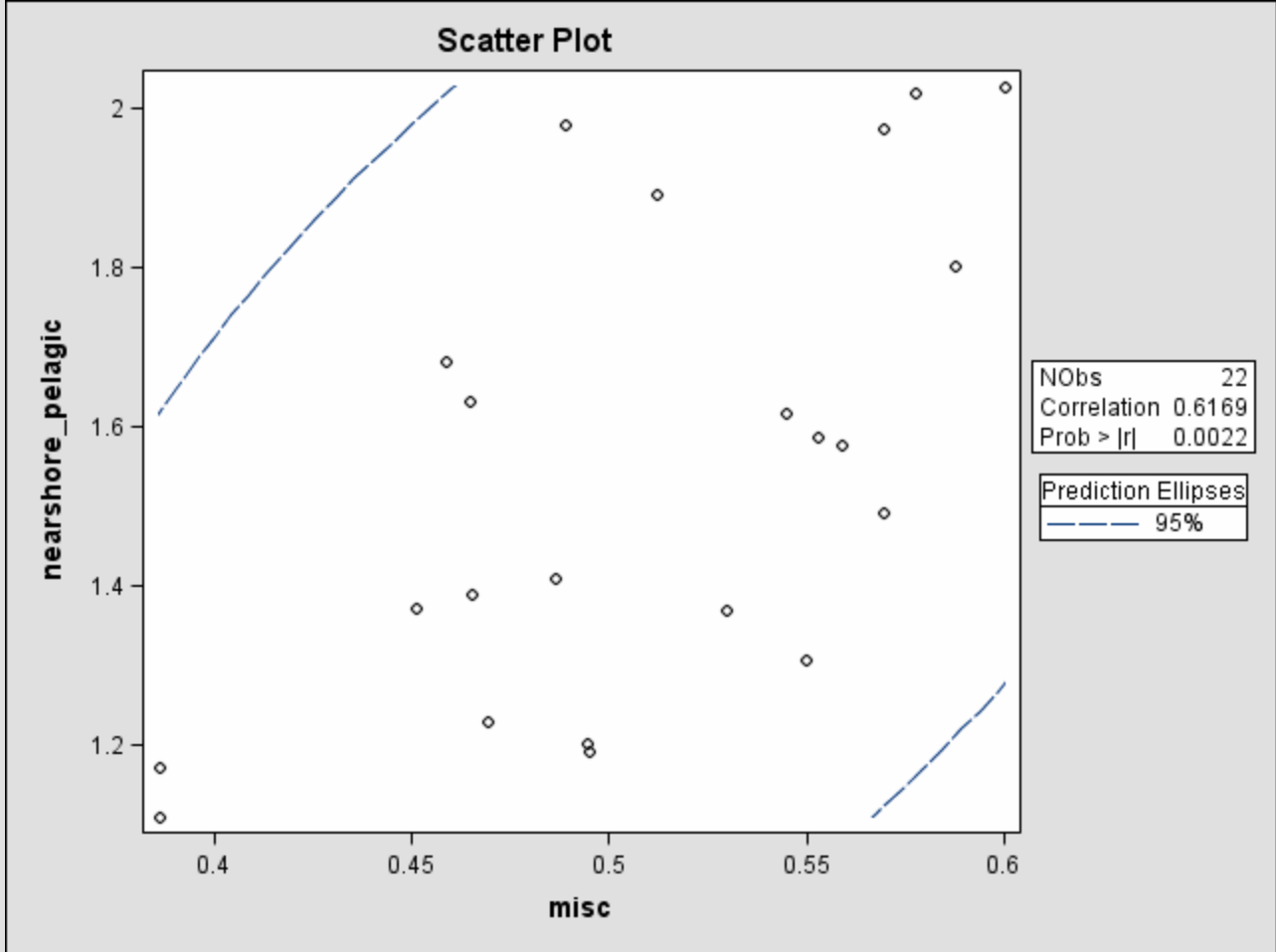
Scatter Plot



NObs 22
Correlation 0.6788
Prob > |r| 0.0005

Prediction Ellipses
— 95%





The SAS System

The CORR Procedure

6 Variables: a_scup bottom flatfish misc nearshore_pelagic reef

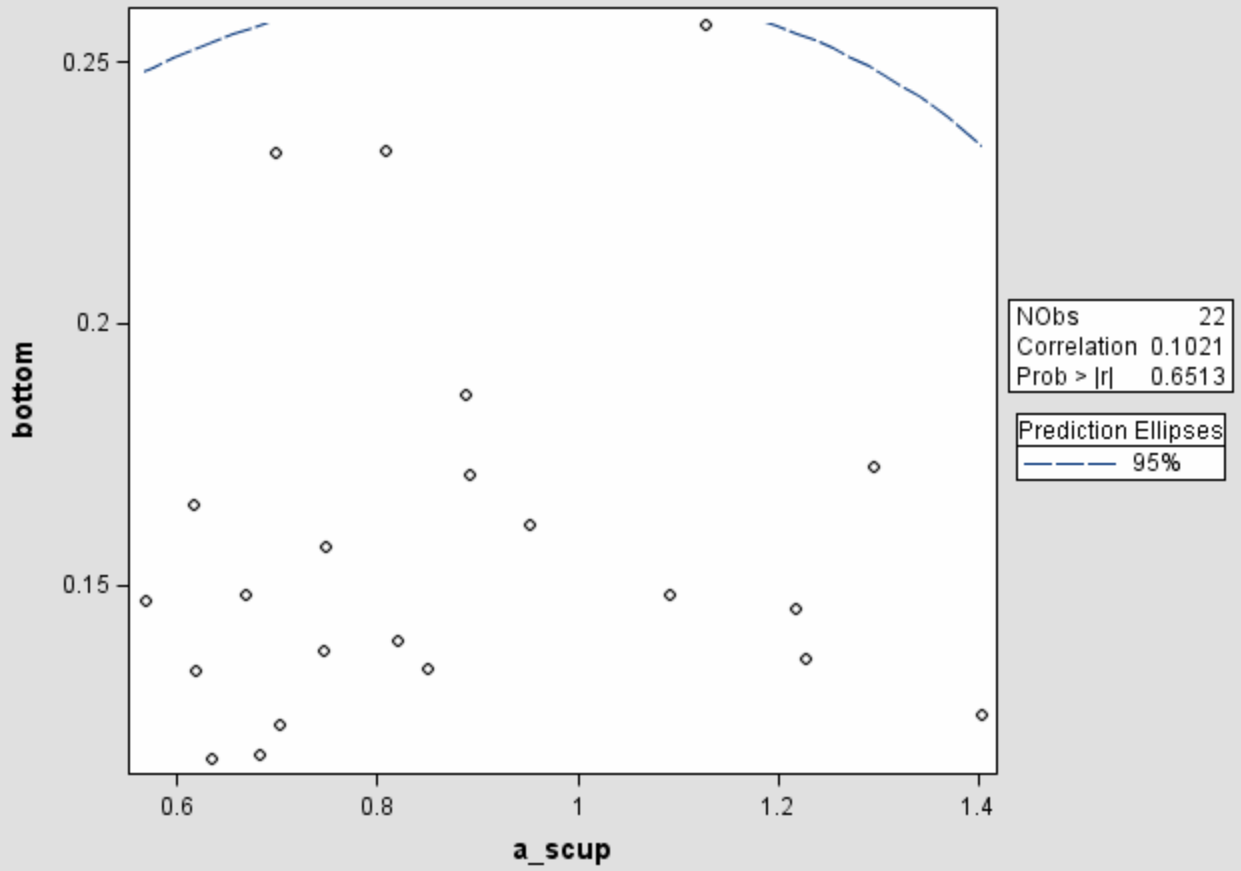
Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
a_scup	22	0.87436	0.24710	19.23588	0.56726	1.40236
bottom	22	0.15881	0.03828	3.49392	0.11696	0.25723
flatfish	22	0.30701	0.07949	6.75427	0.22560	0.57470
misc	22	0.57990	0.07319	12.75771	0.43155	0.71001
nearshore_pelagic	22	0.39690	0.11737	8.73178	0.17621	0.65906
reef	22	0.97647	0.25164	21.48236	0.60119	1.37524

Pearson Correlation Coefficients, N = 22 Prob > r under H0: Rho=0						
	a_scup	bottom	flatfish	misc	nearshore_pelagic	reef
a_scup	1.0000 0	0.1020 6	- 0.1880 8	0.1115 1	0.23339 0.2959	0.1510 7
bottom	0.1020 6	1.0000 0	- 0.2666 8	0.4547 7	0.57622 0.0050	0.5680 3
flatfish			0.4019	0.6213		0.5022
misc				0.0335		0.0058
nearshore_pelagic						
reef						

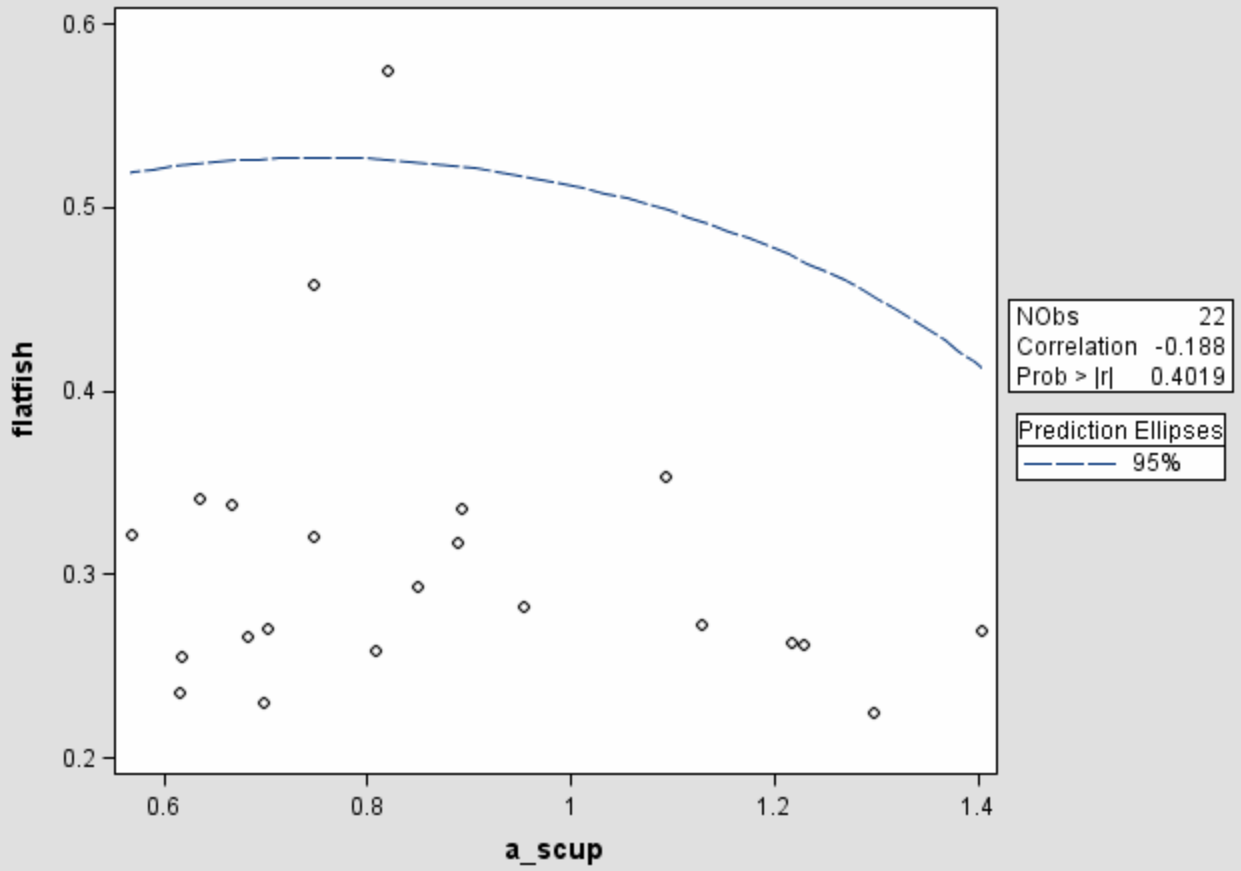
Pearson Correlation Coefficients, N = 22
Prob > |r| under H0: Rho=0

	a_scu p	botto m	flatfis h	misc	nearshore_pel agic	reef
			0.2303			
flatfish	- 0.1880 8 0.4019	- 0.2666 8 0.2303	1.0000 0	- 0.3617 0 0.0981	-0.68829 0.0004	- 0.3841 6 0.0775
misc	0.1115 1 0.6213	0.4547 7 0.0335	- 0.3617 0 0.0981	1.0000 0	0.57330 0.0053	0.9186 3 <.0001
nearshore_pel agic	0.2333 9 0.2959	0.5762 2 0.0050	- 0.6882 9 0.0004	0.5733 0 0.0053	1.00000	0.6850 7 0.0004
reef	0.1510 7 0.5022	0.5680 3 0.0058	- 0.3841 6 0.0775	0.9186 3 <.0001	0.68507 0.0004	1.0000 0

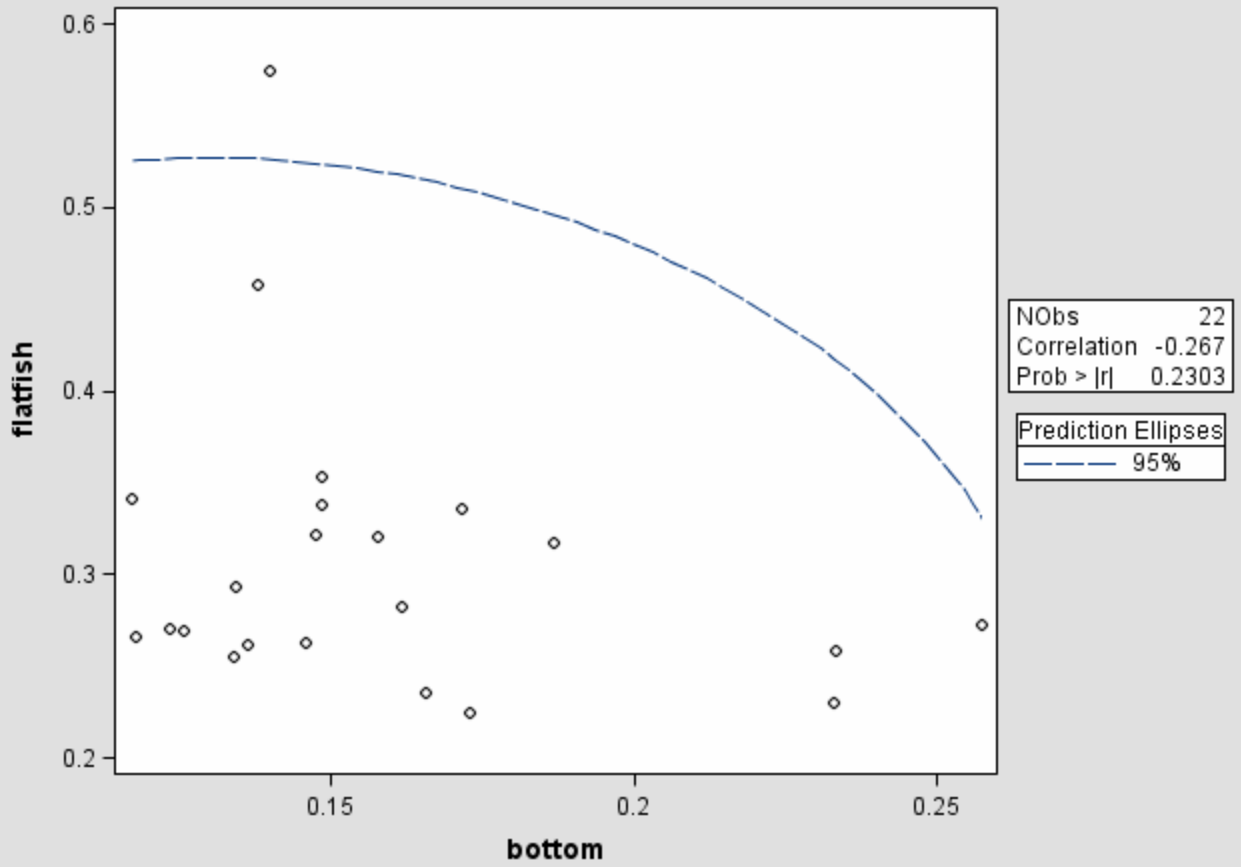
Scatter Plot

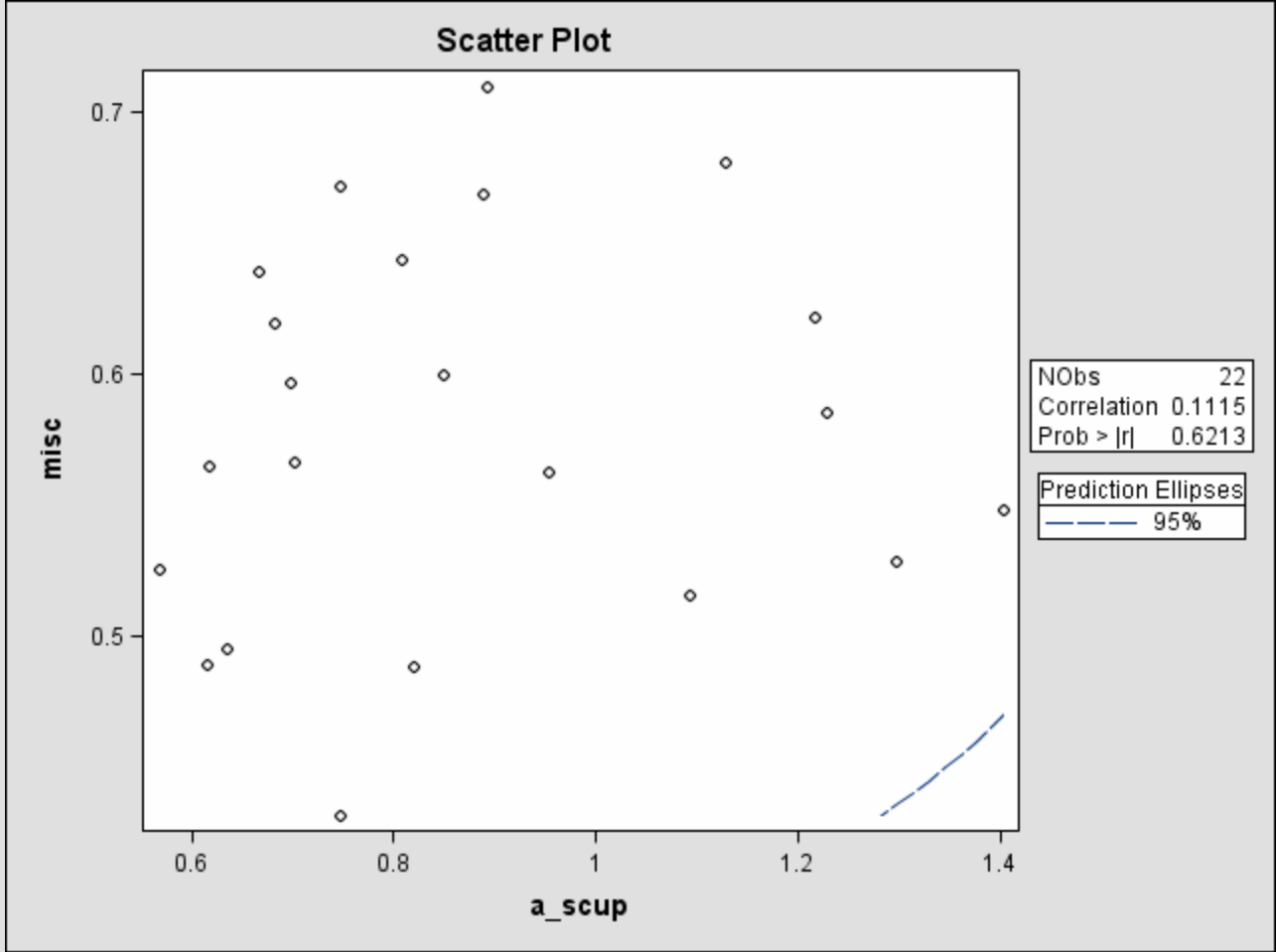


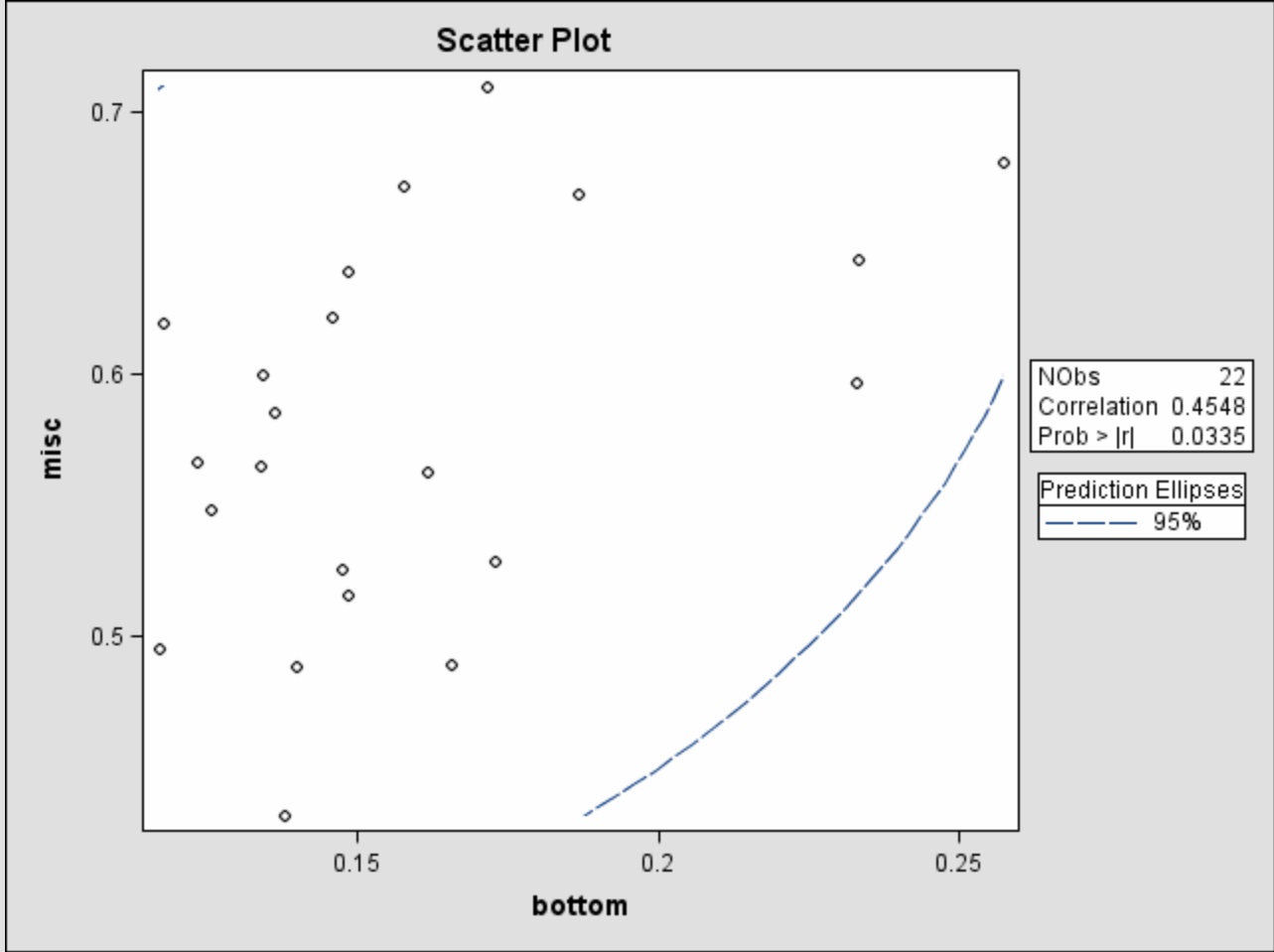
Scatter Plot

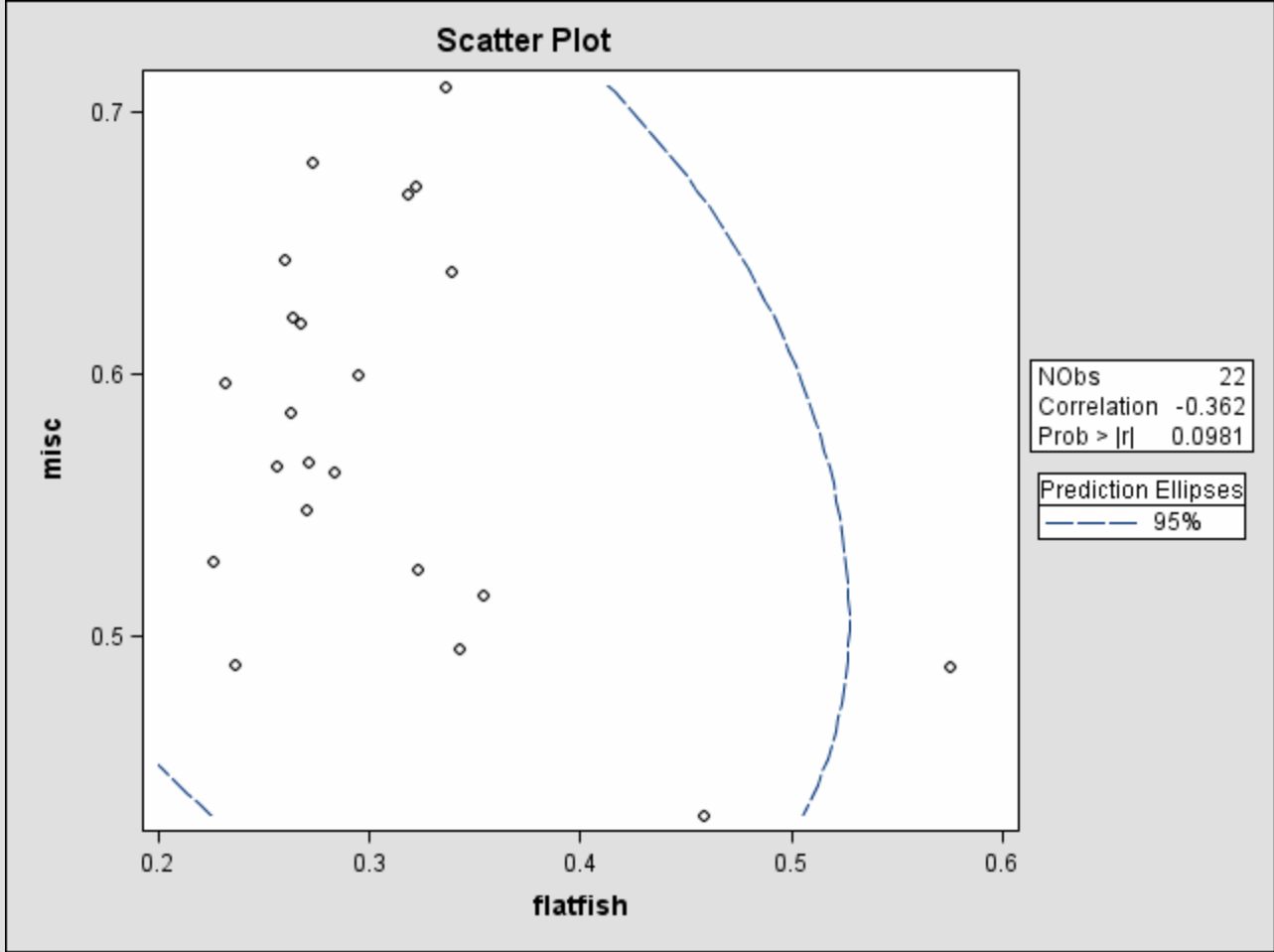


Scatter Plot

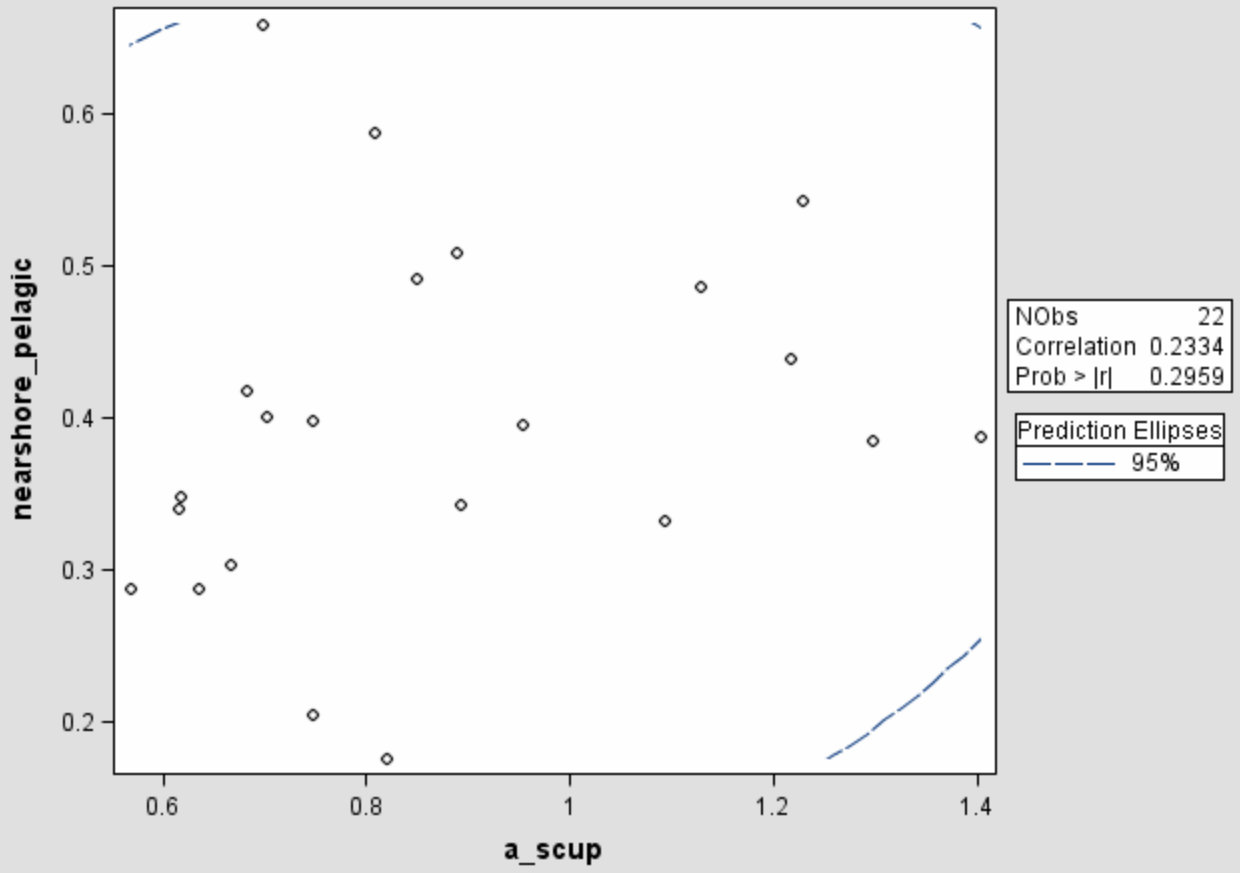




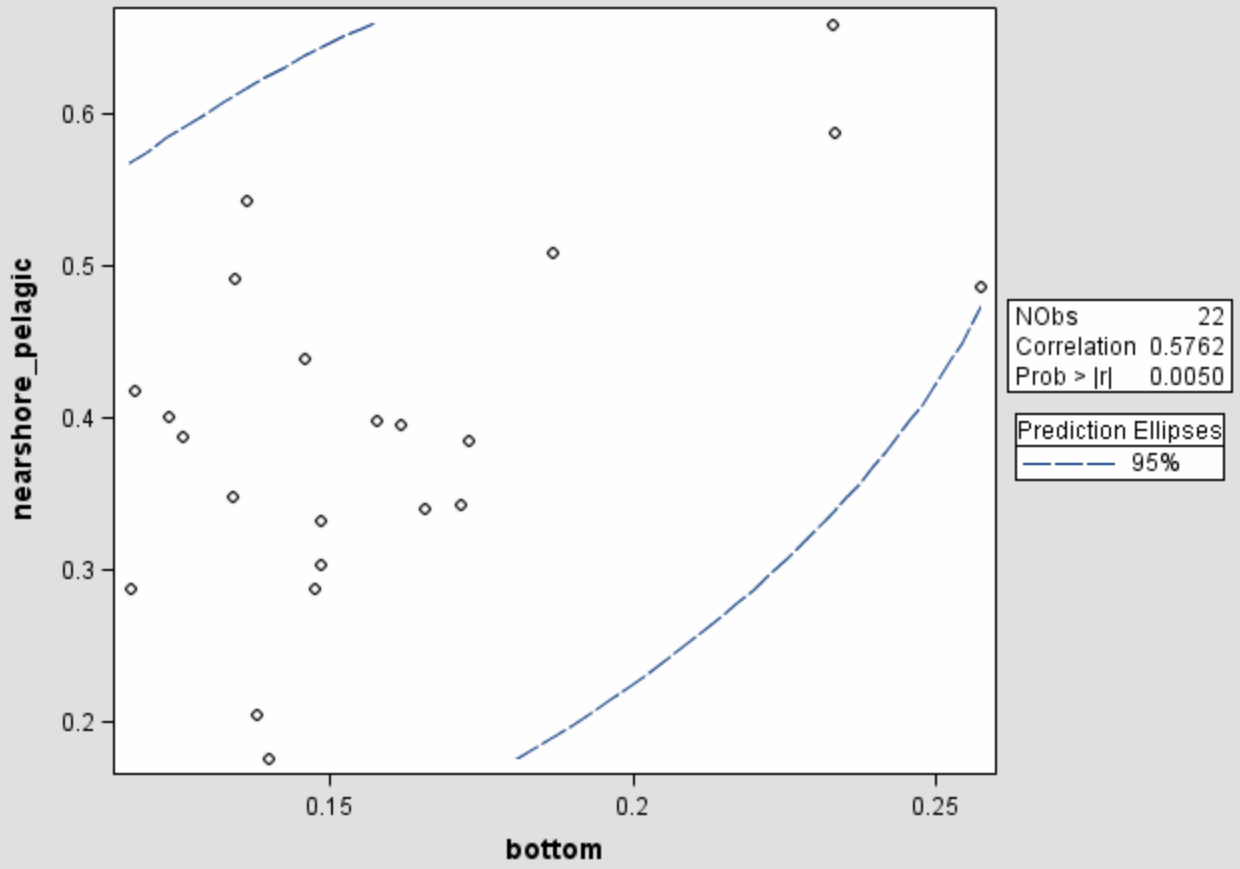




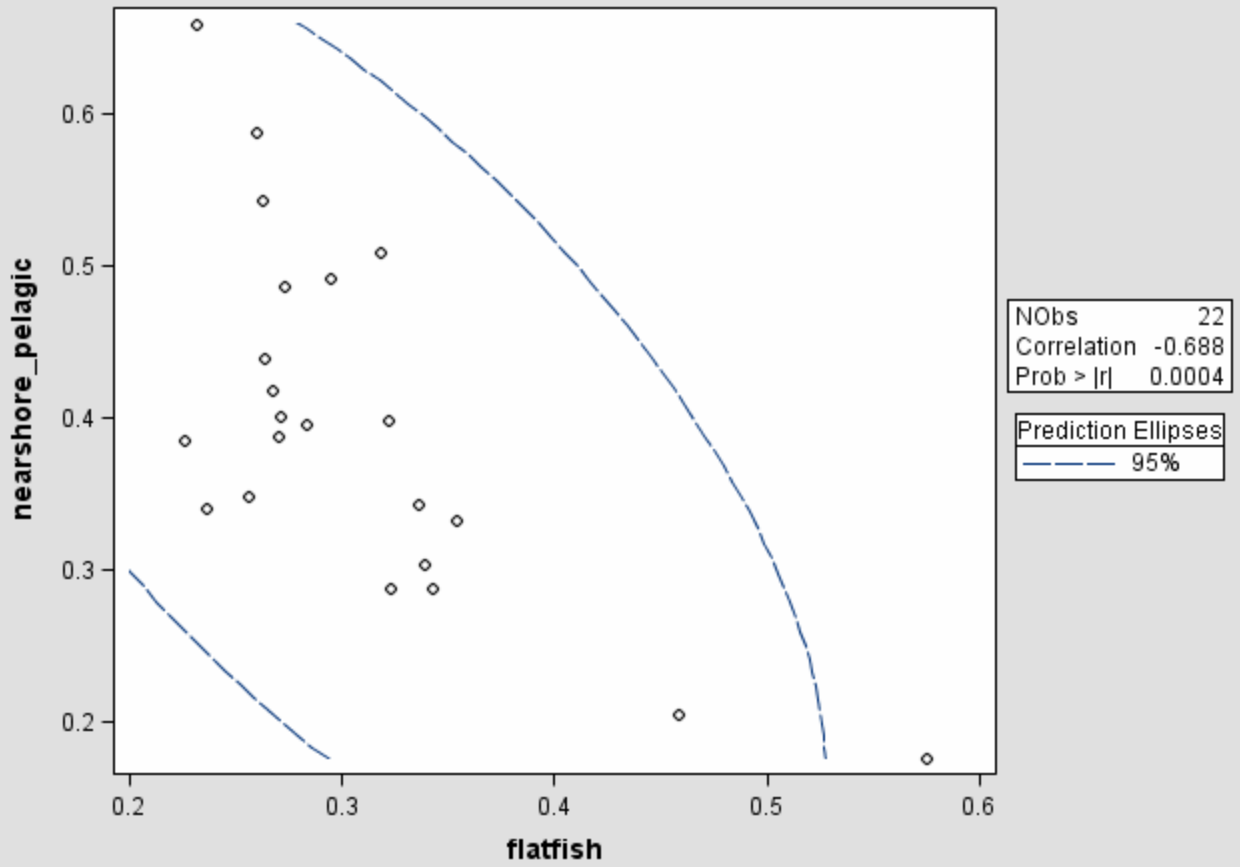
Scatter Plot



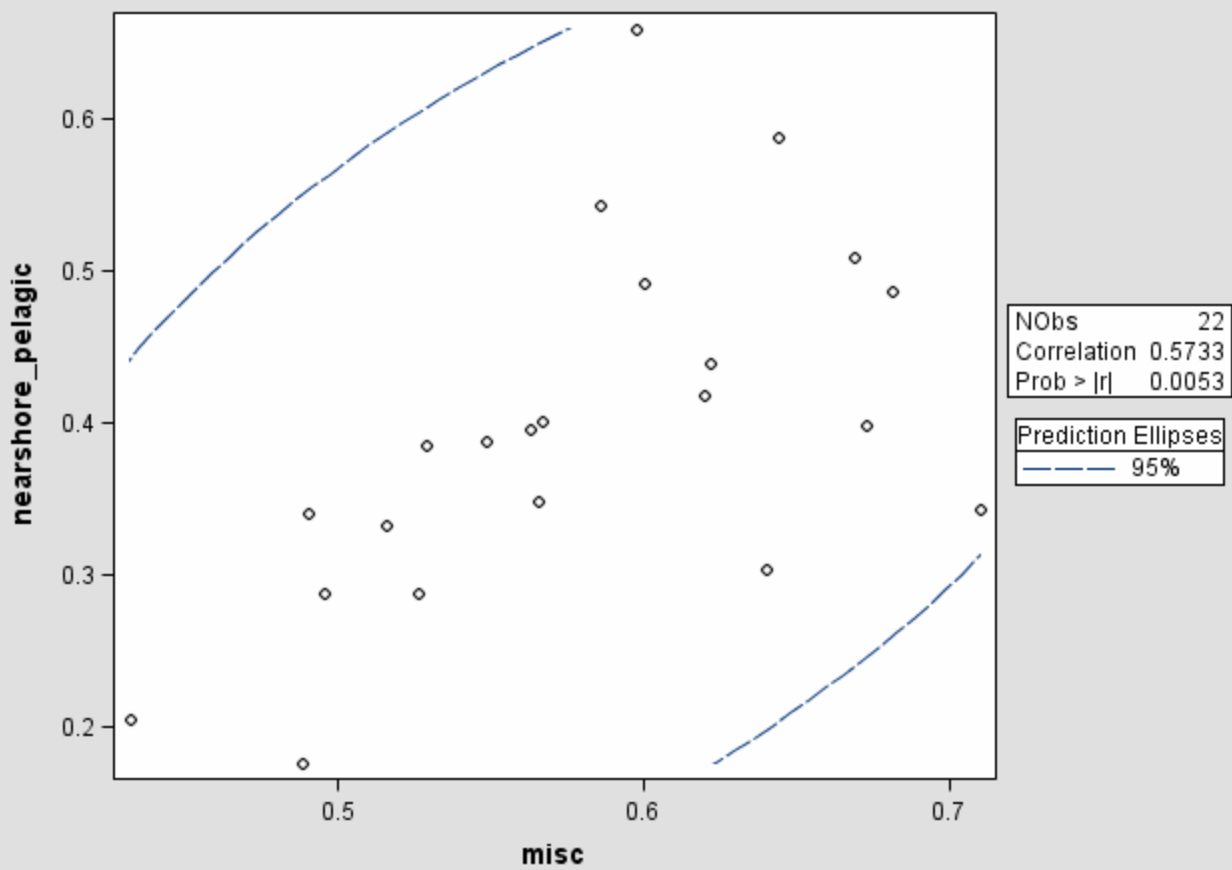
Scatter Plot



Scatter Plot



Scatter Plot



The SAS System

The CORR Procedure

6 Variables: a_scup bottom flatfish misc nearshore_pelagic reef

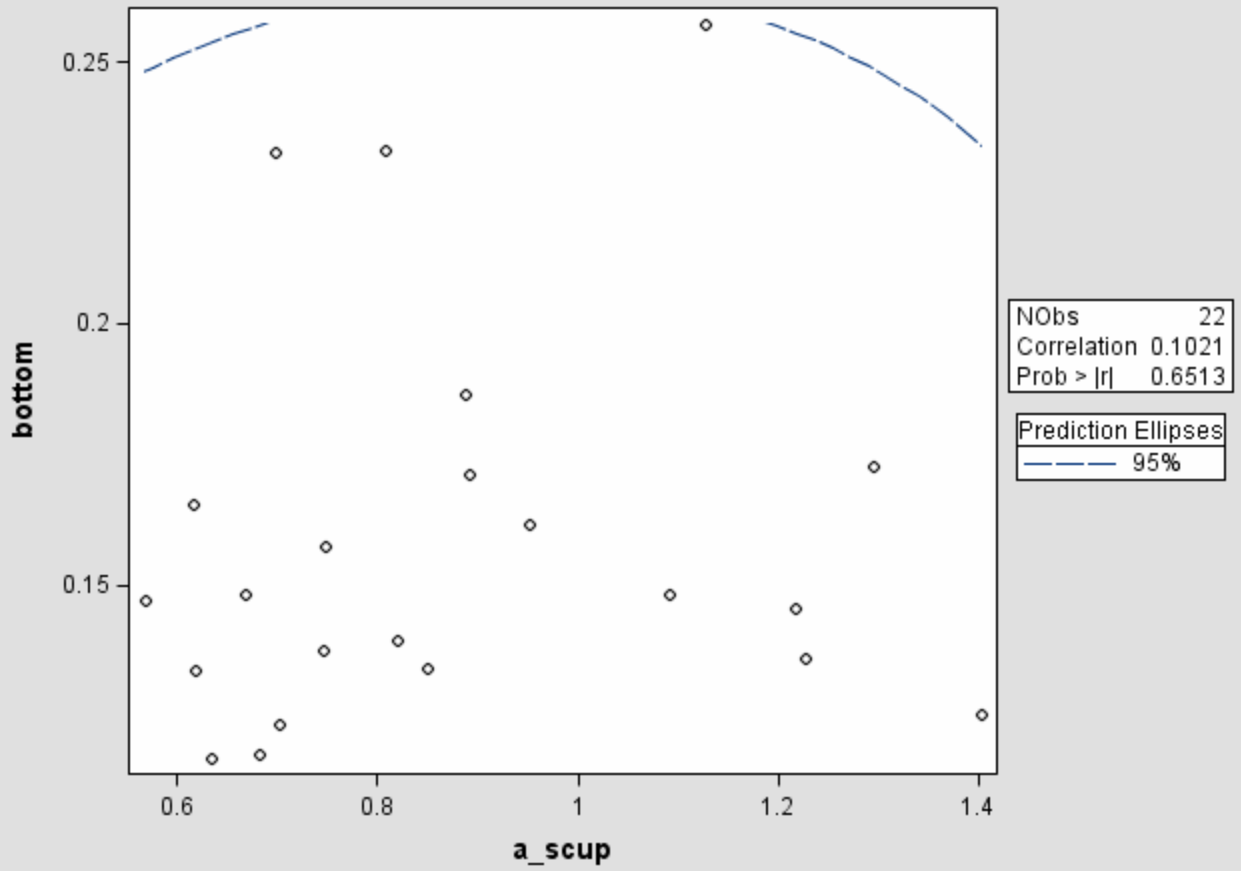
Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
a_scup	22	0.87436	0.24710	19.23588	0.56726	1.40236
bottom	22	0.15881	0.03828	3.49392	0.11696	0.25723
flatfish	22	0.30701	0.07949	6.75427	0.22560	0.57470
misc	22	0.58275	0.07568	12.82041	0.43192	0.71976
nearshore_pelagic	22	0.39699	0.11205	8.73367	0.18416	0.64520
reef	22	0.97647	0.25164	21.48236	0.60119	1.37524

Pearson Correlation Coefficients, N = 22 Prob > r under H0: Rho=0						
	a_scup	bottom	flatfish	misc	nearshore_pelagic	reef
a_scup	1.0000 0	0.1020 6 0.6513	- 0.1880 8 0.4019	0.1208 9 0.5920	0.22915 0.3050	0.1510 7 0.5022
bottom	0.1020 6 0.6513	1.0000 0	- 0.2666 8	0.4800 8 0.0237	0.55435 0.0074	0.5680 3 0.0058

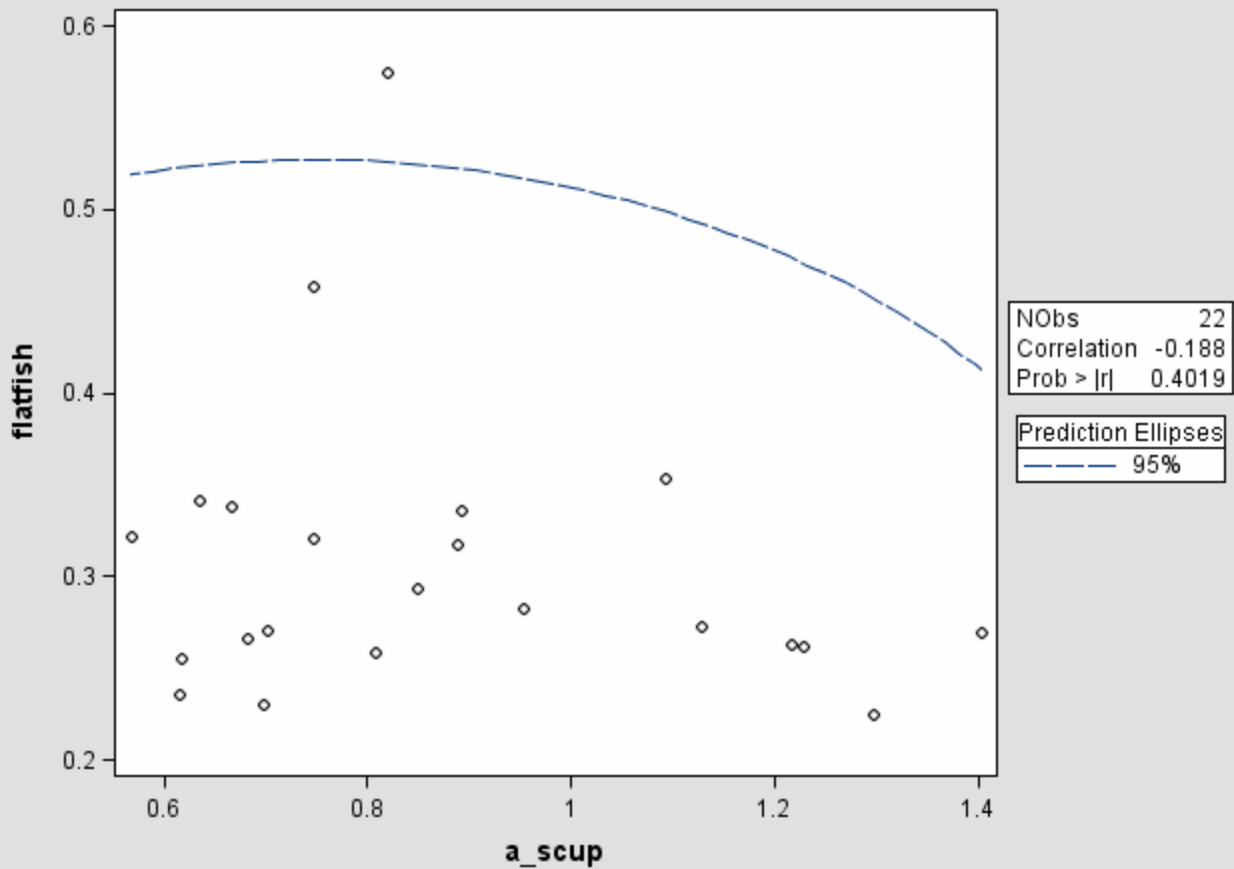
Pearson Correlation Coefficients, N = 22
Prob > |r| under H0: Rho=0

	a_scup	bottom	flatfish	misc	nearshore_pelagic	reef
			0.2303			
flatfish	- 0.1880 8 0.4019	- 0.2666 8 0.2303	1.0000 0	- 0.3571 1 0.1028	-0.70166 0.0003	- 0.3841 6 0.0775
misc	0.1208 9 0.5920	0.4800 8 0.0237	- 0.3571 1 0.1028	1.0000 0	0.57956 0.0047	0.9232 0 <.0001
nearshore_pelagic	0.2291 5 0.3050	0.5543 5 0.0074	- 0.7016 6 0.0003	0.5795 6 0.0047	1.00000	0.6763 7 0.0005
reef	0.1510 7 0.5022	0.5680 3 0.0058	- 0.3841 6 0.0775	0.9232 0 <.0001	0.67637 0.0005	1.0000 0

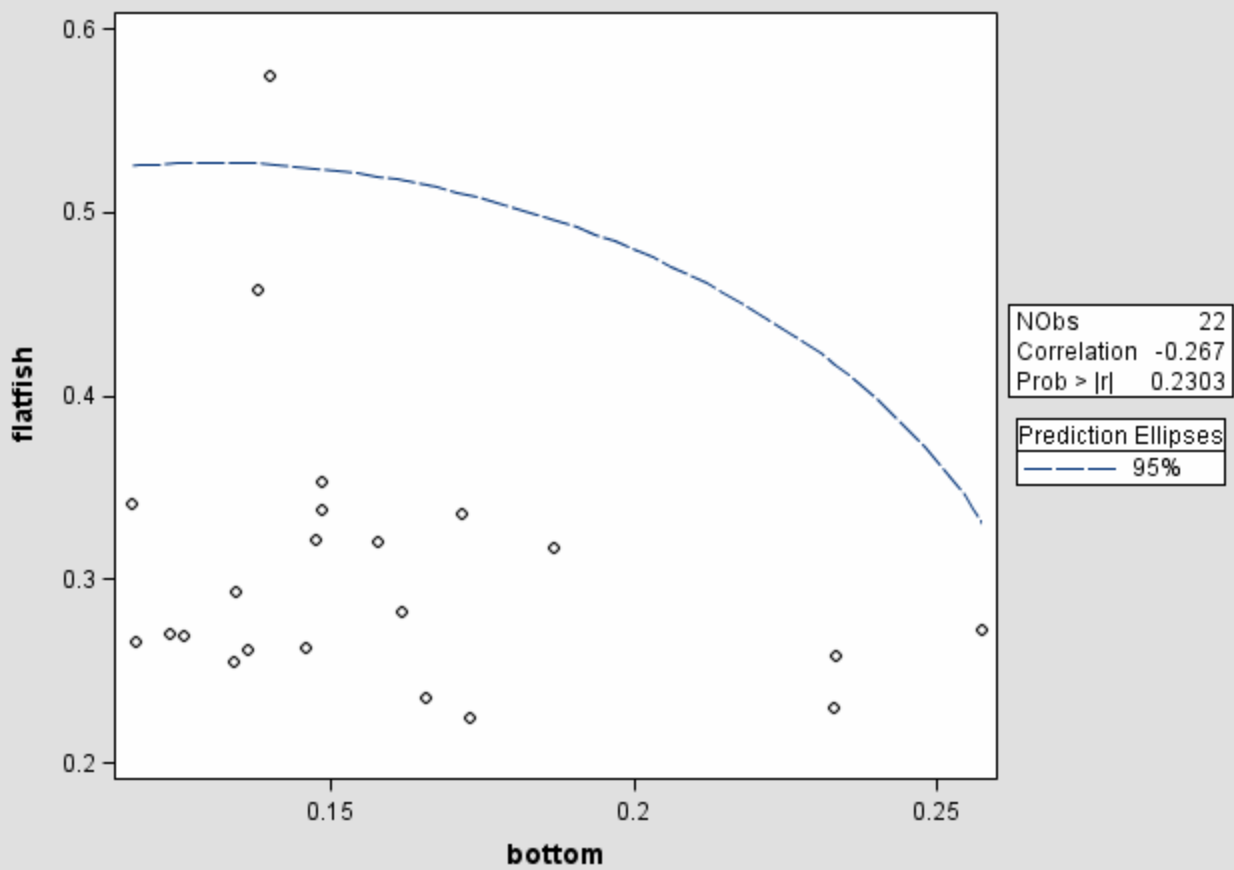
Scatter Plot

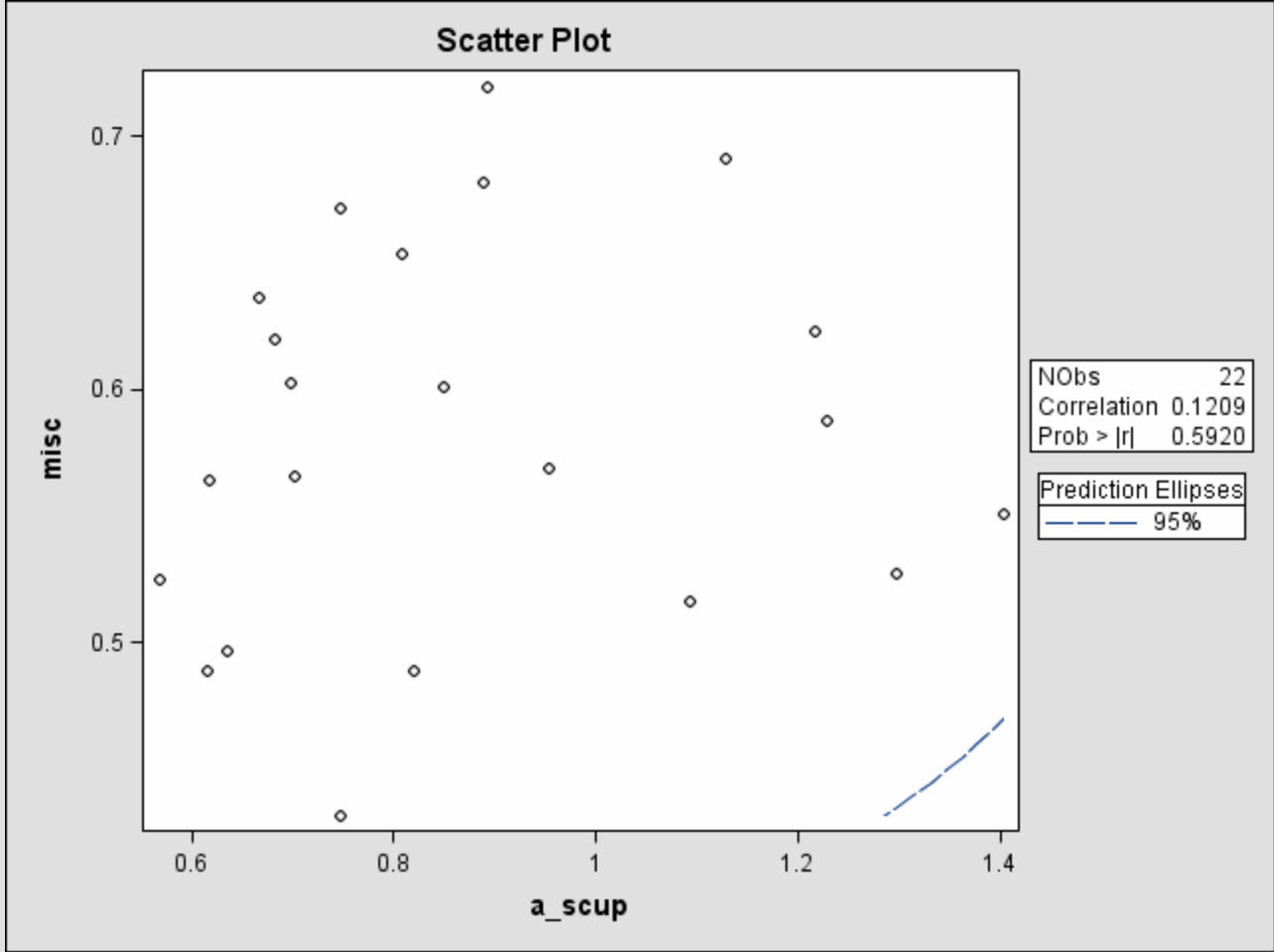


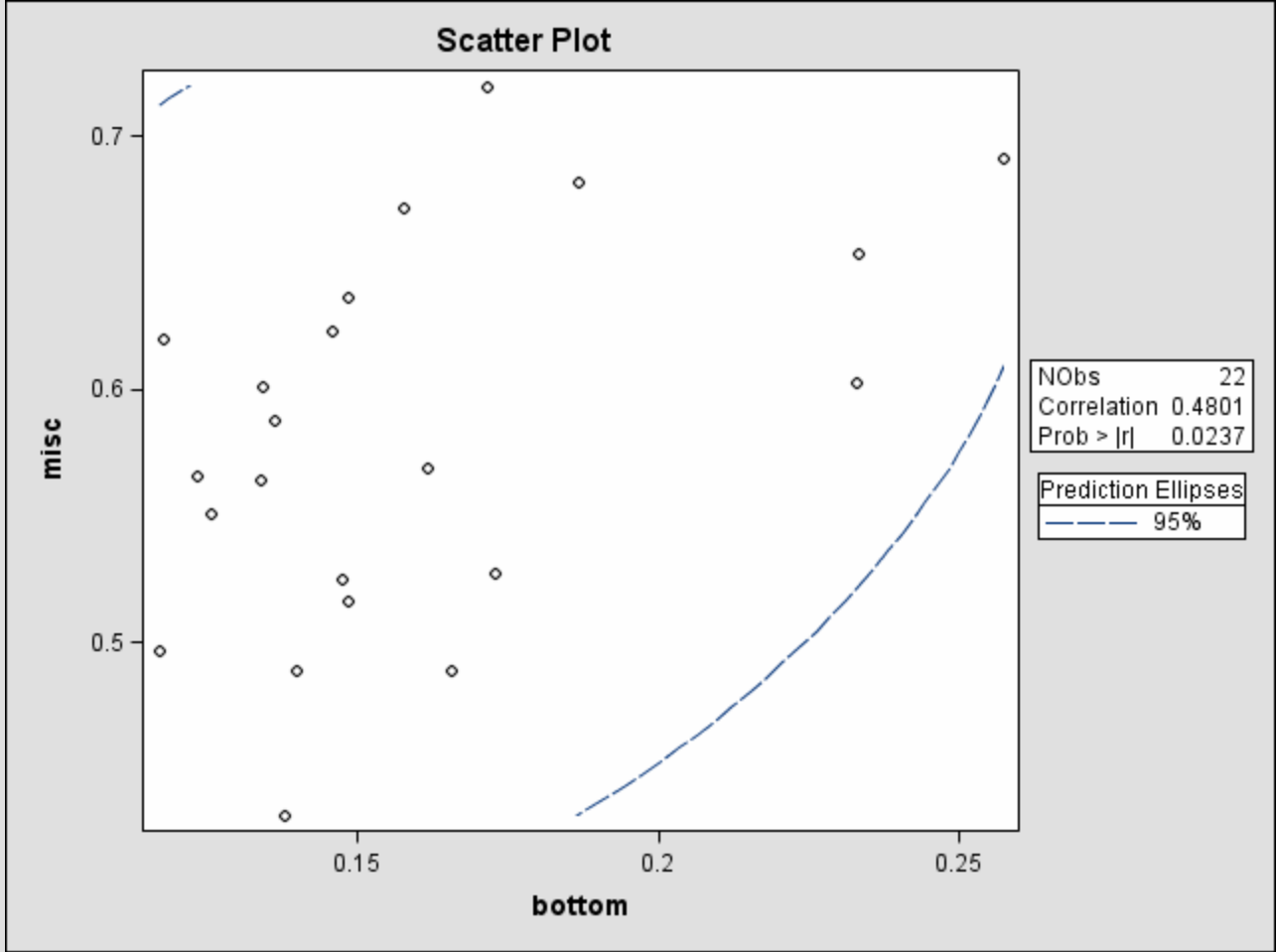
Scatter Plot



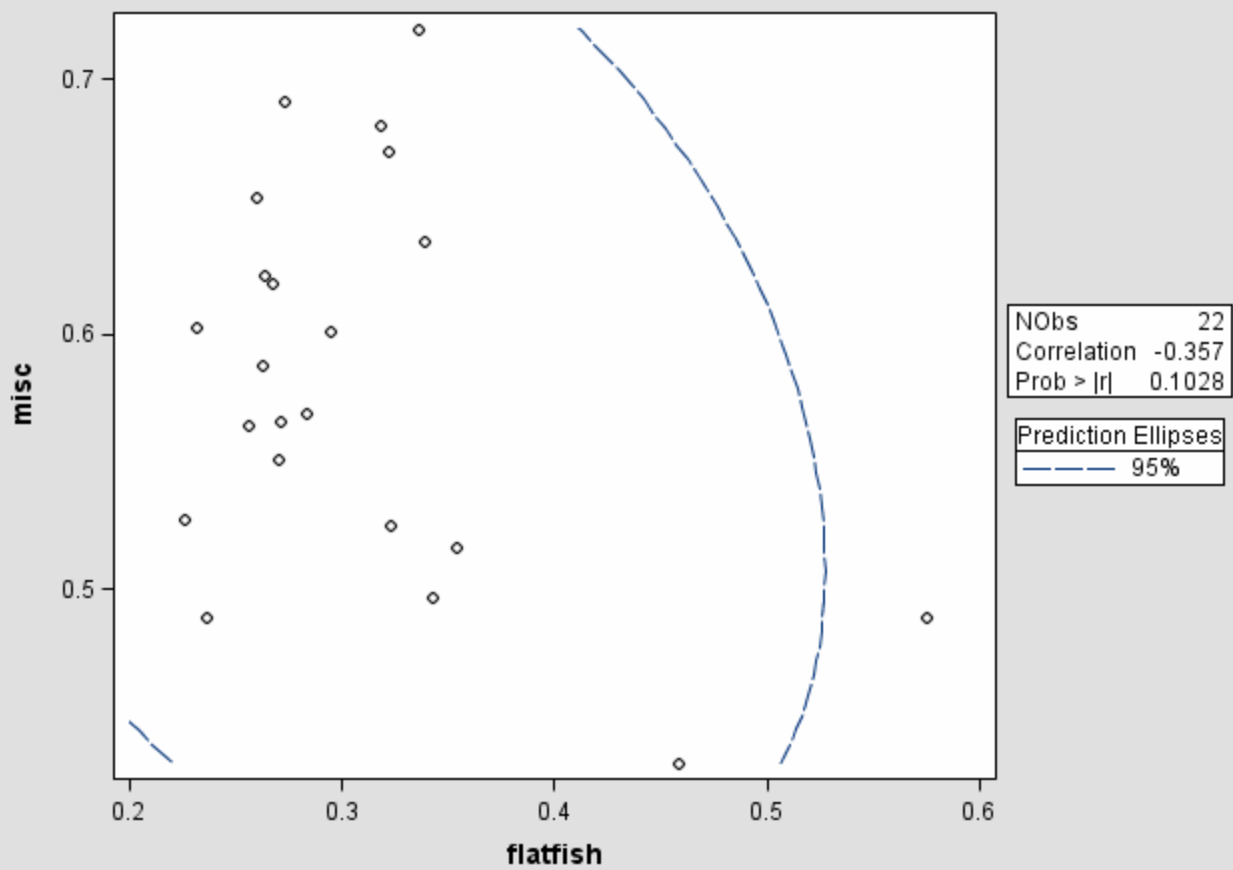
Scatter Plot



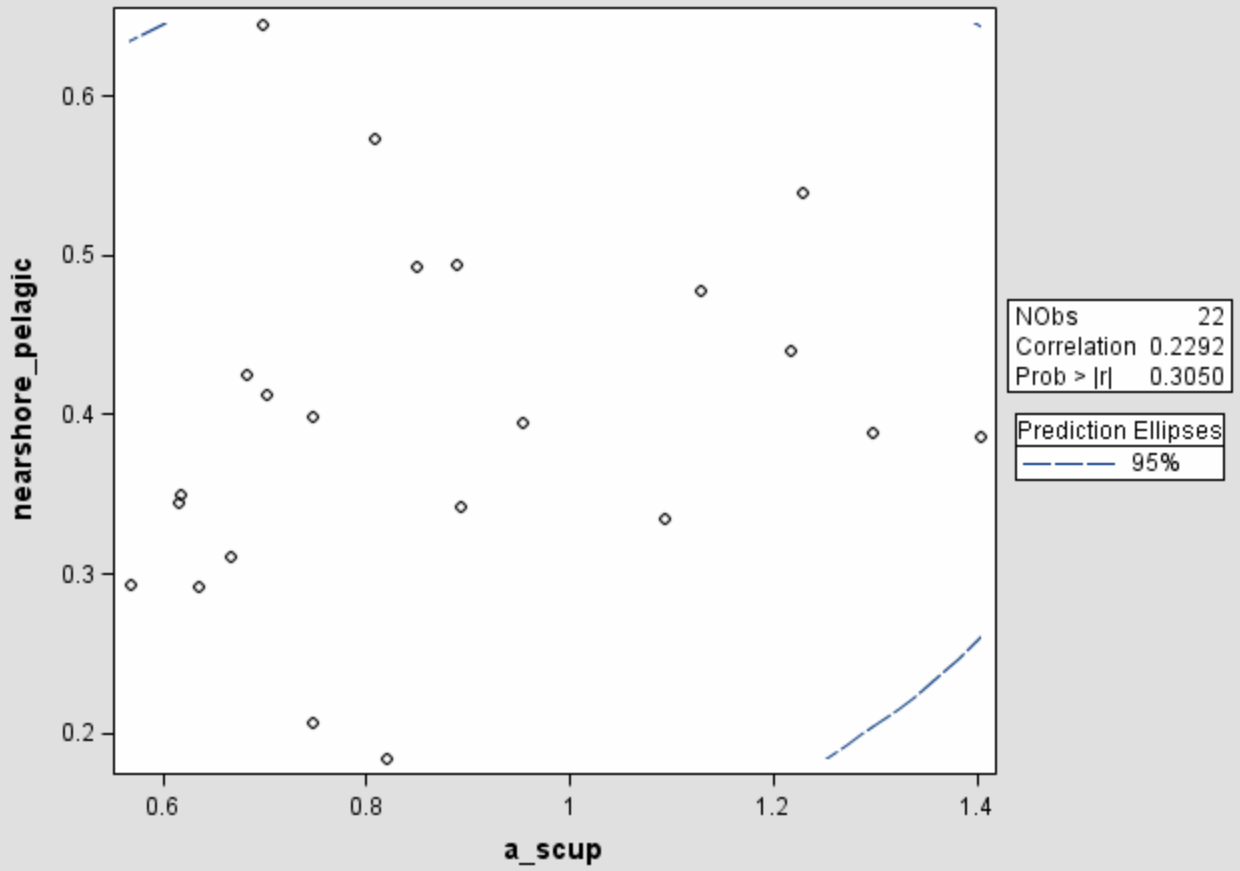




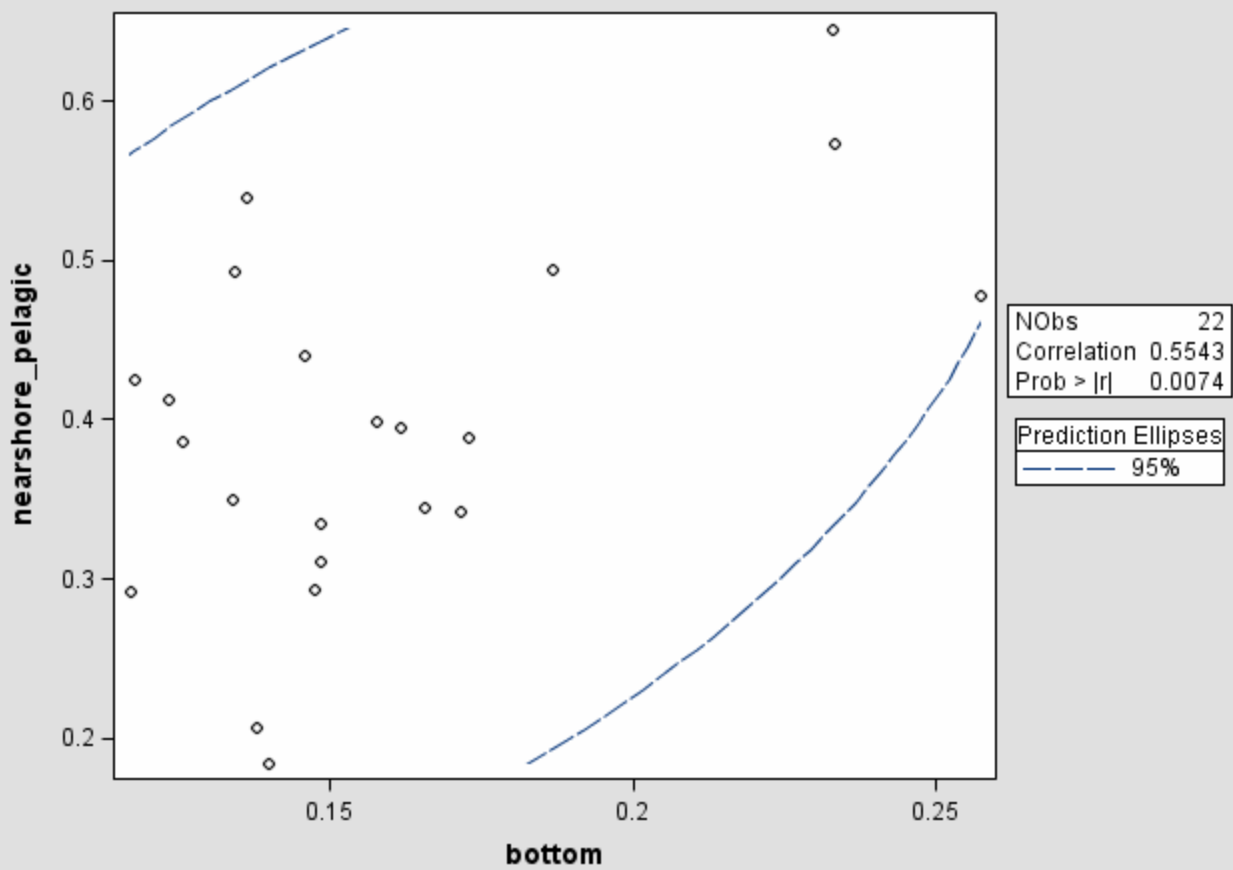
Scatter Plot



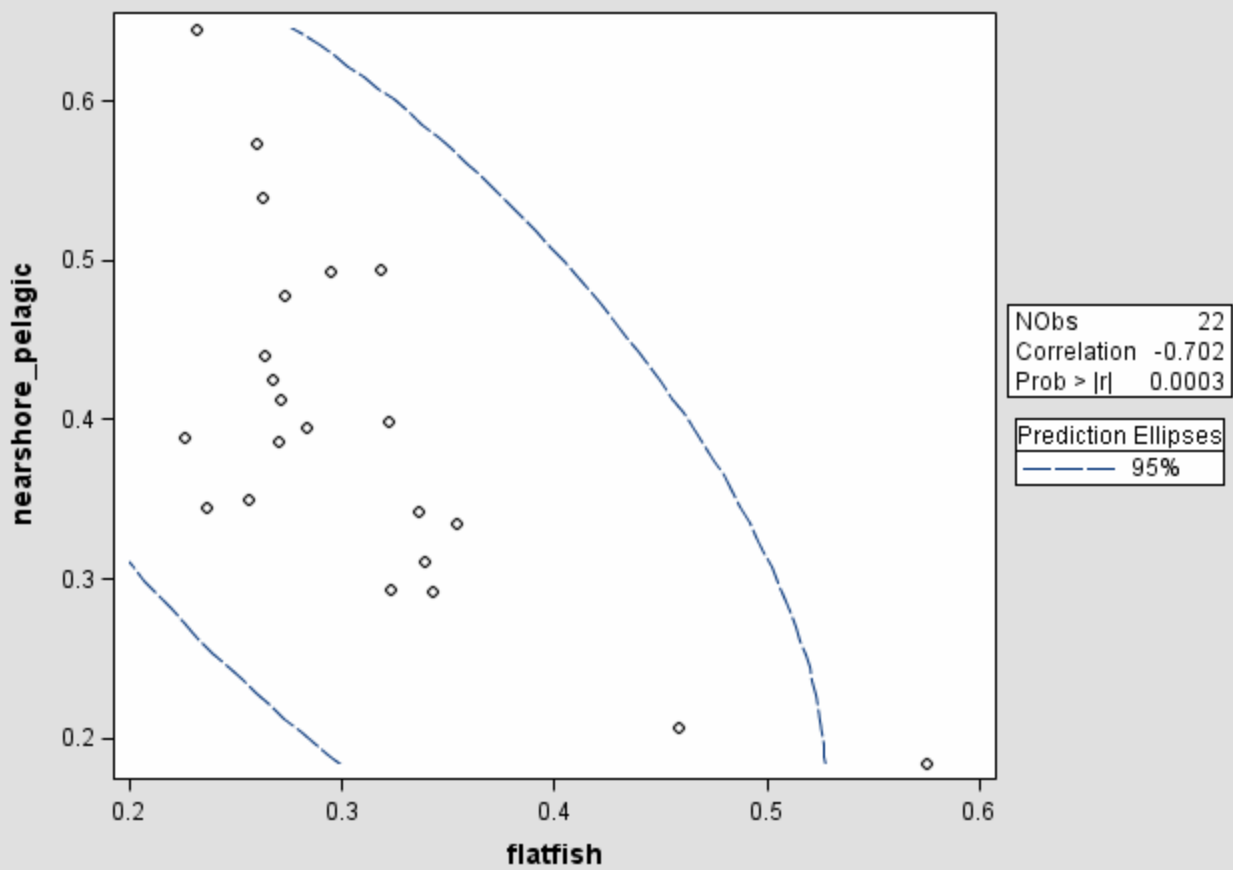
Scatter Plot

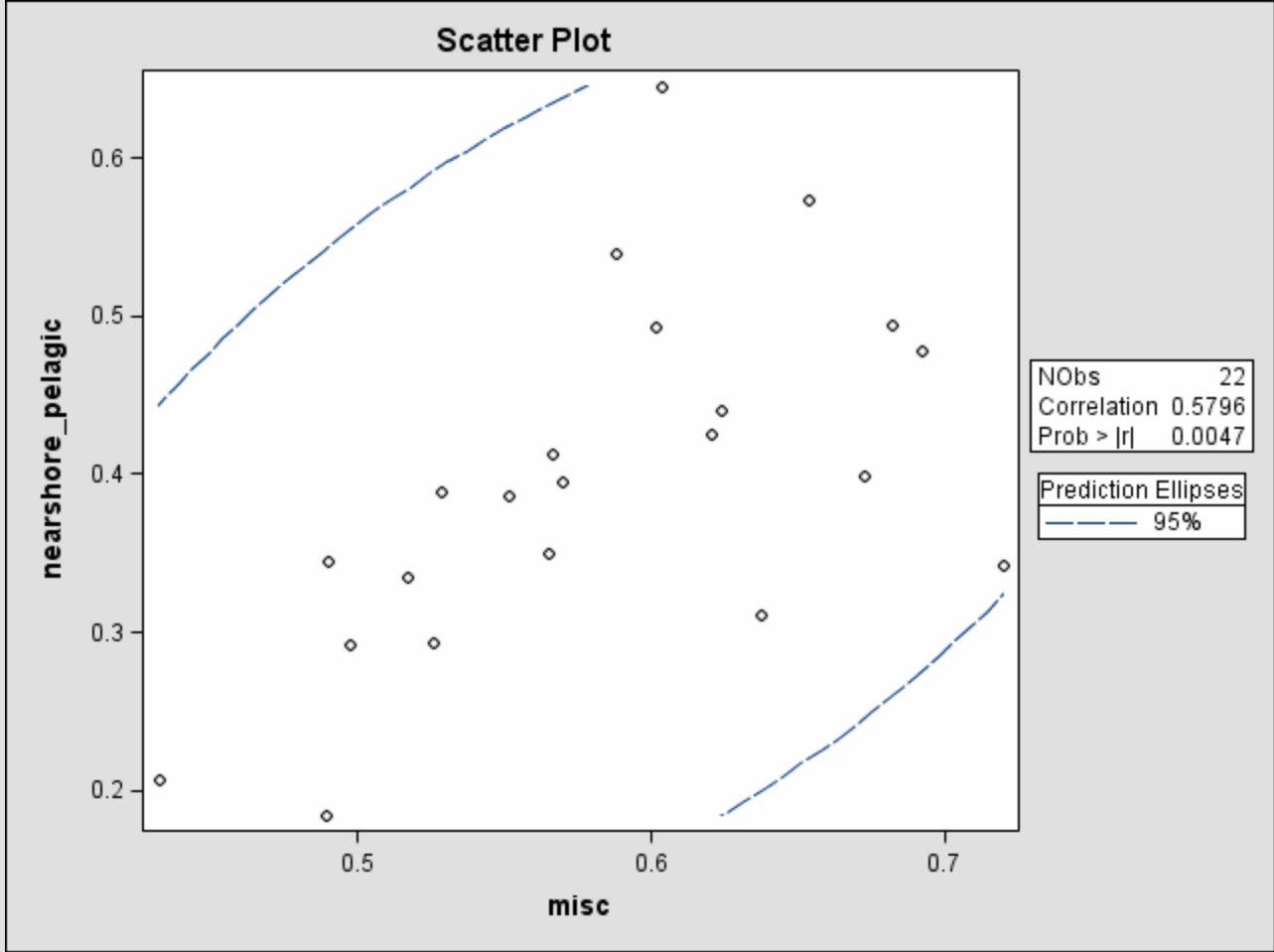


Scatter Plot



Scatter Plot





The SAS System

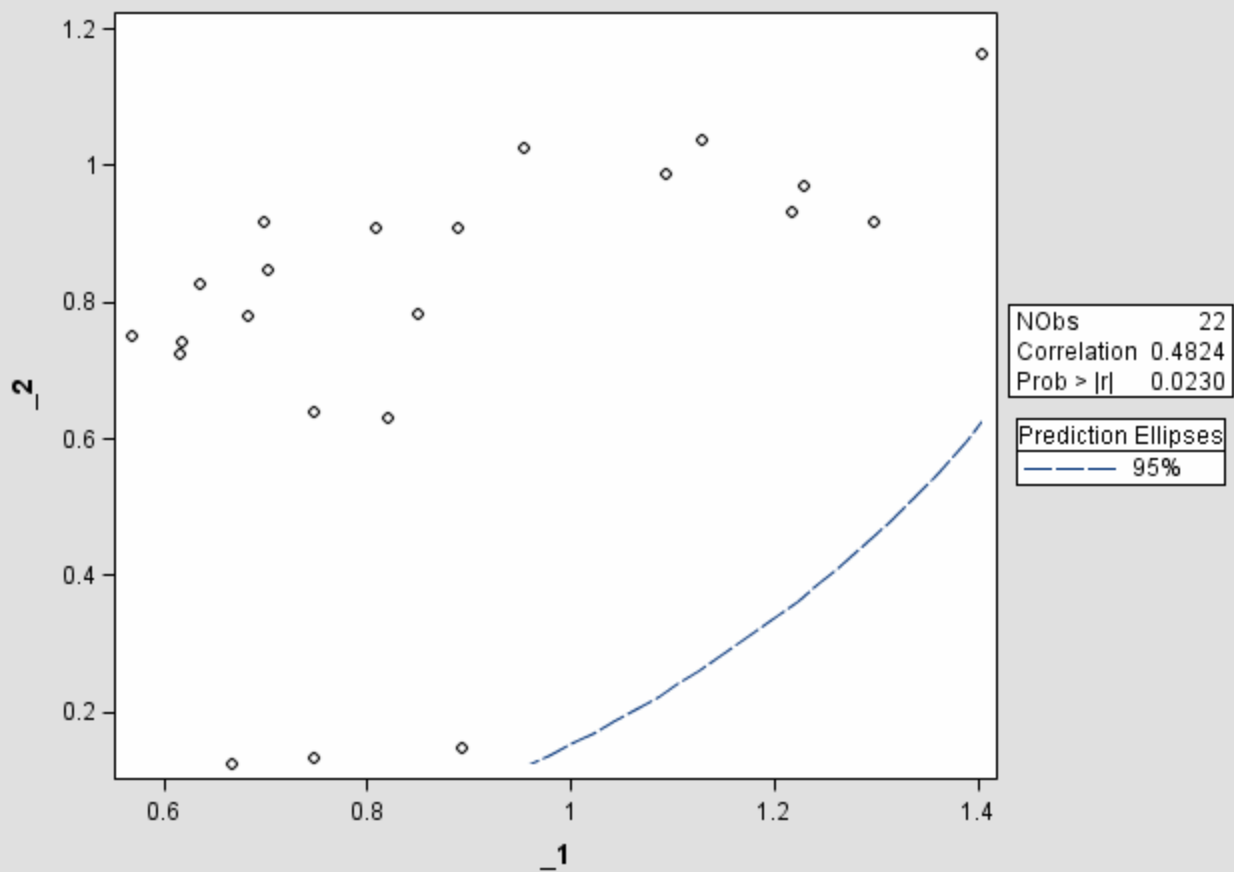
The CORR Procedure

3 Variables: _1 _2 _3

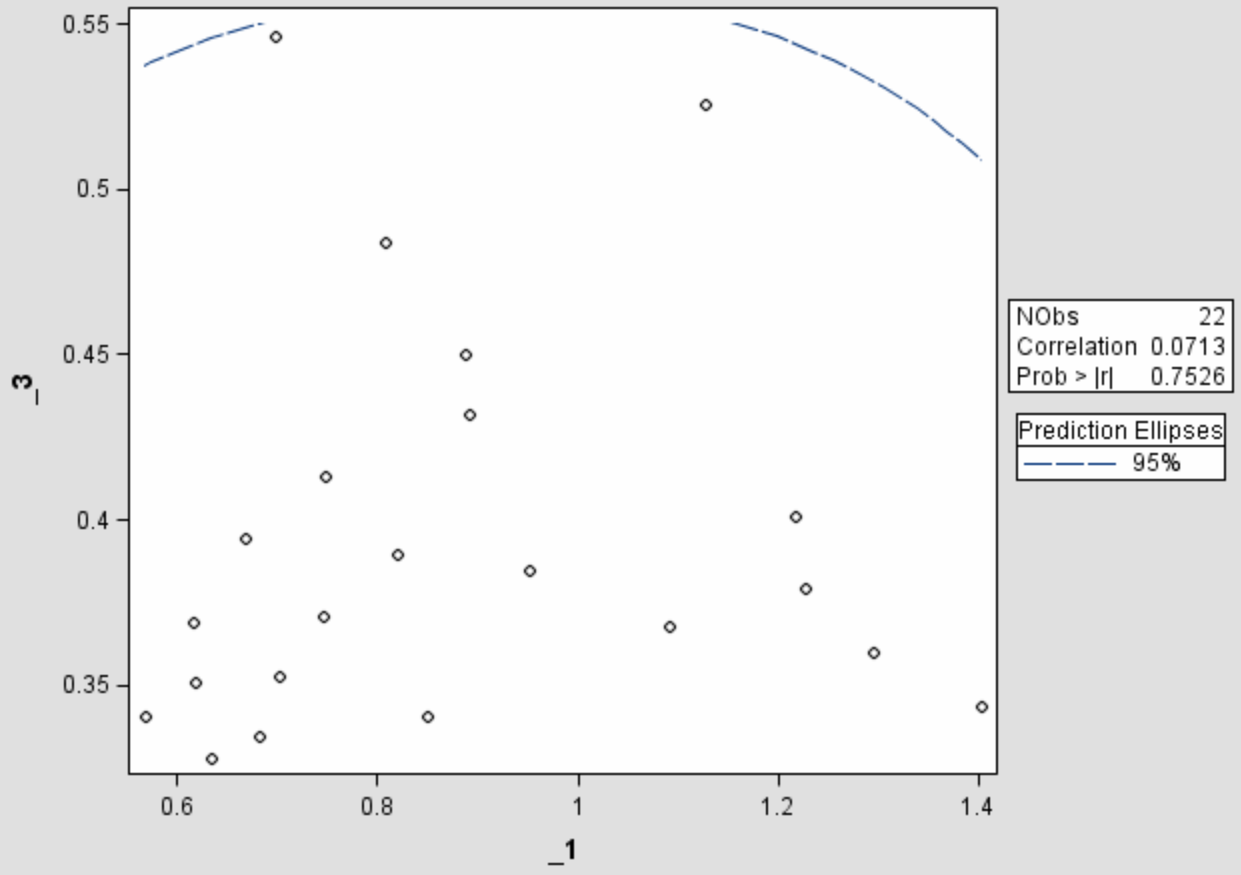
Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
_1	22	0.87436	0.24710	19.23588	0.56726	1.40236
_2	22	0.76940	0.28805	16.92691	0.12555	1.16380
_3	22	0.39362	0.06040	8.65967	0.32784	0.54630

Pearson Correlation Coefficients, N = 22 Prob > r under H0: Rho=0			
	_1	_2	_3
_1	1.00000	0.48241 0.0230	0.07128 0.7526
_2	0.48241 0.0230	1.00000	0.01524 0.9463
_3	0.07128 0.7526	0.01524 0.9463	1.00000

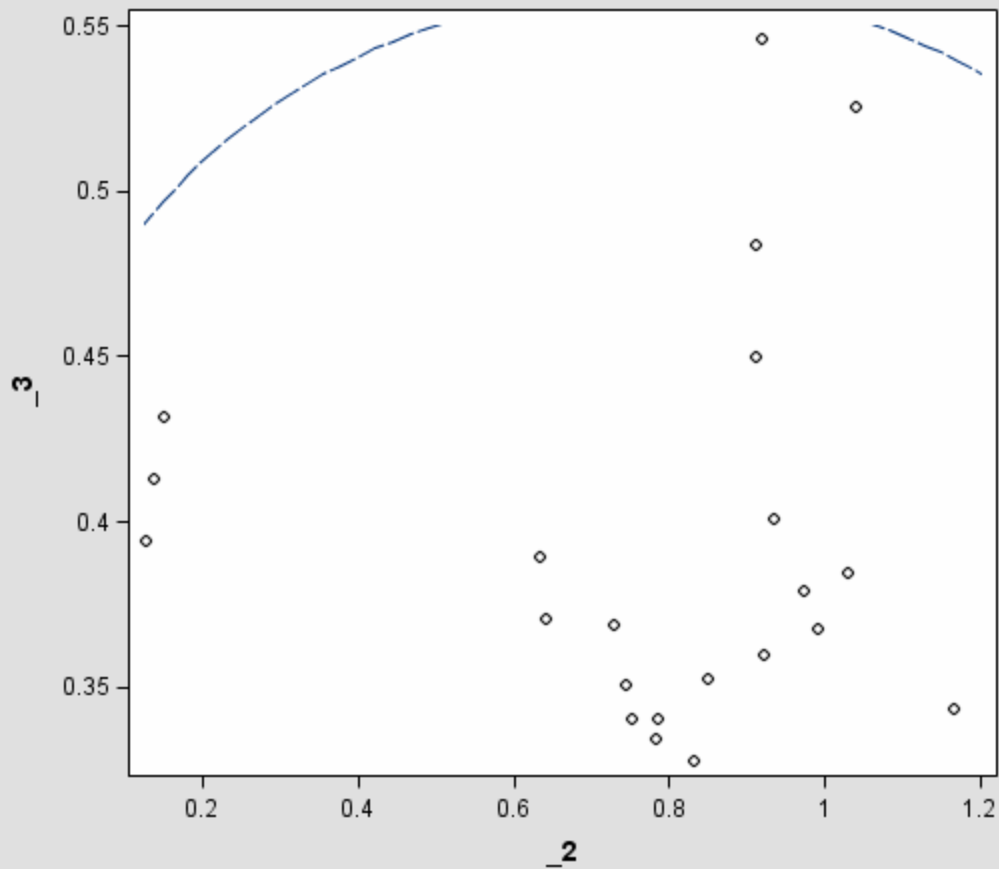
Scatter Plot



Scatter Plot



Scatter Plot



The SAS System

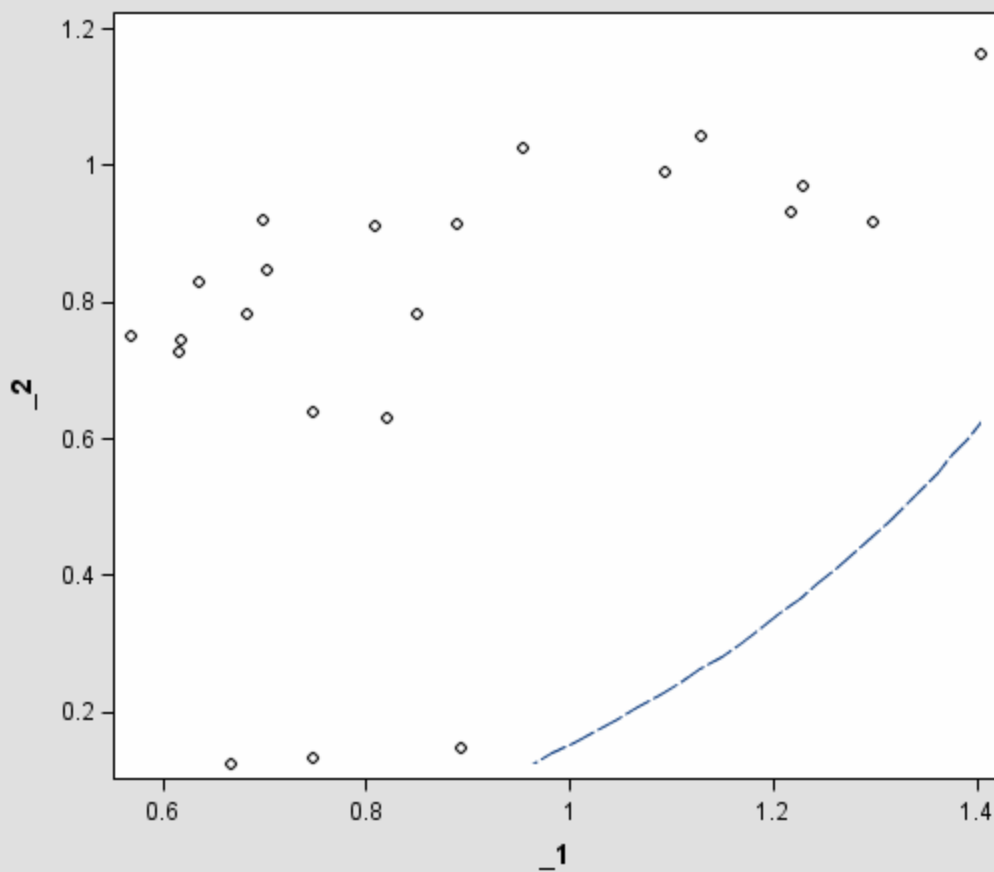
The CORR Procedure

3 Variables: _1 _2 _3

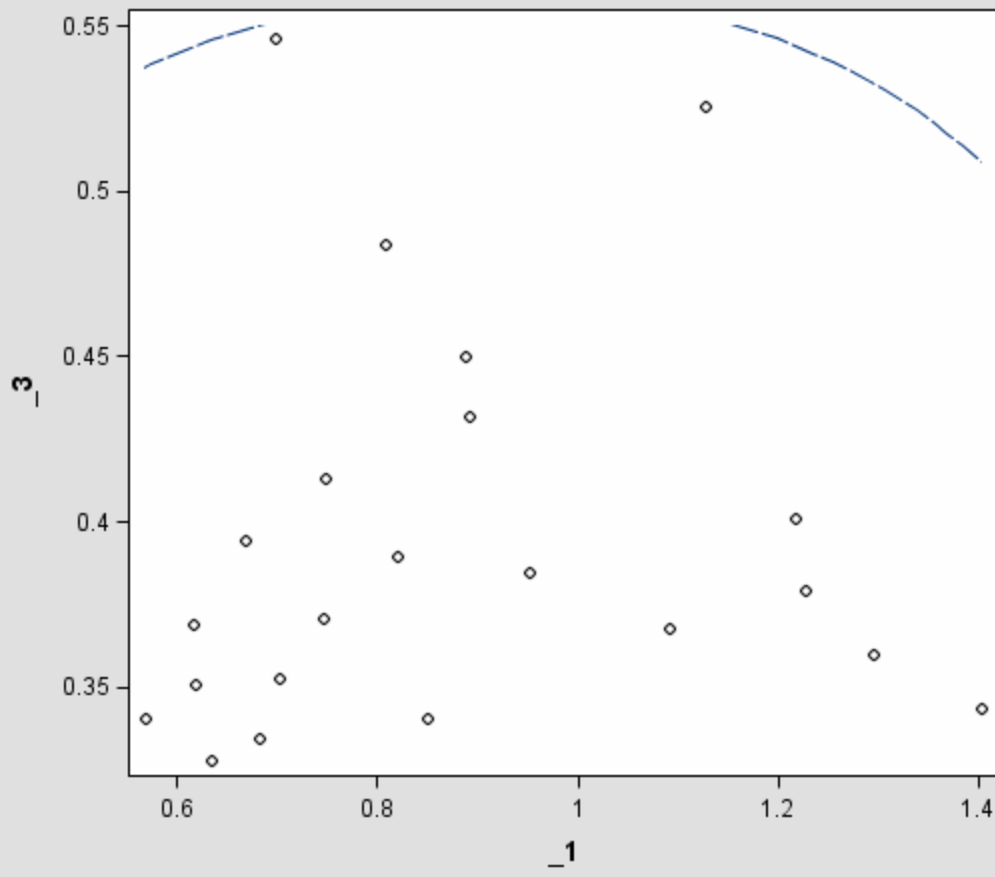
Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
_1	22	0.87436	0.24710	19.23588	0.56726	1.40236
_2	22	0.77113	0.28894	16.96479	0.12544	1.16488
_3	22	0.39362	0.06040	8.65967	0.32784	0.54630

Pearson Correlation Coefficients, N = 22 Prob > r under H0: Rho=0			
	_1	_2	_3
_1	1.00000	0.48112 0.0234	0.07129 0.7526
_2	0.48112 0.0234	1.00000	0.01917 0.9325
_3	0.07129 0.7526	0.01917 0.9325	1.00000

Scatter Plot



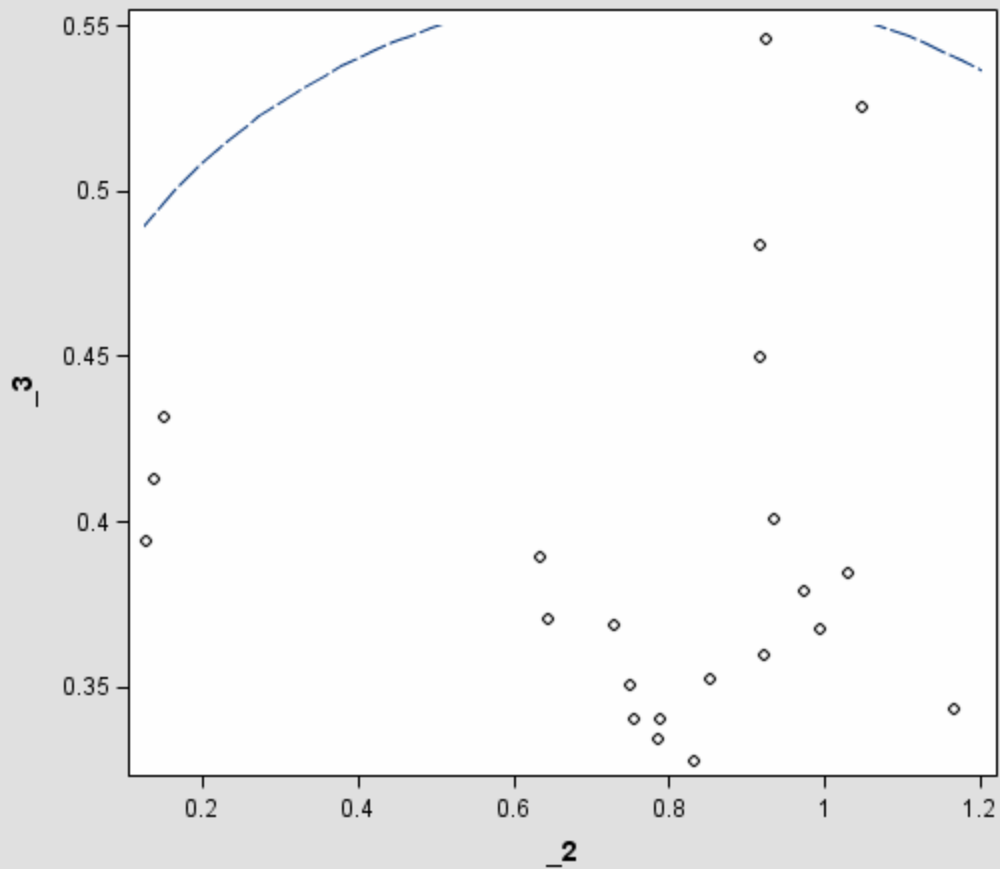
Scatter Plot



NObs 22
Correlation 0.0713
Prob > |r| 0.7526

Prediction Ellipses
— 95%

Scatter Plot



The CORR Procedure

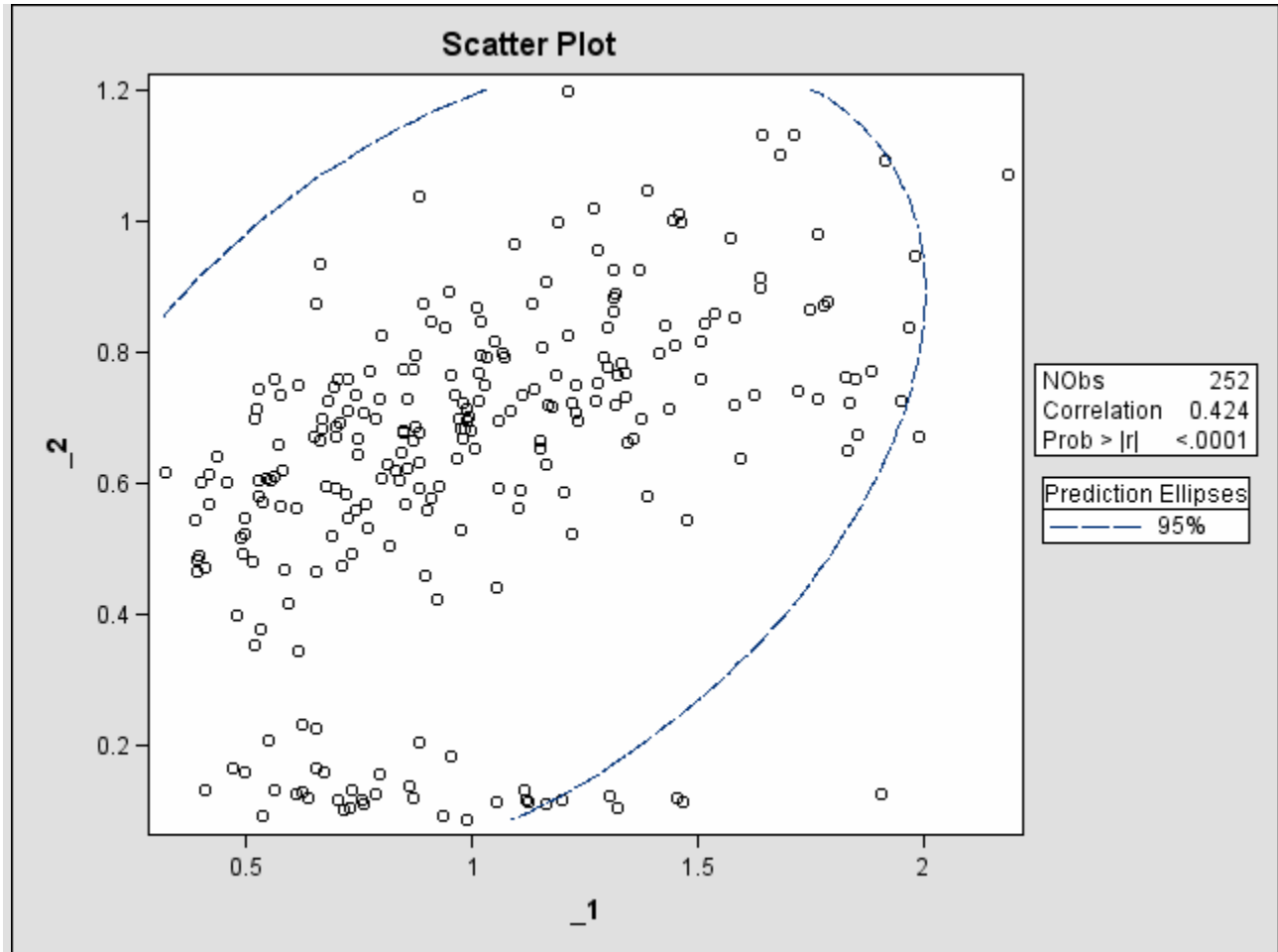
5 Variables: _1 _2 _3 _4 _5

Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
_1	252	1.00578	0.40349	253.45675	0.31715	2.18450
_2	252	0.62822	0.25215	158.31139	0.08899	1.19996
_3	252	1.14675	0.37016	288.98020	0.47300	2.62724
_4	252	1.48694	0.39342	374.70786	0.69884	2.77511
_5	252	2.32263	0.39389	585.30179	1.48759	3.18585

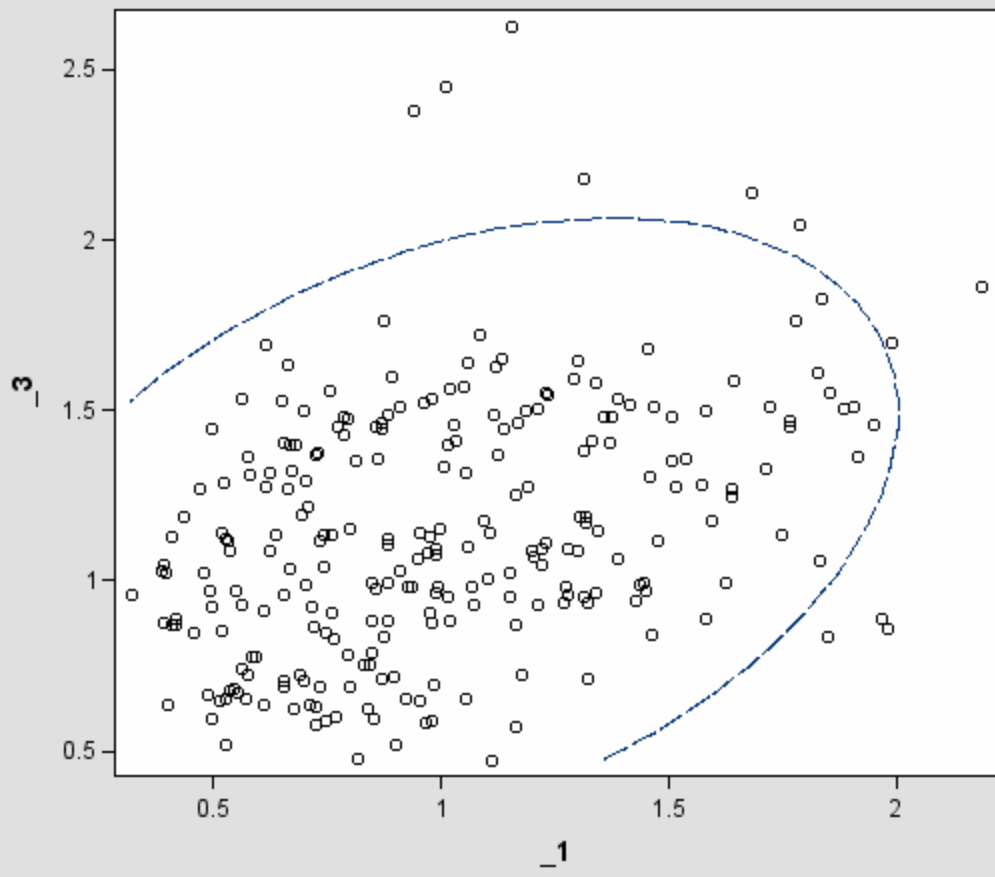
Pearson Correlation Coefficients, N = 252 Prob > r under H0: Rho=0					
	_1	_2	_3	_4	_5
_1	1.00000	0.42396 <.0001	0.37447 <.0001	0.19701 0.0017	0.22200 0.0004
_2	0.42396 <.0001	1.00000	0.18562 0.0031	-0.06613 0.2957	-0.10881 0.0847
_3	0.37447 <.0001	0.18562 0.0031	1.00000	0.47155 <.0001	0.40905 <.0001
_4	0.19701 0.0017	-0.06613 0.2957	0.47155 <.0001	1.00000	0.48555 <.0001
_5	0.22200	-0.10881	0.40905	0.48555	1.00000

Pearson Correlation Coefficients, N = 252
Prob > |r| under H0: Rho=0

	_1	_2	_3	_4	_5
	0.0004	0.0847	<.0001	<.0001	



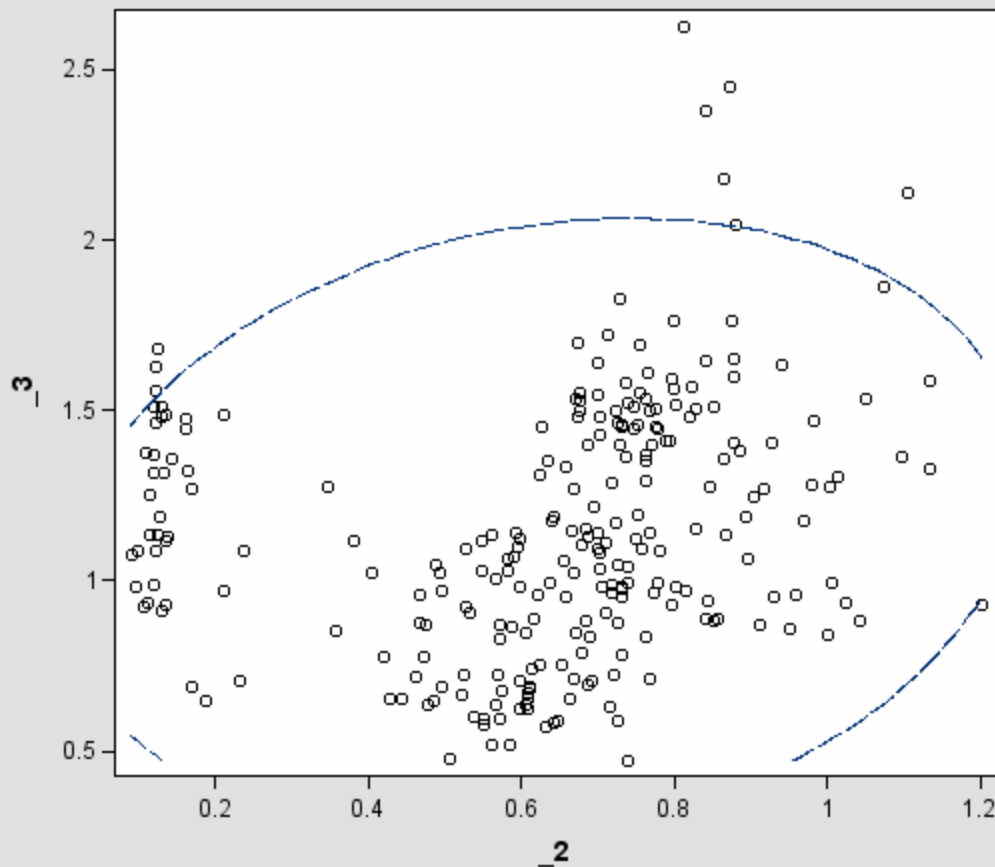
Scatter Plot



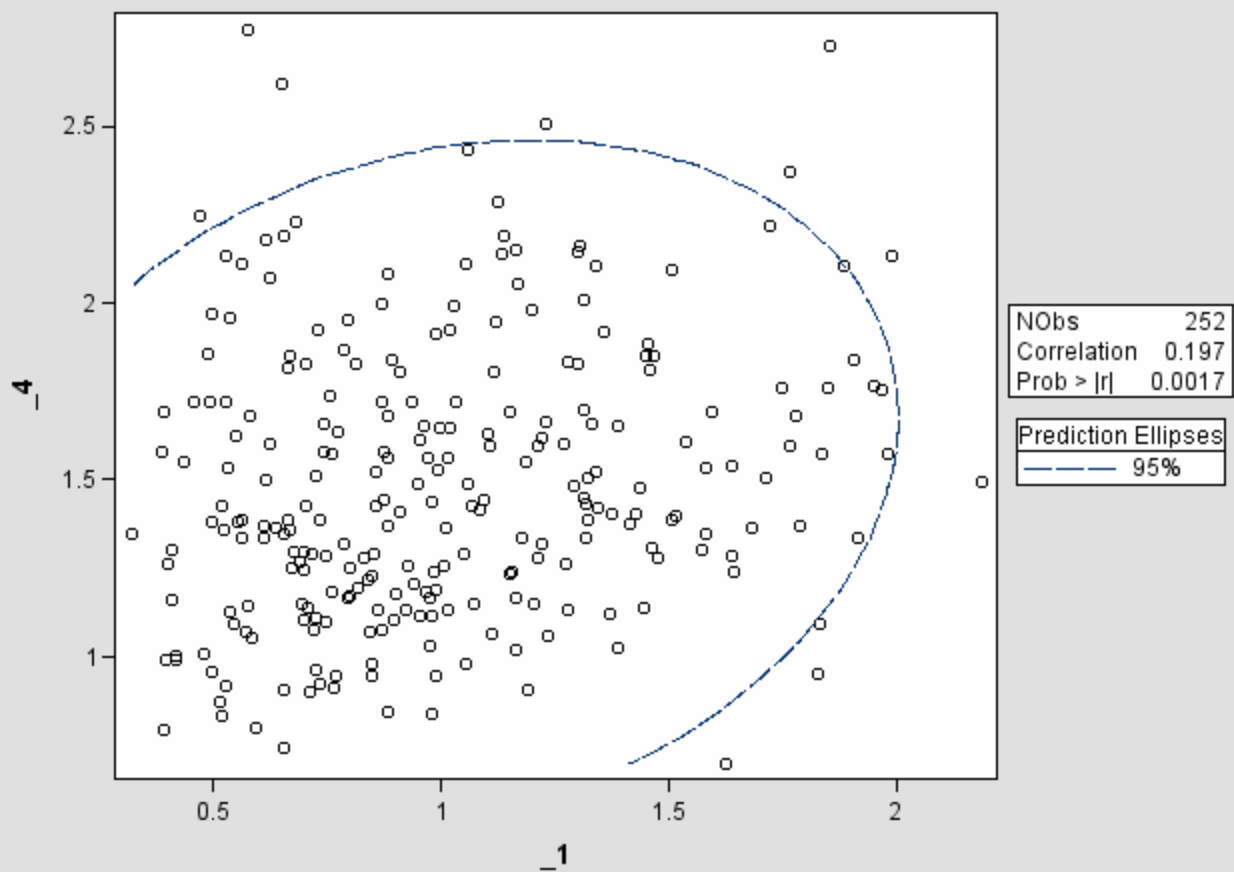
NObs 252
Correlation 0.3745
Prob > |r| <.0001

Prediction Ellipses
— 95%

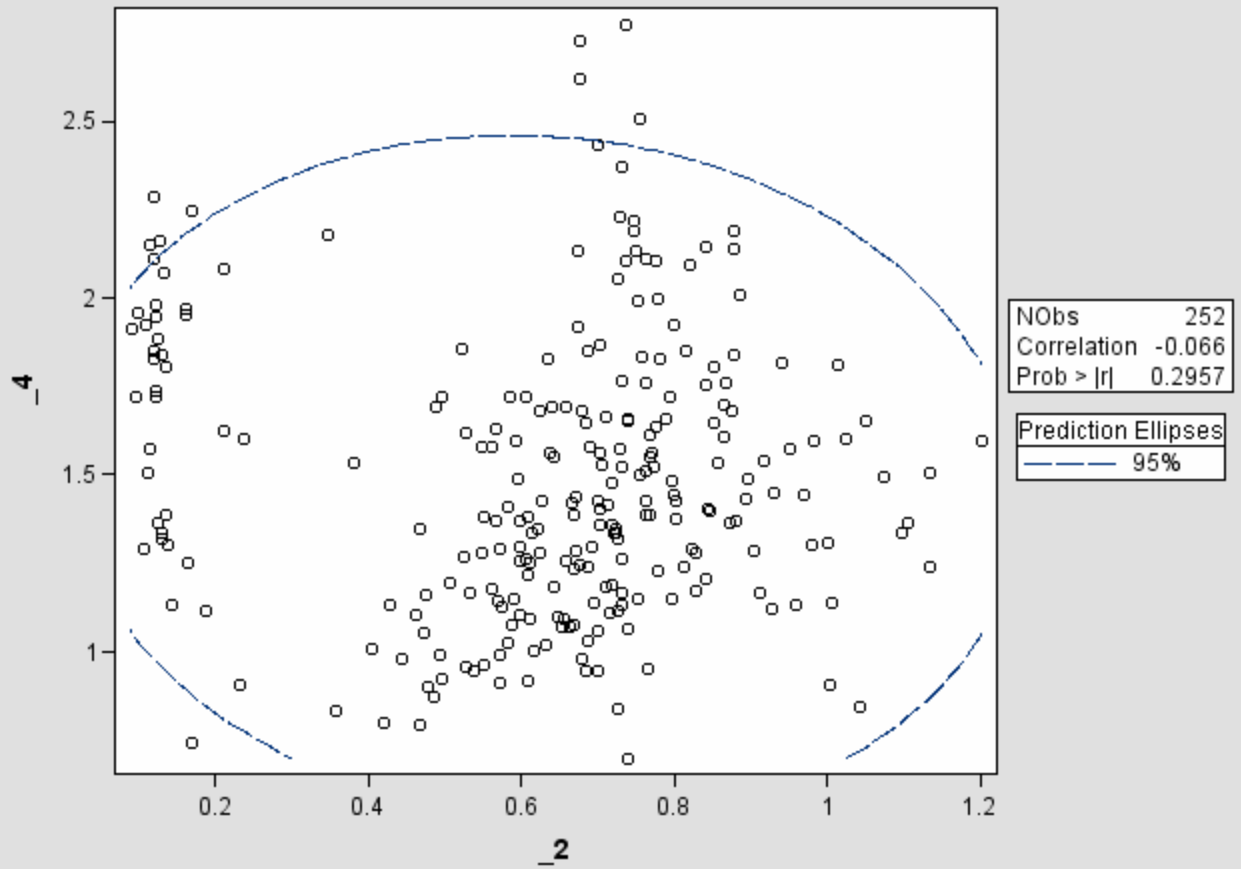
Scatter Plot



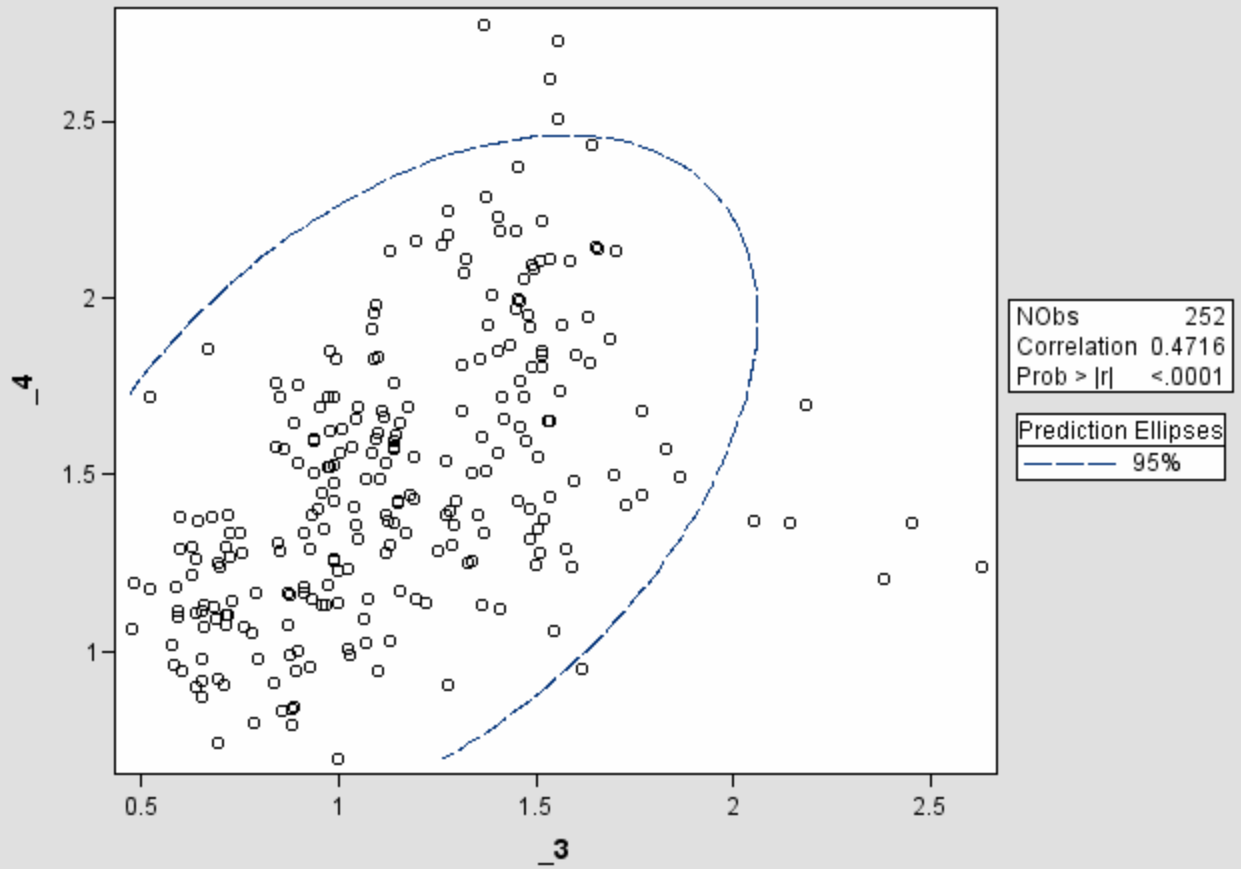
Scatter Plot



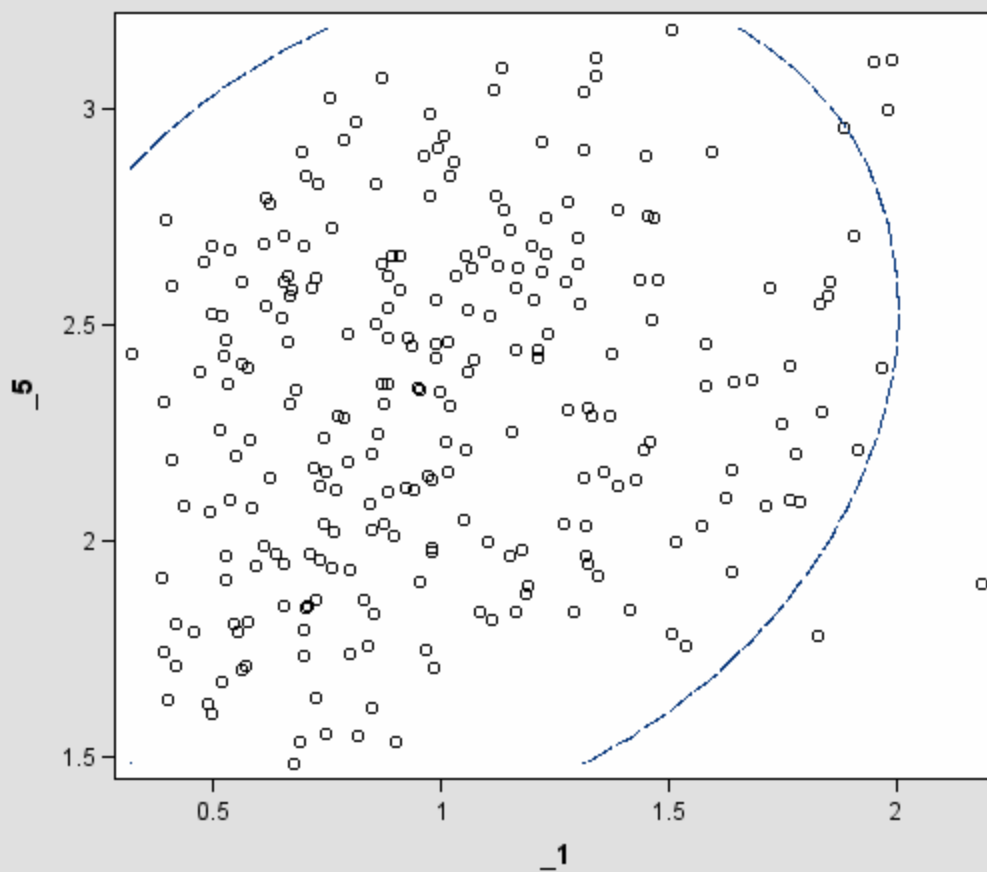
Scatter Plot



Scatter Plot



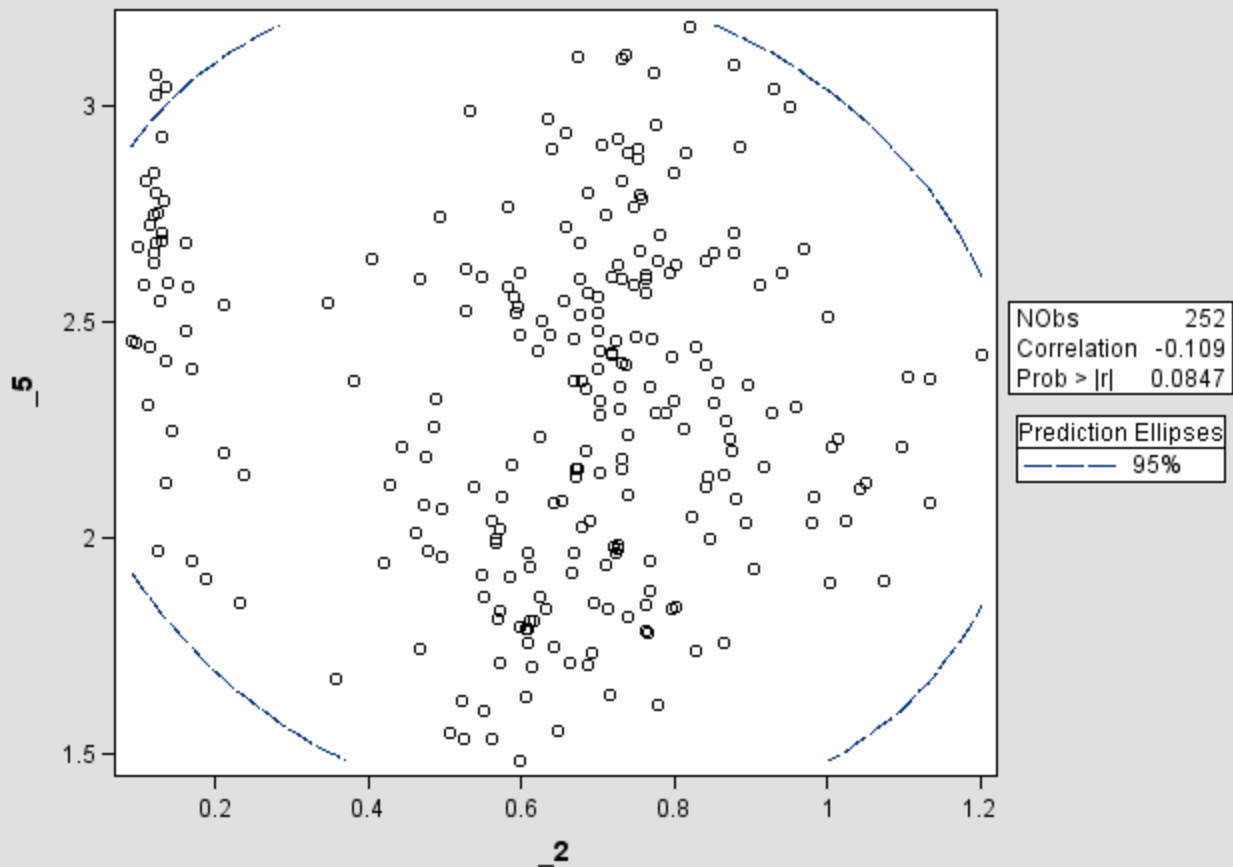
Scatter Plot



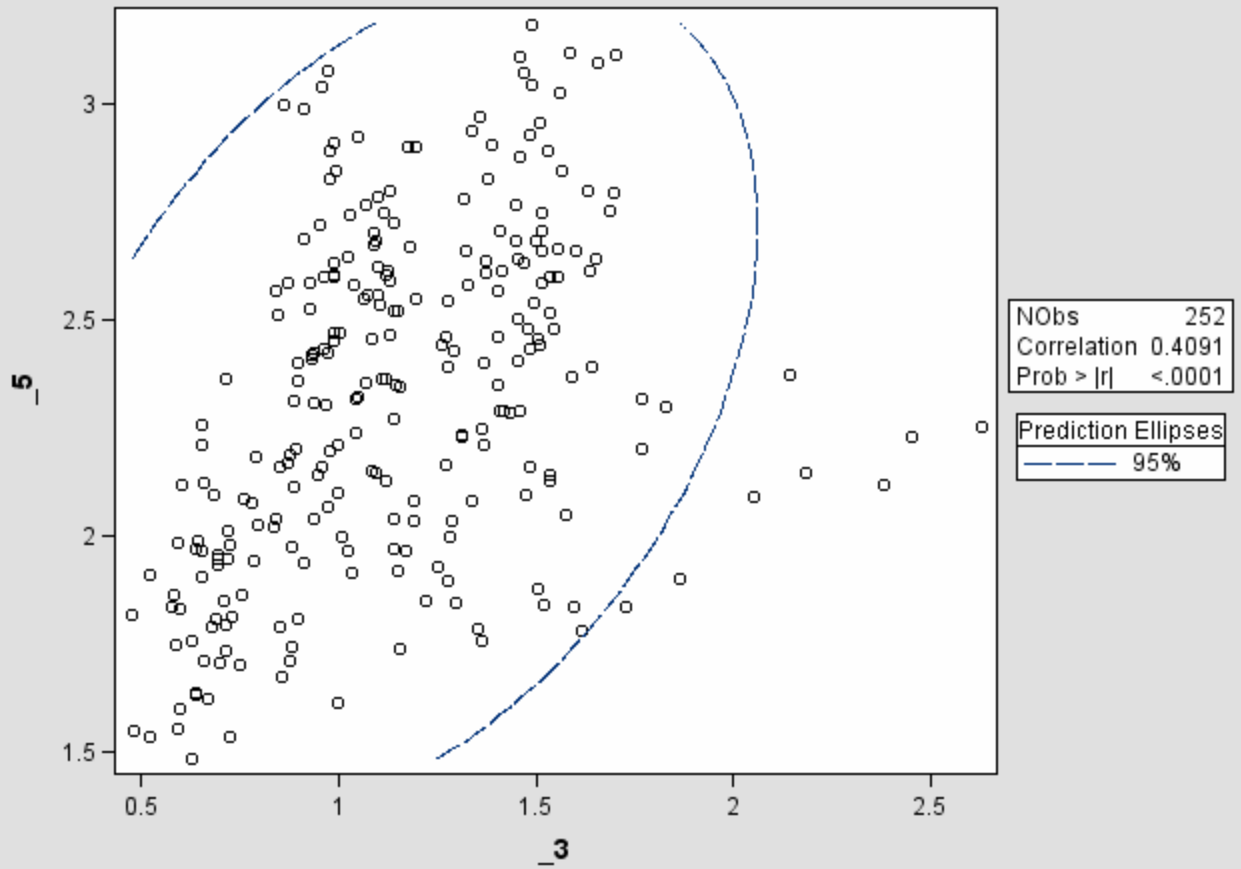
NObs	252
Correlation	0.222
Prob > r	0.0004

Prediction Ellipses	
—	95%

Scatter Plot



Scatter Plot



Scatter Plot

