

# monthlydata

title: "LinearRegression" output: html\_document

```
pred.lda <- predict(fit.lda, redwine.test) table(pred.lda$class, final_quality.test)
```

## Test Accuracy

```
mean(pred.lda$class != final_quality.test)
```

#p-value<0.05, testing accuracy, 300 training, 12, go up to 4 degrees of freedom, cross-validation #Make sure to standardize before training the model, and test #270 training, 42 test

```
set.seed(123)
data <- read.csv(file="Stats Project Data Gather - Sheet1_cum.csv")
datam <- data.frame(scale(data[, -c(1)]))
#datam <- data %>% mutate_each(funs(scale(.)) %>% as.vector), vars=c("y", "z"))
datam$Date <- data$Date
datam$eq_raw <- data$CumulativeEqs
datam
```

##	CumulativeEqs	DisposalVolume	CumDisposalVolume	ProducedGas
## 1	-0.577811968	-0.812972598	-0.78312241	-0.897149612
## 2	-0.577811968	-0.812364285	-0.78207519	-0.896135289
## 3	-0.577811968	-0.811675480	-0.78101877	-0.895050082
## 4	-0.577811968	-0.811043648	-0.77995393	-0.894046460
## 5	-0.577811968	-0.810400630	-0.77888051	-0.893060565
## 6	-0.577811968	-0.809827138	-0.77779943	-0.892092211
## 7	-0.577811968	-0.809225417	-0.77671033	-0.891093957
## 8	-0.577811968	-0.808621800	-0.77561317	-0.890267651
## 9	-0.577811968	-0.808050313	-0.77450838	-0.889231401
## 10	-0.577811968	-0.807431749	-0.77339535	-0.888239316
## 11	-0.577811968	-0.806102942	-0.77226458	-0.887292394
## 12	-0.577811968	-0.804878638	-0.77111747	-0.886300521
## 13	-0.577811968	-0.803514392	-0.76995216	-0.885328672
## 14	-0.577811968	-0.802509829	-0.76877345	-0.884454683
## 15	-0.577811968	-0.801375037	-0.76757960	-0.883484523
## 16	-0.577811968	-0.800493765	-0.76637399	-0.882529393
## 17	-0.577811968	-0.799282878	-0.76515222	-0.881544003
## 18	-0.577811968	-0.798339989	-0.76391787	-0.880577933
## 19	-0.577811968	-0.797026415	-0.76266599	-0.879585439
## 20	-0.577811968	-0.796092434	-0.76140165	-0.878598620
## 21	-0.577811968	-0.794922826	-0.76012170	-0.877651345
## 22	-0.577811968	-0.794008997	-0.75882956	-0.876674052
## 23	-0.577811968	-0.793576811	-0.75753165	-0.875739349
## 24	-0.577811968	-0.793102149	-0.75622741	-0.874770881
## 25	-0.577811968	-0.792630754	-0.75491688	-0.873808931
## 26	-0.577811968	-0.792196268	-0.75360056	-0.872949739
## 27	-0.577811968	-0.791741029	-0.75227815	-0.871982258
## 28	-0.577811968	-0.791269955	-0.75094947	-0.871065251
## 29	-0.577811968	-0.790797118	-0.74961447	-0.870090180
## 30	-0.577811968	-0.790327087	-0.74827320	-0.869129215

## 31	-0.577811968	-0.789900667	-0.74692624	-0.868114830
## 32	-0.577811968	-0.789433967	-0.74557306	-0.867103234
## 33	-0.577811968	-0.788985742	-0.74421389	-0.866111196
## 34	-0.577811968	-0.788510412	-0.74284838	-0.865483404
## 35	-0.577811968	-0.788034985	-0.74147653	-0.864439351
## 36	-0.577811968	-0.787562130	-0.74009837	-0.863372550
## 37	-0.577811968	-0.787083101	-0.73871381	-0.862306141
## 38	-0.577811968	-0.786643452	-0.73732340	-0.861319644
## 39	-0.577811968	-0.786149084	-0.73592638	-0.860264576
## 40	-0.577811968	-0.785648361	-0.73452268	-0.859249602
## 41	-0.577811968	-0.785161156	-0.73311248	-0.858205655
## 42	-0.577811968	-0.784667855	-0.73169570	-0.857200011
## 43	-0.577811968	-0.784165859	-0.73027222	-0.856182934
## 44	-0.577811968	-0.783647869	-0.72884183	-0.855132295
## 45	-0.577811968	-0.783168697	-0.72740505	-0.854122115
## 46	-0.577811968	-0.782647852	-0.72596132	-0.853075165
## 47	-0.577811968	-0.782142231	-0.72451083	-0.852107508
## 48	-0.577811968	-0.781637160	-0.72305361	-0.851087928
## 49	-0.577811968	-0.781177802	-0.72159027	-0.850058047
## 50	-0.577811968	-0.780770544	-0.72012148	-0.849114581
## 51	-0.577811968	-0.780286436	-0.71864624	-0.848077545
## 52	-0.577811968	-0.779810237	-0.71716464	-0.847079337
## 53	-0.577811968	-0.779315436	-0.71567644	-0.846048288
## 54	-0.577811968	-0.778876181	-0.71418238	-0.845078820
## 55	-0.577811968	-0.778443776	-0.71268255	-0.844087573
## 56	-0.577811968	-0.777981022	-0.71117655	-0.843026053
## 57	-0.577811968	-0.777516585	-0.70966435	-0.841981332
## 58	-0.577811968	-0.777041020	-0.70814580	-0.840919020
## 59	-0.577811968	-0.776589626	-0.70662123	-0.839889110
## 60	-0.577811968	-0.776140890	-0.70509068	-0.838832556
## 61	-0.577811968	-0.775727908	-0.70355461	-0.837773299
## 62	-0.577811968	-0.775416628	-0.70201439	-0.836814654
## 63	-0.577811968	-0.775028168	-0.70046898	-0.835768586
## 64	-0.577811968	-0.774690152	-0.69891907	-0.834742824
## 65	-0.577811968	-0.774317563	-0.69736418	-0.833664723
## 66	-0.577811968	-0.773924359	-0.69580405	-0.832596008
## 67	-0.577811968	-0.773506079	-0.69423833	-0.831501499
## 68	-0.577811968	-0.773082455	-0.69266697	-0.830411476
## 69	-0.577811968	-0.772690663	-0.69109037	-0.829360838
## 70	-0.577811968	-0.772280389	-0.68950830	-0.828258564
## 71	-0.577811968	-0.771891458	-0.68792104	-0.827200652
## 72	-0.577811968	-0.771515311	-0.68632877	-0.826199204
## 73	-0.577811968	-0.771223273	-0.68473259	-0.825141602
## 74	-0.577811968	-0.770936716	-0.68313260	-0.824184126
## 75	-0.577811968	-0.770638758	-0.68152862	-0.823122942
## 76	-0.577811968	-0.770352370	-0.67992083	-0.822108882
## 77	-0.577811968	-0.770015465	-0.67830854	-0.821042143
## 78	-0.577811968	-0.769708711	-0.67669215	-0.820009304
## 79	-0.577811968	-0.769378551	-0.67507137	-0.818921073
## 80	-0.577811968	-0.769060454	-0.67344633	-0.817948555
## 81	-0.577811968	-0.768723567	-0.67181680	-0.816828344
## 82	-0.577811968	-0.768374760	-0.67018262	-0.815618253
## 83	-0.577811968	-0.768034024	-0.66854389	-0.814419066
## 84	-0.577811968	-0.767662938	-0.66690021	-0.813160744

## 85	-0.577811968	-0.767285485	-0.66525150	-0.811880796
## 86	-0.577811968	-0.766910443	-0.66359778	-0.810639122
## 87	-0.577811968	-0.766562182	-0.66193941	-0.809267525
## 88	-0.577811968	-0.766243758	-0.66027679	-0.807915769
## 89	-0.577811968	-0.765909013	-0.65860971	-0.806508754
## 90	-0.577811968	-0.765587500	-0.65693833	-0.805086631
## 91	-0.577811968	-0.765258096	-0.65526257	-0.803585037
## 92	-0.577811968	-0.764920141	-0.65358229	-0.802033240
## 93	-0.577811968	-0.764600665	-0.65189775	-0.800414991
## 94	-0.577811968	-0.764228900	-0.65020825	-0.798657479
## 95	-0.577811968	-0.763832161	-0.64851345	-0.797021730
## 96	-0.577811968	-0.763420830	-0.64681317	-0.795275518
## 97	-0.577811968	-0.762994722	-0.64510720	-0.793525567
## 98	-0.577811968	-0.762596265	-0.64339591	-0.791887986
## 99	-0.577811968	-0.762127056	-0.64167837	-0.790087264
## 100	-0.577811968	-0.761667447	-0.63995469	-0.788216651
## 101	-0.577811968	-0.761195126	-0.63822470	-0.786217294
## 102	-0.577811968	-0.760733525	-0.63648856	-0.784246269
## 103	-0.577811968	-0.760293823	-0.63474656	-0.782239938
## 104	-0.577811968	-0.759840889	-0.63299851	-0.780046545
## 105	-0.577811968	-0.759394600	-0.63124450	-0.777847690
## 106	-0.577811968	-0.758982936	-0.62948500	-0.775545508
## 107	-0.577811968	-0.758507161	-0.62771915	-0.773247825
## 108	-0.577811968	-0.758066777	-0.62594743	-0.770709021
## 109	-0.577811968	-0.757555466	-0.62416888	-0.768072417
## 110	-0.577811968	-0.757085984	-0.62238407	-0.765608117
## 111	-0.577811968	-0.756554601	-0.62059217	-0.762802547
## 112	-0.577811968	-0.756072415	-0.61879384	-0.760064646
## 113	-0.577811968	-0.755576522	-0.61698889	-0.757051307
## 114	-0.577811968	-0.755057227	-0.61517700	-0.754083534
## 115	-0.577811968	-0.754432836	-0.61335679	-0.750978124
## 116	-0.577811968	-0.753710628	-0.61152694	-0.747817437
## 117	-0.577811968	-0.753069362	-0.60968854	-0.744736637
## 118	-0.577811968	-0.752305362	-0.60783994	-0.741412264
## 119	-0.577811968	-0.751641040	-0.60598248	-0.738169592
## 120	-0.577811968	-0.750853542	-0.60411451	-0.734795163
## 121	-0.577811968	-0.750058600	-0.60223593	-0.731312761
## 122	-0.577811968	-0.749153623	-0.60034527	-0.728104945
## 123	-0.577811968	-0.748053001	-0.59843993	-0.724424309
## 124	-0.577811968	-0.746807207	-0.59651797	-0.720821519
## 125	-0.577811968	-0.745456357	-0.59457799	-0.717018547
## 126	-0.577811968	-0.743905074	-0.59261730	-0.713216268
## 127	-0.577811968	-0.742331243	-0.59063561	-0.709128403
## 128	-0.577811968	-0.740380662	-0.58862790	-0.705020926
## 129	-0.577811968	-0.738630660	-0.58659684	-0.700901039
## 130	-0.577811968	-0.737141936	-0.58454591	-0.696552040
## 131	-0.577811968	-0.735742010	-0.58247630	-0.692262439
## 132	-0.577811968	-0.734206647	-0.58038621	-0.687758642
## 133	-0.577811968	-0.732487131	-0.57827317	-0.683208490
## 134	-0.577811968	-0.730933742	-0.57613941	-0.678909684
## 135	-0.577811968	-0.729226043	-0.57398286	-0.674326399
## 136	-0.577811968	-0.727571793	-0.57180423	-0.669735358
## 137	-0.577811968	-0.725515415	-0.56959817	-0.664955569
## 138	-0.577811968	-0.723619733	-0.56736681	-0.660338343

## 139	-0.577811968	-0.721740501	-0.56511038	-0.655525433
## 140	-0.577811968	-0.719538671	-0.56282457	-0.650602926
## 141	-0.577811968	-0.717437752	-0.56051073	-0.645712981
## 142	-0.577811968	-0.715176191	-0.55816671	-0.640571795
## 143	-0.577811968	-0.712540818	-0.55578752	-0.635489943
## 144	-0.577811968	-0.710230530	-0.55337751	-0.630223476
## 145	-0.577811968	-0.707795701	-0.55093501	-0.624912802
## 146	-0.577811968	-0.705599501	-0.54846321	-0.619871398
## 147	-0.577811968	-0.702678356	-0.54595243	-0.614136604
## 148	-0.577811968	-0.699300139	-0.54339657	-0.608507452
## 149	-0.577811968	-0.696082530	-0.54079778	-0.602627342
## 150	-0.577811968	-0.692747697	-0.53815449	-0.596686020
## 151	-0.577811968	-0.689216859	-0.53546409	-0.590343854
## 152	-0.577811968	-0.685605659	-0.53272550	-0.583698716
## 153	-0.577811968	-0.682430876	-0.52994456	-0.577279764
## 154	-0.577811968	-0.678647537	-0.52711313	-0.570428616
## 155	-0.577811968	-0.674907863	-0.52423180	-0.563392167
## 156	-0.577811968	-0.670588143	-0.52129283	-0.556014604
## 157	-0.577811968	-0.666148181	-0.51829462	-0.548503915
## 158	-0.577811968	-0.661987024	-0.51524089	-0.541632730
## 159	-0.577811968	-0.656609258	-0.51211540	-0.533791138
## 160	-0.577811968	-0.651062369	-0.50891590	-0.525889086
## 161	-0.577811968	-0.644809018	-0.50563295	-0.517404836
## 162	-0.577811968	-0.638479882	-0.50226556	-0.509059423
## 163	-0.577811968	-0.631664460	-0.49880723	-0.500305275
## 164	-0.577811968	-0.623852046	-0.49524465	-0.491373041
## 165	-0.577811968	-0.615909595	-0.49157610	-0.482310249
## 166	-0.577811968	-0.607413548	-0.48779418	-0.472784822
## 167	-0.577811968	-0.598640053	-0.48389520	-0.463454065
## 168	-0.577811968	-0.588419698	-0.47985984	-0.453414967
## 169	-0.577811968	-0.578544674	-0.47569272	-0.443220359
## 170	-0.577811968	-0.568943671	-0.47139750	-0.433699629
## 171	-0.577811968	-0.557494305	-0.46694950	-0.422565635
## 172	-0.577811968	-0.545743721	-0.46234471	-0.411366741
## 173	-0.577811968	-0.532561369	-0.45756403	-0.399226169
## 174	-0.577811968	-0.519216608	-0.45260528	-0.387018670
## 175	-0.577811968	-0.504439081	-0.44744936	-0.373856873
## 176	-0.577811968	-0.489146964	-0.44253343	-0.359462631
## 177	-0.577811968	-0.474147498	-0.43727761	-0.345924940
## 178	-0.577811968	-0.457946692	-0.43026985	-0.331033479
## 179	-0.577811968	-0.440848582	-0.42501404	-0.316142019
## 180	-0.577811968	-0.424026403	-0.41800628	-0.299896789
## 181	-0.577811968	-0.407018769	-0.41275046	-0.283651560
## 182	-0.577811968	-0.388251001	-0.40574271	-0.267406330
## 183	-0.577811968	-0.366430556	-0.39873495	-0.251161101
## 184	-0.577811968	-0.346009659	-0.39172720	-0.233562102
## 185	-0.577811968	-0.323090776	-0.38296750	-0.215963103
## 186	-0.577811968	-0.301374424	-0.37595975	-0.198364105
## 187	-0.577811968	-0.278415512	-0.36720005	-0.179411337
## 188	-0.577811968	-0.254927083	-0.35844036	-0.160458569
## 189	-0.577811968	-0.231984803	-0.34968066	-0.141505801
## 190	-0.465410855	-0.207677044	-0.34092097	-0.121199264
## 191	-0.437310577	-0.183136344	-0.33216127	-0.100892728
## 192	-0.437310577	-0.159402822	-0.32164964	-0.080586191

## 193	-0.437310577	-0.135357918	-0.31113801	-0.058925885
## 194	-0.437310577	-0.113037677	-0.30062637	-0.039973117
## 195	-0.437310577	-0.089346302	-0.29011474	-0.018312811
## 196	-0.437310577	-0.067314354	-0.27960311	0.001993726
## 197	-0.381110021	-0.045563193	-0.26909147	0.022300263
## 198	-0.296809187	-0.025064828	-0.25682790	0.042606800
## 199	-0.282759048	-0.002759071	-0.24456433	0.062913337
## 200	-0.282759048	0.017734113	-0.23230076	0.083219874
## 201	-0.268708909	0.037733122	-0.22003718	0.102172642
## 202	-0.254658770	0.058676463	-0.20777361	0.122479179
## 203	-0.254658770	0.079171907	-0.19551004	0.141431946
## 204	-0.240608631	0.099702300	-0.18149453	0.160384714
## 205	-0.240608631	0.121522478	-0.16747902	0.180691251
## 206	-0.240608631	0.141488184	-0.15521544	0.198290250
## 207	-0.240608631	0.164734965	-0.14119993	0.219950556
## 208	-0.240608631	0.187670380	-0.12543248	0.238903324
## 209	-0.240608631	0.211152920	-0.11141697	0.259209861
## 210	-0.240608631	0.234055451	-0.09564952	0.279516398
## 211	-0.240608631	0.258911355	-0.08163401	0.301176704
## 212	-0.240608631	0.283585941	-0.06586656	0.322837010
## 213	-0.240608631	0.307991743	-0.05009911	0.344497316
## 214	-0.240608631	0.329817009	-0.03257972	0.366157622
## 215	-0.212508353	0.353477342	-0.01681227	0.387817928
## 216	-0.212508353	0.377317279	0.00070712	0.410832003
## 217	-0.212508353	0.400814116	0.01822651	0.432492309
## 218	-0.212508353	0.421229544	0.03574590	0.451445077
## 219	-0.212508353	0.447181725	0.05326529	0.469044075
## 220	-0.212508353	0.473955914	0.07078468	0.496119458
## 221	-0.212508353	0.501303595	0.09005600	0.523194841
## 222	-0.184408075	0.526696819	0.10932733	0.536732532
## 223	-0.170357936	0.552609344	0.12859866	0.563807914
## 224	-0.142257658	0.578555553	0.14786999	0.590883297
## 225	-0.128207519	0.603767709	0.16714132	0.604420988
## 226	-0.128207519	0.632940699	0.18816458	0.631496371
## 227	-0.128207519	0.658901563	0.20918785	0.658571753
## 228	-0.114157380	0.685039070	0.23021112	0.685647136
## 229	-0.100107241	0.711660365	0.25123438	0.699184827
## 230	-0.100107241	0.736550651	0.27225765	0.726260210
## 231	-0.100107241	0.763498069	0.29503286	0.753335592
## 232	-0.100107241	0.788277759	0.31780806	0.766873284
## 233	-0.100107241	0.813588724	0.34058327	0.793948666
## 234	-0.001756267	0.837029702	0.36335848	0.821024049
## 235	0.082544567	0.861597848	0.38613368	0.834561740
## 236	0.082544567	0.885862633	0.41066083	0.861637123
## 237	0.110644845	0.908497251	0.43343603	0.888712505
## 238	0.138745123	0.931851927	0.45796318	0.915787888
## 239	0.152795262	0.953047301	0.48249032	0.929325579
## 240	0.166845401	0.974401373	0.50876941	0.956400962
## 241	0.180895540	0.997188950	0.53329655	0.969938653
## 242	0.223045957	1.017731905	0.55782369	0.997014036
## 243	0.265196374	1.040625324	0.58410278	1.010551727
## 244	0.279246513	1.062662074	0.61038186	1.037627109
## 245	0.279246513	1.085078693	0.63666095	1.051164801
## 246	0.279246513	1.106395848	0.66294003	1.078240183

## 247	0.279246513	1.129136429	0.69097105	1.105315566
## 248	0.279246513	1.150728628	0.71725014	1.118853257
## 249	0.279246513	1.171558617	0.74528116	1.145928640
## 250	0.293296652	1.192857251	0.77331218	1.159466331
## 251	0.588349572	1.212992998	0.80134320	1.186541713
## 252	0.700750684	1.231706542	0.82937423	1.200079405
## 253	0.742901101	1.251289289	0.85740525	1.227154787
## 254	0.756951240	1.268543495	0.88718821	1.240692479
## 255	0.756951240	1.288937908	0.91521923	1.254230170
## 256	0.771001379	1.308811533	0.94500219	1.281305552
## 257	0.771001379	1.329288839	0.96777740	1.294843244
## 258	0.771001379	1.349024533	1.00281618	1.321918626
## 259	0.785051518	1.368554982	1.03785496	1.335456318
## 260	0.785051518	1.387830788	1.07289374	1.362531700
## 261	0.827201935	1.406187689	1.09041312	1.376069391
## 262	0.855302213	1.424793058	1.12545190	1.389607083
## 263	0.967703326	1.443157139	1.16049068	1.416682465
## 264	1.080104438	1.466012014	1.19552946	1.430220157
## 265	1.445408053	1.483697569	1.21304885	1.443757848
## 266	1.459458192	1.499290367	1.24808763	1.470833230
## 267	1.529708887	1.517188518	1.28312641	1.484370922
## 268	1.599959582	1.533930059	1.31816518	1.497908613
## 269	1.712360694	1.551622080	1.35320396	1.511446304
## 270	1.768561250	1.568046441	1.38824274	1.538521687
## 271	1.810711667	1.583781797	1.42328152	1.552059378
## 272	1.866912223	1.598595047	1.44080091	1.565597069
## 273	1.951213058	1.612169434	1.47583969	1.579134761
## 274	2.091714448	1.626637064	1.51087846	1.606210143
## 275	2.133864865	1.641011648	1.54591724	1.619747835
## 276	2.232215838	1.655541388	1.58095602	1.633285526
## 277	2.246265977	1.670015180	1.61599480	1.646823217
## 278	2.260316116	1.683607075	1.65103358	1.660360908
## 279	2.260316116	1.697379840	1.68607236	1.673898600
## 280	2.260316116	1.710621948	1.72111113	1.687436291
## 281	2.260316116	1.725085565	1.75614991	1.714511674
## 282	2.260316116	1.739258671	1.79118869	1.728049365
## 283	2.260316116	1.753533860	1.82622747	1.741587056
## 284	2.260316116	1.767787136	1.86126625	1.755124747
## 285	2.288416394	1.781139006	1.89630503	1.768662439
## 286	2.288416394	1.794573985	1.93134380	1.782200130
## 287	2.288416394	1.807770549	1.96638258	1.795737821
## 288	2.288416394	1.820895964	2.00142136	1.809275512
## 289	2.288416394	1.834261311	2.03646014	1.822813204
## 290	2.288416394	1.846363028	2.07149892	1.835987152
## 291	2.288416394	1.859281558	2.12405708	1.849888586
## 292	2.288416394	1.871972225	2.15909586	1.863137793
## 293	2.302466533	1.885154164	2.19413464	1.876963969
## 294	2.316516672	1.897814757	2.22917342	1.889915714
## 295	2.316516672	1.910809530	2.26421220	1.903292810
## 296	2.330566811	1.924084222	2.29925098	1.916455069
## 297	2.358667089	1.936742859	2.33428975	1.929105431
## 298	2.358667089	1.949859139	2.36932853	1.942156561
## 299	2.358667089	1.962842426	2.42188670	1.954715301
## 300	2.358667089	1.975744411	2.45692548	1.967812050

## 301	2.372717228	1.988212735	2.49196426	1.980411647
## 302	2.372717228	1.999931270	2.52700303	1.991957024
## 303	2.372717228	2.012808304	2.56204181	2.004664987
## 304	2.372717228	2.024360999	2.61459998	2.016872741
## 305	2.386767367	2.035716514	2.64963876	2.029612014
## 306	2.386767367	2.046599520	2.68467754	2.041905244
## 307	2.400817506	2.057880576	2.71971631	2.054248846
## 308	2.414867645	2.069359407	2.77227448	2.066561377
## 309	2.414867645	2.080623685	2.80731326	2.078431784
## 310	2.414867645	2.081269449	2.84235204	2.090652832
## 311	2.414867645	2.092533727	2.87739082	2.102264675
## 312	2.414867645	2.103798005	2.92994898	2.114128523
##	CumProducedGas	ProducedOil	Cum_ProducedOil	ProducedWater
## 1	-0.897193758	-0.4908034853	-1.353791525	-0.90944028
## 2	-0.896179296	-0.4625535911	-1.345898254	-0.91137744
## 3	-0.895093940	-0.4006224046	-1.337734397	-0.91003119
## 4	-0.894090180	-0.6980411320	-1.330870000	-0.91662299
## 5	-0.893104150	-0.6511125271	-1.323800567	-0.92162842
## 6	-0.892135663	-0.6777561846	-1.316847543	-0.92424094
## 7	-0.891137271	-0.6954413469	-1.309971787	-0.92405759
## 8	-0.890310853	-0.8320211400	-1.303692766	-0.92567659
## 9	-0.889274460	-0.7486624254	-1.297049540	-0.92336441
## 10	-0.888282239	-0.7032407022	-1.290207860	-0.92428290
## 11	-0.887335187	-0.7193858645	-1.283436721	-0.92709331
## 12	-0.886343177	-0.6948452179	-1.276558361	-0.92593092
## 13	-0.885371195	-0.5142512286	-1.268890963	-0.92249637
## 14	-0.884497087	-0.7675564050	-1.262330288	-0.92811896
## 15	-0.883526793	-0.5543409084	-1.254838047	-0.92360553
## 16	-0.882571532	-0.5448359616	-1.247304277	-0.91789178
## 17	-0.881586007	-0.4296836967	-1.239267393	-0.91634494
## 18	-0.880619803	-0.5837168241	-1.231903499	-0.91899715
## 19	-0.879627174	-0.6047303738	-1.224631416	-0.92067317
## 20	-0.878640219	-0.6171497294	-1.217413595	-0.92087477
## 21	-0.877692814	-0.7622574799	-1.210829767	-0.92720198
## 22	-0.876715387	-0.6649228505	-1.203820673	-0.92669685
## 23	-0.875780555	-0.6974284438	-1.196953599	-0.92794856
## 24	-0.874811955	-0.7382798441	-1.190265010	-0.92871214
## 25	-0.873849872	-0.6427170427	-1.183158895	-0.92406474
## 26	-0.872990562	-0.8720777015	-1.177054886	-0.92856866
## 27	-0.872022949	-0.7070161863	-1.170229703	-0.92391932
## 28	-0.871105815	-0.7593761894	-1.163633286	-0.92217249
## 29	-0.870130611	-0.8227811395	-1.157313894	-0.92250117
## 30	-0.869169514	-0.8895972725	-1.151286430	-0.92527255
## 31	-0.868154990	-0.8787510353	-1.145211578	-0.92460527
## 32	-0.867143255	-0.8689977014	-1.139094111	-0.92280301
## 33	-0.866151081	-0.9390759851	-1.133282826	-0.92413438
## 34	-0.865523202	-1.0796796494	-1.128085856	-0.92800668
## 35	-0.864479006	-0.8601054428	-1.121929538	-0.92291454
## 36	-0.863412059	-0.8707860886	-1.115819886	-0.92243313
## 37	-0.862345503	-0.8683518949	-1.109699598	-0.92324103
## 38	-0.861358871	-0.9585495346	-1.103973395	-0.92549341
## 39	-0.860303658	-0.8750252286	-1.097882264	-0.92439653
## 40	-0.859288545	-0.9117699620	-1.091951675	-0.91438566
## 41	-0.858244454	-0.9882897515	-1.086355411	-0.91391880

## 42	-0.857238672	-1.0105617958	-1.080856456	-0.91607900
## 43	-0.856221456	-1.0709364231	-1.075621286	-0.91370274
## 44	-0.855170672	-1.0488465293	-1.070289601	-0.91369021
## 45	-0.854160354	-1.0741323372	-1.065068394	-0.91607783
## 46	-0.853113259	-1.0003613651	-1.059524872	-0.91248332
## 47	-0.852145470	-1.0711848102	-1.054290787	-0.91365497
## 48	-0.851125750	-0.9402351250	-1.048484566	-0.91275783
## 49	-0.850095727	-1.0165893230	-1.043011946	-0.91297011
## 50	-0.849152132	-1.1417433090	-1.038086140	-0.91777420
## 51	-0.848114953	-1.0341088940	-1.032690065	-0.91539230
## 52	-0.847116609	-1.1137583611	-1.027641989	-0.91932600
## 53	-0.846085418	-1.1349706204	-1.022686592	-0.91822819
## 54	-0.845115817	-1.1989220221	-1.018010606	-0.92255314
## 55	-0.844124433	-1.2105299798	-1.013385337	-0.91951330
## 56	-0.843062768	-1.2201673997	-1.008802176	-0.91973945
## 57	-0.842017903	-1.2424725623	-1.004316468	-0.91588254
## 58	-0.840955446	-1.1433495457	-0.999397679	-0.91209459
## 59	-0.839925395	-1.1268897597	-0.994406976	-0.91439264
## 60	-0.838868695	-1.0900953489	-0.989255513	-0.91257213
## 61	-0.837809293	-1.0655050249	-0.983996612	-0.90910908
## 62	-0.836850516	-1.1823297630	-0.979248133	-0.91345816
## 63	-0.835804305	-1.0644286807	-0.973984529	-0.91040604
## 64	-0.834778401	-1.1562987937	-0.969122317	-0.91281241
## 65	-0.833700153	-1.1554211593	-0.964256271	-0.91039822
## 66	-0.832631291	-1.2469600895	-0.959790170	-0.91006491
## 67	-0.831536631	-1.2456353582	-0.955318281	-0.91176415
## 68	-0.830446459	-1.2225022385	-0.950745320	-0.91382662
## 69	-0.829395677	-1.2298710562	-0.946204555	-0.91615764
## 70	-0.828293252	-1.2319409488	-0.941672833	-0.91531509
## 71	-0.827235195	-1.2433336376	-0.937190888	-0.91631794
## 72	-0.826233609	-1.2978297699	-0.932947043	-0.91987284
## 73	-0.825175861	-1.2374717018	-0.928439485	-0.91938622
## 74	-0.824218255	-1.3656725697	-0.924492054	-0.92358173
## 75	-0.823156924	-1.1905596560	-0.919779532	-0.91887545
## 76	-0.822142725	-1.2971011677	-0.915532504	-0.91896023
## 77	-0.821075839	-1.2881592317	-0.911246407	-0.91415791
## 78	-0.820042859	-1.3092721362	-0.907052555	-0.91619011
## 79	-0.818954478	-1.3218239649	-0.902913543	-0.91255371
## 80	-0.817981827	-1.3610691285	-0.898945999	-0.92043188
## 81	-0.816861462	-1.3009925658	-0.894715972	-0.91677513
## 82	-0.815651205	-1.2269069700	-0.890162256	-0.91297802
## 83	-0.814451853	-1.2602901978	-0.885754396	-0.91393840
## 84	-0.813193358	-1.1661183642	-0.880935087	-0.91162361
## 85	-0.811913235	-1.2153983672	-0.876331089	-0.90976668
## 86	-0.810671390	-1.2045852482	-0.871679847	-0.90988283
## 87	-0.809299605	-1.1955605165	-0.866989175	-0.90328161
## 88	-0.807947663	-1.1778587950	-0.862221161	-0.90166985
## 89	-0.806540455	-1.1742820206	-0.857437520	-0.90348354
## 90	-0.805118137	-1.2847480487	-0.853136520	-0.90447681
## 91	-0.803616337	-1.2510998747	-0.848688506	-0.90185000
## 92	-0.802064327	-1.2388129922	-0.844186809	-0.90676342
## 93	-0.800445856	-1.3178663302	-0.840030506	-0.90961319
## 94	-0.798688102	-1.1850123438	-0.835293747	-0.90011040
## 95	-0.797052129	-1.2092383668	-0.830662835	-0.90349187



## 96	-0.795305677	-1.1764347089	-0.825888600	-0.89674557
## 97	-0.793555486	-1.0315919046	-0.820481528	-0.89827357
## 98	-0.791917680	-1.1942192261	-0.815784996	-0.90278161
## 99	-0.790116710	-1.0155460972	-0.810307818	-0.89238597
## 100	-0.788245841	-1.1104299738	-0.805245199	-0.89429849
## 101	-0.786246210	-0.9612155563	-0.799530645	-0.88970180
## 102	-0.784274914	-1.0270712592	-0.794103822	-0.89430320
## 103	-0.782268308	-1.0413121202	-0.788739219	-0.89688847
## 104	-0.780074613	-1.0051303976	-0.783216533	-0.89353979
## 105	-0.777875456	-0.9814011489	-0.777590172	-0.89329925
## 106	-0.775572958	-0.7496890921	-0.770951432	-0.89081769
## 107	-0.773274960	-0.7399191990	-0.764270005	-0.89583835
## 108	-0.770735807	-0.5026267118	-0.756551819	-0.88881619
## 109	-0.768098842	-0.2226116413	-0.747610211	-0.88768373
## 110	-0.765634202	-0.3628675637	-0.739281399	-0.89456409
## 111	-0.762828248	-0.2413565887	-0.730421690	-0.88346610
## 112	-0.760089971	-0.4999938084	-0.722692000	-0.88032238
## 113	-0.757076218	-0.3238376689	-0.714192661	-0.87357760
## 114	-0.754108038	-0.4192183197	-0.706110053	-0.87408105
## 115	-0.751002201	-0.4123297172	-0.697997347	-0.86629649
## 116	-0.747841080	-0.4269845567	-0.689948670	-0.86539641
## 117	-0.744759858	-0.3247153033	-0.681453166	-0.86190442
## 118	-0.741435028	-0.1441544324	-0.672168769	-0.86100300
## 119	-0.738191911	-0.1560107771	-0.662936174	-0.86898697
## 120	-0.734817019	0.0335085890	-0.652875545	-0.87414084
## 121	-0.731334138	0.1680184895	-0.642227225	-0.87030521
## 122	-0.728125882	-0.1342686253	-0.632899636	-0.87959691
## 123	-0.724444740	0.1641767688	-0.622268101	-0.86921935
## 124	-0.720841456	-0.0373148561	-0.612516909	-0.87217584
## 125	-0.717037962	-0.0495023837	-0.602818965	-0.87137635
## 126	-0.713235161	-0.0761294821	-0.593237358	-0.86807932
## 127	-0.709146734	-0.1090324948	-0.583799509	-0.86473771
## 128	-0.705038694	-0.2129742214	-0.574815794	-0.84921031
## 129	-0.700918241	0.0137866523	-0.564841333	-0.84782041
## 130	-0.696568645	-0.0387720605	-0.555096507	-0.84124207
## 131	-0.692278454	0.2207427937	-0.544217828	-0.84266855
## 132	-0.687774039	0.2868137654	-0.533050477	-0.83892299
## 133	-0.683223262	0.1963180610	-0.522278513	-0.83648567
## 134	-0.678923867	0.1624380590	-0.511654575	-0.84465079
## 135	-0.674339952	0.3174481758	-0.500353379	-0.82431207
## 136	-0.669748281	0.2052268788	-0.489542491	-0.78352327
## 137	-0.664967836	0.2037862335	-0.478737898	-0.79182339
## 138	-0.660349975	0.0005558988	-0.468821243	-0.80079011
## 139	-0.655536405	0.1932380609	-0.458062736	-0.77144682
## 140	-0.650613222	0.1826070925	-0.447350677	-0.77611365
## 141	-0.645722605	0.1128931098	-0.436943207	-0.76643230
## 142	-0.640580713	0.2013354807	-0.426149321	-0.76035976
## 143	-0.635498164	0.1066668729	-0.415769055	-0.76477983
## 144	-0.630230974	0.2126619330	-0.404925682	-0.75560159
## 145	-0.624919571	0.2995477446	-0.393702695	-0.75052071
## 146	-0.619877475	0.1331283799	-0.383206814	-0.76883800
## 147	-0.614141893	0.6063886231	-0.370643201	-0.69532217
## 148	-0.608511969	0.5144357144	-0.358481341	-0.69221824
## 149	-0.602631051	0.4650397975	-0.346535298	-0.67485309

## 150	-0.596688913	0.3033232287	-0.335295815	-0.67391609
## 151	-0.590345876	0.3816148463	-0.323714266	-0.63814324
## 152	-0.583699826	0.3306126927	-0.312355552	-0.57000374
## 153	-0.577279993	0.1108066581	-0.301957198	-0.55410687
## 154	-0.570427904	0.5065370043	-0.289829849	-0.53938998
## 155	-0.563390490	0.5586817386	-0.277474673	-0.49511424
## 156	-0.556011914	0.7857241177	-0.264127520	-0.36777504
## 157	-0.548500193	1.0707069304	-0.249535242	-0.40221291
## 158	-0.541628064	0.5855572240	-0.237062643	-0.49430852
## 159	-0.533785396	0.6097004513	-0.224484560	-0.39049247
## 160	-0.525882259	0.6387120659	-0.211779721	-0.33198949
## 161	-0.517396845	0.6970002414	-0.198820214	-0.32104154
## 162	-0.509050286	0.1553176285	-0.188227386	-0.37485220
## 163	-0.500294935	0.5165056070	-0.176056483	-0.25962520
## 164	-0.491361476	0.4496563557	-0.164177652	-0.28749298
## 165	-0.482297439	0.5341742102	-0.151929552	-0.25041341
## 166	-0.472770704	1.0422914448	-0.137461425	-0.25861646
## 167	-0.463438666	0.7189907804	-0.124405838	-0.35104824
## 168	-0.453398190	1.3259826445	-0.108698228	-0.32033557
## 169	-0.443202182	1.0432353158	-0.094225977	-0.29661865
## 170	-0.433680144	1.1180495138	-0.079426853	-0.34687543
## 171	-0.422544623	1.0905778993	-0.064747756	-0.16965136
## 172	-0.411344190	1.2041404867	-0.049572489	0.10006949
## 173	-0.399201952	1.1893531740	-0.034461831	0.20162517
## 174	-0.386992777	1.0691503711	-0.019876353	0.09437070
## 175	-0.373829172	0.9531867083	-0.005797535	0.10262977
## 176	-0.359748040	1.0039073565	0.008502887	-0.01031868
## 177	-0.345802304	1.0055467114	0.022810473	0.05743175
## 178	-0.330908799	1.1386325258	0.037699526	0.38623279
## 179	-0.315879899	1.5657755620	0.054454821	0.31641584
## 180	-0.299903230	1.5885774988	0.071309741	0.30231315
## 181	-0.283520374	1.9996912868	0.089960868	0.38427687
## 182	-0.267814496	1.5955323380	0.106846175	0.60258410
## 183	-0.250754663	2.1038814005	0.125952521	0.50788876
## 184	-0.233965621	1.8905003125	0.144126580	0.35065110
## 185	-0.215822624	2.0374958052	0.162942880	0.48429295
## 186	-0.198085814	1.7026865379	0.180296356	1.24636372
## 187	-0.179401235	1.5651463147	0.197048902	2.62402598
## 188	-0.160039678	1.7032164304	0.214404693	2.10946393
## 189	-0.141084308	1.4079007139	0.230470213	1.89863151
## 190	-0.120910379	1.9993766631	0.249119966	1.47005518
## 191	-0.101142636	1.9549650476	0.267575679	1.11942544
## 192	-0.080427125	2.1850874269	0.287036825	1.02322507
## 193	-0.059440822	2.5715280950	0.308186379	1.86193486
## 194	-0.040079266	2.0313689231	0.326975910	1.65950591
## 195	-0.018551381	2.3078568965	0.346973451	1.79138579
## 196	0.002028735	2.0654310756	0.365911803	1.77349246
## 197	0.022879642	1.8184183728	0.383770927	1.78758152
## 198	0.042782780	1.5594499702	0.400498585	1.79551082
## 199	0.063092105	1.3874998525	0.416474971	1.87168383
## 200	0.083130639	1.2826308139	0.431993171	2.06431368
## 201	0.102221404	1.0471598322	0.446482569	2.22818569
## 202	0.121989147	1.0415297243	0.460947369	4.03177627
## 203	0.141079913	1.3081484499	0.476577059	2.70165205

## 204	0.160712260	1.1351716654	0.491450992	2.41993043
## 205	0.180750794	1.3051843637	0.507067731	1.61538392
## 206	0.199029187	0.9263277820	0.521029199	1.33222447
## 207	0.219473907	1.2747321038	0.536512889	1.54223982
## 208	0.238564673	1.0814206944	0.551151977	1.33222194
## 209	0.259415580	0.9913886461	0.565397704	0.95629666
## 210	0.279589509	0.5927604503	0.577901774	0.75545837
## 211	0.300981998	0.8954449844	0.591728311	0.88219303
## 212	0.322509882	0.9839370327	0.605941481	0.81227078
## 213	0.344037767	0.7880920748	0.619298980	0.77093261
## 214	0.366242629	1.1845675823	0.634388730	1.12056925
## 215	0.387905909	1.0907766090	0.649068695	1.45123033
## 216	0.410381562	1.2243591976	0.664332299	1.98293003
## 217	0.432586424	1.0424570362	0.678801150	1.88324582
## 218	0.451541794	0.6463292707	0.691539269	1.04197431
## 219	0.474423633	1.8106521357	0.709364461	1.73804123
## 220	0.496763891	1.0037417651	0.723664160	1.64985198
## 221	0.520051917	1.1000331687	0.738384569	1.65728995
## 222	0.542256778	0.8058434737	0.751819625	1.43190590
## 223	0.565003222	0.9157464910	0.765734862	1.33616170
## 224	0.587885062	0.9721634836	0.779896592	1.15299680
## 225	0.610631506	0.6790170145	0.792777528	1.18246439
## 226	0.634190323	0.9835064951	0.806988817	1.40696712
## 227	0.657478349	1.1213116646	0.821802193	1.49298312
## 228	0.681037166	1.4027508211	0.837845213	1.43171498
## 229	0.704189796	1.2804450074	0.853353863	1.33747153
## 230	0.725582285	1.1347080094	0.868225770	1.21245881
## 231	0.749141102	1.3219090959	0.883915582	1.38920391
## 232	0.771616755	0.9551241278	0.898002865	1.45594173
## 233	0.794904781	1.4390153394	0.914204329	1.50324546
## 234	0.817245038	0.7844987413	0.927546128	1.37271907
## 235	0.840803855	0.9582041280	0.941646867	1.24956883
## 236	0.864091881	0.6286937857	0.954307935	1.01732098
## 237	0.886567534	0.8288441202	0.967843485	0.92855016
## 238	0.909449374	0.8687185312	0.981553250	0.95308179
## 239	0.930029490	0.9346570298	0.995551110	0.91685672
## 240	0.951557374	0.9199028353	1.009484506	0.95854349
## 241	0.973491445	1.0427551007	1.023954659	0.90702852
## 242	0.993259188	1.0279346697	1.038360060	0.83892106
## 243	1.015057863	1.2643164043	1.053798243	1.07928483
## 244	1.035908770	1.1526912363	1.068748721	0.88952124
## 245	1.057436655	1.3222899561	1.084440197	0.76302796
## 246	1.078152166	0.8733219724	1.098170076	0.73255641
## 247	1.099544655	1.0453880041	1.112651732	0.85974313
## 248	1.120937144	0.8807735857	1.126414168	0.74159429
## 249	1.141517260	1.1777452163	1.141474110	0.67203881
## 250	1.162774354	1.2365632843	1.156791036	0.77285926
## 251	1.183083678	1.0804271460	1.171425783	0.76835500
## 252	1.202580630	1.2104991967	1.186628831	0.64780348
## 253	1.222483769	1.6968577204	1.203956841	0.79745641
## 254	1.240220579	0.9092718670	1.217843789	0.51419721
## 255	1.260123718	1.3664035071	1.233728003	0.69001859
## 256	1.279485274	1.0861897270	1.248387927	0.81487530
## 257	1.299253017	1.4079503913	1.264453665	1.01634858

## 258	1.318208387	1.0802284363	1.279087544	0.98101113
## 259	1.337434548	0.9896002589	1.293325457	0.99370533
## 260	1.356525314	0.7996337959	1.306733383	0.67261190
## 261	1.374803706	0.9976976787	1.321006674	0.61812184
## 262	1.393623681	0.7924802471	1.334383346	0.72201527
## 263	1.411631282	0.8690497140	1.348094558	0.88865749
## 264	1.430315861	1.0455867138	1.362577083	1.05029385
## 265	1.448594253	0.9615987518	1.376692654	0.79242322
## 266	1.464841713	0.3318380691	1.388056722	0.79672555
## 267	1.482578524	0.7848796015	1.401400185	1.05254556
## 268	1.499773752	0.4888849602	1.413450411	0.95413999
## 269	1.517239772	0.3025615082	1.424686566	1.00121739
## 270	1.533758023	0.0484118157	1.434812309	0.97058967
## 271	1.550682460	0.0340881589	1.444875470	1.02167874
## 272	1.567471502	-0.0371492647	1.454627386	0.95880127
## 273	1.583583567	-0.2484604601	1.463456057	0.79158201
## 274	1.599966422	-0.2160376624	1.472426387	0.70656575
## 275	1.615807696	-0.1822404561	1.481544382	0.60305920
## 276	1.631919760	-0.0475980825	1.491250645	0.60635724
## 277	1.647761033	0.0015660064	1.501171713	0.64165811
## 278	1.662654538	-0.0912148593	1.510687410	0.44799538
## 279	1.678360416	-0.0828028158	1.520239860	0.57142434
## 280	1.693389317	-0.4957712275	1.527987999	0.47227015
## 281	1.708959799	-0.3312396048	1.536454998	0.39773280
## 282	1.723582513	-0.5362748858	1.544026172	0.34352861
## 283	1.738611414	-0.7140869394	1.550820462	0.38416341
## 284	1.753369523	-0.7057245733	1.557651289	0.38946700
## 285	1.767450655	-0.8347368391	1.563918445	0.50929422
## 286	1.781937974	-0.7046482292	1.570753975	0.68443756
## 287	1.795748315	-0.6293372570	1.577918547	0.55504917
## 288	1.809694051	-0.5881215556	1.585263196	0.58341593
## 289	1.823639788	-0.6351495154	1.592402375	0.67398321
## 290	1.836318258	-0.6972628524	1.599270172	0.54845434
## 291	1.850128599	-0.5918473623	1.606598542	0.73610332
## 292	1.863472626	-0.7835194167	1.613089474	0.76263309
## 293	1.877147571	-0.8232944728	1.619406623	0.81078660
## 294	1.890254224	-0.9730719011	1.625069376	0.77351342
## 295	1.903633157	-1.0583845944	1.630359387	0.81464149
## 296	1.916797223	-1.0934734137	1.635496091	0.95964483
## 297	1.929449321	-0.9901940527	1.641084035	0.77316136
## 298	1.942502244	-1.0748774986	1.646301986	0.97298991
## 299	1.955062708	-0.8068015686	1.652691195	0.78395826
## 300	1.968161255	-0.8579361953	1.658856990	0.83820686
## 301	1.980762581	-0.7258770477	1.665599769	0.72883230
## 302	1.992309544	-0.8388931834	1.671848765	0.72949319
## 303	2.005019251	-0.6230779018	1.679040686	0.84174729
## 304	2.017228682	-0.7835359758	1.685531545	0.77350299
## 305	2.029969704	-0.6902417767	1.692430018	0.85204175
## 306	2.042264621	-1.1170039527	1.697463914	0.82231873
## 307	2.054609919	-0.9876936224	1.703062782	0.76895407
## 308	2.066924140	-0.9496075986	1.708828054	0.70547459
## 309	2.078796176	-1.0094026560	1.714332073	0.70878962
## 310	2.091018902	-0.9576387819	1.720062255	0.66424736
## 311	2.102632340	-0.9068518972	1.726014332	0.49453561

## 312	2.114497816	-0.9730719011	1.731677085	0.49563156
##	CumProducedWater	WellCount	DomesticFlightsDFW	
## 1	-0.80645988	-1.071509482	-0.526757055	
## 2	-0.80591104	-1.073003891	-0.737375495	
## 3	-0.80534872	-1.067960262	-0.724211842	
## 4	-0.80485239	-1.066465854	-0.263484006	
## 5	-0.80440616	-1.064597843	-0.869012020	
## 6	-0.80398608	-1.064037440	-0.145011133	
## 7	-0.80356416	-1.066279052	-0.342465920	
## 8	-0.80315845	-1.057873004	-0.447775140	
## 9	-0.80272960	-1.060675020	0.460516881	
## 10	-0.80230994	-1.061048623	-0.066029218	
## 11	-0.80191841	-1.056752198	-0.237156701	
## 12	-0.80151525	-1.059927816	0.592153406	
## 13	-0.80107771	-1.059927816	0.236734789	
## 14	-0.80069645	-1.063103434	0.118261916	
## 15	-0.80027001	-1.064224241	0.184080179	
## 16	-0.79978637	-1.061609026	0.460516881	
## 17	-0.79928726	-1.062916633	-0.368793225	
## 18	-0.79881469	-1.061795827	0.170916526	
## 19	-0.79835890	-1.063477036	-0.066029218	
## 20	-0.79790512	-1.061048623	-0.237156701	
## 21	-0.79751468	-1.061609026	0.473680533	
## 22	-0.79711919	-1.064411042	-0.145011133	
## 23	-0.79673622	-1.061235424	-0.605738970	
## 24	-0.79636090	-1.061609026	0.236734789	
## 25	-0.79593905	-1.060861822	-0.092356523	
## 26	-0.79556229	-1.064037440	0.249898441	
## 27	-0.79513900	-1.058993811	-0.355629573	
## 28	-0.79469821	-1.064971445	-0.263484006	
## 29	-0.79426072	-1.062169429	-0.882175672	
## 30	-0.79385096	-1.060114617	-0.368793225	
## 31	-0.79343453	-1.062543031	-0.934830282	
## 32	-0.79300006	-1.072630289	-0.987484892	
## 33	-0.79257891	-1.065718649	-0.658393580	
## 34	-0.79219653	-1.072630289	-0.790030105	
## 35	-0.79176317	-1.066465854	-1.198103332	
## 36	-0.79132500	-1.077673918	-0.618902622	
## 37	-0.79089491	-1.066092251	-0.763702800	
## 38	-0.79048737	-1.064411042	-0.974321239	
## 39	-0.79006885	-1.060301418	-1.395558119	
## 40	-0.78955012	-1.060301418	-0.776866452	
## 41	-0.78902671	-1.055070988	-1.171776027	
## 42	-0.78852494	-1.057686203	-0.513593403	
## 43	-0.78799937	-1.060114617	-1.198103332	
## 44	-0.78747368	-1.057873004	-1.092794112	
## 45	-0.78697189	-1.056565397	-0.539920708	
## 46	-0.78643412	-1.055444591	-0.737375495	
## 47	-0.78590808	-1.056752198	-1.369230814	
## 48	-0.78537305	-1.052829376	-0.592575317	
## 49	-0.78484015	-1.056004994	-0.566248013	
## 50	-0.78435534	-1.061422225	-0.882175672	
## 51	-0.78384669	-1.056938999	-1.237594289	
## 52	-0.78337741	-1.060488219	-0.711048190	

## 53	-0.78289715	-1.064037440	-1.250757941
## 54	-0.78246017	-1.060114617	-0.750539147
## 55	-0.78199277	-1.064224241	-1.277085246
## 56	-0.78152763	-1.066092251	-1.553521948
## 57	-0.78102389	-1.062356230	-0.684720885
## 58	-0.78048223	-1.066092251	-1.105957764
## 59	-0.77996357	-1.056752198	-1.461376381
## 60	-0.77942668	-1.059741015	-0.513593403
## 61	-0.77885514	-1.061609026	-1.026975849
## 62	-0.77832712	-1.060675020	-1.290248899
## 63	-0.77776856	-1.056565397	-1.500867339
## 64	-0.77723408	-1.056565397	-0.790030105
## 65	-0.77667544	-1.057312601	-1.198103332
## 66	-0.77611346	-1.058059805	-0.961157587
## 67	-0.77556849	-1.056004994	-1.263921594
## 68	-0.77504417	-1.057125800	-1.171776027
## 69	-0.77454318	-1.061982628	-0.763702800
## 70	-0.77403375	-1.056191795	-0.632066275
## 71	-0.77353436	-1.055631392	-1.171776027
## 72	-0.77307056	-1.058246607	-0.263484006
## 73	-0.77260189	-1.061982628	0.289389399
## 74	-0.77217521	-1.061048623	-0.223993048
## 75	-0.77170142	-1.059741015	-0.447775140
## 76	-0.77122848	-1.059741015	-0.460938793
## 77	-0.77070747	-1.062729832	-0.223993048
## 78	-0.77020681	-1.062729832	0.249898441
## 79	-0.76966974	-1.061235424	-0.421447835
## 80	-0.76921153	-1.060675020	-1.040139502
## 81	-0.76871672	-1.057499402	-0.302974963
## 82	-0.76818390	-1.053763381	-0.645229927
## 83	-0.76766070	-1.052829376	-0.882175672
## 84	-0.76711432	-1.051334967	-0.395120530
## 85	-0.76654936	-1.049093354	-0.447775140
## 86	-0.76598556	-1.041434511	-0.605738970
## 87	-0.76535568	-1.042368516	-0.697884537
## 88	-0.76470966	-1.038445693	-0.381956878
## 89	-0.76408181	-1.039566500	-0.342465920
## 90	-0.76346389	-1.036951285	-0.066029218
## 91	-0.76281968	-1.033402065	-0.539920708
## 92	-0.76222466	-1.028171635	-0.526757055
## 93	-0.76165816	-1.023688409	0.105098264
## 94	-0.76099653	-1.018457979	-0.092356523
## 95	-0.76036876	-1.019578786	-0.210829396
## 96	-0.75967346	-1.021073194	0.447353228
## 97	-0.75899345	-1.015655963	0.868590108
## 98	-0.75835857	-1.014348356	0.671135320
## 99	-0.75761962	-1.016029565	0.026116349
## 100	-0.75689983	-1.004447899	-0.316138615
## 101	-0.75613402	-0.995668249	-0.105520176
## 102	-0.75541426	-0.990811421	0.697462625
## 103	-0.75472039	-0.981844970	0.170916526
## 104	-0.75399300	-0.970450105	0.026116349
## 105	-0.75326320	-0.962604460	0.605317058
## 106	-0.75250856	-0.953264407	-0.539920708

## 107	-0.75180417	-0.954572014	-0.381956878
## 108	-0.75102950	-0.945979165	0.421025923
## 109	-0.75024349	-0.924123440	-0.039701913
## 110	-0.74952635	-0.919079811	-0.131847481
## 111	-0.74869812	-0.906003737	-0.329302268
## 112	-0.74783842	-0.891433253	0.026116349
## 113	-0.74691121	-0.877049571	-0.316138615
## 114	-0.74598904	-0.867709518	0.631644363
## 115	-0.74498895	-0.859677072	0.407862271
## 116	-0.74397984	-0.849963417	0.184080179
## 117	-0.74293579	-0.832217315	0.289389399
## 118	-0.74188271	-0.827547288	2.092809788
## 119	-0.74090954	-0.818394036	1.066044895
## 120	-0.73998797	-0.811855999	2.790483369
## 121	-0.73902800	-0.799900731	1.921682306
## 122	-0.73816105	-0.795977908	2.158628050
## 123	-0.73719021	-0.779165812	1.566263689
## 124	-0.73624897	-0.767023743	2.724665107
## 125	-0.73529972	-0.751706055	1.803209434
## 126	-0.73431748	-0.737509174	2.461392057
## 127	-0.73330178	-0.723872696	1.750554824
## 128	-0.73213066	-0.707434202	2.145464398
## 129	-0.73094562	-0.688940897	2.171791703
## 130	-0.72969474	-0.675678021	2.132300746
## 131	-0.72845813	-0.679040440	1.803209434
## 132	-0.72718403	-0.652701489	2.658846845
## 133	-0.72588554	-0.639065012	2.764156064
## 134	-0.72466878	-0.628417351	2.053318831
## 135	-0.72324842	-0.611044851	1.684736561
## 136	-0.72141979	-0.595540363	2.263937270
## 137	-0.71967423	-0.584892702	1.934845958
## 138	-0.71801843	-0.570882622	2.435064753
## 139	-0.71606890	-0.566212595	2.277100923
## 140	-0.71416610	-0.548279693	2.105973441
## 141	-0.71216638	-0.539313242	2.974774504
## 142	-0.71010588	-0.526237167	2.303428228
## 143	-0.70808962	-0.517083915	2.000664221
## 144	-0.70598149	-0.505502248	2.198119008
## 145	-0.70382250	-0.490371362	1.579427341
## 146	-0.70184686	-0.479163298	0.131425569
## 147	-0.69913534	-0.464592815	-0.500429750
## 148	-0.69639276	-0.454318756	-0.145011133
## 149	-0.69347635	-0.439001068	-0.329302268
## 150	-0.69055056	-0.436012251	0.131425569
## 151	-0.68726669	-0.411541312	0.065607306
## 152	-0.68330076	-0.396223624	0.249898441
## 153	-0.67917570	-0.380905937	0.447353228
## 154	-0.67490332	-0.369697873	0.315716704
## 155	-0.67018776	-0.355874594	-0.395120530
## 156	-0.66419755	-0.345787336	0.710626278
## 157	-0.65855206	-0.327667632	0.197243831
## 158	-0.65382843	-0.304317499	-0.289811310
## 159	-0.64806562	-0.287131801	0.026116349
## 160	-0.64171720	-0.268825296	-0.039701913

## 161	-0.63525920	-0.267891291	-0.000210956
## 162	-0.62933983	-0.226981857	0.342044008
## 163	-0.62226706	-0.213345379	0.039280001
## 164	-0.61547324	-0.192610461	0.026116349
## 165	-0.60830826	-0.176171967	0.197243831
## 166	-0.60122539	-0.148338608	0.065607306
## 167	-0.59506775	-0.133207721	-0.421447835
## 168	-0.58860268	-0.105187561	0.960735675
## 169	-0.58190021	-0.092858691	-0.263484006
## 170	-0.57570079	-0.062970520	-0.237156701
## 171	-0.56772740	-0.022247887	-0.105520176
## 172	-0.55705415	-0.005062189	-0.092356523
## 173	-0.54536434	0.040704072	-0.302974963
## 174	-0.53474813	0.070405442	0.328880356
## 175	-0.52404924	0.097865199	-0.237156701
## 176	-0.51448096	0.138401031	0.394698618
## 177	-0.50423450	0.171278018	0.170916526
## 178	-0.49069680	0.211627049	-0.671557232
## 179	-0.47785795	0.231614763	-0.539920708
## 180	-0.46516028	0.279622637	0.065607306
## 181	-0.45164215	0.311378819	-0.908502977
## 182	-0.43593881	0.353782661	-0.855848367
## 183	-0.42118336	0.379000805	-0.947993934
## 184	-0.40800182	0.401977336	-0.737375495
## 185	-0.39348256	0.466610506	-1.369230814
## 186	-0.37133509	0.489213435	-1.132285069
## 187	-0.33539746	0.532551282	-1.579849253
## 188	-0.30461050	0.572900313	-1.395558119
## 189	-0.27593395	0.618292972	-1.474540034
## 190	-0.25154737	0.656587191	-1.658831168
## 191	-0.23067053	0.676014502	-1.066466807
## 192	-0.21075664	0.700111840	-0.618902622
## 193	-0.18244741	0.729626408	-1.303412551
## 194	-0.15616446	0.769601837	-1.408721771
## 195	-0.12856142	0.800797615	-1.593012906
## 196	-0.10113748	0.809577265	-1.527194643
## 197	-0.07357252	0.819664523	-1.566685601
## 198	-0.04592818	0.833114200	-0.776866452
## 199	-0.01752137	0.830685786	-1.290248899
## 200	0.01281364	0.842454253	-1.000648544
## 201	0.04478898	0.832366995	-1.211266984
## 202	0.09481796	0.834982210	-1.184939679
## 203	0.13153262	0.845816672	-1.395558119
## 204	0.16542729	0.871595220	-0.381956878
## 205	0.19126858	0.869166806	-1.079630459
## 206	0.21427550	0.899241778	-1.145448722
## 207	0.23938464	0.922591911	-1.527194643
## 208	0.26239153	0.874770838	-1.132285069
## 209	0.28163547	0.956776506	-1.329739856
## 210	0.29886906	0.976764221	-0.803193757
## 211	0.31737124	1.001608762	-0.934830282
## 212	0.33517351	1.018981262	-0.855848367
## 213	0.35256199	1.046254218	-0.658393580
## 214	0.37345027	1.064187120	-1.040139502



## 215	0.39764842	1.069791152	-0.711048190
## 216	0.42716879	1.099492522	-0.171338438
## 217	0.45569134	1.102668140	-0.790030105
## 218	0.47579290	1.094075291	-0.237156701
## 219	0.50286198	1.129754295	-0.908502977
## 220	0.52904829	1.153291229	-0.869012020
## 221	0.55530906	1.173278943	-0.368793225
## 222	0.57931378	1.192332652	-0.592575317
## 223	0.60236010	1.199804695	-0.790030105
## 224	0.62357298	1.222407624	-0.421447835
## 225	0.64508083	1.239219720	-0.395120530
## 226	0.66883591	1.262009450	-0.776866452
## 227	0.69345199	1.268547488	-0.118683828
## 228	0.71745479	1.266492676	0.447353228
## 229	0.74051423	1.284985982	-0.513593403
## 230	0.76232232	1.280129154	-0.908502977
## 231	0.78589959	1.292831626	-1.092794112
## 232	0.81014490	1.305534099	-1.145448722
## 233	0.83486371	1.300677271	-0.961157587
## 234	0.85827597	1.312445738	-0.803193757
## 235	0.88045552	1.327389824	-0.737375495
## 236	0.90031030	1.326642620	-0.737375495
## 237	0.91927651	1.322346195	-0.355629573
## 238	0.93848827	1.331686248	-0.632066275
## 239	0.95733743	1.314313749	-0.592575317
## 240	0.97660387	1.333741060	-0.026538261
## 241	0.99535464	1.339531893	-0.395120530
## 242	1.01342368	1.335048668	-0.355629573
## 243	1.03389871	1.347190737	-0.368793225
## 244	1.05247425	1.354475979	0.052443654
## 245	1.06978360	1.348498344	0.170916526
## 246	1.08678794	1.362882027	0.289389399
## 247	1.10506540	1.358959204	0.052443654
## 248	1.12216021	1.360640414	0.684298973
## 249	1.13855878	1.362882027	0.184080179
## 250	1.15596655	1.373342886	-0.145011133
## 251	1.17332923	1.363068828	0.302553051
## 252	1.18948521	1.342707511	0.802771845
## 253	1.20713919	1.349432350	0.184080179
## 254	1.22195779	1.329444636	-0.158174786
## 255	1.23853634	1.348871947	-0.184502091
## 256	1.25636468	1.352981570	-0.368793225
## 257	1.27620973	1.358772403	0.460516881
## 258	1.29570106	1.356343989	0.223571136
## 259	1.31531946	1.346069931	0.105098264
## 260	1.33172377	1.351300360	0.447353228
## 261	1.34758264	1.361014016	0.486844186
## 262	1.36448146	1.360453613	0.210407484
## 263	1.38304835	1.353168371	0.736953583
## 264	1.40323319	1.354102376	1.645245604
## 265	1.42083679	1.343641517	1.197681420
## 266	1.43848345	1.329818238	0.605317058
## 267	1.45869083	1.320851786	1.079208547
## 268	1.47791319	1.302545282	0.789608193

## 269	1.49760678	1.277513939	1.092372200
## 270	1.51699380	1.274525122	1.184517767
## 271	1.53689220	1.249493779	1.039717590
## 272	1.55616122	1.247999370	0.842262803
## 273	1.57375640	1.242582139	0.789608193
## 274	1.59050058	1.244636951	0.763280888
## 275	1.60620867	1.225396441	0.618480711
## 276	1.62194978	1.202980313	1.750554824
## 277	1.63804425	1.205408727	0.710626278
## 278	1.65220018	1.176454561	-0.237156701
## 279	1.66759162	1.168795718	0.197243831
## 280	1.68199054	1.173278943	0.526335143
## 281	1.69564335	1.165059696	0.565826101
## 282	1.70875359	1.172344938	1.026553937
## 283	1.72227058	1.163565288	0.631644363
## 284	1.73584065	1.160016068	1.250336029
## 285	1.75061018	1.159455664	0.855426455
## 286	1.76713286	1.153851632	0.829099150
## 287	1.78236038	1.150489213	1.421463512
## 288	1.79787185	1.141335961	1.974336916
## 289	1.81428988	1.138907547	0.973899327
## 290	1.82945140	1.129941096	0.118261916
## 291	1.84649124	1.138533945	0.157752874
## 292	1.86379664	1.138907547	0.921244718
## 293	1.88158406	1.138160343	0.447353228
## 294	1.89899837	1.143203971	1.013390285
## 295	1.91682437	1.147873998	0.618480711
## 296	1.93610183	1.137039536	0.908081065
## 297	1.95351262	1.140401955	0.592153406
## 298	1.97292366	1.136665934	0.421025923
## 299	1.99044253	1.121908650	0.671135320
## 300	2.00850441	1.133863918	2.079646136
## 301	2.02547148	1.120601042	0.618480711
## 302	2.04244515	1.108832575	0.144589221
## 303	2.06054248	1.108458973	0.026116349
## 304	2.07795669	1.112381795	0.789608193
## 305	2.09615706	1.103788946	0.355207661
## 306	2.11405991	1.092394081	1.158190462
## 307	2.13142858	1.075021582	0.618480711
## 308	2.14816184	1.073153571	1.066044895
## 309	2.16492828	1.067175937	0.368371313
## 310	2.18124886	1.050363841	2.895792589
## 311	2.19587065	0.964435350	1.592590994
## 312	2.21050342	0.875891644	-1.237594289
##	InternationalFlightsDFW	TotalFlightsDFW	Precipitation
## 1	-1.581523359	-0.9655434256	-0.4114226546
## 2	-1.787564957	-1.2123405535	0.6848648897
## 3	-1.478502559	-1.1001600408	-0.0162623657
## 4	-1.444162293	-0.6963101951	0.3992204523
## 5	-1.306801227	-1.1674683484	0.0503503687
## 6	-1.272460961	-0.5392574773	0.2513176013
## 7	-1.238120695	-0.6963101951	-1.4241620236
## 8	-1.272460961	-0.7972726565	-0.8619053840
## 9	-1.753224691	-0.1802798367	0.5188975684
			1.226528933

## 10	-1.924926023	-0.6850921438	2.0487324011	-0.047616694
## 11	-1.581523359	-0.7187462976	-0.5367449177	-0.923349273
## 12	-1.341141494	0.0665172912	-0.2307779511	-1.236388097
## 13	-1.444162293	-0.2700242469	-0.7919055614	-1.476988185
## 14	-1.547183092	-0.4046408621	-0.2680359212	-1.448530110
## 15	-1.409822027	-0.3036784007	-0.3402938026	-0.475781367
## 16	-1.478502559	-0.0905354266	0.0887373682	-0.019158620
## 17	-0.310933502	-0.4158589134	1.3013149404	-0.456378134
## 18	0.066809429	0.1674797526	-0.5164223885	0.866922350
## 19	-0.242252969	-0.1354076317	0.8643805638	1.212299896
## 20	-0.929058297	-0.5056033235	-0.3888420667	1.142448257
## 21	-1.032079096	0.0665172912	0.3811559820	0.090793034
## 22	-1.444162293	-0.5953477337	1.9132488735	-0.414984571
## 23	-1.581523359	-1.0328517332	1.4390565268	-1.081162234
## 24	-1.203780428	-0.1914978880	0.0322858983	-1.632214049
## 25	-0.963398563	-0.3934228108	-0.4712612127	-1.324349420
## 26	-1.375481760	-0.2363700931	-0.2917455386	-1.118675151
## 27	-0.997738830	-0.6290018875	0.7368002420	-1.051410610
## 28	-1.169440162	-0.6065657850	0.8948643575	-0.271400647
## 29	-0.619995899	-0.9543253743	2.0961516358	-0.298565173
## 30	-0.070551637	-0.3373325545	0.0887373682	0.565525465
## 31	-0.551315367	-0.9767614768	0.0356729865	1.192896663
## 32	-0.723016699	-1.0777239383	0.0243826926	1.223941835
## 33	-0.757356965	-0.8084907078	0.3021239242	0.132186597
## 34	-1.203780428	-1.0665058870	-1.1306143804	0.565525465
## 35	-1.135099895	-1.3918293738	-1.0210985289	-0.571503983
## 36	-1.306801227	-0.9543253743	-0.4633580069	-1.206636473
## 37	-1.306801227	-1.0777239383	-0.8754537367	-0.947926701
## 38	-1.100759629	-1.1899044509	-1.3033558781	-0.175678032
## 39	-0.654336166	-1.4030474251	-0.4870676242	-0.147219957
## 40	-1.032079096	-0.9991975794	-0.1720684225	0.575873856
## 41	-0.379614035	-1.1225961433	-0.9093246186	0.891499778
## 42	-0.482634834	-0.5953477337	-0.2567456273	1.089412754
## 43	-0.791697231	-1.2796488611	0.1497049556	1.555090344
## 44	-1.100759629	-1.2908669124	1.3024439698	0.388309272
## 45	-1.306801227	-0.8870170667	0.4059946287	-0.254584512
## 46	-1.924926023	-1.2572127586	0.1530920438	0.160644672
## 47	-1.581523359	-1.6834987068	2.6019568056	-0.781058898
## 48	-1.100759629	-0.8645809641	0.1248663089	-0.746133079
## 49	-1.547183092	-0.9879795281	-1.0515823226	-1.065639648
## 50	-1.238120695	-1.1562502971	1.8297006981	-1.290717149
## 51	-0.551315367	-1.2347766560	-0.1596490991	-0.522349126
## 52	-0.654336166	-0.8197087591	1.3848631158	-0.174384483
## 53	-0.345273768	-1.1786863997	0.2693820717	-0.039855401
## 54	0.204170494	-0.5729116312	0.3427689825	0.583635149
## 55	0.169830228	-1.0328517332	-0.7117444742	1.438670946
## 56	-0.104891903	-1.3581752200	0.0763180448	1.222648287
## 57	-1.100759629	-0.9431073230	-1.0425500875	0.934186891
## 58	-1.032079096	-1.2796488611	0.9829286505	-0.149807054
## 59	-1.203780428	-1.6386265017	-0.5491642410	-0.941458957
## 60	0.101149695	-0.4046408621	1.2448634705	-1.091510625
## 61	-0.207912703	-0.9431073230	0.8000258882	-1.546839824
## 62	-0.413954301	-1.2347766560	-0.1020685999	-1.378678472
## 63	0.101149695	-1.2459947073	0.5109943626	-0.413691022

## 64	-0.001871104	-0.6738740926	-0.8212603257	0.340447964
## 65	0.444552359	-0.8757990154	-0.8156151787	0.676770667
## 66	0.307191293	-0.7187462976	-0.6541639750	2.027235678
## 67	-0.276593235	-1.1674683484	-1.2480334377	2.648139131
## 68	-0.207912703	-1.0665058870	-0.7444863267	1.657280704
## 69	-0.585655633	-0.8421448616	-0.2014231868	0.755677148
## 70	-1.066419363	-0.8870170667	0.9829286505	-0.130403822
## 71	-0.826037498	-1.2684308098	0.5900264204	-1.072107392
## 72	-0.551315367	-0.4046408621	0.5256717448	-1.559775312
## 73	-0.448294567	0.1001714450	-0.3120680677	-1.400668803
## 74	-0.791697231	-0.4495130672	-1.2920655842	-1.189820338
## 75	-0.413954301	-0.5168213748	0.1090598973	-0.396874887
## 76	-0.654336166	-0.6065657850	-0.2443263039	-0.012690875
## 77	-0.001871104	-0.1914978880	1.2143796768	0.079151094
## 78	0.375871826	0.3357505216	-0.2657778624	0.982048199
## 79	0.135489961	-0.3148964520	-1.0865822339	1.665041997
## 80	0.204170494	-0.8197087591	-1.2875494666	1.446432239
## 81	-0.139232170	-0.3036784007	-0.6225511518	0.538360939
## 82	-0.757356965	-0.7972726565	-0.3572292436	-0.035974755
## 83	-0.963398563	-1.0665058870	-1.1881948797	-0.844442792
## 84	-0.070551637	-0.3597686570	-0.0636816004	-1.288130052
## 85	-0.448294567	-0.5280394261	-0.6270672694	-0.625833035
## 86	-0.448294567	-0.6626560413	-0.6383575634	-0.598668509
## 87	-0.345273768	-0.7075282464	-0.0817460708	-0.392994240
## 88	-0.413954301	-0.4607311185	-0.0501332476	-0.465432976
## 89	0.169830228	-0.2363700931	0.3348657767	0.190396296
## 90	0.890975822	0.2347880602	2.0476033717	0.214973724
## 91	0.341531560	-0.3485506058	-1.2265818792	1.618474238
## 92	0.341531560	-0.3373325545	-1.4365813470	2.049226008
## 93	-0.345273768	-0.0232271190	-1.0199694995	1.001451431
## 94	-0.379614035	-0.2027159393	0.7785743296	0.127012402
## 95	-0.104891903	-0.2139339905	1.6614753180	-1.092804174
## 96	-0.036211371	0.3694046754	0.2727691599	-0.966036385
## 97	-0.242252969	0.6610740084	-0.0422300419	-1.275194563
## 98	-0.242252969	0.4928032394	1.4740564381	-1.333404262
## 99	-0.516975100	-0.1466256829	0.6385746844	-0.984146069
## 100	-0.585655633	-0.4607311185	-0.8020668259	-0.241649024
## 101	0.066809429	-0.0680993240	0.3258335415	0.212386627
## 102	0.375871826	0.7171642648	-0.5119062710	1.070009521
## 103	0.066809429	0.1674797526	-1.0414210581	2.067335692
## 104	-0.070551637	-0.0007910164	0.0526084275	1.518870976
## 105	-0.139232170	0.4703671369	0.3111561594	0.017060749
## 106	-0.688676432	-0.6850921438	-0.1641652167	-0.037268304
## 107	-0.619995899	-0.5280394261	-0.5254546237	-0.729316944
## 108	-0.757356965	0.1113894963	0.4105107463	-1.174297752
## 109	-0.929058297	-0.3373325545	-0.3098100089	-1.158775166
## 110	-1.135099895	-0.4831672210	-0.6835187393	-0.967329934
## 111	-0.482634834	-0.4382950159	1.1455088836	-0.562449141
## 112	-0.723016699	-0.2139339905	0.2829304244	-0.165329641
## 113	-0.413954301	-0.4046408621	0.6126070083	0.023528493
## 114	0.307191293	0.6386379059	-0.2240037748	0.784135223
## 115	-0.585655633	0.1562617013	0.2456724543	0.816473944
## 116	-0.585655633	-0.0344451702	-0.6778735923	1.317077353
## 117	-0.929058297	-0.0568812728	-0.6157769755	0.608212578

## 118	-0.791697231	1.5248639561	1.6050238481	-0.704739516
## 119	-1.066419363	0.5601115470	-1.0606145578	-0.795287936
## 120	-0.654336166	2.1642928785	0.6442198314	-1.131610640
## 121	-0.723016699	1.4014653922	-1.3112590839	-1.332110713
## 122	-0.791697231	1.5809542125	0.1418017498	-1.416191389
## 123	-0.894718031	1.0424877516	-0.9070665598	-0.669813696
## 124	-0.997738830	1.9960221094	-0.7704540028	0.332686671
## 125	-0.482634834	1.3790292896	0.2422853661	0.002831711
## 126	-0.242252969	2.0184582120	0.7040583895	0.534480293
## 127	-0.585655633	1.3005029308	-1.0899693221	1.546035502
## 128	-0.723016699	1.5921722638	-0.3380357438	1.257574106
## 129	-0.654336166	1.6370444688	0.5392200975	0.033876884
## 130	-0.619995899	1.6146083663	-0.7715830322	-0.201549009
## 131	-0.826037498	1.2668487770	-0.2962616562	-0.574091081
## 132	-0.860377764	1.9848040582	-0.9646470591	-0.800462131
## 133	-0.826037498	2.0857665196	-0.2657778624	-1.297184894
## 134	-0.791697231	1.4912098023	0.5098653332	-1.254497781
## 135	-0.723016699	1.1995404693	-0.5502932704	-0.394287789
## 136	-0.723016699	1.6931347252	0.4850266865	-0.293390978
## 137	-0.276593235	1.5585181100	-0.2522295097	0.089499485
## 138	0.238510761	2.1530748272	3.0761491522	0.236964055
## 139	0.341531560	2.0521123658	0.3540592764	0.894086876
## 140	0.410212093	1.9287138018	-0.0490042182	0.777667479
## 141	-0.139232170	2.4896163653	-0.9669051179	0.416767346
## 142	-0.723016699	1.7267888790	0.8767998872	-0.319261955
## 143	-0.379614035	1.5809542125	1.8263136099	-1.094097723
## 144	-0.482634834	1.7155708277	-1.0007759998	-1.116088053
## 145	-0.173572436	1.2892848795	0.3292206297	-1.319175224
## 146	0.101149695	0.1450436501	-0.4825515066	-1.246736488
## 147	0.066809429	-0.4046408621	-0.5469061823	-0.433094255
## 148	-0.001871104	-0.1241895804	-0.9838405588	0.117957560
## 149	0.410212093	-0.1466256829	-0.2104554220	-0.096771551
## 150	0.787955023	0.3694046754	-0.7760991498	1.093293401
## 151	0.581913425	0.2460061115	-0.1765845401	1.057074032
## 152	0.513232892	0.3806227267	-0.2070683338	1.020854664
## 153	-0.173572436	0.3245324704	-0.9522277357	1.086825656
## 154	0.444552359	0.4142768805	-1.0888402927	0.229202762
## 155	-0.207912703	-0.4046408621	-1.0786790282	-0.170503836
## 156	0.238510761	0.6835101110	-1.2920655842	-0.845736341
## 157	0.169830228	0.2235700089	-0.3448099202	-0.270107098
## 158	0.547573158	-0.0680993240	-0.2522295097	-0.936284762
## 159	0.856635556	0.3020963678	0.7876065648	0.116664011
## 160	0.753614757	0.2123519577	-0.0828751001	0.412886700
## 161	0.993996621	0.3245324704	-0.4825515066	0.586222247
## 162	0.753614757	0.5376754445	-0.7444863267	1.424441909
## 163	1.268718752	0.4479310343	-1.0752919400	2.009125994
## 164	1.028336888	0.3581866242	-0.5152933591	2.214800263
## 165	0.341531560	0.2796602653	-0.2431972745	0.667715825
## 166	-0.379614035	-0.0680993240	0.2987368360	0.141241439
## 167	-0.207912703	-0.4270769647	-0.2115844514	-0.755187921
## 168	0.204170494	0.8854350338	0.1259953383	-1.131610640
## 169	-0.001871104	-0.2251520418	0.4613170691	-1.288130052
## 170	0.478892625	-0.0456632215	-1.1125499101	-0.888423454
## 171	0.478892625	0.0665172912	1.4740564381	-0.377471654

## 172	0.719274490	0.1562617013	-0.2115844514	-0.308913564
## 173	0.925316089	0.0440811886	2.4382475430	-0.374884556
## 174	1.234378486	0.6835101110	3.4758255587	0.350796355
## 175	0.753614757	0.0440811886	0.6803487721	0.270596325
## 176	0.959656355	0.6498559572	-0.5706157996	0.949709477
## 177	-0.036211371	0.1338255988	0.1711565141	0.010593004
## 178	-0.448294567	-0.7187462976	-0.2567456273	-0.019158620
## 179	-0.413954301	-0.5953477337	-0.7806152674	-0.541752359
## 180	-0.139232170	0.0104270348	-0.4181968310	-1.219571962
## 181	-0.036211371	-0.7860546053	-1.1746465269	-1.091510625
## 182	0.238510761	-0.6514379900	-0.4588418893	-0.885836356
## 183	0.101149695	-0.7748365540	1.7472815521	-0.142045761
## 184	0.341531560	-0.5168213748	0.6238973023	0.123131755
## 185	0.444552359	-1.0216336819	0.0492213393	0.256367288
## 186	0.135489961	-0.9206712205	-0.4125516840	1.482651608
## 187	0.375871826	-1.2235586048	-0.9781954118	1.891413047
## 188	-0.036211371	-1.2011225022	0.5053492156	1.001451431
## 189	-0.585655633	-1.4479196301	-0.5107772416	0.205918882
## 190	-0.894718031	-1.7059348093	-0.7738410910	0.132186597
## 191	-0.688676432	-1.1338141946	-0.4610999481	-0.325729699
## 192	-0.551315367	-0.7075282464	-1.1317434098	-0.861258928
## 193	-0.310933502	-1.2123405535	-0.9567438533	-1.079868685
## 194	-0.654336166	-1.4142654763	-0.9307761772	-0.572797532
## 195	-0.619995899	-1.5601001428	0.4782525101	-0.083836063
## 196	-0.723016699	-1.5376640403	1.3001859110	0.229202762
## 197	-0.826037498	-1.6049723479	0.8519612404	-0.250703866
## 198	-0.516975100	-0.8309268103	-0.2002941574	1.141154708
## 199	-0.619995899	-1.3020849636	0.1858338963	1.419267713
## 200	-0.826037498	-1.1225961433	-0.5028740358	1.522751622
## 201	-1.169440162	-1.4142654763	2.0340550189	0.067509154
## 202	-0.688676432	-1.2347766560	3.5367931461	-0.526229773
## 203	-0.963398563	-1.5040098865	-0.7681959440	-0.783645996
## 204	-0.757356965	-0.5729116312	-0.3786808021	-1.284249405
## 205	-0.619995899	-1.1225961433	0.0018021046	-1.367036532
## 206	-0.413954301	-1.1113780921	0.1045437797	-1.166536459
## 207	-0.379614035	-1.4254835276	0.2490595425	-0.349013579
## 208	-0.379614035	-1.0889419895	-0.1799716283	0.053280117
## 209	-0.482634834	-1.2908669124	-0.3301325381	0.248605995
## 210	-0.310933502	-0.7860546053	-0.2861003916	1.049312739
## 211	-0.139232170	-0.8421448616	0.2264789546	1.020854664
## 212	-0.310933502	-0.8309268103	-0.9352922948	1.595190358
## 213	-0.688676432	-0.7860546053	2.2440544868	0.341741513
## 214	-0.688676432	-1.1113780921	-0.6846477687	0.189102747
## 215	-0.448294567	-0.7524004515	-0.5469061823	-0.678868538
## 216	-0.242252969	-0.2251520418	-0.5683577408	-0.761655665
## 217	-0.413954301	-0.8084907078	-0.8212603257	-1.399375254
## 218	0.032469162	-0.1914978880	-0.8506150900	-1.206636473
## 219	-0.482634834	-0.9318892718	-1.3451299658	-0.054084439
## 220	-0.036211371	-0.7524004515	-0.1822296871	0.822941689
## 221	-0.207912703	-0.3822047596	0.7368002420	0.460748008
## 222	0.204170494	-0.4382950159	-0.7681959440	1.816387214
## 223	0.169830228	-0.6177838362	-1.4128717296	2.315697074
## 224	0.238510761	-0.2812422982	-1.1362595274	2.741274649
## 225	-0.036211371	-0.3485506058	-0.9443245299	1.477477412

## 226	-0.001871104	-0.6626560413	0.3585753940	0.403831858
## 227	-0.001871104	-0.1017534779	-0.4114226546	-0.465432976
## 228	-0.070551637	0.3581866242	0.3924462759	-1.143252579
## 229	-0.207912703	-0.5056033235	1.0924445020	-1.068226745
## 230	0.066809429	-0.7524004515	-0.4204548898	-1.065639648
## 231	-0.207912703	-0.9991975794	1.1297024721	-0.545633006
## 232	0.066809429	-0.9543253743	-0.6123898873	-0.180852227
## 233	0.101149695	-0.7860546053	-0.1619071579	0.621148066
## 234	0.684934224	-0.4607311185	-0.0377139243	0.969112710
## 235	0.341531560	-0.5168213748	-0.7975507084	1.685738779
## 236	0.444552359	-0.4831672210	0.0379310453	1.747829124
## 237	-0.310933502	-0.4046408621	-0.2115844514	0.855280410
## 238	-0.551315367	-0.7187462976	-0.8607763546	-0.179558678
## 239	-0.001871104	-0.5056033235	-1.3643234656	-0.321849053
## 240	-0.276593235	-0.1129715291	-0.6270672694	-1.004842851
## 241	0.238510761	-0.2588061956	0.1180921325	-1.024246084
## 242	-0.276593235	-0.3934228108	-0.6101318285	-0.826333108
## 243	0.066809429	-0.2924603494	-0.3967452725	-0.017865071
## 244	0.375871826	0.1674797526	-0.1223911290	0.124425304
## 245	0.547573158	0.3245324704	0.4692202749	0.124425304
## 246	1.131357687	0.6162018034	-0.1799716283	1.300261218
## 247	0.787955023	0.3020963678	-0.0365848949	1.395983834
## 248	1.097017421	0.9415252902	-1.1046467043	1.903054987
## 249	0.066809429	0.1786978039	0.0085762810	0.941948184
## 250	0.238510761	-0.0456632215	0.5211556272	-0.480955563
## 251	0.650593957	0.4703671369	-0.2556165979	-0.844442792
## 252	0.719274490	0.9190891876	-0.1799716283	-1.461465599
## 253	0.616253691	0.3581866242	-1.2457753789	-1.298478443
## 254	0.444552359	0.0104270348	-1.1249692334	-1.116088053
## 255	0.616253691	0.0440811886	-0.7885184732	-0.711207260
## 256	0.719274490	-0.0793173753	-0.3346486556	0.661248081
## 257	1.577781150	0.9078711364	0.3563173352	0.584928698
## 258	2.127225412	0.8854350338	0.7243809186	0.905728816
## 259	1.749482482	0.6610740084	0.3664785998	1.168319234
## 260	1.543440884	0.8854350338	-0.6880348569	1.487825803
## 261	0.787955023	0.6722920597	-0.8596473252	0.593983540
## 262	0.547573158	0.3581866242	0.0006730752	0.321044731
## 263	1.131357687	0.9976155465	-0.3402938026	-0.574091081
## 264	1.131357687	1.7716610841	-0.7749701204	-1.339872006
## 265	1.303059019	1.4463375973	0.0537374569	-1.152307421
## 266	1.165697953	0.8966530851	-0.1370685112	-1.010017047
## 267	1.680801949	1.4687736998	0.2648659541	-0.817278266
## 268	1.715142216	1.2331946232	1.7597008755	0.239551153
## 269	1.955524080	1.5697361612	5.6909812353	0.244725348
## 270	1.921183814	1.6370444688	1.0980896490	1.293793474
## 271	2.298926744	1.6370444688	-0.8359377078	1.692206523
## 272	2.333267011	1.4799917511	-1.0527113520	1.716783951
## 273	1.268718752	1.0873599567	-0.9364213242	0.983341747
## 274	0.822295289	0.9190891876	3.0558266231	0.606919029
## 275	0.959656355	0.8405628287	2.8751819196	-0.548220103
## 276	1.440420084	1.9623679556	0.8835740636	-0.814691169
## 277	1.337399285	1.0424877516	-1.0504532932	-1.286836503
## 278	1.337399285	0.2347880602	-0.5638416232	-0.669813696
## 279	1.303059019	0.5937657008	0.5708329206	-0.308913564

## 280	1.612121416	0.9751794440	1.5474433489	-0.140752212
## 281	1.543440884	0.9863974952	0.9727673859	-0.227419986
## 282	1.715142216	1.4351195460	0.6645423606	0.843638470
## 283	1.680801949	1.0873599567	-0.4904547124	1.918577574
## 284	1.680801949	1.6146083663	0.4387364812	0.015767200
## 285	0.959656355	1.0424877516	-0.3188422441	0.172286612
## 286	1.028336888	1.0424877516	-0.6180350343	0.042931726
## 287	1.371739552	1.6594805714	0.0401891041	-0.631007231
## 288	1.234378486	2.0857665196	-1.0741629106	-1.147133226
## 289	1.165697953	1.2107585206	-0.0557783946	-0.976384776
## 290	1.062677154	0.4479310343	-0.4283580956	-0.568916885
## 291	1.234378486	0.5376754445	-0.7354540915	-0.272694196
## 292	1.303059019	1.2107585206	0.5347039799	-0.149807054
## 293	1.543440884	0.8854350338	-0.5401320059	0.075270447
## 294	1.783822748	1.4463375973	1.2437344411	0.578460954
## 295	1.921183814	1.1546682643	0.3122851887	1.727132342
## 296	1.783822748	1.3565931871	1.3961534097	0.590102894
## 297	1.131357687	0.8742169825	-0.8878730601	0.454280263
## 298	1.131357687	0.7283823160	-0.5220675355	0.114076913
## 299	0.925316089	0.8742169825	-0.9499696769	-0.989320265
## 300	1.303059019	2.1979470323	-0.0422300419	-1.039768670
## 301	1.131357687	0.8966530851	-1.1690013799	-1.530023689
## 302	1.097017421	0.4815851881	1.6851849353	-1.444649464
## 303	1.131357687	0.3918407780	0.0503503687	-0.482249112
## 304	0.993996621	0.9976155465	-0.7930345908	-0.446029743
## 305	1.509100617	0.7956906237	-0.0602945122	0.412886700
## 306	2.058544880	1.6594805714	-0.9240020008	1.121751475
## 307	1.406079818	0.9863974952	-0.7772281792	1.373993503
## 308	1.406079818	1.3678112384	0.4082526875	1.249812813
## 309	0.581913425	0.5040212907	3.0174396236	-0.751307275
## 310	5.217849388	4.1723240556	3.4645352647	-0.887129905
## 311	2.882711273	2.2989094937	-0.3561002142	-1.209223571
## 312	4.840106458	0.5264573932	0.7842194766	-1.350220397
##	NetEvaporation	GroundwaterLvlDiff	ReservoirStorage	ConservationStorage
## 1	-0.630948514	-0.17141001	9.876460e-02	0.075707812
## 2	-1.342081359	-0.26413843	3.113349e-01	0.096926761
## 3	-0.487301257	-0.39778926	5.346544e-01	0.097131736
## 4	-0.435209395	-0.53231078	1.633530e-01	0.094359790
## 5	-0.050045324	-0.64071162	2.077564e-01	0.093451798
## 6	0.263295120	-0.70296592	1.216523e-01	0.050253174
## 7	2.814217822	-0.70470730	-4.153510e-01	-0.490627261
## 8	2.121238202	-0.57671595	-8.360457e-01	-0.920228417
## 9	0.385632068	-0.56844440	-1.069536e+00	-1.142998964
## 10	-1.461261225	-0.55364268	-8.313215e-01	-0.953889731
## 11	-0.188167686	-0.53448751	-5.053658e-01	-0.616288888
## 12	-0.593063523	-0.50314269	-3.683923e-01	-0.535822493
## 13	-0.347600354	-0.48224614	-5.084534e-01	-0.601316065
## 14	-0.696457977	-0.47049183	-5.335667e-01	-0.580566518
## 15	-0.052413136	-0.57584526	-4.671795e-01	-0.536335070
## 16	-0.073723443	-0.68816420	-5.850126e-01	-0.572627297
## 17	-1.188173584	-0.81136675	-1.868900e-01	-0.509740489
## 18	0.889976006	-0.90931932	-4.884473e-01	-0.542946507
## 19	0.135433276	-0.91759087	-2.345533e-01	-0.404164127
## 20	0.968903070	-0.91846156	-3.962822e-01	-0.350288730



## 21	-0.211056534	-0.88711673	-4.295719e-01	-0.385858636
## 22	-1.590701610	-0.89756501	-3.215399e-01	-0.399141290
## 23	-1.665682320	-0.94937103	4.323521e-01	-0.078627191
## 24	-1.018480397	-1.02468567	5.289045e-01	0.094916829
## 25	-0.478619280	-1.13308650	3.203488e-01	0.099856343
## 26	-0.478619280	-1.23756924	1.663959e-01	0.070192586
## 27	-1.156602759	-1.34945283	3.340571e-01	0.099903227
## 28	-0.791170453	-1.46003039	5.371479e-01	0.104304401
## 29	-1.647529096	-1.56233640	7.090275e-01	0.102287176
## 30	0.283026886	-1.64505190	3.997023e-01	0.104567263
## 31	0.702918865	-1.69772861	-2.420731e-02	0.034625683
## 32	0.729754067	-1.67422000	-2.576219e-01	-0.178320240
## 33	-0.130550929	-1.39603472	-5.179374e-01	-0.476056844
## 34	1.135439175	-1.33813387	-7.175565e-01	-0.711519925
## 35	0.365111032	-1.36991403	-9.099572e-01	-0.938468552
## 36	-0.412320547	-1.42650885	-1.026249e+00	-1.075641589
## 37	0.033617364	-1.50225883	-1.068116e+00	-1.125026989
## 38	0.803945507	-1.57365536	-1.159930e+00	-1.233326950
## 39	0.250666789	-1.64548724	-1.269966e+00	-1.363121438
## 40	0.471662568	-1.71818981	-1.291320e+00	-1.388309808
## 41	1.179638331	-1.77870273	-1.370971e+00	-1.482262974
## 42	0.844198309	-1.77347859	-1.514801e+00	-1.651919633
## 43	0.844198309	-1.68684499	-1.735670e+00	-1.912448346
## 44	-0.673569128	-1.54318123	-1.900180e+00	-2.106498557
## 45	-0.439155748	-1.46873729	-1.948293e+00	-2.163250646
## 46	-0.009003251	-1.45175884	-1.283980e+00	-1.379651445
## 47	-2.295520290	-1.47222004	-3.924762e-01	-0.365625400
## 48	-0.542550202	-1.51531917	7.788413e-01	0.961550403
## 49	0.084919955	-1.56799588	7.233454e-01	0.965818115
## 50	-2.066631805	-1.63416828	1.298485e+00	1.150372777
## 51	-0.207110181	-1.69555189	2.005958e+00	1.330173017
## 52	-1.074518612	-1.76956049	1.829306e+00	1.324495259
## 53	-0.212635075	-1.84487513	1.423960e+00	1.331295749
## 54	0.116490781	-1.92106045	1.144224e+00	1.341277580
## 55	1.375377449	-1.97068975	9.841142e-01	1.270537372
## 56	0.692658347	-1.93194407	7.583609e-01	1.023726700
## 57	1.298818197	-1.85140530	4.514018e-01	0.667339205
## 58	-0.778542123	-1.75911222	8.328718e-02	0.233125037
## 59	-0.190535497	-1.71035361	-1.877218e-02	0.112739670
## 60	-1.536241936	-1.71731912	2.653626e-01	0.405809942
## 61	-1.503092569	-1.75693549	1.140045e+00	1.101173831
## 62	-0.769860146	-1.81614238	9.378584e-01	1.119631835
## 63	-0.609638206	-1.88275012	1.212428e+00	1.127231029
## 64	0.781845929	-1.95458200	9.606483e-01	1.102692660
## 65	0.983109942	-2.02423715	7.449667e-01	0.990627623
## 66	1.694242787	-1.68162086	5.055358e-01	0.731193633
## 67	2.488249049	-1.15050029	1.161892e-01	0.271934978
## 68	1.531653035	-0.21668586	-3.116106e-01	-0.232681441
## 69	0.601892223	0.70232685	-5.999870e-01	-0.572839438
## 70	-0.766703063	0.55343896	-3.836419e-01	-0.324565703
## 71	-1.066625906	-0.28198757	-1.734868e-01	-0.092932046
## 72	-1.319192510	-0.54014699	2.607811e-01	0.299306612
## 73	-0.636473408	-0.71515557	2.371614e-01	0.377088269
## 74	0.177264620	-0.86012536	3.030495e-01	0.414574010

## 75	-0.318397341	-1.00509516	2.413701e-01	0.372248984
## 76	0.163057748	-0.70078919	2.499734e-01	0.395956930
## 77	-0.800641701	-0.78394004	3.096511e-01	0.419708784
## 78	0.785003011	-1.04122877	3.788241e-01	0.512541160
## 79	1.775537662	-0.98376326	1.472919e-01	0.307739534
## 80	1.782641098	-0.09174192	-2.628825e-01	-0.175203624
## 81	0.763692704	0.15379250	-6.444420e-01	-0.625276856
## 82	0.227777941	-0.28155222	-9.539570e-01	-0.990369017
## 83	0.315386982	-0.42434529	-1.148633e+00	-1.220001524
## 84	-0.741446403	-0.57323319	-1.187396e+00	-1.265725356
## 85	0.056506212	-0.79003486	-1.231676e+00	-1.317956234
## 86	0.080973602	-0.88929346	-1.296882e+00	-1.394870399
## 87	-0.182642791	-1.00248309	-1.168865e+00	-1.243865870
## 88	-0.248941525	-1.06038394	-1.095387e+00	-1.157194884
## 89	-0.117922599	-0.66465558	-9.966009e-01	-1.040670231
## 90	-1.300250015	-0.76913831	-5.699294e-01	-0.574404118
## 91	1.844993479	-0.23975913	-4.622813e-01	-0.428009371
## 92	2.254624940	0.75587425	-9.337468e-01	-0.966529904
## 93	1.324074857	1.28133534	-1.368546e+00	-1.479402306
## 94	-0.466780221	0.86775785	-1.745327e+00	-1.923874112
## 95	-1.828272072	0.37755969	-1.180712e+00	-1.268440955
## 96	-0.780120664	0.38800796	-6.481880e-01	-0.676901186
## 97	-0.748549839	0.39976227	-5.628188e-02	-0.056302290
## 98	-1.844057485	0.41412865	6.681039e-01	0.495805951
## 99	-1.046894140	0.42762433	1.721487e+00	1.024059535
## 100	0.413256541	0.43720192	1.130791e+00	1.020846374
## 101	-0.098190833	0.44329674	8.767225e-01	1.006534579
## 102	1.010734414	0.45287433	6.217295e-01	0.853627766
## 103	1.989430005	0.45940450	3.990427e-01	0.599039622
## 104	0.889976006	0.81072769	-2.900754e-02	0.100631100
## 105	-0.207110181	0.38234848	-1.058454e-01	0.009996093
## 106	0.092023391	-0.02252211	-1.152458e-01	-0.003096323
## 107	-0.077669796	-0.01207384	-1.803986e-01	-0.078081230
## 108	-1.003484255	0.39236141	1.735502e-02	0.049699542
## 109	-0.490458340	0.04365029	6.028184e-02	0.175814092
## 110	-0.112397704	-0.12395743	3.902112e-01	0.518152654
## 111	-1.143974428	-0.18534104	6.350300e-01	0.697911257
## 112	-0.298665575	-0.25543154	1.317625e+00	1.013656121
## 113	-0.413899088	-0.25369016	9.495198e-01	1.015032480
## 114	0.635041590	-0.29330653	7.529930e-01	0.950656871
## 115	0.326436771	-0.23018155	6.097303e-01	0.837134499
## 116	1.277507890	-0.04254797	3.031651e-01	0.492449436
## 117	0.801577695	0.05061580	2.390024e-02	0.163039119
## 118	-1.552027348	0.15161578	1.888328e-01	0.397870040
## 119	0.256191684	-0.15181950	4.654565e-01	0.749354407
## 120	-1.140817346	-0.36078496	4.817986e-01	0.773213328
## 121	0.103862451	-0.49574183	6.958527e-01	0.995581520
## 122	-0.963231452	-0.58585819	7.059334e-01	1.016203232
## 123	0.225410129	-0.71428488	9.176453e-01	1.185633442
## 124	0.741593126	-0.71820298	8.289334e-01	1.157233577
## 125	-0.167646649	-0.69948316	7.173197e-01	1.053852741
## 126	-0.166068108	-0.60240129	7.946151e-01	1.122482284
## 127	1.705292576	-0.44959529	5.818899e-01	0.899433382
## 128	1.003630978	0.30050367	2.061744e-01	0.456787830

## 129	-0.356282331	0.33533125	4.600294e-02	0.267855587
## 130	0.416413623	0.16946491	-1.521445e-01	0.034128322
## 131	-0.143179259	0.01317615	-2.933552e-01	-0.132438519
## 132	0.185946597	-0.13440571	-4.137932e-01	-0.274502571
## 133	-0.605691853	-0.33814704	-4.261216e-01	-0.289044726
## 134	-1.121874851	-0.54624182	-2.414119e-01	-0.071168095
## 135	0.144115253	-0.68163403	1.115977e-01	0.345228682
## 136	-0.518082812	-0.75694866	1.485133e-01	0.388772910
## 137	0.230935023	-0.73039263	3.801601e-01	0.656380847
## 138	-2.005857965	-0.72995729	8.667112e-01	0.951415831
## 139	0.298023028	-0.70514264	9.671924e-01	1.117808761
## 140	0.508758288	-0.52534527	7.591916e-01	1.034491161
## 141	0.930228809	-0.46047891	5.332114e-01	0.835422327
## 142	-0.807745137	-0.46396166	4.511008e-01	0.726471484
## 143	-1.944294856	-0.52795734	7.228781e-01	0.852343006
## 144	0.018621222	-0.50619010	8.856843e-01	1.117770254
## 145	-1.035055080	-0.76434952	9.950272e-01	1.176653448
## 146	-0.423370336	-1.00901326	8.664861e-01	1.185487035
## 147	0.118069322	-0.97940982	8.226757e-01	1.160275475
## 148	0.759746351	-0.99029343	8.165599e-01	1.158664188
## 149	0.088077038	-0.92847448	7.555583e-01	1.104629237
## 150	1.209630615	-0.75172453	6.049873e-01	0.926340207
## 151	0.768428328	-0.36949186	2.837858e-01	0.548335245
## 152	0.767639057	-0.13005226	1.194592e-05	0.213606350
## 153	1.328810481	-0.85272450	-3.236768e-01	-0.168204669
## 154	0.901025795	-0.73561677	-6.349829e-01	-0.535409641
## 155	0.650037732	-0.66509093	-8.555397e-01	-0.795570065
## 156	0.387210610	-0.62068576	-1.036535e+00	-1.009065734
## 157	0.076237978	-0.60370732	-1.158210e+00	-1.152588205
## 158	-0.394956593	-0.59674180	-1.164727e+00	-1.160276097
## 159	-0.479408551	-0.61502628	-8.587431e-01	-0.801087461
## 160	0.309862087	-0.63505214	-5.221726e-01	-0.404226480
## 161	0.695026159	-0.65377196	-5.377688e-01	-0.421431469
## 162	1.389584320	-0.66465558	-8.259823e-01	-0.760705270
## 163	1.977590946	-0.62634525	-1.162010e+00	-1.157071213
## 164	1.711606741	-0.51707372	-1.534042e+00	-1.595905964
## 165	0.577424834	-0.32856945	-1.797870e+00	-1.907107713
## 166	-0.122658223	-0.17228070	-1.978560e+00	-2.120242008
## 167	-0.312872446	-0.08695313	-2.011769e+00	-2.159414585
## 168	-0.778542123	-0.05299624	-2.037918e+00	-2.190259289
## 169	-1.108457250	-0.04341866	-1.372837e+00	-1.405754469
## 170	0.235670647	-0.07519882	-9.888726e-01	-0.952844567
## 171	-1.260786483	-0.10001347	-1.024261e+00	-0.994587396
## 172	-0.040574076	-0.11786261	-4.777293e-01	-0.353808205
## 173	-1.933245067	-0.14137122	1.695438e-01	0.344421020
## 174	-2.215803955	-0.17924621	1.217410e+00	1.014318511
## 175	-0.310504634	-0.21015569	2.938316e+00	1.302865099
## 176	0.978374318	-0.24715999	1.863983e+00	1.275429093
## 177	-0.113186975	-0.25543154	1.264989e+00	1.184663450
## 178	0.167793372	-0.26370309	8.028843e-01	1.081926938
## 179	0.215149611	-0.35817290	5.958805e-01	0.915754250
## 180	-0.451784079	-0.47876338	5.416851e-01	0.850197366
## 181	0.155165042	-0.48224614	5.275486e-01	0.834383523
## 182	-0.219738511	-0.48616424	6.113724e-01	0.927657669

## 183	-1.308142721	-0.49443579	1.333056e+00	1.275007182
## 184	-0.361017955	-0.50880217	1.297778e+00	1.295175289
## 185	0.122015675	-0.45569011	1.018747e+00	1.293810942
## 186	1.193055931	-0.46744442	9.464958e-01	1.260972733
## 187	1.837890043	-0.46222028	6.640548e-01	0.974275540
## 188	0.257770225	1.11285693	3.850672e-01	0.667803030
## 189	0.482712357	1.17511122	2.780708e-01	0.541594130
## 190	0.621623989	1.24389569	7.382191e-02	0.300669798
## 191	0.123594217	1.29831378	-6.433459e-02	0.137705603
## 192	0.265662931	1.32922326	-1.605212e-01	0.024247452
## 193	0.009939245	1.33401205	-2.152579e-01	-0.040317815
## 194	0.301180110	1.32965860	-2.729016e-01	-0.108312144
## 195	-0.385485345	1.31093878	-2.187411e-01	-0.044426477
## 196	-0.769070875	1.27915861	-1.167697e-01	0.072100371
## 197	-0.748549839	-0.09566003	1.006695e+00	1.182459924
## 198	0.836305603	-0.11525054	8.941796e-01	1.204647274
## 199	0.736068232	1.20732673	6.180690e-01	0.938551732
## 200	1.280664972	1.35839135	4.272697e-01	0.708794872
## 201	-1.380755620	2.69228759	3.715575e-01	0.631343603
## 202	-2.793550062	2.03883516	1.081813e+00	0.953234692
## 203	0.058874024	1.62090422	1.199348e+00	1.082619331
## 204	-0.518872083	1.28873620	8.965730e-01	1.081241887
## 205	-0.835369609	1.08107676	9.020193e-01	1.081882425
## 206	-0.784856288	0.94742593	1.412944e+00	1.083135213
## 207	-0.387063886	0.78591304	1.050918e+00	1.083086891
## 208	0.158322125	0.63310704	8.788817e-01	1.078061253
## 209	0.382474986	0.70711564	7.901890e-01	1.035598526
## 210	0.840251956	0.81856389	5.777485e-01	0.815008669
## 211	0.464559132	0.92217594	4.214816e-01	0.630860096
## 212	1.627154782	1.08717159	6.550102e-02	0.211526923
## 213	-1.360234583	1.19208967	1.799187e-01	0.255312917
## 214	0.593999517	1.22822328	6.716102e-02	0.211517965
## 215	-0.031892099	1.25260258	7.288236e-03	0.142861322
## 216	-0.067409278	1.21646897	-1.196277e-01	-0.006843888
## 217	-0.279723080	1.10110262	-7.209502e-02	0.049223832
## 218	-0.141600718	1.00619747	-3.984595e-02	0.087263609
## 219	0.907339960	0.94176645	-7.242570e-02	0.048833766
## 220	0.629516696	1.08107676	-1.571976e-01	-0.051159996
## 221	-0.233945383	0.98573627	1.070092e-01	0.255157098
## 222	1.645308007	1.24955517	7.416646e-02	0.221435122
## 223	2.400640008	2.19120581	-2.955362e-01	-0.214338907
## 224	2.466938742	1.48377063	-7.630251e-01	-0.765771206
## 225	1.561645319	1.77762832	-1.190292e+00	-1.269759275
## 226	-0.004267627	1.71232661	-1.433298e+00	-1.556399743
## 227	0.003625080	1.63831801	-1.567179e+00	-1.714320334
## 228	-0.971913429	1.59826630	-1.433971e+00	-1.557194031
## 229	-1.415483528	2.31963250	-1.101849e+00	-1.176334129
## 230	-0.356282331	1.22909397	-2.334914e-01	-0.163454031
## 231	-1.122664121	1.11024486	2.663712e-01	0.308147188
## 232	0.317754794	1.04058970	7.640400e-01	0.911132911
## 233	0.492183605	1.01142161	5.804546e-01	0.814019424
## 234	0.617677636	1.08630090	5.107278e-01	0.735792590
## 235	1.586112709	1.32835257	2.015522e-01	0.372007722
## 236	1.039937428	1.45024909	-1.514034e-01	-0.044325390

## 237	0.669769498	1.67314559	-4.295159e-01	-0.372376406
## 238	0.492183605	1.61785681	-6.269036e-01	-0.605207463
## 239	0.757378539	1.54123614	-8.277424e-01	-0.842109307
## 240	-0.174750085	1.44589564	-9.818425e-01	-1.023879987
## 241	-0.707507765	1.39713703	-8.706780e-01	-0.892754561
## 242	-0.077669796	1.30049050	-8.334895e-01	-0.848888398
## 243	0.266452202	1.15726209	-8.759576e-01	-0.898982190
## 244	0.161479207	1.04015436	-8.238211e-01	-0.837483854
## 245	-0.252098607	0.97746472	-8.824034e-01	-0.906585346
## 246	0.919179020	0.97006386	-8.367232e-01	-0.852702757
## 247	0.877347676	0.95003800	-1.082432e+00	-1.142531253
## 248	1.933391790	1.02099919	-1.378312e+00	-1.491540350
## 249	0.568742857	1.21385690	-1.679170e+00	-1.846421303
## 250	-0.657783715	1.28177068	-1.811647e+00	-2.002686474
## 251	-0.336550566	1.20253794	-1.830599e+00	-2.025040595
## 252	-0.765913793	1.13027072	-1.788620e+00	-1.975523853
## 253	0.078605790	1.06148625	-1.714227e+00	-1.887773638
## 254	0.105440992	0.99574920	-1.772635e+00	-1.956668893
## 255	0.117280051	0.86949923	-1.826896e+00	-2.020673437
## 256	0.637409402	0.74890874	-1.797735e+00	-1.986275671
## 257	0.107808804	0.72191737	-1.700640e+00	-1.871746113
## 258	0.046245694	0.65792169	-1.738692e+00	-1.916630565
## 259	0.456666426	0.68230100	-1.794430e+00	-1.982377082
## 260	1.388795050	0.75108546	-1.632939e+00	-1.791889320
## 261	0.963378176	0.94220180	-1.881550e+00	-2.085141402
## 262	0.195417845	1.03841298	-2.037048e+00	-2.268560715
## 263	-0.112397704	1.03754229	-2.174573e+00	-2.430779626
## 264	-0.275776726	0.95918024	-2.252598e+00	-2.522815443
## 265	-0.740657132	0.76545184	-2.163444e+00	-2.417652614
## 266	-0.520450624	0.62918894	-2.054902e+00	-2.289620336
## 267	-0.683829646	0.53907258	-1.272491e+00	-1.366718407
## 268	-1.083989860	0.45243898	-4.866018e-01	-0.474615836
## 269	-3.829073140	0.37364159	1.965255e+00	0.816319117
## 270	0.021778304	0.33315453	3.447727e+00	1.083159085
## 271	1.616894264	0.38844331	2.517583e+00	1.076405176
## 272	1.783430369	0.80202079	1.260851e+00	0.869013642
## 273	1.254619041	1.32138705	4.951063e-01	0.623941915
## 274	-1.765919691	1.32312843	3.010039e-01	0.468889840
## 275	-2.344455069	1.28394740	1.059759e+00	0.959118232
## 276	-1.114771415	1.19818449	2.483932e+00	1.040862573
## 277	-0.050834594	1.06758108	2.248088e+00	1.024466457
## 278	-0.014528145	0.97441731	1.286844e+00	1.016630291
## 279	-0.587538628	0.93741300	1.369953e+00	1.043117022
## 280	-1.167652548	0.78591304	1.231549e+00	1.039659773
## 281	-0.818794925	0.65922773	1.244170e+00	1.043377083
## 282	0.050192047	0.60002084	1.854743e+00	1.047387812
## 283	1.513499811	0.68883117	9.848908e-01	0.968912273
## 284	-0.297087034	0.82378803	5.273275e-01	0.734444266
## 285	0.328015312	0.84860268	3.991247e-01	0.598581752
## 286	0.458244967	0.83858975	2.607347e-01	0.432798752
## 287	-0.413109817	0.82204665	2.744238e-01	0.433015108
## 288	0.050981318	0.74977943	2.377764e-01	0.399194164
## 289	-0.556757074	0.69187858	2.851684e-01	0.419501613
## 290	-0.047677512	0.61395187	3.195006e-01	0.485902648

## 291	0.347747078	0.44068467	3.320041e-01	0.516212645
## 292	-0.465201680	0.38887865	5.303835e-01	0.699069342
## 293	0.423517059	0.39410279	5.561272e-01	0.776003695
## 294	-0.516504271	0.36537004	6.635341e-01	0.862286785
## 295	0.835516332	0.34360280	6.456078e-01	0.873812730
## 296	-0.615952371	0.40063296	7.314807e-01	0.894361364
## 297	0.897868713	0.52514155	7.166240e-01	0.953562733
## 298	0.434566848	0.63615445	4.738602e-01	0.693211970
## 299	0.060452566	0.66401652	2.902110e-01	0.476586361
## 300	-0.604902583	0.59697343	2.405989e-01	0.418065728
## 301	-0.116344057	0.51817603	3.192065e-01	0.510788311
## 302	-2.059528369	0.44373209	6.057499e-01	0.646875836
## 303	-0.329447130	0.30442178	1.236966e+00	1.042723777
## 304	0.282237615	0.23563731	8.027683e-01	1.008299389
## 305	0.294076674	0.21212869	7.187187e-01	0.961727848
## 306	1.330389022	0.30877522	5.039782e-01	0.728738045
## 307	1.381691614	0.66096910	1.758603e-01	0.341702595
## 308	0.477187463	0.82901217	-8.504961e-02	0.033943080
## 309	-2.567818660	0.89518457	1.959468e-01	0.231415464
## 310	-2.963243250	0.94611990	1.628894e+00	0.972651535
## 311	-0.488879799	0.42893037	1.960939e+00	1.037103149
## 312	-1.372073643	0.31574074	1.186676e+00	1.034649150
##	PercentFull	Date	eq_raw	
## 1	0.999005379	Jan-93	0	
## 2	1.022950196	Feb-93	0	
## 3	1.021952495	Mar-93	0	
## 4	1.019957093	Apr-93	0	
## 5	1.018959393	May-93	0	
## 6	0.970072059	Jun-93	0	
## 7	0.351497629	Jul-93	0	
## 8	-0.138373412	Aug-93	0	
## 9	-0.391789388	Sep-93	0	
## 10	-0.177283739	Oct-93	0	
## 11	0.208826430	Nov-93	0	
## 12	0.300614894	Dec-93	0	
## 13	0.226785042	Jan-94	0	
## 14	0.249732158	Feb-94	0	
## 15	0.299617193	Mar-94	0	
## 16	0.258711464	Apr-94	0	
## 17	0.330545914	May-94	0	
## 18	0.291635587	Jun-94	0	
## 19	0.450269998	Jul-94	0	
## 20	0.512127441	Aug-94	0	
## 21	0.472219413	Sep-94	0	
## 22	0.456256202	Oct-94	0	
## 23	0.823410057	Nov-94	0	
## 24	1.020954794	Dec-94	0	
## 25	1.025943298	Jan-95	0	
## 26	0.992021474	Feb-95	0	
## 27	1.026940998	Mar-95	0	
## 28	1.030931801	Apr-95	0	
## 29	1.028936400	May-95	0	
## 30	1.031929502	Jun-95	0	
## 31	0.952113446	Jul-95	0	

## 32	0.708674477	Aug-95	0
## 33	0.369456241	Sep-95	0
## 34	0.099079353	Oct-95	0
## 35	-0.158327425	Nov-95	0
## 36	-0.315964135	Dec-95	0
## 37	-0.372833075	Jan-96	0
## 38	-0.495550260	Feb-96	0
## 39	-0.644207663	Mar-96	0
## 40	-0.672143283	Apr-96	0
## 41	-0.779894957	May-96	0
## 42	-0.973448892	Jun-96	0
## 43	-1.271761399	Jul-96	0
## 44	-1.493250953	Aug-96	0
## 45	-1.558101498	Sep-96	0
## 46	-1.659866969	Oct-96	0
## 47	-0.674138684	Nov-96	0
## 48	0.651805538	Dec-96	0
## 49	0.656794041	Jan-97	0
## 50	0.840370969	Feb-97	0
## 51	1.020954794	Mar-97	0
## 52	1.015966291	Apr-97	0
## 53	1.021952495	May-97	0
## 54	1.031929502	Jun-97	0
## 55	0.961092753	Jul-97	0
## 56	0.713662981	Aug-97	0
## 57	0.357483833	Sep-97	0
## 58	0.099079353	Oct-97	0
## 59	-0.024635533	Nov-97	0
## 60	0.274674676	Dec-97	0
## 61	0.984039869	Jan-98	0
## 62	1.002996182	Feb-98	0
## 63	1.010977787	Mar-98	0
## 64	0.985037569	Apr-98	0
## 65	0.870301989	May-98	0
## 66	0.605911306	Jun-98	0
## 67	0.137989681	Jul-98	0
## 68	-0.376823877	Aug-98	0
## 69	-0.723026018	Sep-98	0
## 70	-0.470607742	Oct-98	0
## 71	-0.234152678	Nov-98	0
## 72	0.164927599	Dec-98	0
## 73	0.246739056	Jan-99	0
## 74	0.282656281	Feb-99	0
## 75	0.239755151	Mar-99	0
## 76	0.264697669	Apr-99	0
## 77	0.289640186	May-99	0
## 78	0.383424051	Jun-99	0
## 79	0.174904606	Jul-99	0
## 80	-0.317959536	Aug-99	0
## 81	-0.776901855	Sep-99	0
## 82	-1.149044214	Oct-99	0
## 83	-1.383503877	Nov-99	0
## 84	-1.430395810	Dec-99	0
## 85	-1.481278545	Jan-00	0

## 86	-1.562092301	Feb-00	0
## 87	-1.407448694	Mar-00	0
## 88	-1.319651033	Apr-00	0
## 89	-1.200924650	May-00	0
## 90	-0.725021419	Jun-00	0
## 91	-0.575366315	Jul-00	0
## 92	-1.125099397	Aug-00	0
## 93	-1.647894561	Sep-00	0
## 94	-2.016046117	Oct-00	0
## 95	-1.339605046	Nov-00	0
## 96	-0.729012222	Dec-00	0
## 97	-0.087490676	Jan-01	0
## 98	0.482196420	Feb-01	0
## 99	1.028936400	Mar-01	0
## 100	1.025943298	Apr-01	0
## 101	1.010977787	May-01	0
## 102	0.852343377	Jun-01	0
## 103	0.589948095	Jul-01	0
## 104	0.075134537	Aug-01	0
## 105	-0.017651628	Sep-01	0
## 106	-0.032617138	Oct-01	0
## 107	-0.111435493	Nov-01	0
## 108	0.023254101	Dec-01	0
## 109	0.152955191	Jan-02	0
## 110	0.506141236	Feb-02	0
## 111	0.690715865	Mar-02	0
## 112	1.017961692	Apr-02	0
## 113	1.018959393	May-02	0
## 114	0.953111147	Jun-02	0
## 115	0.835382465	Jul-02	0
## 116	0.480201018	Aug-02	0
## 117	0.135994279	Sep-02	0
## 118	0.212817233	Oct-02	0
## 119	0.567998679	Nov-02	0
## 120	0.591943496	Dec-02	0
## 121	0.817423853	Jan-03	0
## 122	0.839373268	Feb-03	0
## 123	1.010977787	Mar-03	0
## 124	0.982044467	Apr-03	0
## 125	0.878283595	May-03	0
## 126	0.947124943	Jun-03	0
## 127	0.720646885	Jul-03	0
## 128	0.271681573	Aug-03	0
## 129	0.080123040	Sep-03	0
## 130	-0.156332024	Oct-03	0
## 131	-0.325941142	Nov-03	0
## 132	-0.469610042	Dec-03	0
## 133	-0.484575552	Jan-04	0
## 134	-0.263085998	Feb-04	0
## 135	0.157943694	Mar-04	0
## 136	0.202840226	Apr-04	0
## 137	0.474214814	May-04	0
## 138	0.773525022	Jun-04	0
## 139	0.942136439	Jul-04	0



## 140	0.857331880	Aug-04	0
## 141	0.655796340	Sep-04	0
## 142	0.546049264	Oct-04	0
## 143	0.673754953	Nov-04	0
## 144	0.942136439	Dec-04	0
## 145	1.001998481	Jan-05	0
## 146	1.009980087	Feb-05	0
## 147	0.986035270	Mar-05	0
## 148	0.984039869	Apr-05	0
## 149	0.832389363	May-05	0
## 150	0.653800939	Jun-05	0
## 151	0.272679274	Jul-05	0
## 152	-0.061550458	Aug-05	0
## 153	-0.445665225	Sep-05	0
## 154	-0.814814482	Oct-05	0
## 155	-1.075214363	Nov-05	0
## 156	-1.288722311	Dec-05	0
## 157	-1.434386612	Jan-06	0
## 158	-1.441370517	Feb-06	0
## 159	-1.081200567	Mar-06	0
## 160	-0.682120289	Apr-06	0
## 161	-0.699081201	May-06	0
## 162	-1.040294838	Jun-06	0
## 163	-1.438377415	Jul-06	0
## 164	-1.879361122	Aug-06	0
## 165	-2.191641439	Sep-06	0
## 166	-2.405149387	Oct-06	0
## 167	-2.445057415	Nov-06	0
## 168	-2.475986136	Dec-06	0
## 169	-1.687802588	Jan-07	0
## 170	-1.233848773	Feb-07	0
## 171	-1.275752202	Mar-07	0
## 172	-0.631237554	Apr-07	0
## 173	0.069148333	May-07	0
## 174	0.741598600	Jun-07	0
## 175	1.031929502	Jul-07	0
## 176	1.003993882	Aug-07	0
## 177	0.912205419	Sep-07	0
## 178	0.808444546	Oct-07	0
## 179	0.641828531	Nov-07	0
## 180	0.575980285	Dec-07	0
## 181	0.560017074	Jan-08	0
## 182	0.654798640	Feb-08	0
## 183	1.002996182	Mar-08	0
## 184	1.022950196	Apr-08	0
## 185	1.022950196	May-08	0
## 186	0.989028372	Jun-08	0
## 187	0.701690572	Jul-08	0
## 188	0.393401058	Aug-08	0
## 189	0.265695369	Sep-08	0
## 190	0.025249502	Oct-08	8
## 191	-0.137375711	Nov-08	10
## 192	-0.252111291	Dec-08	10
## 193	-0.316961836	Jan-09	10

## 194	-0.384805483	Feb-09	10
## 195	-0.320952638	Mar-09	10
## 196	-0.205219358	Apr-09	10
## 197	0.910210017	May-09	14
## 198	0.932159432	Jun-09	20
## 199	0.665773347	Jul-09	21
## 200	0.475212515	Aug-09	21
## 201	0.397391861	Sep-09	22
## 202	0.898237609	Oct-09	23
## 203	1.031929502	Nov-09	23
## 204	1.030931801	Dec-09	24
## 205	1.030931801	Jan-10	24
## 206	1.031929502	Feb-10	24
## 207	1.031929502	Mar-10	24
## 208	1.026940998	Apr-10	24
## 209	0.983042168	May-10	24
## 210	0.755566410	Jun-10	24
## 211	0.567998679	Jul-10	24
## 212	0.135994279	Aug-10	24
## 213	0.182886212	Sep-10	24
## 214	0.137989681	Oct-10	24
## 215	0.067152931	Nov-10	26
## 216	-0.087490676	Dec-10	26
## 217	-0.029624036	Jan-11	26
## 218	0.009286291	Feb-11	26
## 219	-0.029624036	Mar-11	26
## 220	-0.133384908	Apr-11	26
## 221	0.181888511	May-11	26
## 222	0.146968987	Jun-11	28
## 223	-0.300000924	Jul-11	29
## 224	-0.867692618	Aug-11	31
## 225	-1.383503877	Sep-11	32
## 226	-1.678823282	Oct-11	32
## 227	-1.840450795	Nov-11	32
## 228	-1.677825581	Dec-11	33
## 229	-1.287724610	Jan-12	34
## 230	-0.247122787	Feb-12	34
## 231	0.236762049	Mar-12	34
## 232	0.855336479	Apr-12	34
## 233	0.756564110	May-12	34
## 234	0.674752654	Jun-12	41
## 235	0.301612594	Jul-12	47
## 236	-0.125403303	Aug-12	47
## 237	-0.462626137	Sep-12	49
## 238	-0.701076603	Oct-12	51
## 239	-0.944515572	Nov-12	52
## 240	-1.132083302	Dec-12	53
## 241	-0.996396008	Jan-13	54
## 242	-0.950501776	Feb-13	57
## 243	-1.003379913	Mar-13	60
## 244	-0.939527068	Apr-13	61
## 245	-1.010363818	May-13	61
## 246	-0.955490279	Jun-13	61
## 247	-1.253802787	Jul-13	61

## 248	-1.610979635	Aug-13	61
## 249	-1.975140388	Sep-13	61
## 250	-2.135770200	Oct-13	62
## 251	-2.159715016	Nov-13	83
## 252	-2.108832281	Dec-13	91
## 253	-2.018041518	Jan-14	94
## 254	-2.088878267	Feb-14	95
## 255	-2.153728812	Mar-14	95
## 256	-2.118809288	Apr-14	96
## 257	-2.002078307	May-14	96
## 258	-2.048970239	Jun-14	96
## 259	-2.115816186	Jul-14	97
## 260	-1.919269149	Aug-14	97
## 261	-2.220574759	Sep-14	100
## 262	-2.408142489	Oct-14	102
## 263	-2.574758505	Nov-14	110
## 264	-2.669540071	Dec-14	118
## 265	-2.562786097	Jan-15	144
## 266	-2.431089605	Feb-15	145
## 267	-1.483273946	Mar-15	150
## 268	-0.567384710	Apr-15	155
## 269	0.757561811	May-15	163
## 270	1.031929502	Jun-15	167
## 271	1.025943298	Jul-15	170
## 272	0.845359472	Aug-15	174
## 273	0.591943496	Sep-15	180
## 274	0.431313684	Oct-15	190
## 275	0.937147936	Nov-15	193
## 276	1.020954794	Dec-15	200
## 277	1.003993882	Jan-16	201
## 278	0.995014576	Feb-16	202
## 279	1.023947896	Mar-16	202
## 280	1.019957093	Apr-16	202
## 281	1.023947896	May-16	202
## 282	1.027938699	Jun-16	202
## 283	0.946127242	Jul-16	202
## 284	0.704683674	Aug-16	202
## 285	0.566003278	Sep-16	204
## 286	0.394398759	Oct-16	204
## 287	0.394398759	Nov-16	204
## 288	0.360476935	Dec-16	204
## 289	0.380430949	Jan-17	204
## 290	0.449272297	Feb-17	204
## 291	0.480201018	Mar-17	204
## 292	0.668766449	Apr-17	204
## 293	0.747584804	May-17	205
## 294	0.836380166	Jun-17	206
## 295	0.848352574	Jul-17	206
## 296	0.870301989	Aug-17	207
## 297	0.930164031	Sep-17	209
## 298	0.662780245	Oct-17	209
## 299	0.440292991	Nov-17	209
## 300	0.379433248	Dec-17	209
## 301	0.474214814	Jan-18	210

```
## 302 0.614890612 Feb-18 210
## 303 1.023947896 Mar-18 210
## 304 0.988030671 Apr-18 210
## 305 0.939143337 May-18 211
## 306 0.699695171 Jun-18 211
## 307 0.300614894 Jul-18 212
## 308 -0.015656226 Aug-18 213
## 309 0.186877014 Sep-18 213
## 310 0.950118045 Oct-18 213
## 311 1.016963991 Nov-18 213
## 312 1.013970889 Dec-18 213
```

```
train=sample(1:nrow(datam),270)
```

```
#Normal Regression Without CV, not the cum values
```

```
#Each i denotes power: linear, quadratic, cubic, x^4, x^5
```

```
set.seed(123)
```

```
meansq.error=rep(0,5)
```

```
for (i in 1:5){
```

```
  lm.fit =lm(CumulativeEqs~ poly(DisposalVolume, i) + poly(ProducedGas, i) + poly(ProducedOil, i) + p
```

```
  #Can print the summary by taking the model outside of loop, if needed
```

```
  summary(lm.fit)
```

```
  sum1 <- summary(lm.fit)
```

```
  datam[-train,]$CumulativeEqs
```

```
  #write.csv(sum1, "testing_summary_lm.csv")
```

```
  pred.lm.fit <- predict(lm.fit, datam[-train,])
```

```
  pred.lm.fit
```

```
  #table(pred.lm.fit, datam[-train,]$CumulativeEqs)
```

```
  # Test Accuracy
```

```
  #mean(abs(pred.lm.fit - datam[-train,]$CumulativeEqs))
```

```
  diff <- abs(pred.lm.fit - datam[-train,'CumulativeEqs'])
```

```
  mean(diff>2)
```

```
#Gives the Mean Squared Error
```

```
  mean((datam[-train,]$CumulativeEqs-pred.lm.fit)^2)
```

```
  meansq.error[i]=mean((datam[-train,]$CumulativeEqs-pred.lm.fit)^2)
```

```
}
```

```
meansq.error
```

```
## [1] 0.020465465 0.011984302 0.005175054 0.002077299 0.001229018
```

```
#Normal Regression Without CV, WITH the cum values
```

```
#Each i denotes power: linear, quadratic, cubic, x^4, x^5
```

```
set.seed(123)
```

```
meansq.error=rep(0,5)
```

```
for (i in 1:5){
```

```
  lm.fit =lm(CumulativeEqs~ poly(CumDisposalVolume, i) + poly(CumProducedGas, i) + poly(Cum_ProducedO
```

```
  #Can print the summary by taking the model outside of loop, if needed
```

```
  summary(lm.fit)
```

```
  sum1 <- summary(lm.fit)
```

```
  datam[-train,]$CumulativeEqs
```

```

#write.csv(sum1, "testing_summary_lm.csv")
pred.lm.fit <- predict(lm.fit, datam[-train,])
pred.lm.fit
#table(pred.lm.fit, datam[-train,]$CumulativeEqs)
# Test Accuracy
#mean(abs(pred.lm.fit - datam[-train, 'CumulativeEqs']))
diff <- abs(pred.lm.fit - datam[-train, 'CumulativeEqs'])
mean(diff>2)

#Gives the Mean Squared Error
mean((datam[-train,]$CumulativeEqs-pred.lm.fit)^2)
meansq.error[i]=mean((datam[-train,]$CumulativeEqs-pred.lm.fit)^2)
}
meansq.error

## [1] 0.0127378482 0.0035481619 0.0026477260 0.0014184386 0.0007353784
#Normal Regression Without CV, WITHOUT the cum values as well as raw values

#Each i denotes power: linear, quadratic, cubic, x^4, x^5
set.seed(123)
meansq.error=rep(0,5)
for (i in 1:5){
  lm.fit =lm(CumulativeEqs~ poly(WellCount, i) + poly(DomesticFlightsDFW, i) + poly(InternationalFlightsDFW, i))

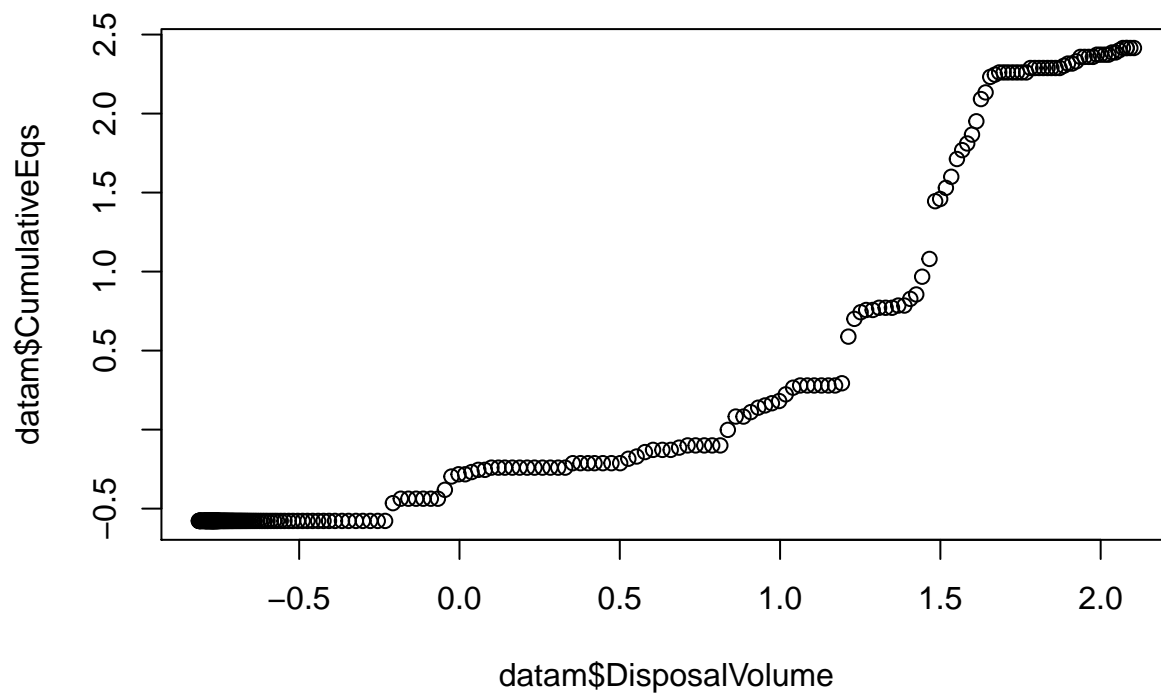
  #Can print the summary by taking the model outside of loop, if needed
  summary(lm.fit)
  sum1 <- summary(lm.fit)
  datam[-train,]$CumulativeEqs
  #write.csv(sum1, "testing_summary_lm.csv")
  pred.lm.fit <- predict(lm.fit, datam[-train,])
  pred.lm.fit
  #table(pred.lm.fit, datam[-train,]$CumulativeEqs)
  # Test Accuracy
  #mean(abs(pred.lm.fit - datam[-train, 'CumulativeEqs']))
  diff <- abs(pred.lm.fit - datam[-train, 'CumulativeEqs'])
  mean(diff>2)

#Gives the Mean Squared Error
mean((datam[-train,]$CumulativeEqs-pred.lm.fit)^2)
meansq.error[i]=mean((datam[-train,]$CumulativeEqs-pred.lm.fit)^2)
}
meansq.error

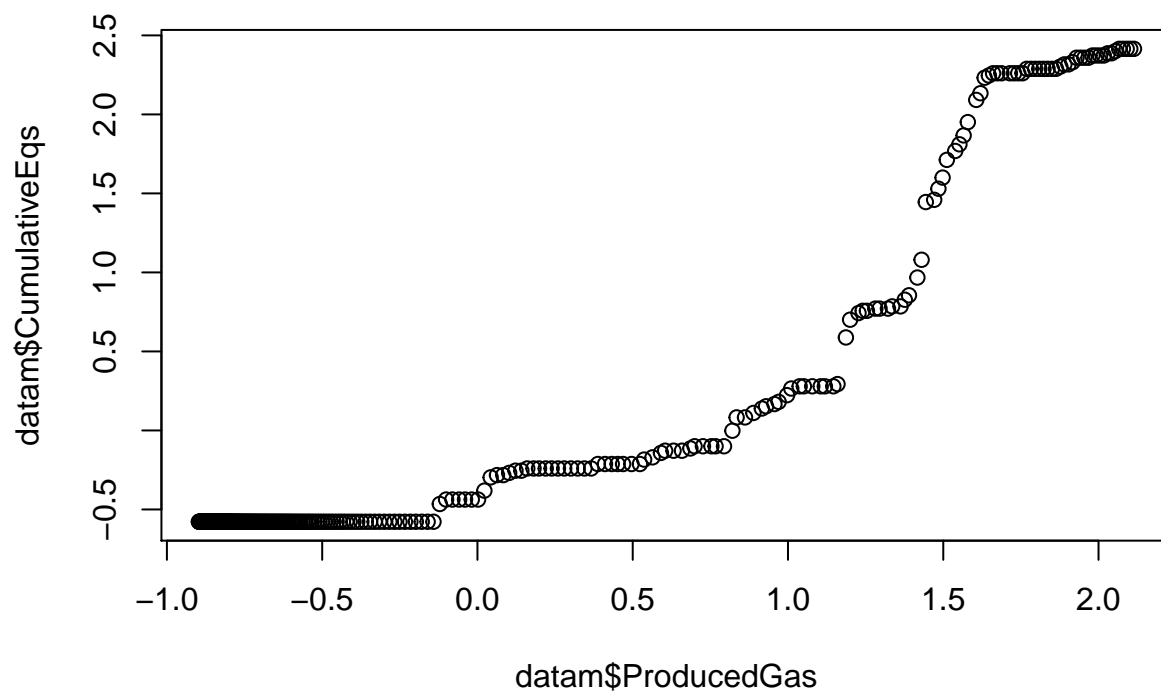
## [1] 0.2556652 0.2090534 0.1298984 0.1090780 0.1042159
#par(mfrow = c(2, 2))

plot(datam$CumulativeEqs~datam$DisposalVolume)

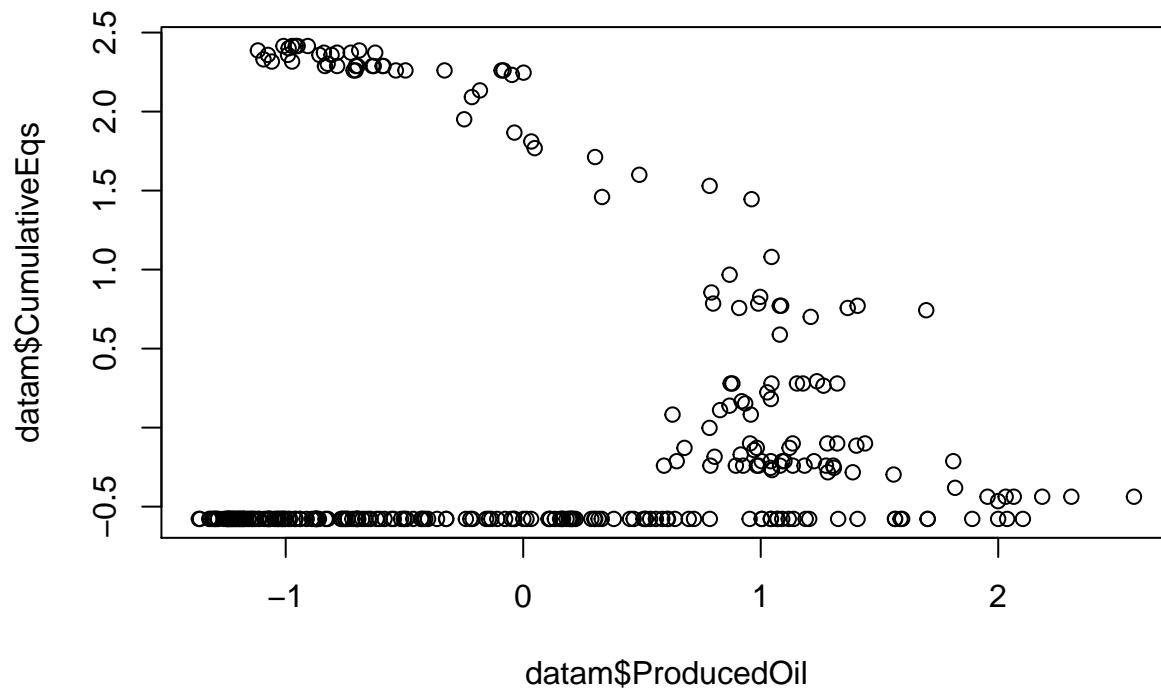
```



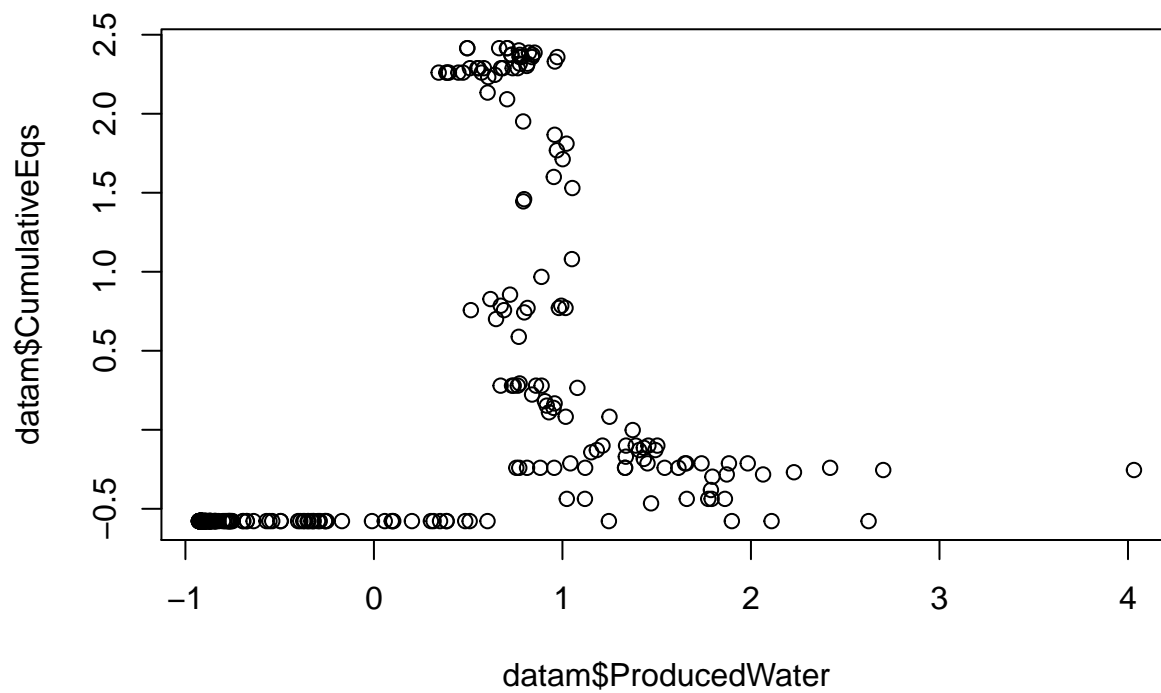
```
plot(datam$CumulativeEqs~datam$ProducedGas)
```



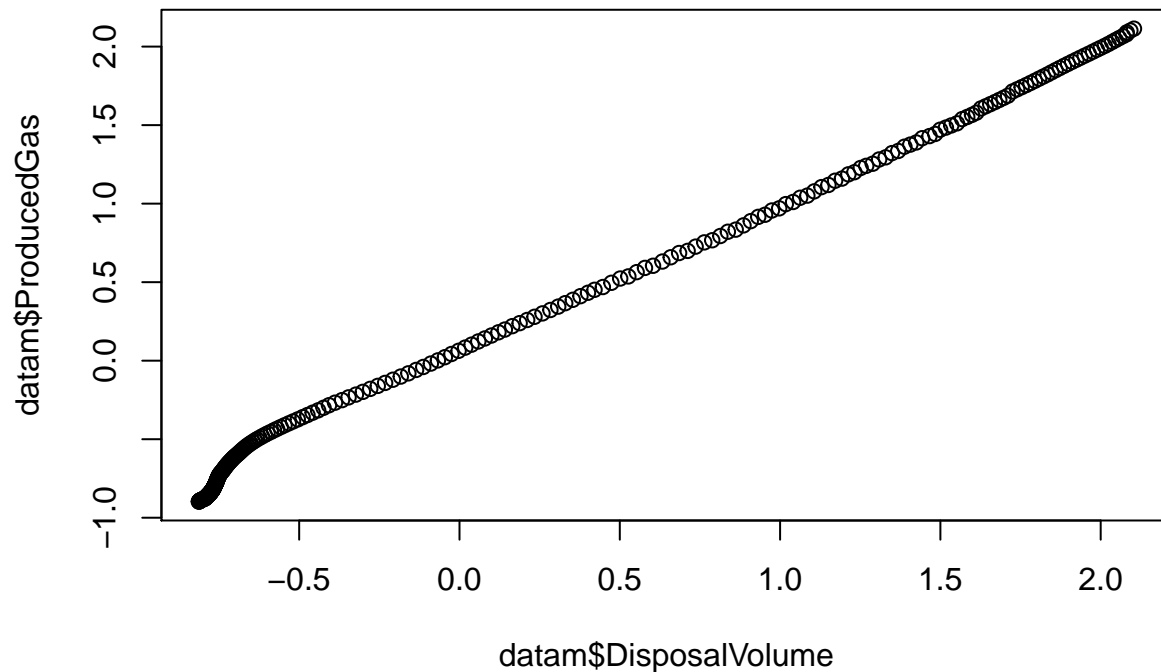
```
plot(datam$CumulativeEqs~datam$ProducedOil)
```



```
plot(datam$CumulativeEqs~datam$ProducedWater)
```



```
plot(datam$ProducedGas~datam$DisposalVolume)
```



```
#Cross Validation
```

```
#LOOCV
```

```
library(boot)
```

```
set.seed(123)
```

```
cv.error=rep(0,5)
```

```
for (i in 1:5){
```

```
  glm.fit=glm(CumulativeEqs~ poly(DisposalVolume, i) + poly(ProducedGas, i) + poly(ProducedOil, i) +
```

```
  cv.error[i]=cv.glm(datam,glm.fit)$delta[1]
```

```
}
```

```
cv.error
```

```
## [1] 0.01922967 0.01412814 0.01269900 0.01616941 0.02835159
```

```
cv.error=rep(0,5)
```

```
for (i in 1:5){
```

```
  glm.fit=glm(CumulativeEqs~ poly(CumDisposalVolume, i) + poly(CumProducedGas, i) + poly(Cum_Produced
```

```
  cv.error[i]=cv.glm(datam,glm.fit)$delta[1]
```

```
}
```

```
cv.error
```

```
## [1] 0.014698316 0.003586558 0.002369311 0.001925494 0.003615116
```

```
#K Fold CV
```

```
library(boot)
```

```
set.seed(123)
```

```
cv.error=rep(0,5)
```

```
for (i in 1:5){
```

```
  glm.fit=glm(CumulativeEqs~ poly(DisposalVolume, i) + poly(ProducedGas, i) + poly(ProducedOil, i) +
```

```
  cv.error[i]=cv.glm(datam,glm.fit, K=10)$delta[1]
```

```
}
```

```
cv.error
```

```
## [1] 0.01930121 0.01468741 0.01246870 0.01629180 0.03256691
```



```

cv.error=rep(0,5)
for (i in 1:5){
  glm.fit=glm(CumulativeEqs~ poly(CumDisposalVolume, i) + poly(CumProducedGas, i) + poly(Cum_ProducedOil, i))
  cv.error[i]=cv.glm(datam,glm.fit, K=10)$delta[1]
}
cv.error

## [1] 0.014733344 0.003711859 0.002637809 0.001792505 0.011916800

cv.error=rep(0,5)
for (i in 1:5){
  glm.fit=glm(CumulativeEqs~ poly(WellCount, i) + poly(DomesticFlightsDFW, i) + poly(InternationalFlightsDFW, i))
  cv.error[i]=cv.glm(datam,glm.fit, K=10)$delta[1]
}
cv.error

## [1] 0.2742743 0.2331359 0.1230080 0.2070665 4.3972318

library(leaps)

#data.full <- data.frame(y = y, x = x)

regfit.fwd <- regsubsets(CumulativeEqs ~ DisposalVolume + ProducedGas +
  ProducedOil + ProducedWater + WellCount + DomesticFlightsDFW +
  InternationalFlightsDFW + Precipitation + Evaporation + GroundwaterLvlDiff +
  ReservoirStorage + ConservationStorage + PercentFull, data = datam, nvmax = 13, method = "forward")

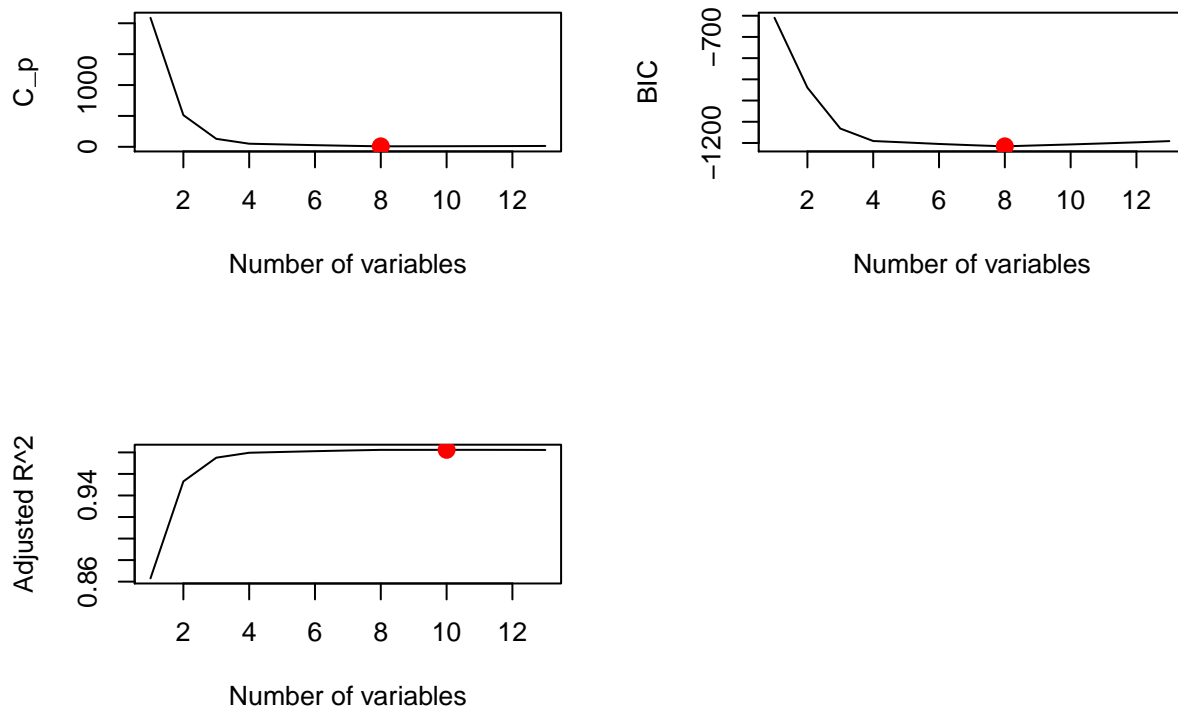
reg.summary.fwd <- summary(regfit.fwd)

par(mfrow = c(2, 2))

plot(reg.summary.fwd$cp, xlab = "Number of variables", ylab = "C_p", type = "l")
points(which.min(reg.summary.fwd$cp), reg.summary.fwd$cp[which.min(reg.summary.fwd$cp)], col = "red", cex = 2)
plot(reg.summary.fwd$bic, xlab = "Number of variables", ylab = "BIC", type = "l")
points(which.min(reg.summary.fwd$bic), reg.summary.fwd$bic[which.min(reg.summary.fwd$bic)], col = "red", cex = 2)
plot(reg.summary.fwd$adjr2, xlab = "Number of variables", ylab = "Adjusted R^2", type = "l")
points(which.max(reg.summary.fwd$adjr2), reg.summary.fwd$adjr2[which.max(reg.summary.fwd$adjr2)], col = "red", cex = 2)
mtext("Plots of C_p, BIC and adjusted R^2 for forward stepwise selection", side = 3, line = -2, outer = TRUE)

```

## Plots of C<sub>p</sub>, BIC and adjusted R<sup>2</sup> for forward stepwise selection



```
#install.packages("leaps")
library(leaps)

#data.full <- data.frame(y = y, x = x)

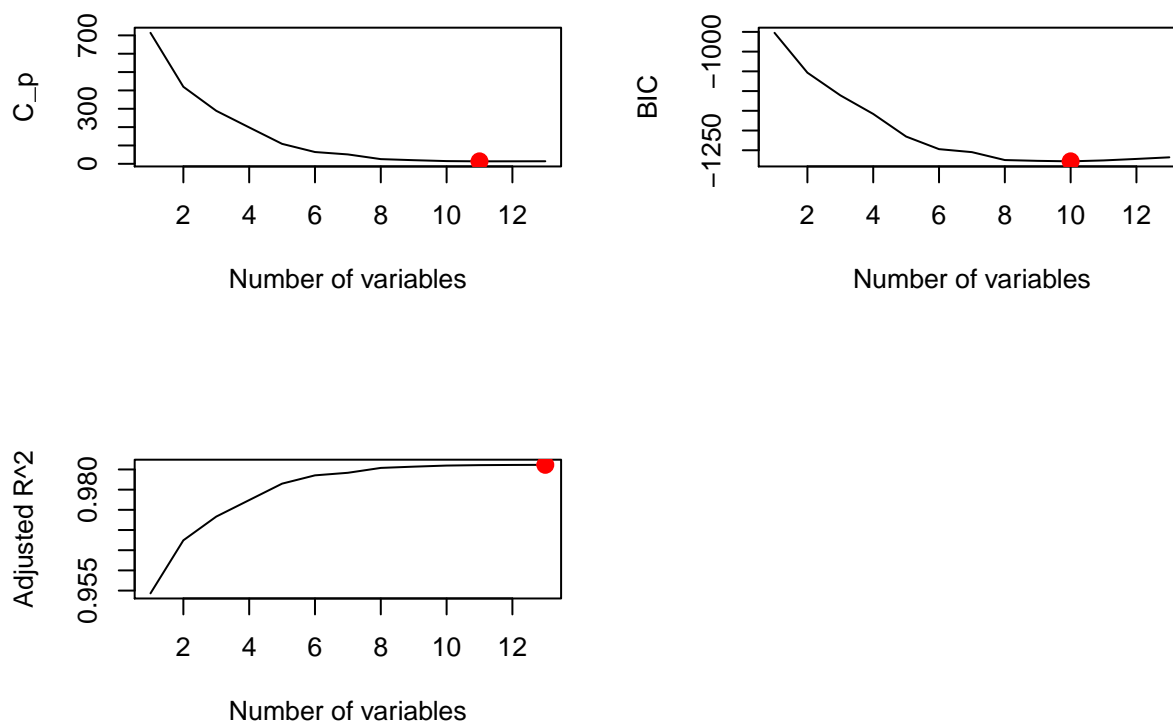
regfit.fwd <- regsubsets(CumulativeEqs ~ CumDisposalVolume + CumProducedGas +
  Cum_ProducedOil + CumProducedWater + WellCount + DomesticFlightsDFW +
  InternationalFlightsDFW + Precipitation + Evaporation + GroundwaterLvlDiff +
  ReservoirStorage + ConservationStorage + PercentFull, data = datam, nvmax = 13, method = "forward")

reg.summary.fwd <- summary(regfit.fwd)

par(mfrow = c(2, 2))

plot(reg.summary.fwd$cp, xlab = "Number of variables", ylab = "C_p", type = "l")
points(which.min(reg.summary.fwd$cp), reg.summary.fwd$cp[which.min(reg.summary.fwd$cp)], col = "red", cex = 1.5)
plot(reg.summary.fwd$bic, xlab = "Number of variables", ylab = "BIC", type = "l")
points(which.min(reg.summary.fwd$bic), reg.summary.fwd$bic[which.min(reg.summary.fwd$bic)], col = "red", cex = 1.5)
plot(reg.summary.fwd$adjr2, xlab = "Number of variables", ylab = "Adjusted R^2", type = "l")
points(which.max(reg.summary.fwd$adjr2), reg.summary.fwd$adjr2[which.max(reg.summary.fwd$adjr2)], col = "red", cex = 1.5)
mtext("Plots of C_p, BIC and adjusted R^2 for forward stepwise selection", side = 3, line = -2, outer = TRUE)
```

## Plots of C<sub>p</sub>, BIC and adjusted R<sup>2</sup> for forward stepwise selection



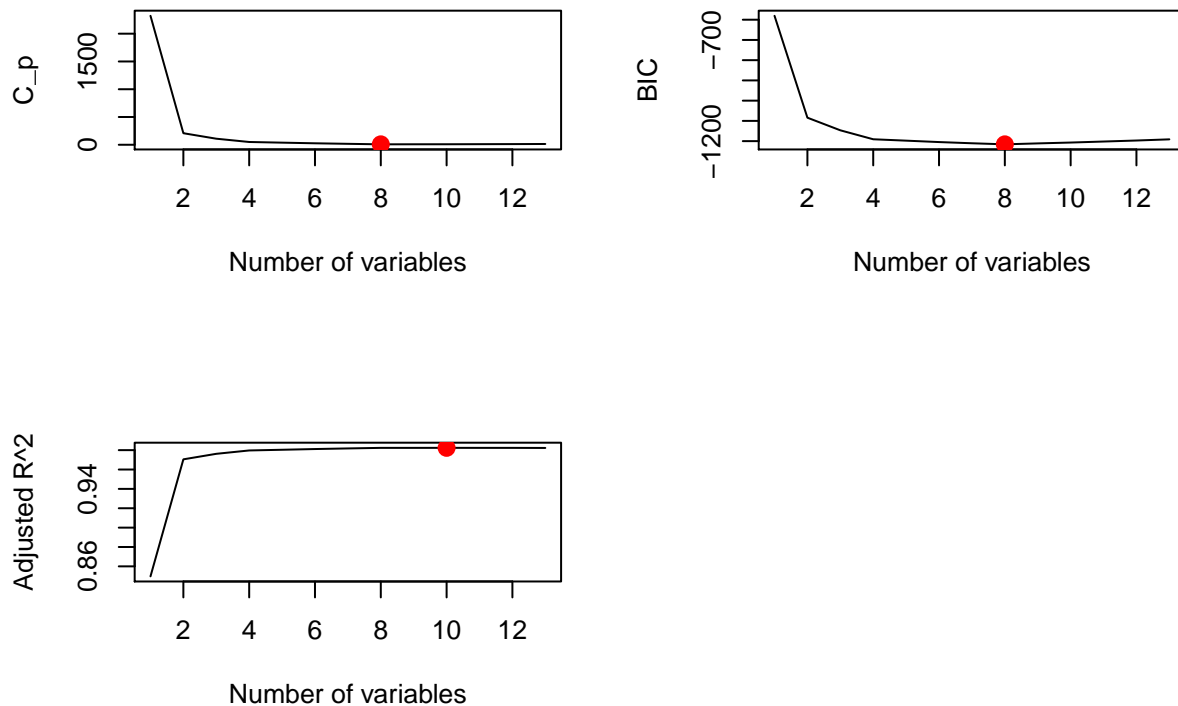
```
coef(regfit.fwd, which.max(reg.summary.fwd$adjr2))
```

```
##          (Intercept)      CumDisposalVolume      CumProducedGas
##      -2.445960e-16      -1.879284e-01      4.107199e+00
##      Cum_ProducedOil      CumProducedWater      WellCount
##      3.123295e-01      -2.132080e+00      -1.236864e+00
##      DomesticFlightsDFW InternationalFlightsDFW      Precipitation
##      -3.215004e-02      -7.559145e-02      1.137029e-02
##      Evaporation      GroundwaterLvlDiff      ReservoirStorage
##      9.437764e-03      2.120393e-02      7.264755e-02
##      ConservationStorage      PercentFull
##      -2.245401e-01      2.296920e-01
```

```
regfit.bwd <- regsubsets(CumulativeEqs ~ DisposalVolume + ProducedGas +
  ProducedOil + ProducedWater + WellCount + DomesticFlightsDFW +
  InternationalFlightsDFW + Precipitation + Evaporation + GroundwaterLvlDiff +
  ReservoirStorage + ConservationStorage + PercentFull, data = datam, nvmax = 13, method = "backward")
```

```
reg.summary.bwd <- summary(regfit.bwd)
par(mfrow = c(2, 2))
plot(reg.summary.bwd$cp, xlab = "Number of variables", ylab = "C_p", type = "l")
points(which.min(reg.summary.bwd$cp), reg.summary.bwd$cp[which.min(reg.summary.bwd$cp)], col = "red", cex = 1.5)
plot(reg.summary.bwd$bic, xlab = "Number of variables", ylab = "BIC", type = "l")
points(which.min(reg.summary.bwd$bic), reg.summary.bwd$bic[which.min(reg.summary.bwd$bic)], col = "red", cex = 1.5)
plot(reg.summary.bwd$adjr2, xlab = "Number of variables", ylab = "Adjusted R^2", type = "l")
points(which.max(reg.summary.bwd$adjr2), reg.summary.bwd$adjr2[which.max(reg.summary.bwd$adjr2)], col = "red", cex = 1.5)
mtext("Plots of C_p, BIC and adjusted R^2 for backward stepwise selection", side = 3, line = -2, outer = TRUE)
```

### Plots of C<sub>p</sub>, BIC and adjusted R<sup>2</sup> for backward stepwise selection

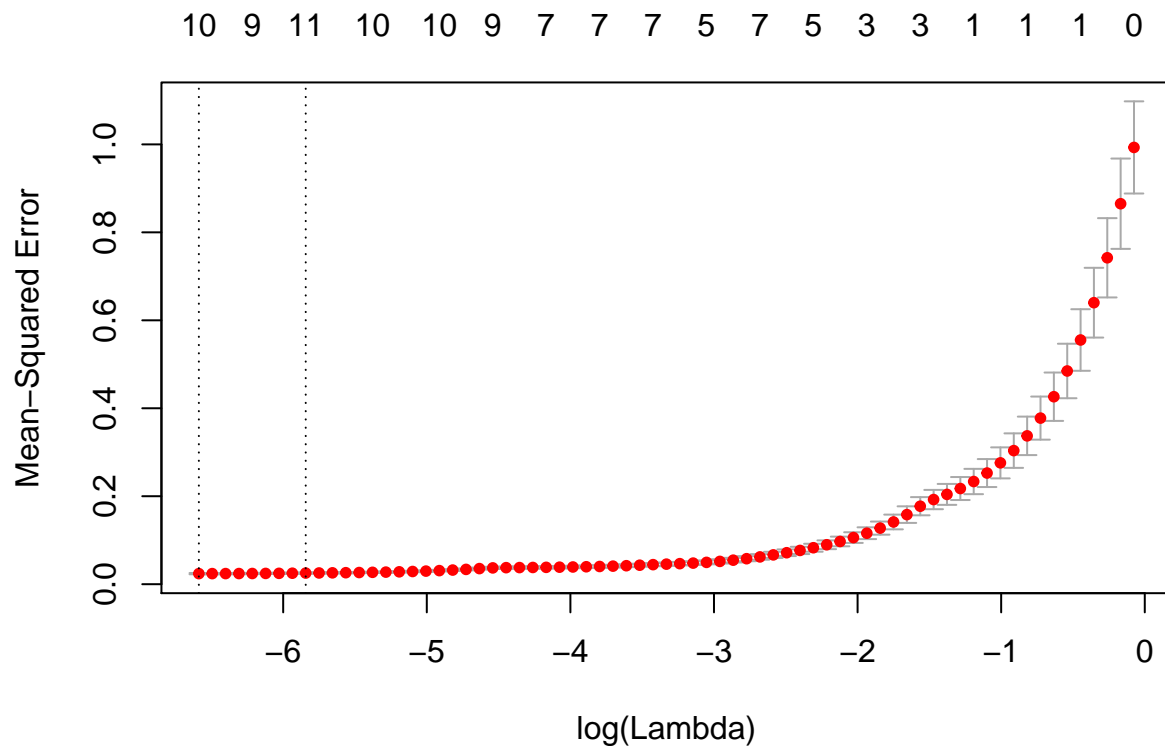


```
#install.packages("glmnet")
library(glmnet)
```

```
## Loading required package: Matrix
## Loading required package: foreach
## Loaded glmnet 2.0-16
```

```
xmat <- model.matrix(CumulativeEqs ~ DisposalVolume + ProducedGas +
  ProducedOil + ProducedWater + WellCount + DomesticFlightsDFW +
  InternationalFlightsDFW + Precipitation + Evaporation + GroundwaterLvlDiff +
  ReservoirStorage + ConservationStorage + PercentFull, data = datam,)[-1]

cv.lasso <- cv.glmnet(xmat, datam$CumulativeEqs, alpha = 1)
plot(cv.lasso)
```



```
bestlam <- cv.lasso$lambda.min
bestlam
```

```
## [1] 0.001377683
```

```
fit.lasso <- glmnet(xmat, datam$CumulativeEqs, alpha = 1)
predict(fit.lasso, s = bestlam, type = "coefficients")[1:14, ]
```

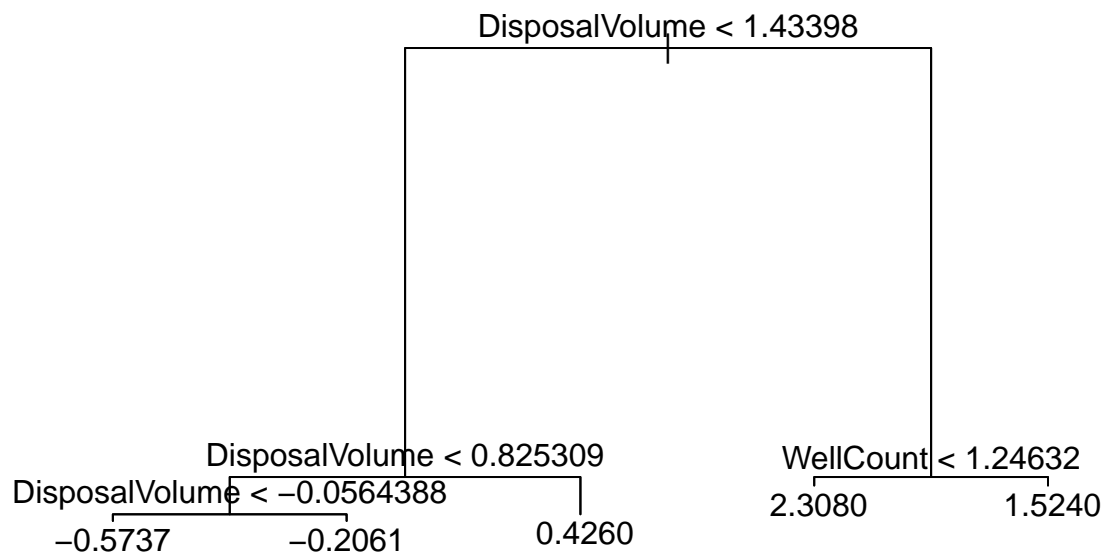
```
##      (Intercept)      DisposalVolume      ProducedGas
##      -3.898196e-16      0.000000e+00      1.615829e+00
##      ProducedOil      ProducedWater      WellCount
##      3.302549e-04      5.677487e-02      -8.026755e-01
##      DomesticFlightsDFW InternationalFlightsDFW      Precipitation
##      2.518408e-02      0.000000e+00      5.947969e-03
##      Evaporation      GroundwaterLvlDiff      ReservoirStorage
##      -3.212360e-03      -2.477207e-02      4.546149e-02
##      ConservationStorage      PercentFull
##      0.000000e+00      2.589572e-02
```

```
#install.packages("tree")
require(tree)
```

```
## Loading required package: tree
```

```
tree.datam=tree(formula=CumulativeEqs~ DisposalVolume + ProducedGas + ProducedOil + ProducedWater + Wel.
tree.pred=predict(tree.datam, datam[-train,])
```

```
plot(tree.datam)
text(tree.datam)
```



```
mean((tree.pred-datam[-train,'CumulativeEqs'])^2)
```

```
## [1] 0.004074943
```

```
#install.packages("randomForest")
require(randomForest)
```

```
## Loading required package: randomForest
```

```
## randomForest 4.6-14
```

```
## Type rfNews() to see new features/changes/bug fixes.
```

```
#degree <- 269
#degree
```

```
set.seed(123)
```

```
datam.rf=randomForest(formula=CumulativeEqs~ DisposalVolume + ProducedGas + ProducedOil + ProducedWater
```

```
tree.predrf=predict(datam.rf,datam[-train,])
```

```
mean((tree.predrf-data[-train,'CumulativeEqs'])^2)
```

```
## [1] 5212.562
```

```
importance(datam.rf)
```

##	%IncMSE	IncNodePurity
## DisposalVolume	8.4555057	83.37816088
## ProducedGas	8.5209836	89.31908547
## ProducedOil	3.4003794	7.18016678
## ProducedWater	3.0723005	10.10373003
## WellCount	4.8653856	31.59338378
## DomesticFlightsDFW	2.3516097	7.77027623
## InternationalFlightsDFW	3.4809849	22.48617320
## Precipitation	-0.6476025	0.79503791
## Evaporation	0.5202537	0.07216356
## GroundwaterLvldDiff	2.9288782	6.65255341
## ReservoirStorage	3.1796570	1.92570936
## ConservationStorage	2.9016457	2.62858159
## PercentFull	4.3993506	2.12866203