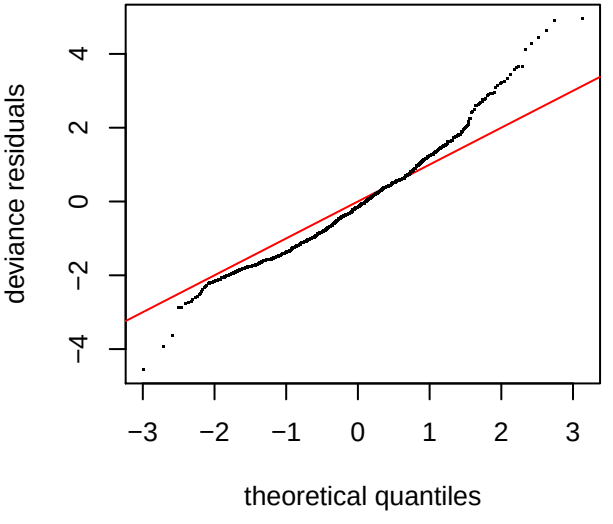
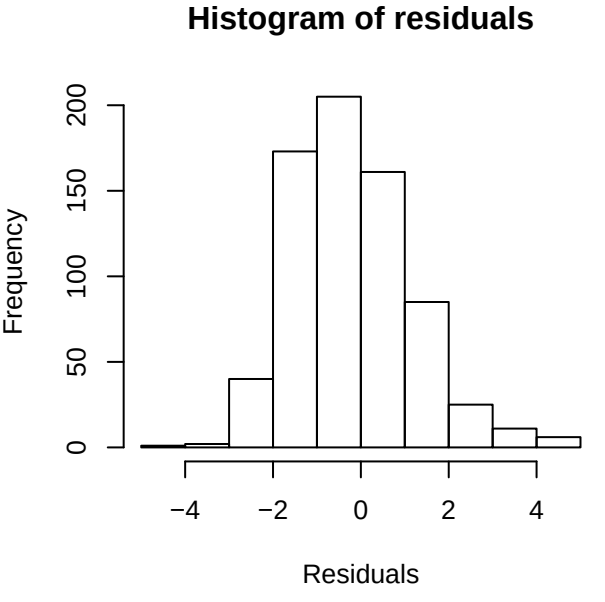
Sandbar shark

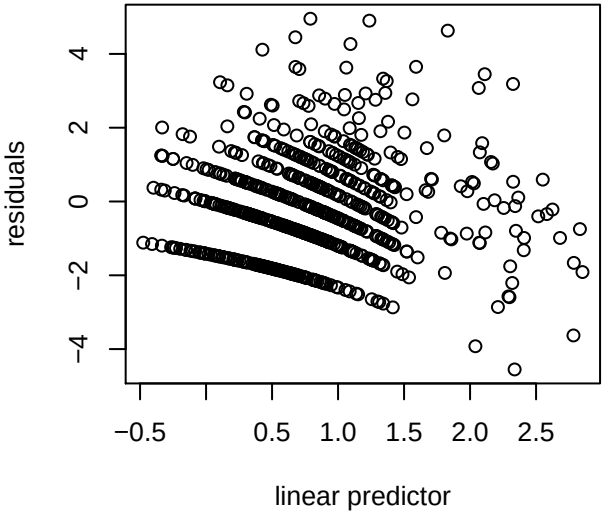
	Log.Like	AIC.c	AIC.delta	AIC.w	AIC.Ev.ratio
Pois	−1484	3006	228	3.09e−50	3.23e+49
NB	−1383	2804	26	2.21e−06	4.53e+05
ZIP	−1424	2931	154	4.20e−34	2.38e+33
ZINB	−1352	2778	0	1.00e+00	1.00e+00

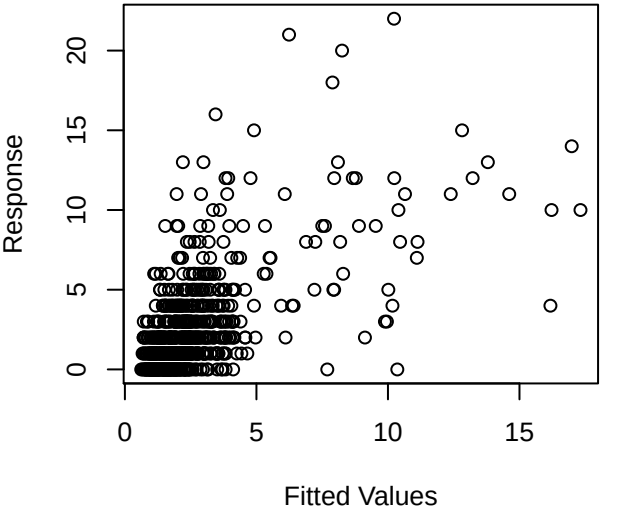
Best.AIC.w= ZINB
Catch.Target ~ c("year", "s(Mid.Lat,k=3)", "s(BOTDEPTH,k=3)") + offset(log.Ef)

Pois

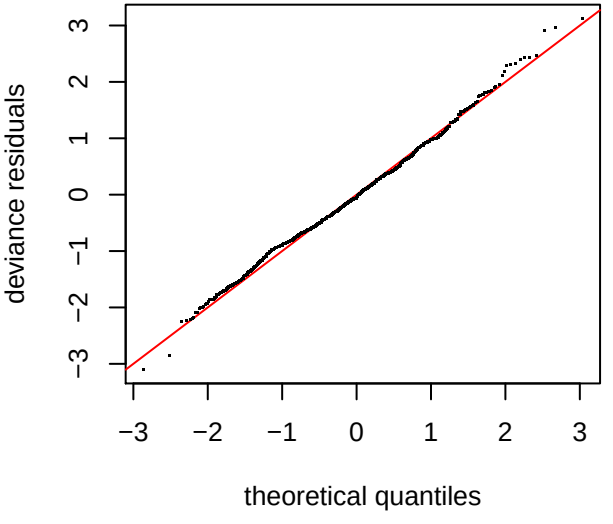

deviance residuals
4
2
0
−2
−4
−3
−2
−1
0
1
2
3
theoretical quantiles

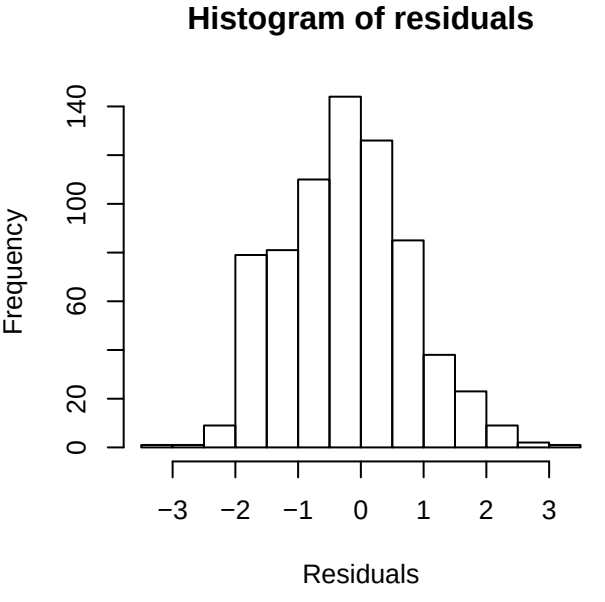

Histogram of residuals
Frequency
200
150
100
50
0
−4
−2
0
2
4
Residuals

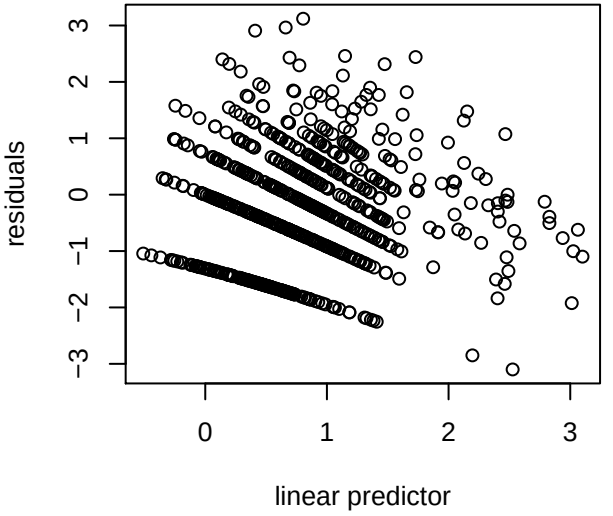

Resids vs. linear pred.
residuals
4
2
0
−2
−4
−0.5
0.5
1.0
1.5
2.0
2.5
linear predictor

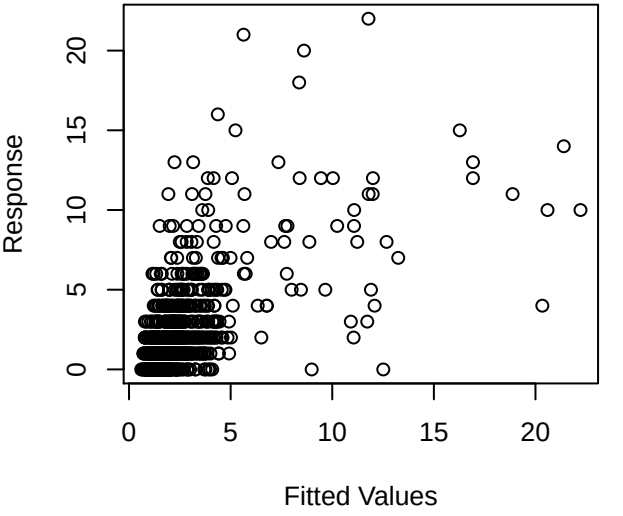

Response vs. Fitted Values
Response
20
15
10
5
0
0
5
10
15
Fitted Values

NB

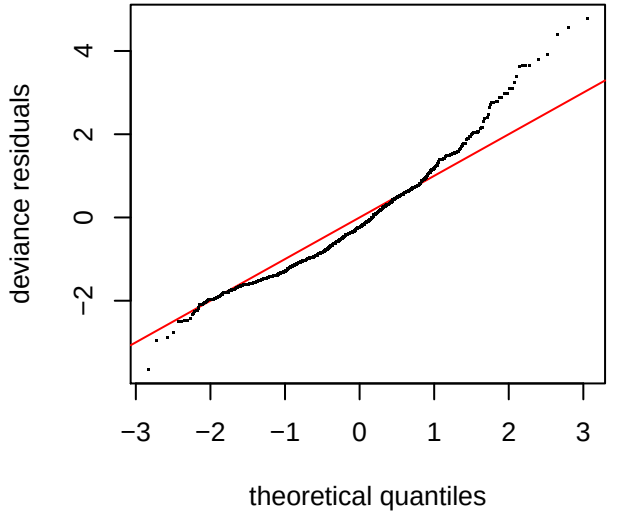

deviance residuals
theoretical quantiles

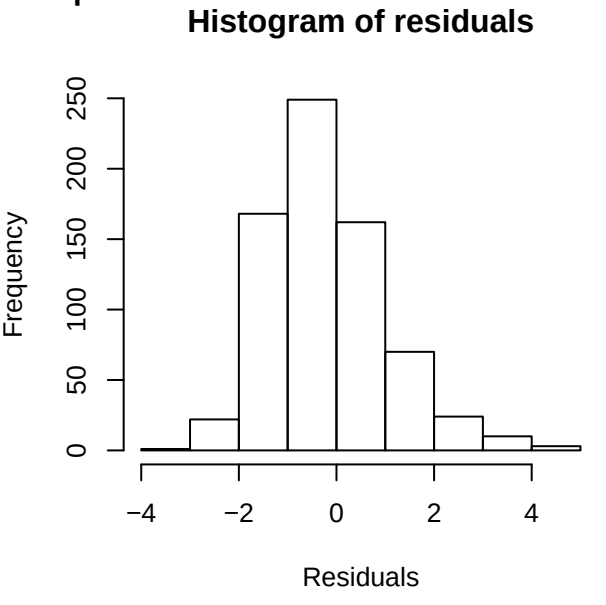

Histogram of residuals
Frequency
Residuals

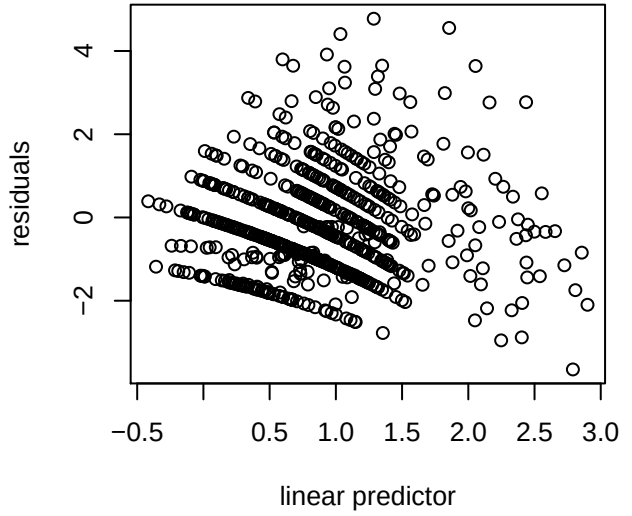

Resids vs. linear pred.
residuals
linear predictor

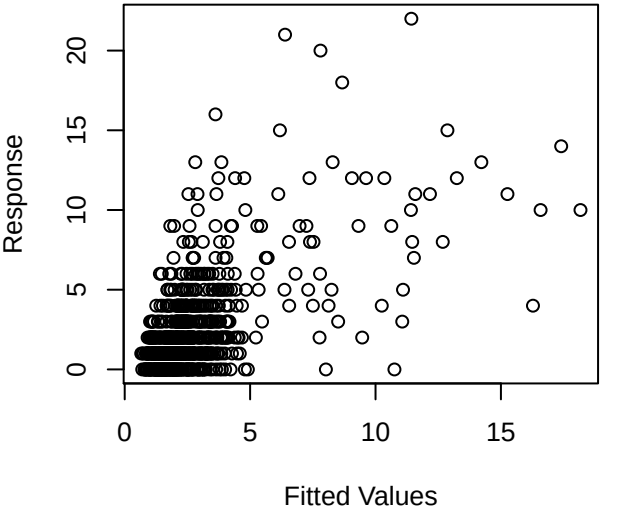

Response vs. Fitted Values
Response
Fitted Values

ZIP counts part

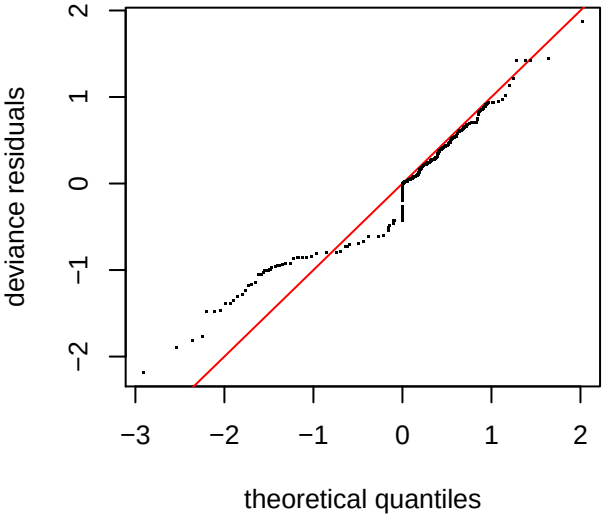


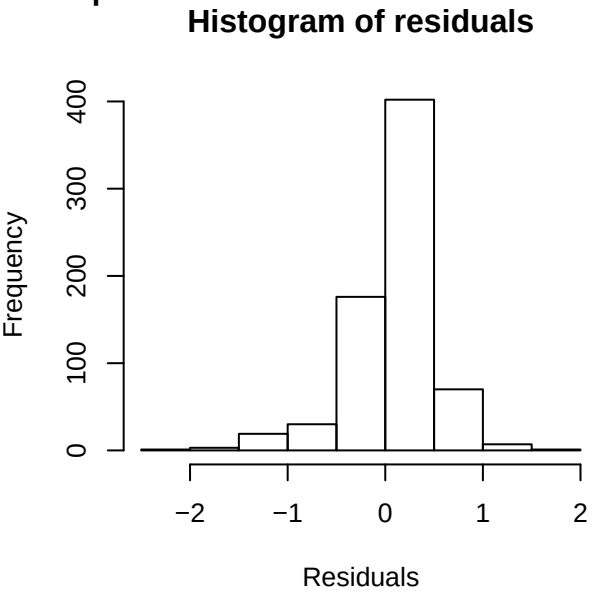


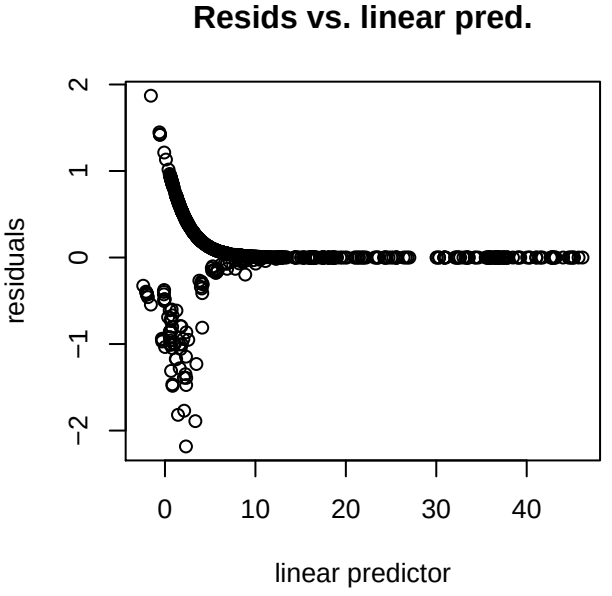


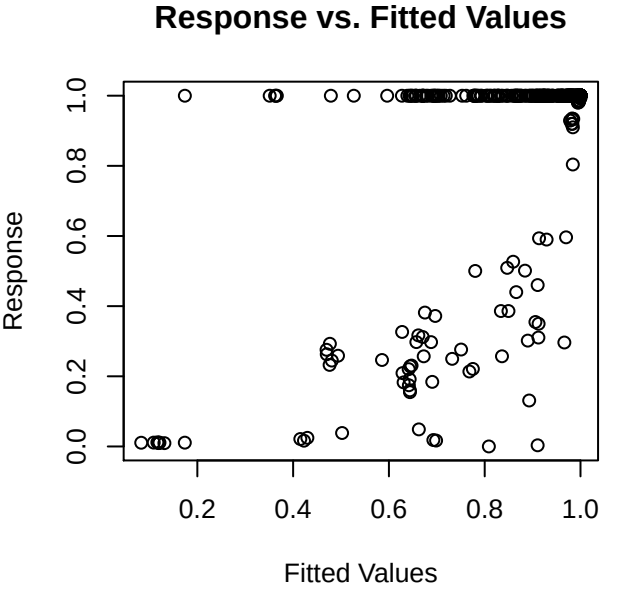


ZIP binomial part

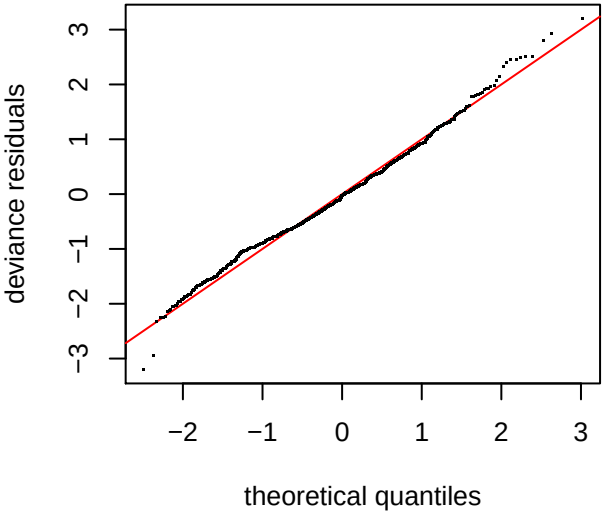


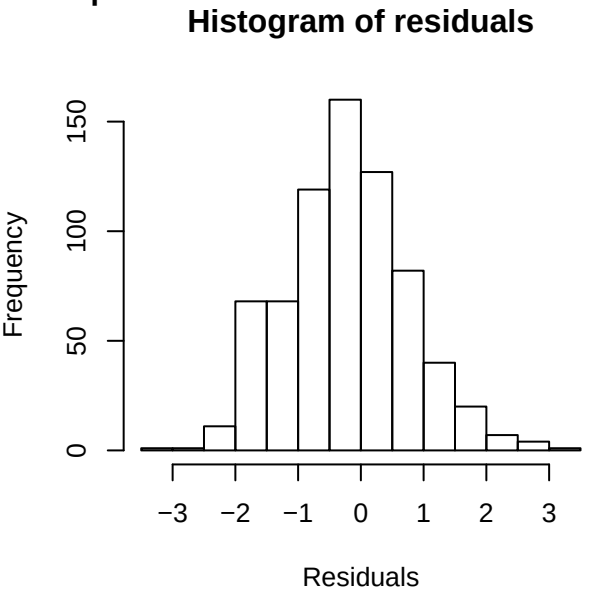


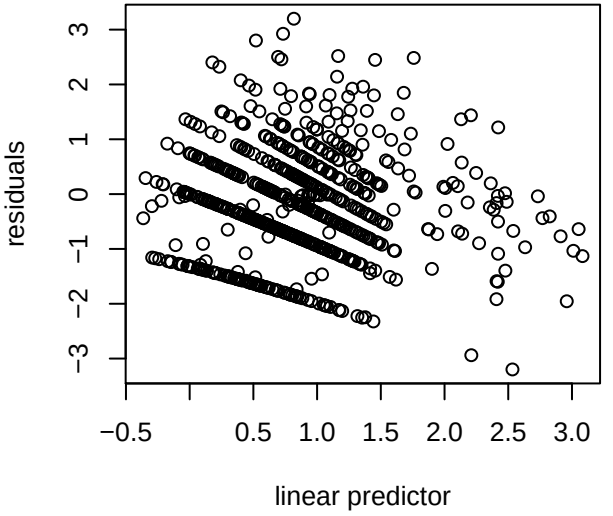


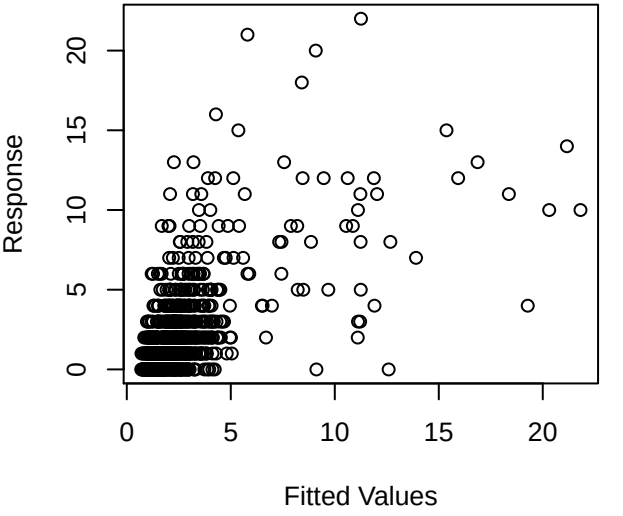


ZINB counts part

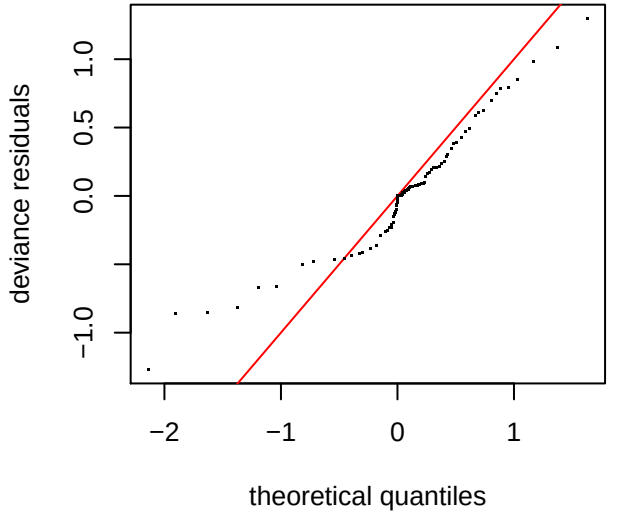


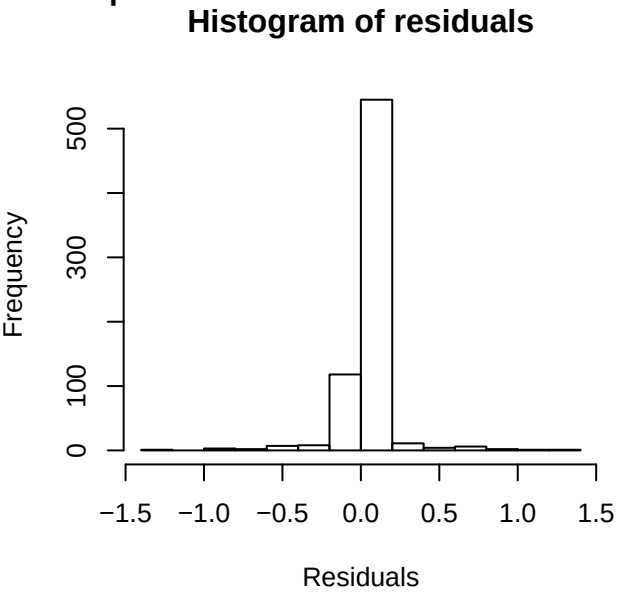


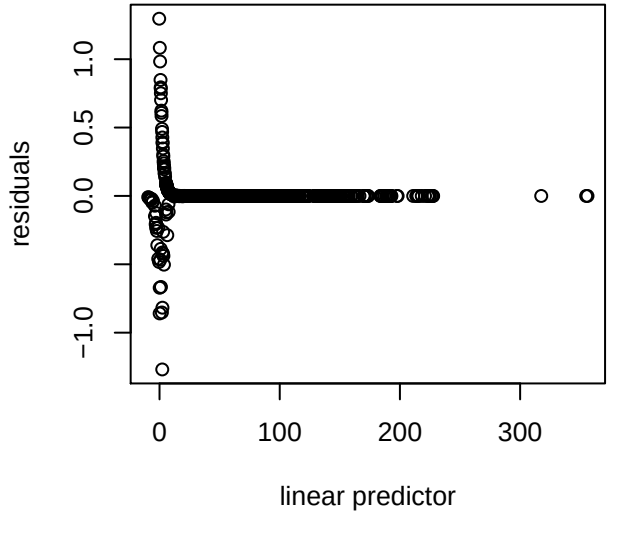


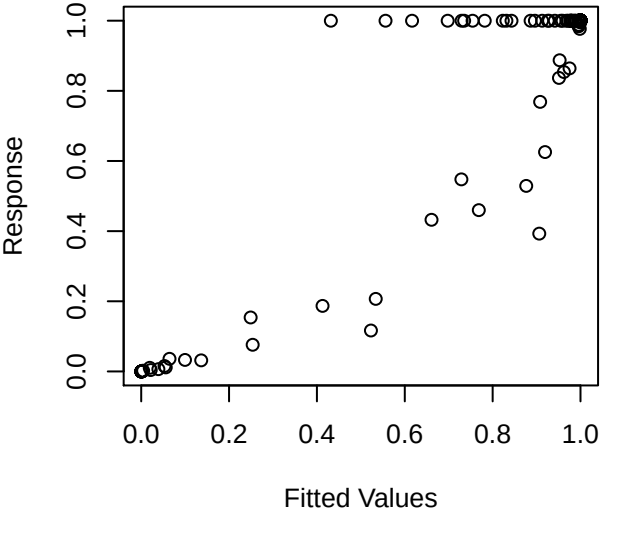


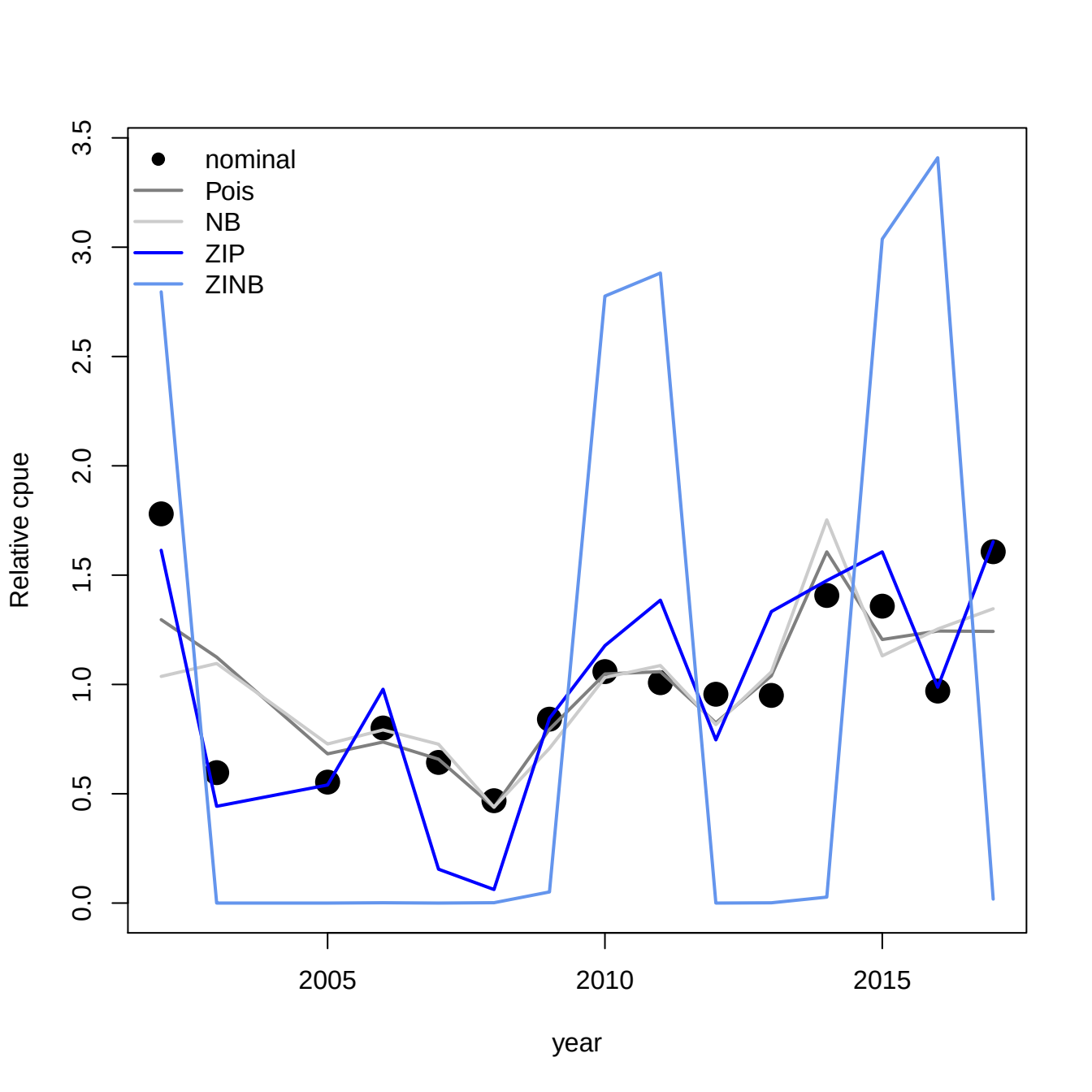
ZINB binomial part









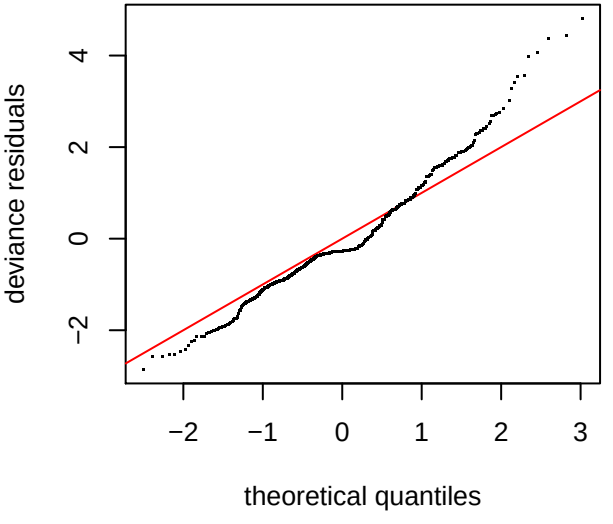

nominal
Pois
NB
ZIP
ZINB
Relative cpue
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
2005
2010
2015
year

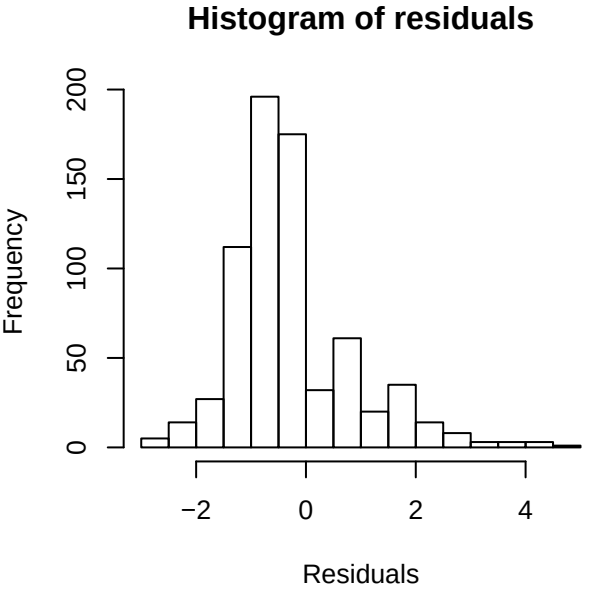
Milk shark

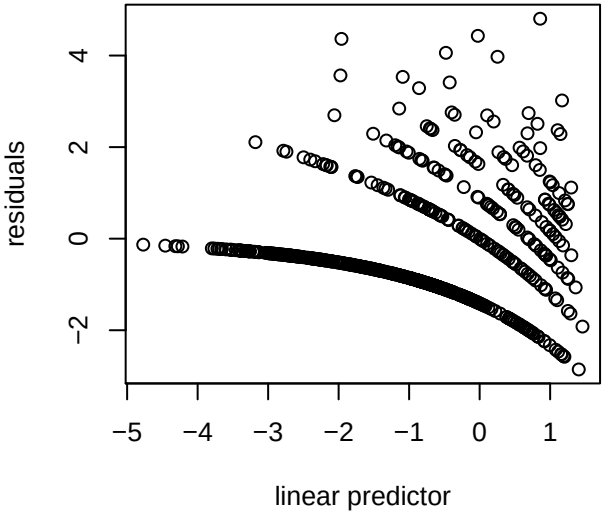
	Log.Like	AIC.c	AIC.delta	AIC.w	AIC.Ev.ratio
Pois	−769	1576	136	2.82e−30	3.54e+29
NB	−708	1455	14	7.84e−04	1.27e+03
ZIP	−754	1574	133	1.07e−29	9.32e+28
ZINB	−682	1440	0	9.99e−01	1.00e+00

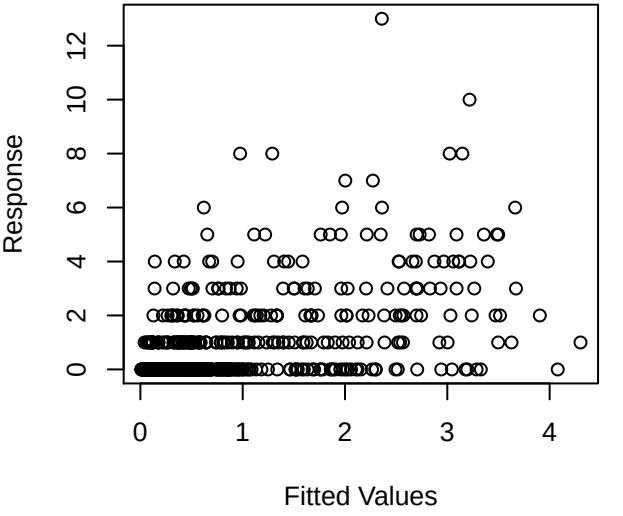
Best.AIC.w= ZINB
Catch.Target ~ c("year", "s(Mid.Lat,k=3)", "s(BOTDEPTH,k=3)") + offset(log.Ef)

Pois

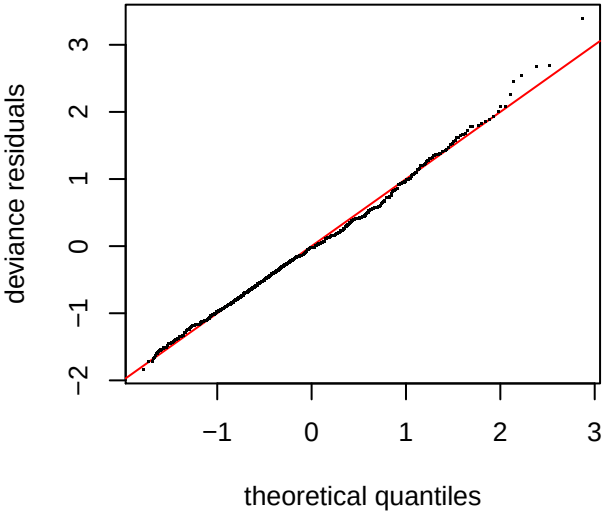

deviance residuals
theoretical quantiles

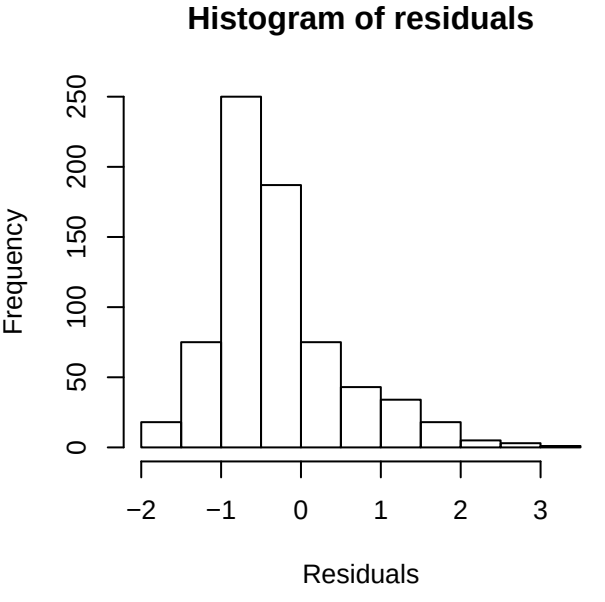

Histogram of residuals
Frequency
Residuals

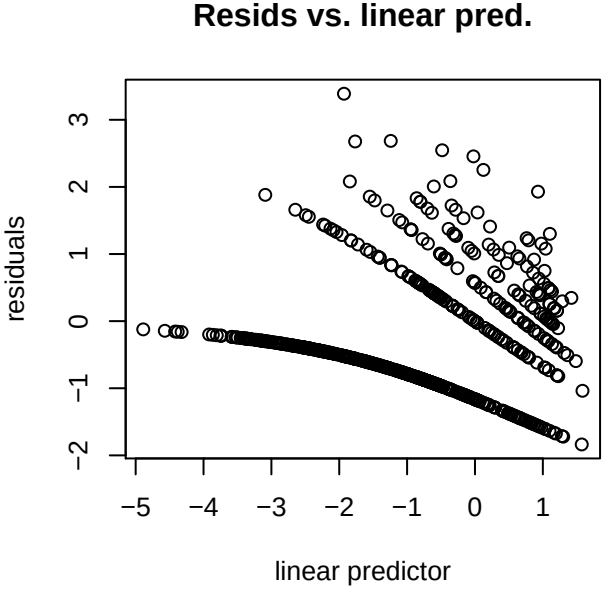

Resids vs. linear pred.
residuals
linear predictor

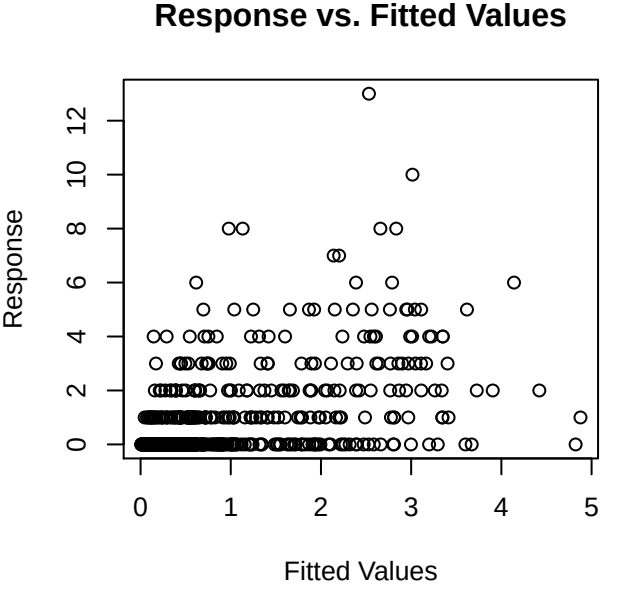

Response vs. Fitted Values
Response
Fitted Values

NB

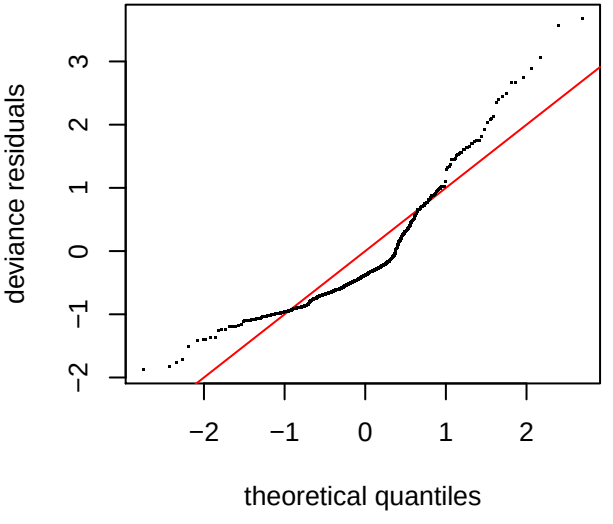

deviance residuals
theoretical quantiles

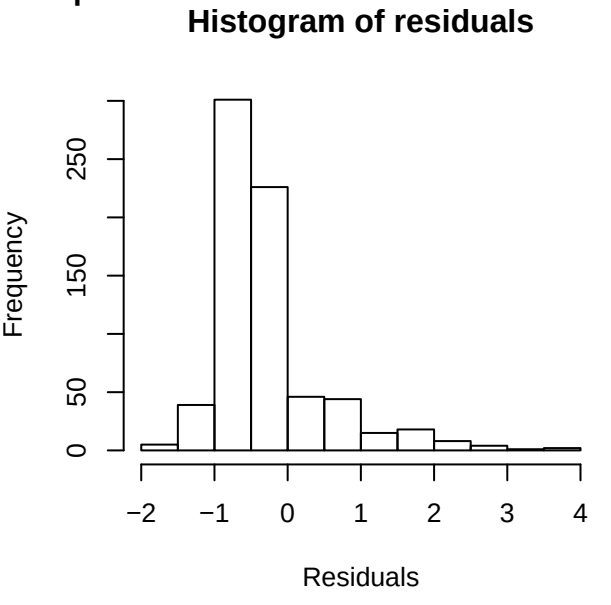

Histogram of residuals
Frequency
Residuals

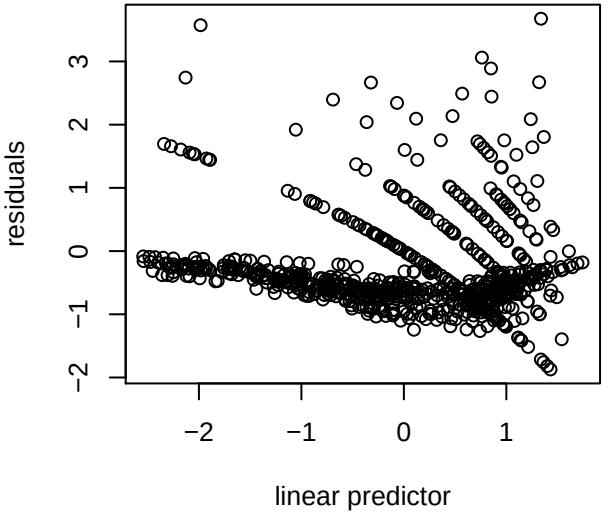

Resids vs. linear pred.
residuals
linear predictor

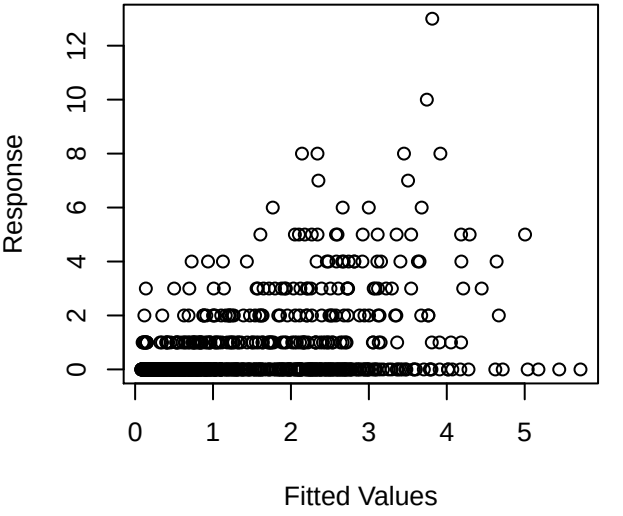

Response vs. Fitted Values
Response
Fitted Values

ZIP counts part

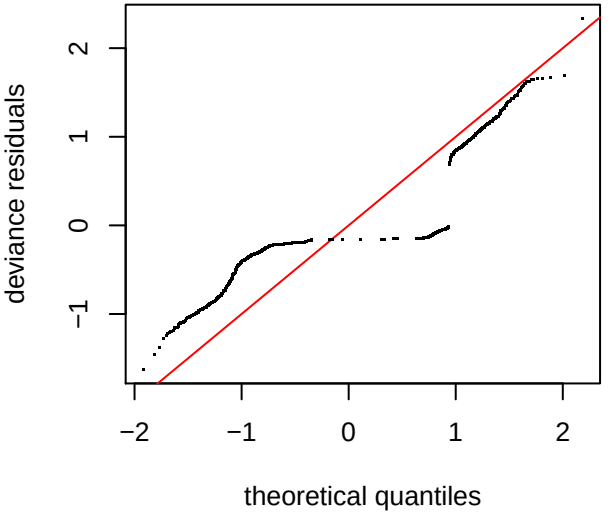


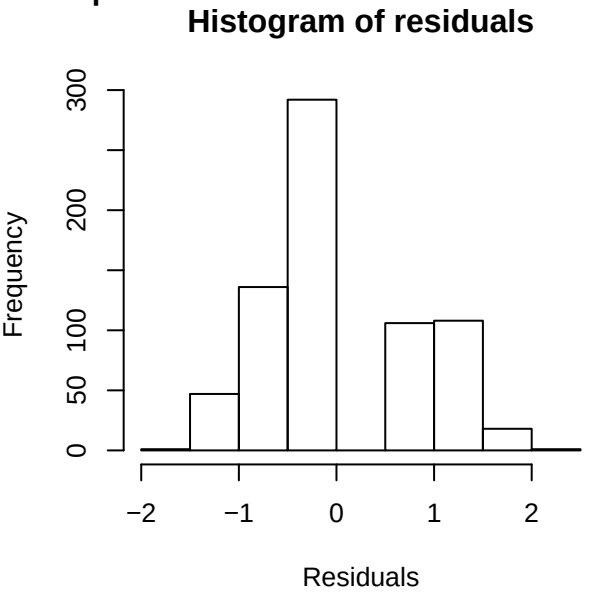


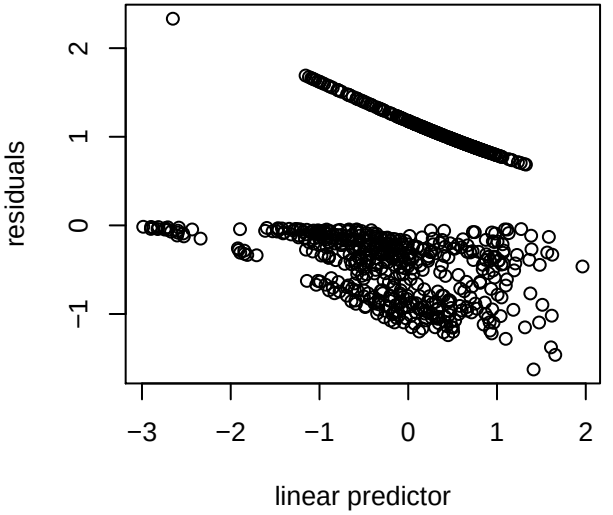


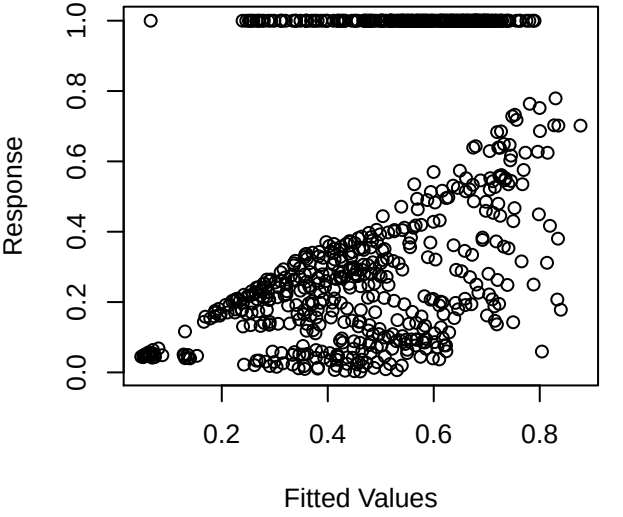


ZIP binomial part

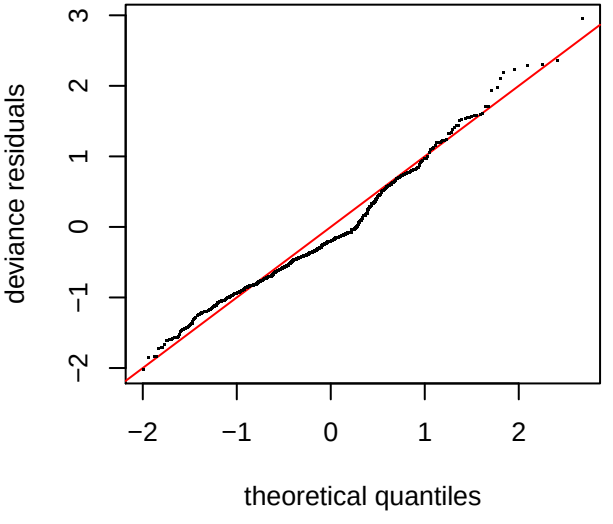


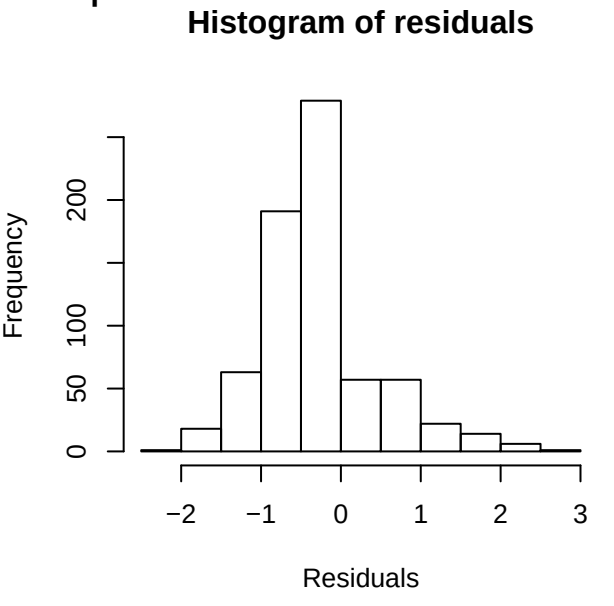


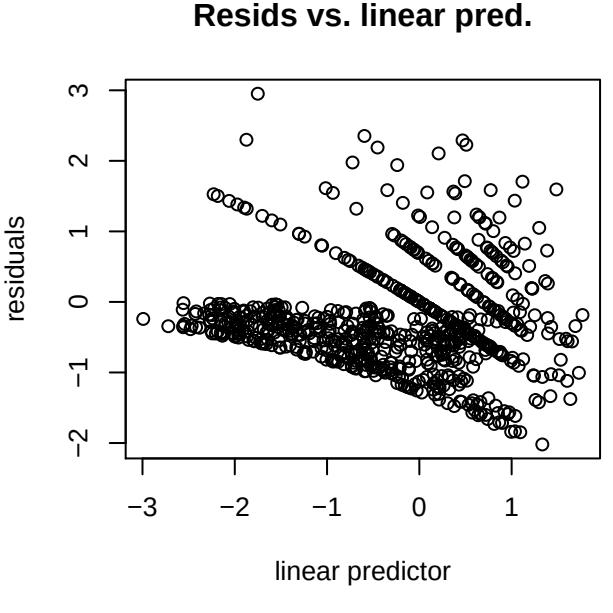


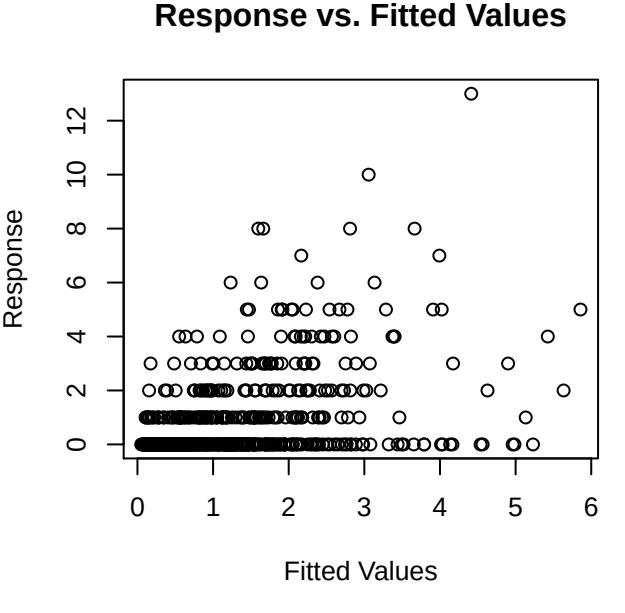


ZINB counts part

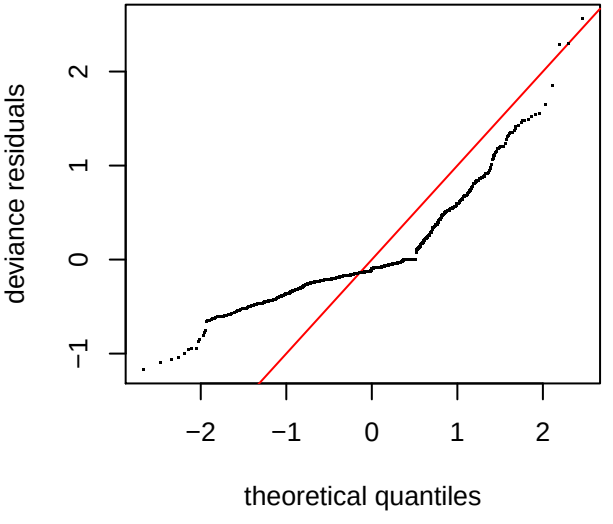


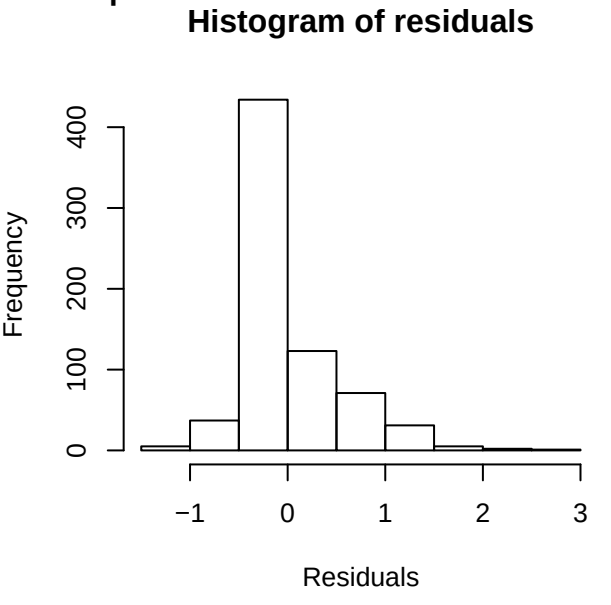


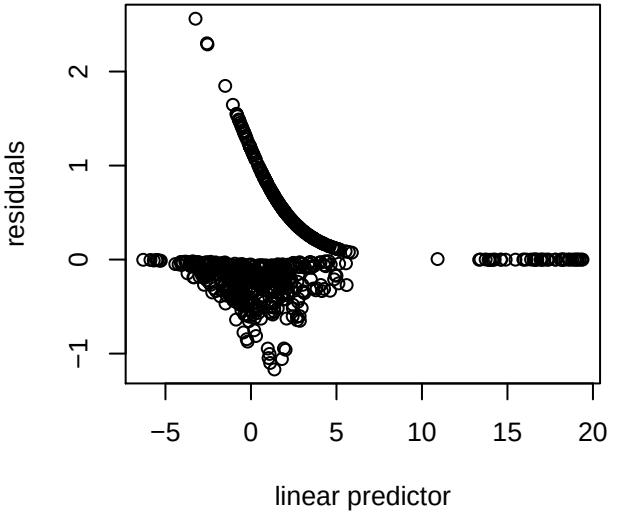


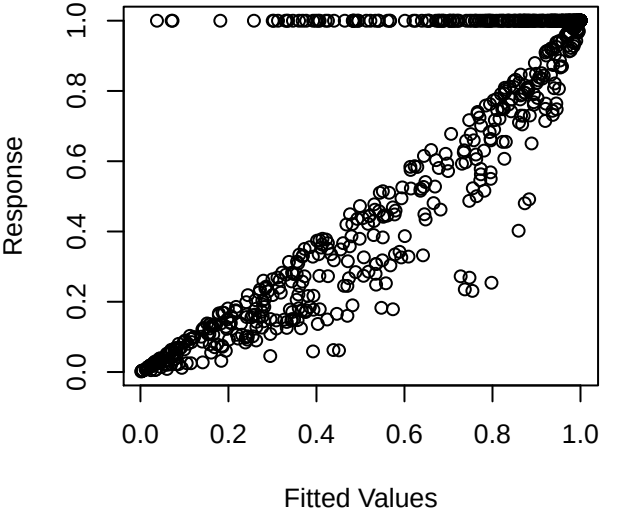


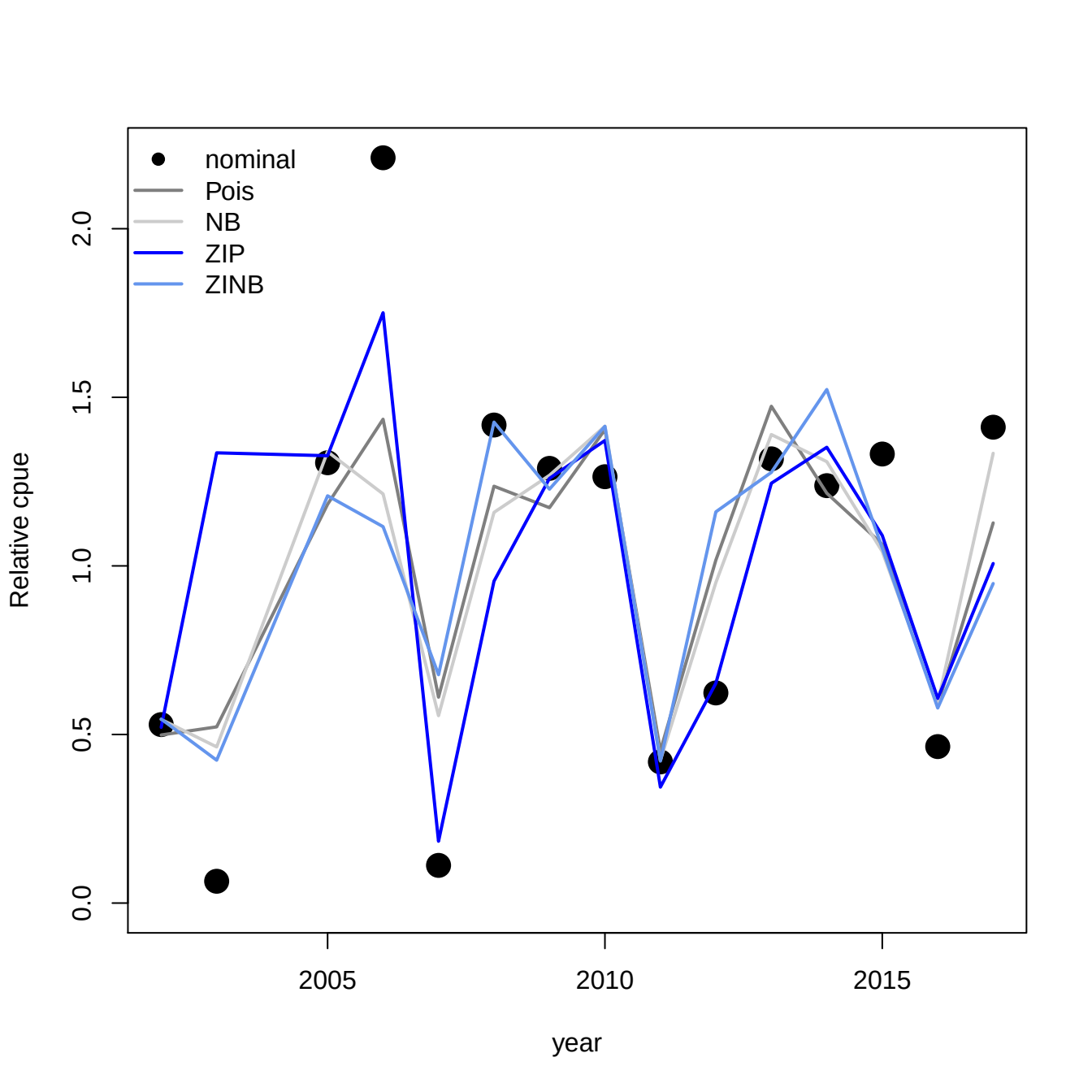
ZINB binomial part









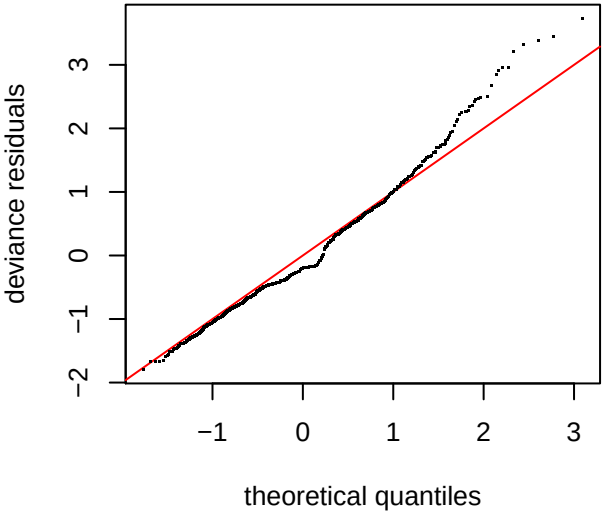

nominal
Pois
NB
ZIP
ZINB
Relative cpue
0.0
0.5
1.0
1.5
2.0
2005
2010
2015
year

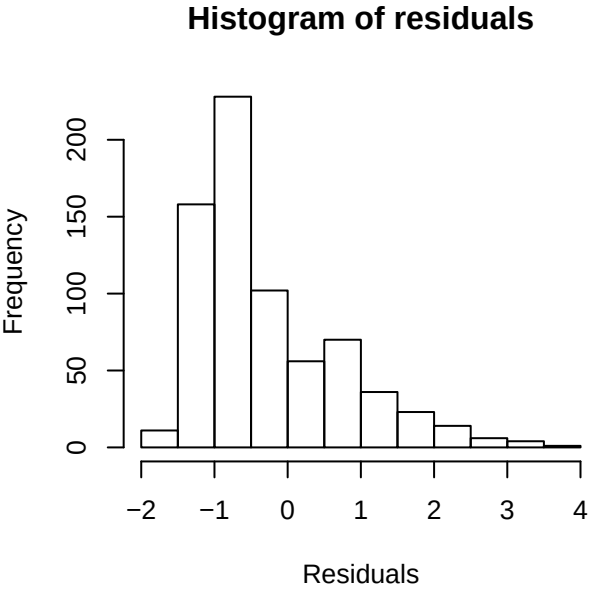
Spot−tail shark

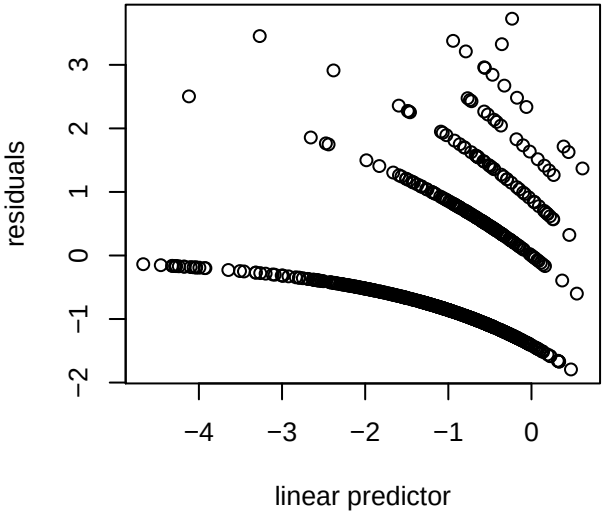
	Log.Like	AIC.c	AIC.delta	AIC.w	AIC.Ev.ratio
Pois	−627	1291	25	3.55e−06	2.82e+05
NB	−616	1266	0	1.00e+00	1.00e+00
ZIP	−644	1348	82	1.47e−18	6.80e+17
ZINB	−624	1316	50	1.67e−11	5.99e+10

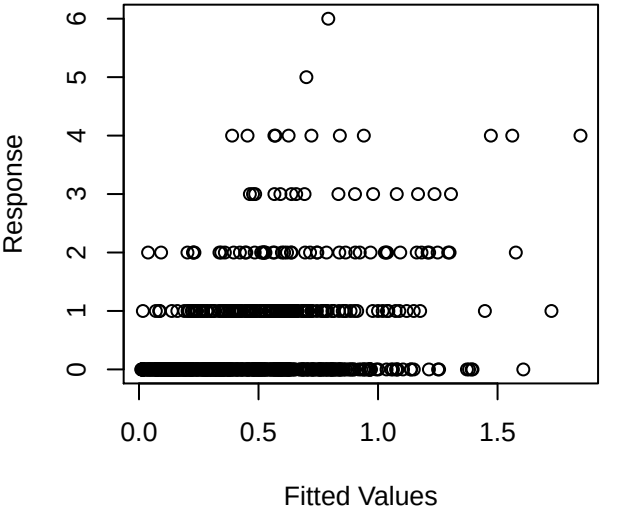
Best.AIC.w= NB
Catch.Target ~ c("year", "s(Mid.Lat,k=3)", "s(BOTDEPTH,k=3)") + offset(log.Ef)

Pois

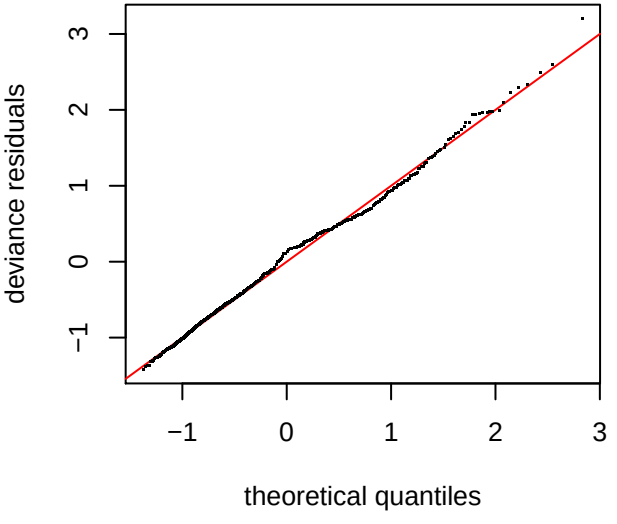

deviance residuals
theoretical quantiles

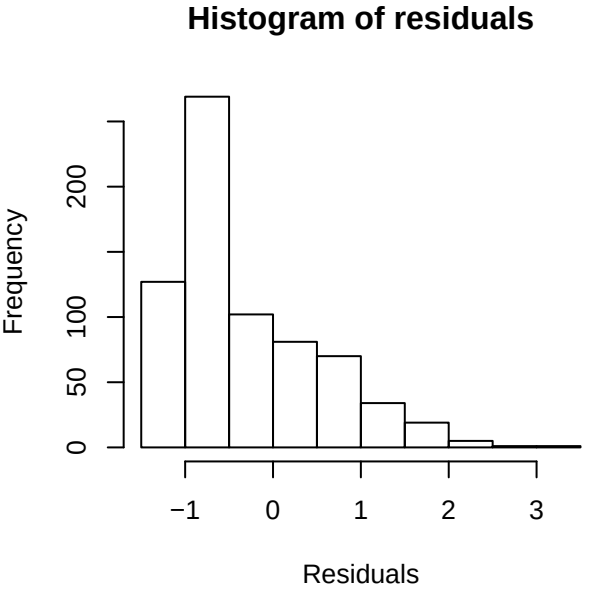

Histogram of residuals
Frequency
Residuals

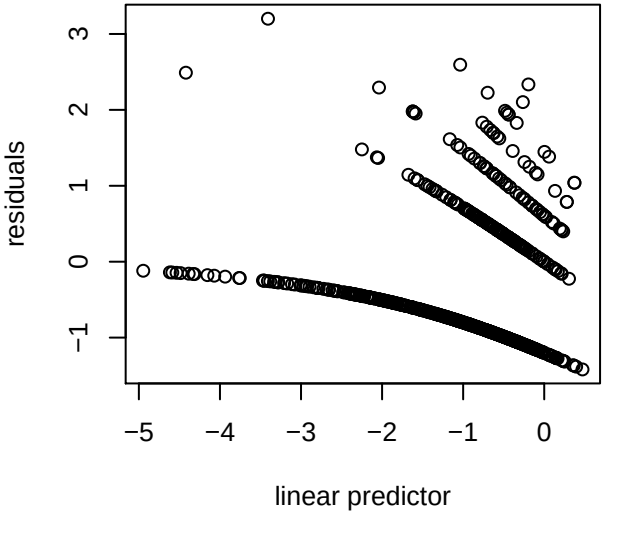

Resids vs. linear pred.
residuals
linear predictor

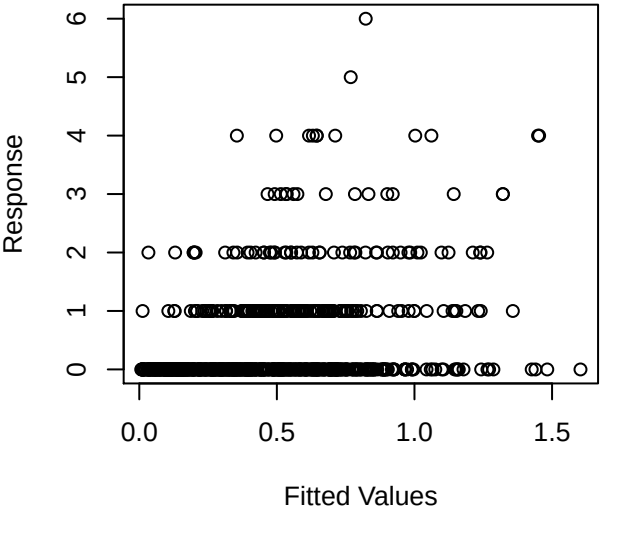

Response vs. Fitted Values
Response
Fitted Values

NB

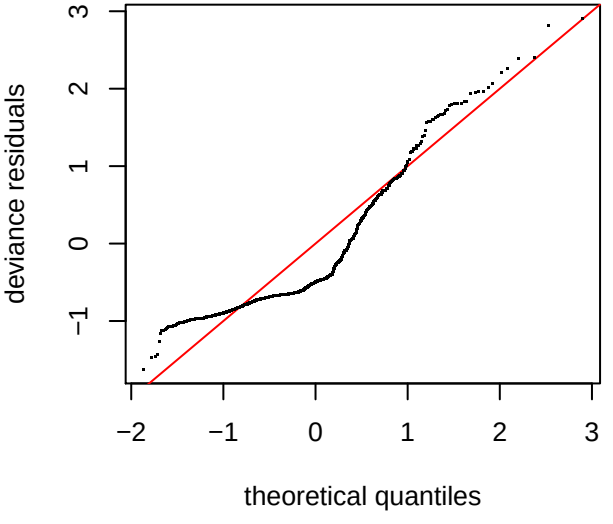

deviance residuals
theoretical quantiles

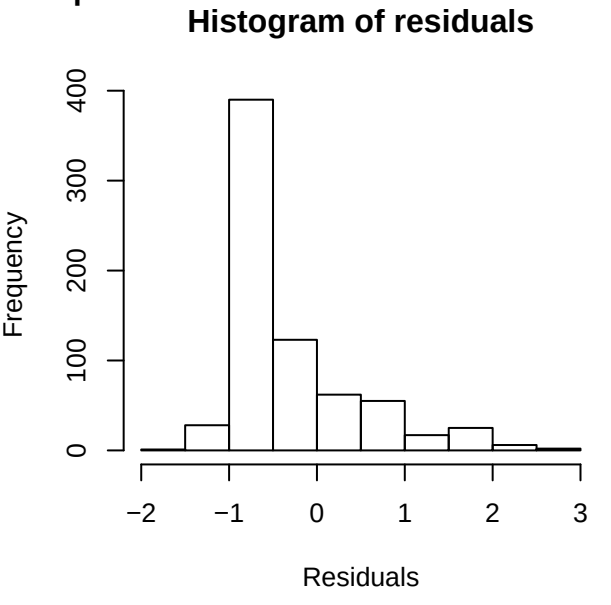

Histogram of residuals
Frequency
Residuals

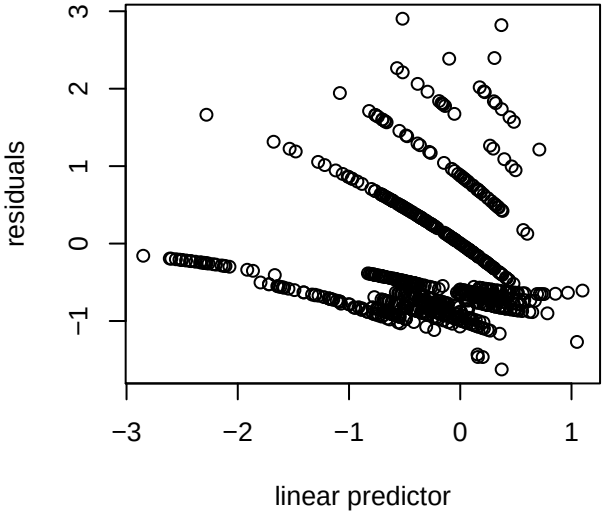

Resids vs. linear pred.
residuals
linear predictor

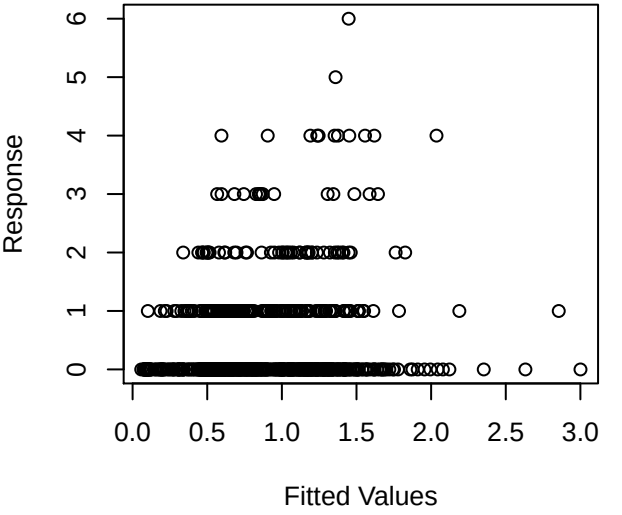

Response vs. Fitted Values
Response
Fitted Values

ZIP counts part

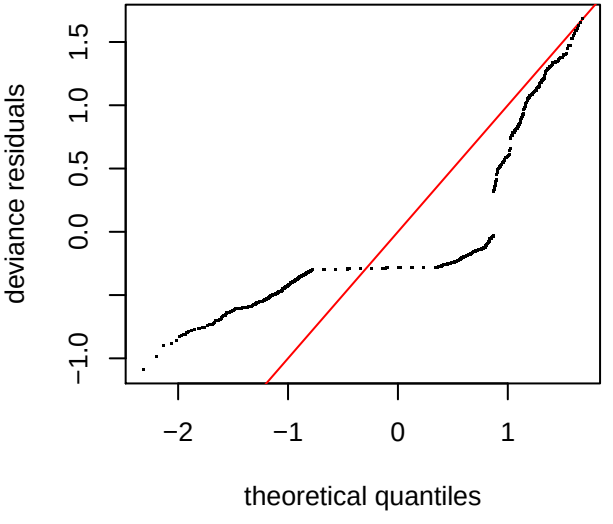


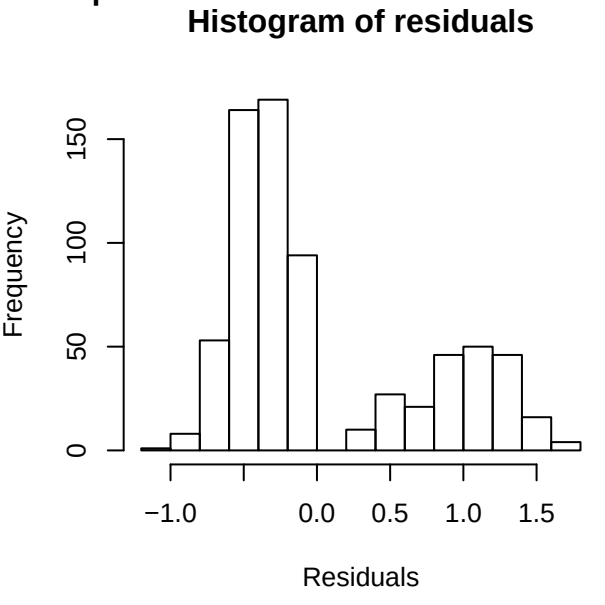


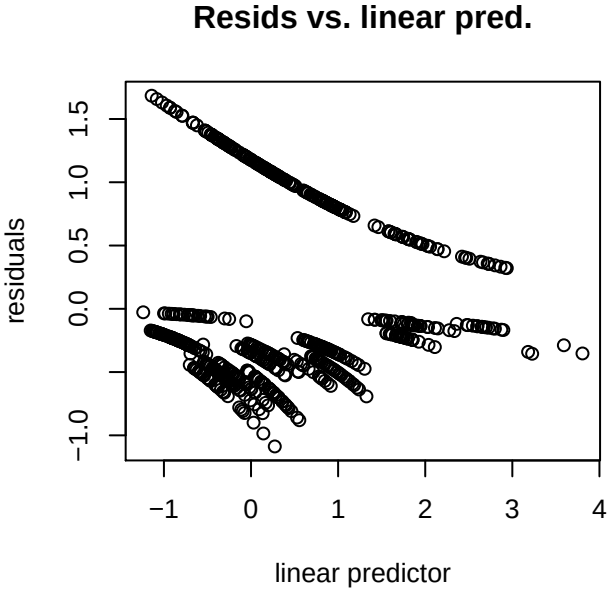


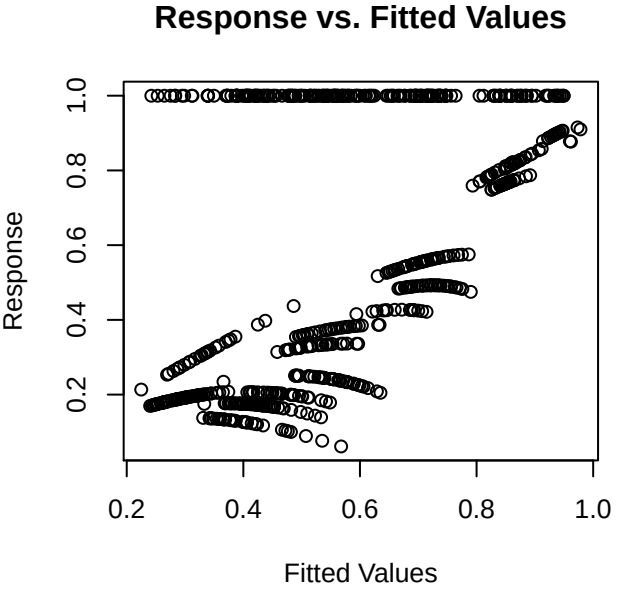


ZIP binomial part

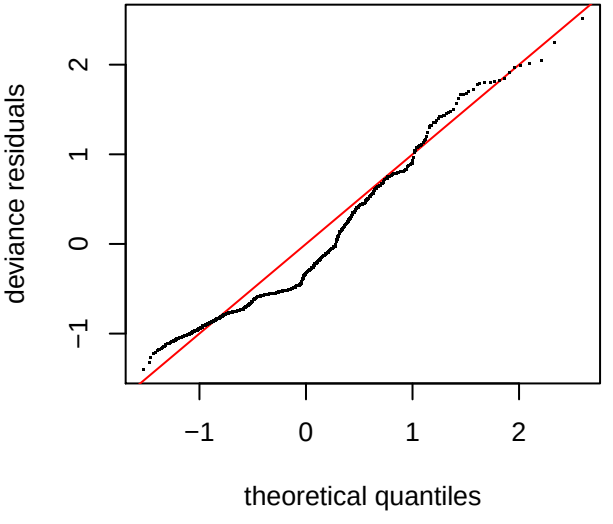


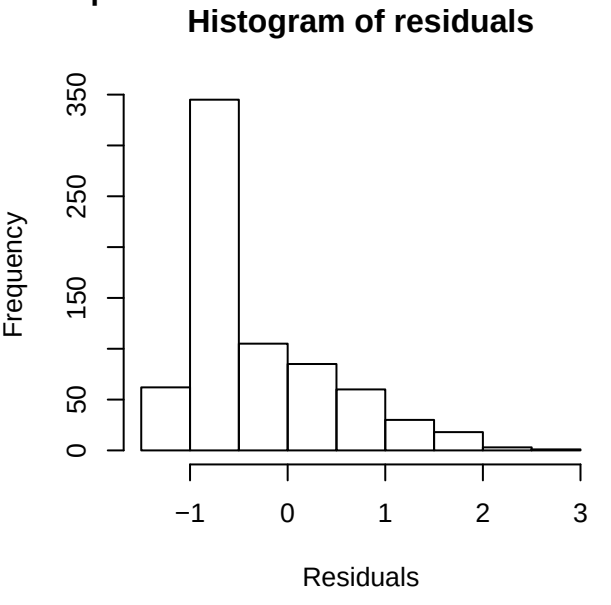


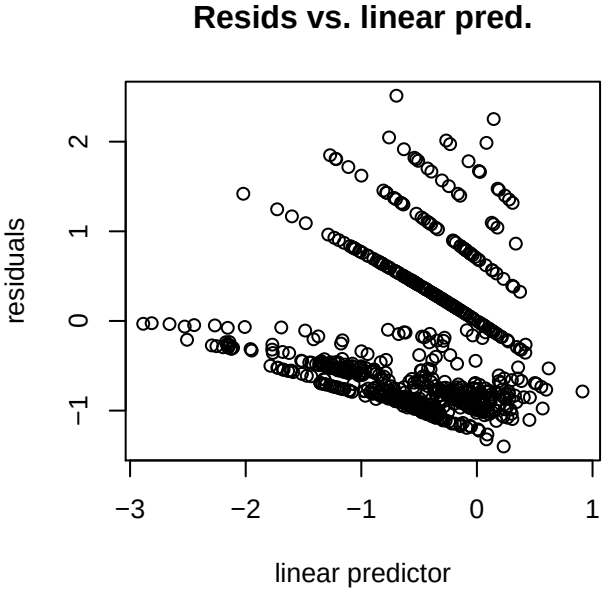


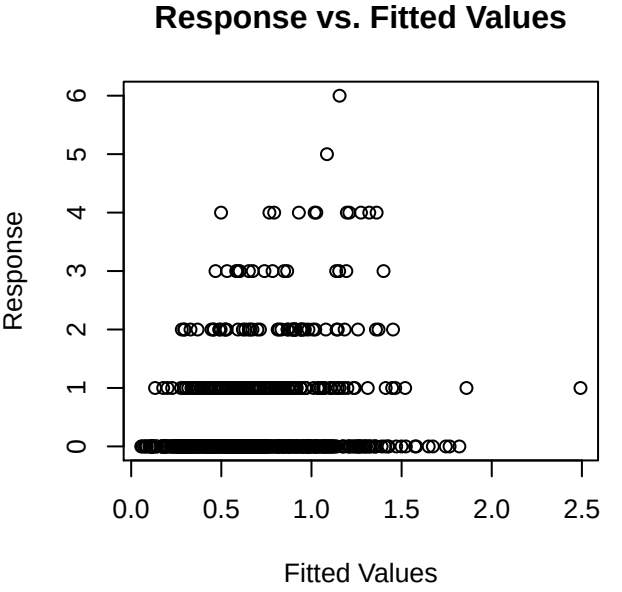


ZINB counts part

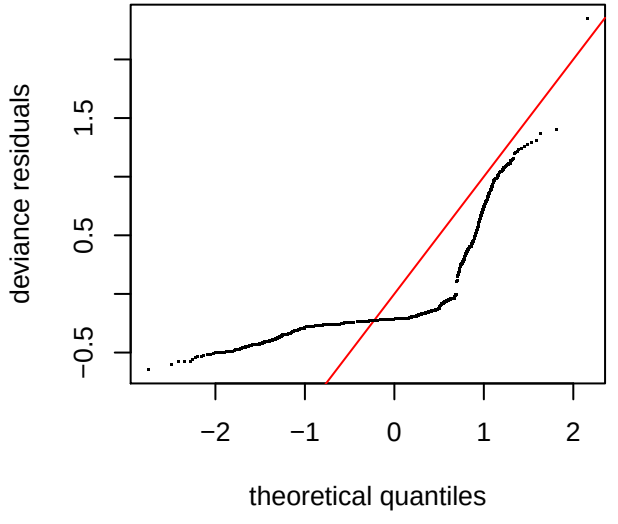


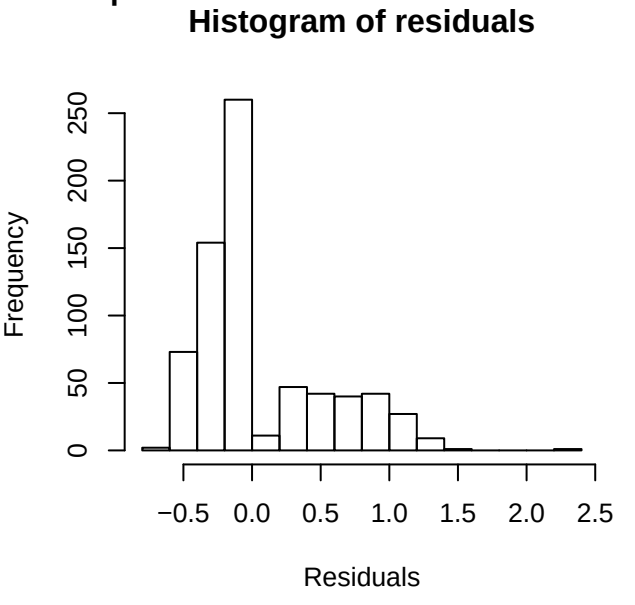


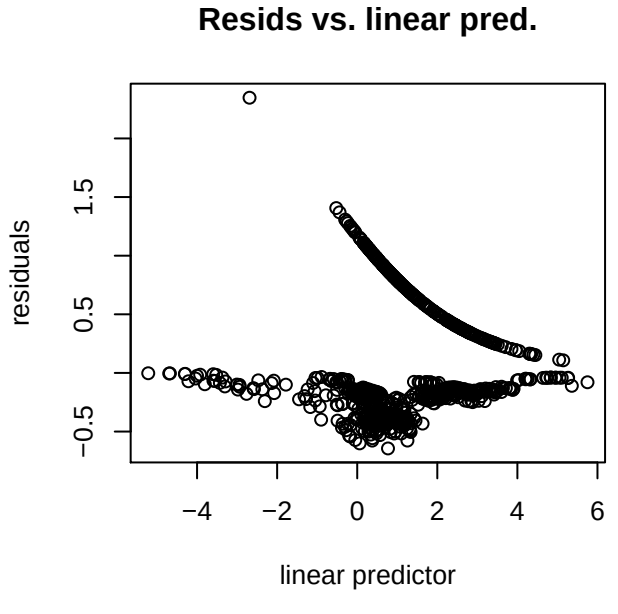


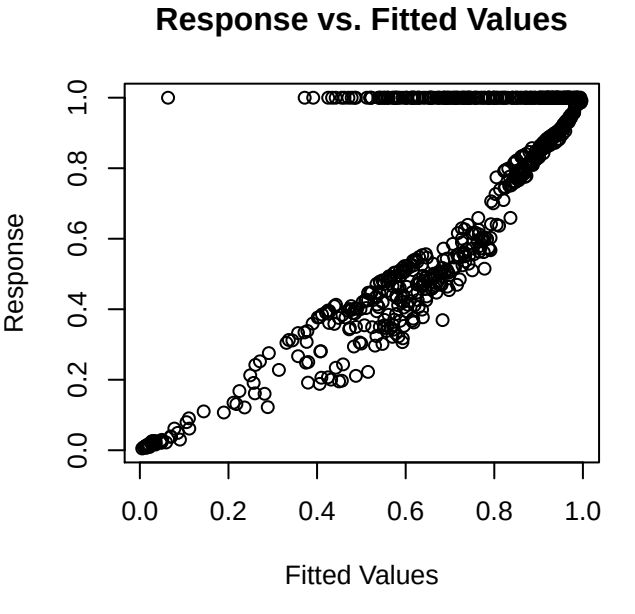


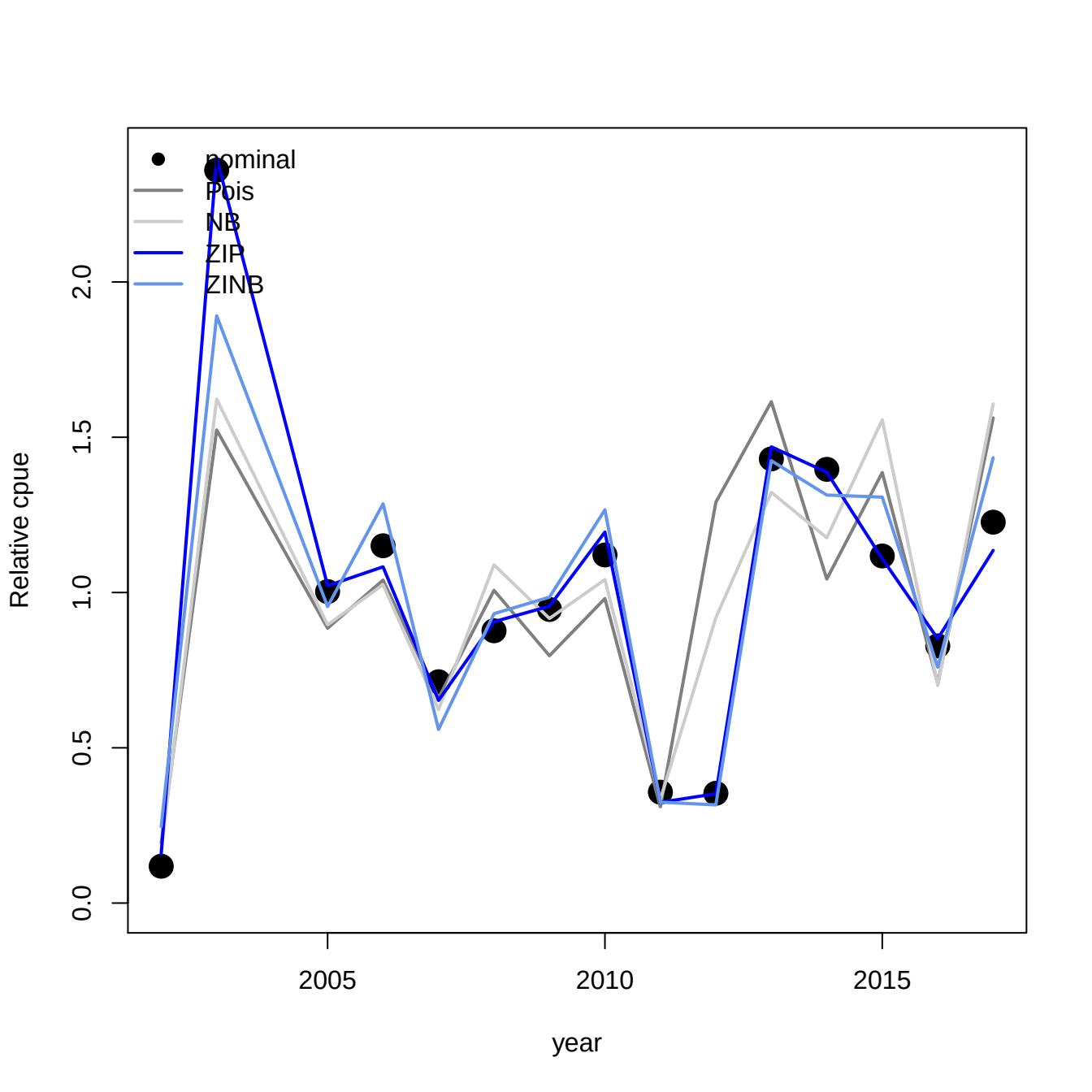
ZINB binomial part









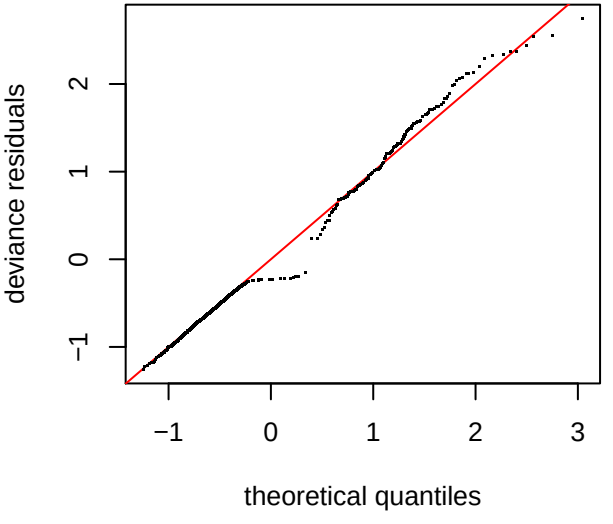

nominal
Pois
NB
ZIP
ZINB
Relative cpue
0.0
0.5
1.0
1.5
2.0
2005
2010
2015
year

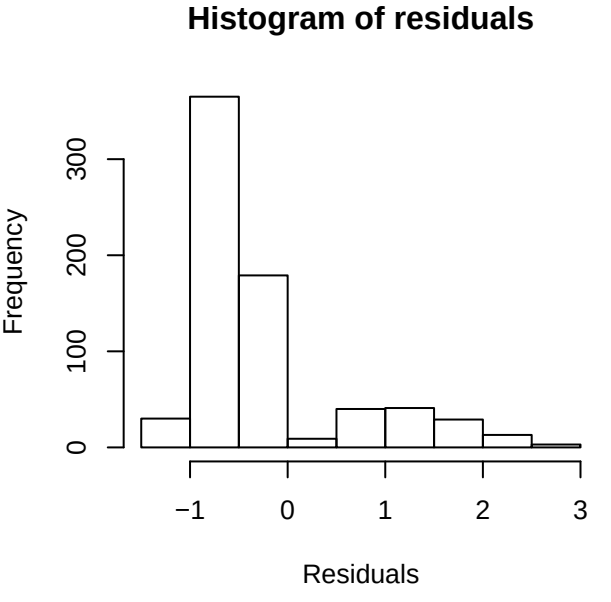
Tiger shark

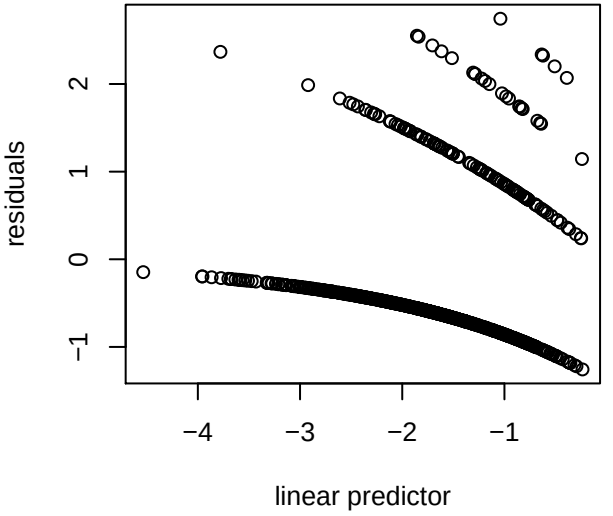
	Log.Like	AIC.c	AIC.delta	AIC.w	AIC.Ev.ratio
Pois	−399	829	3	2.17e−01	3.61e+00
NB	−397	827	0	7.83e−01	1.00e+00
ZIP	−394	854	27	8.77e−07	8.93e+05
ZINB	−394	856	29	3.26e−07	2.41e+06

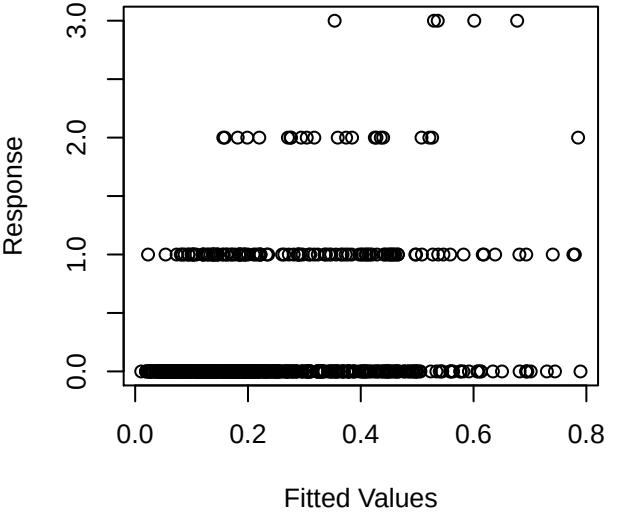
Best.AIC.w= NB
Catch.Target ~ c("year", "s(Mid.Lat,k=3)", "s(BOTDEPTH,k=3)") + offset(log.Ef)

Pois

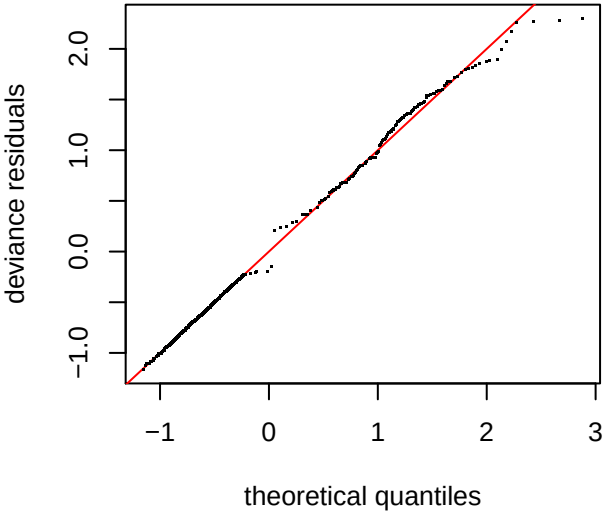

deviance residuals
theoretical quantiles

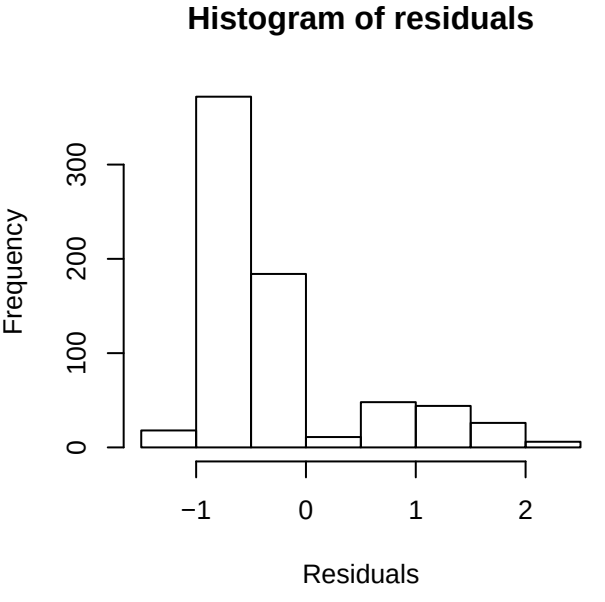

Histogram of residuals
Frequency
Residuals

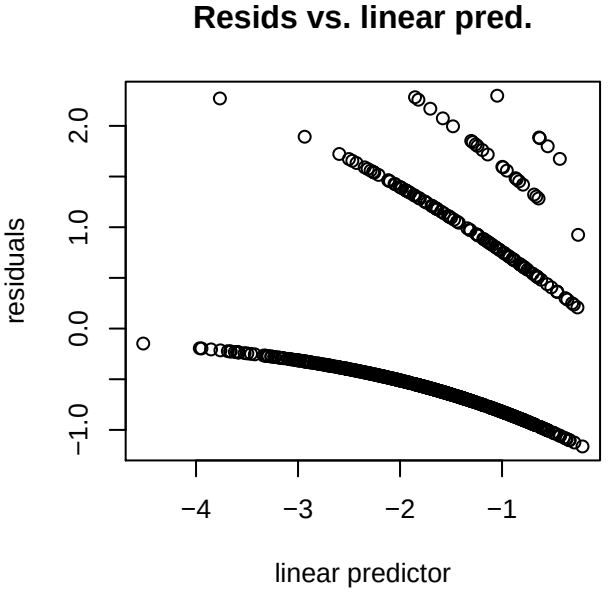

Resids vs. linear pred.
residuals
linear predictor

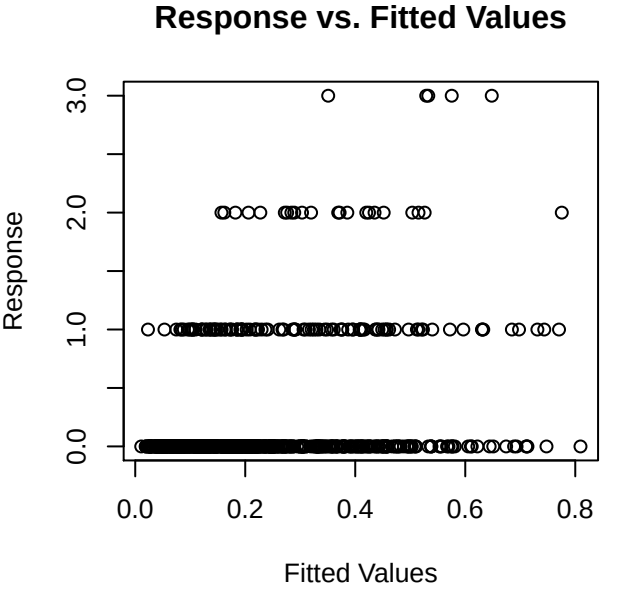

Response vs. Fitted Values
Response
Fitted Values

NB

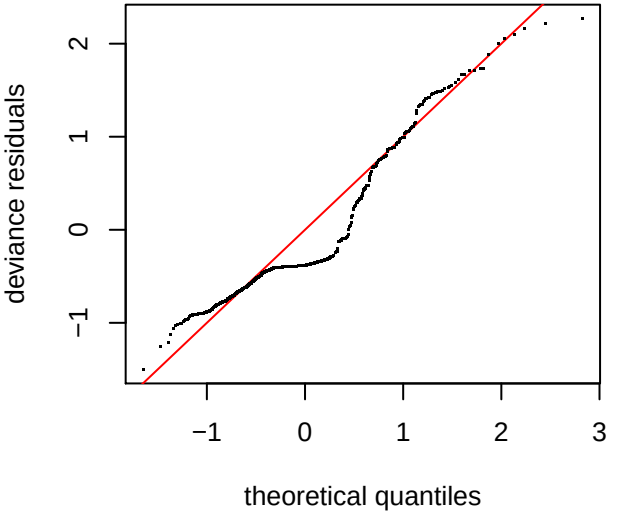

deviance residuals
2.0
1.0
0.0
−1.0
−1
0
1
2
3
theoretical quantiles

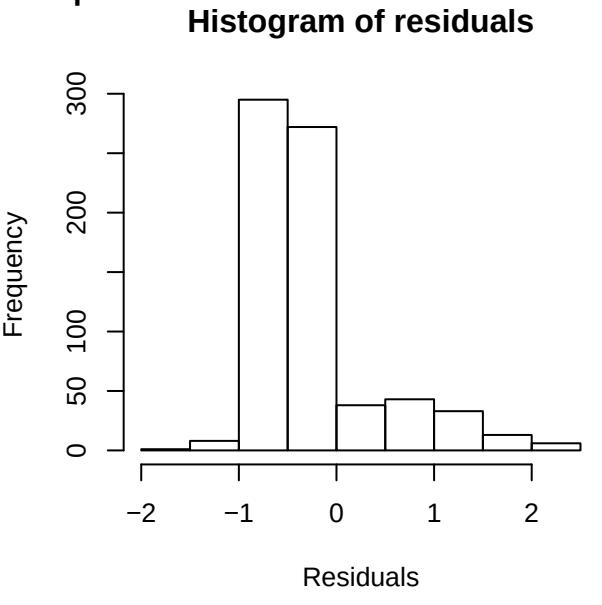

Histogram of residuals
Frequency
300
200
100
0
−1
0
1
2
Residuals

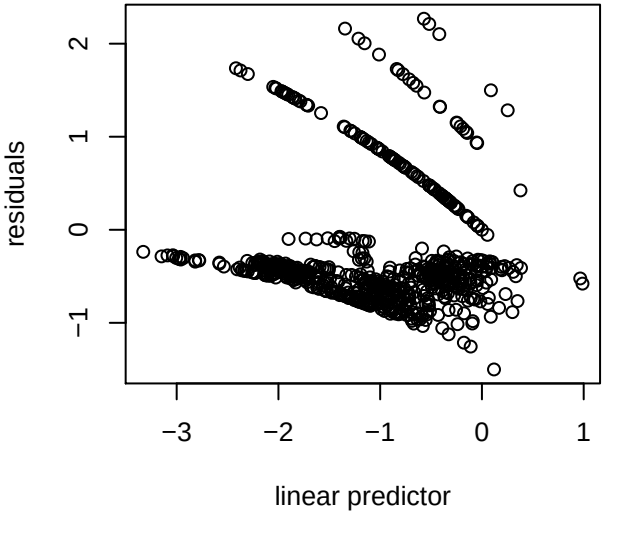

Resids vs. linear pred.
residuals
2.0
1.0
0.0
−1.0
−4
−3
−2
−1
linear predictor

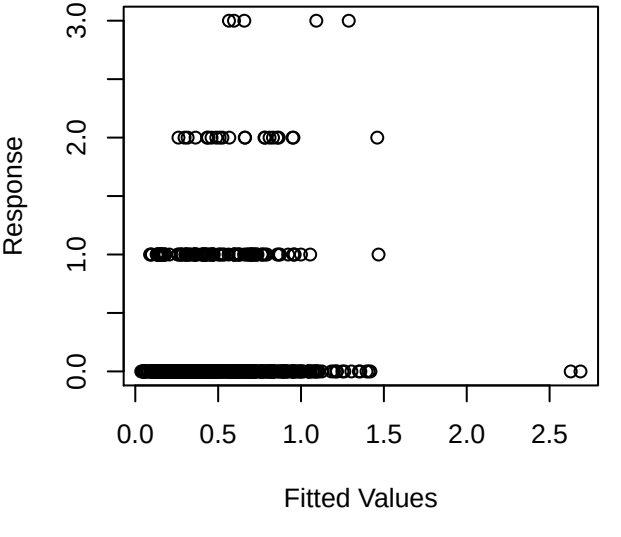

Response vs. Fitted Values
Response
3.0
2.0
1.0
0.0
0.0
0.2
0.4
0.6
0.8
Fitted Values

ZIP counts part

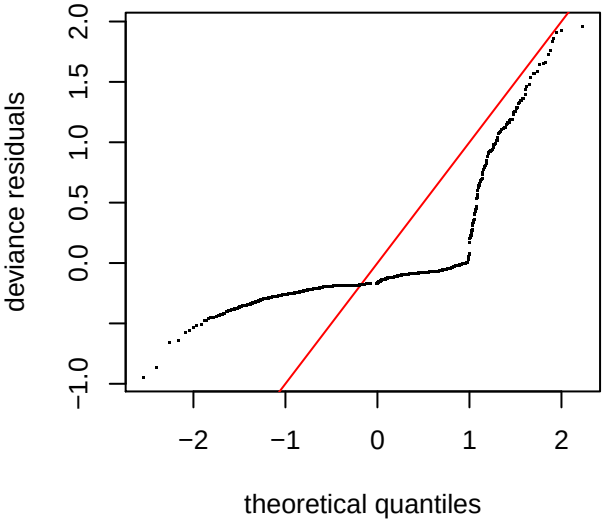


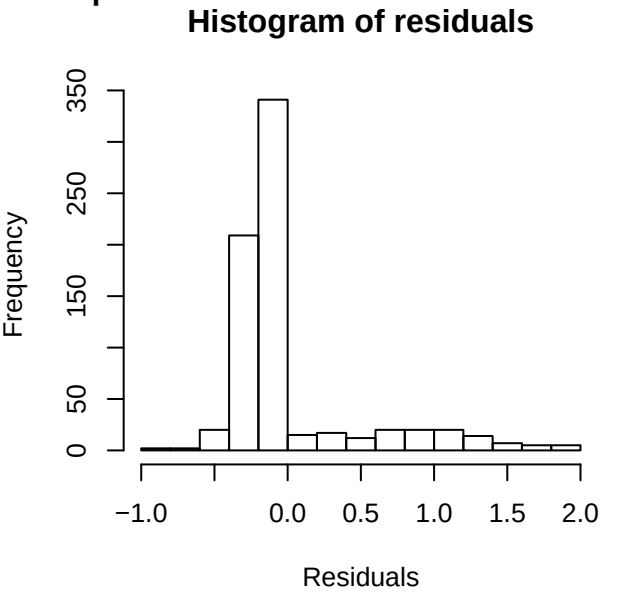


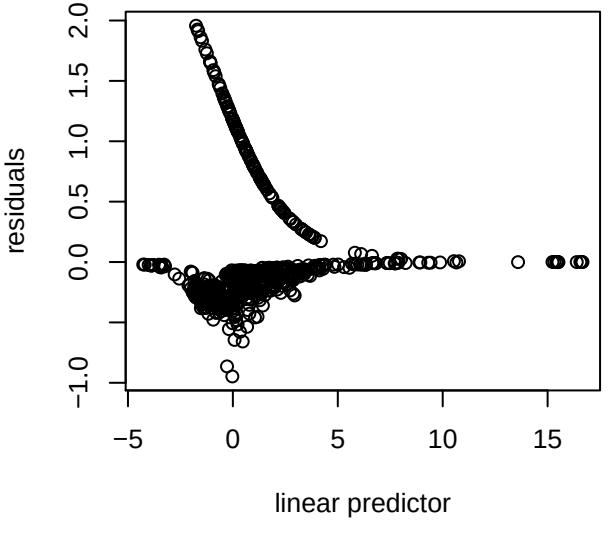


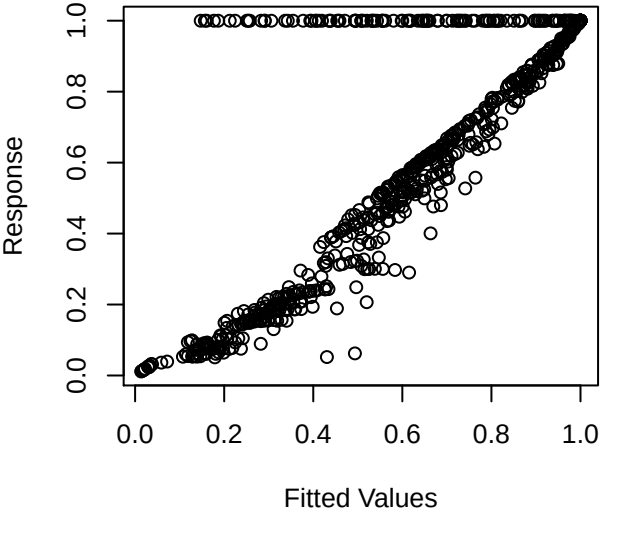


ZIP binomial part

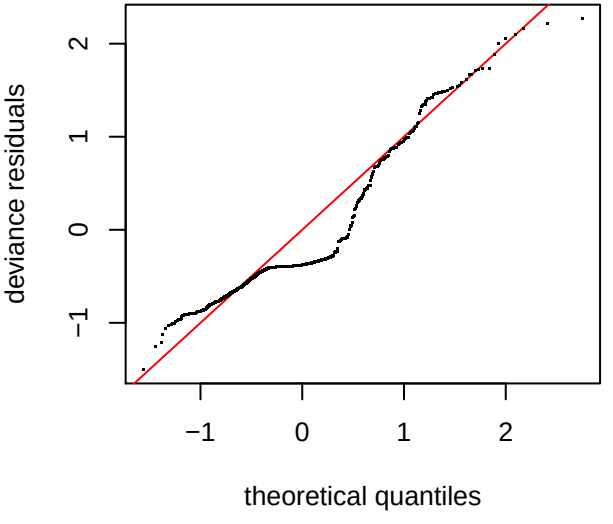


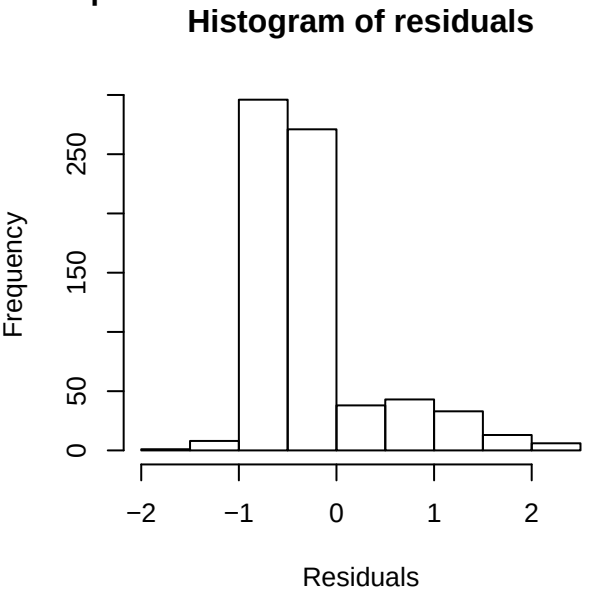


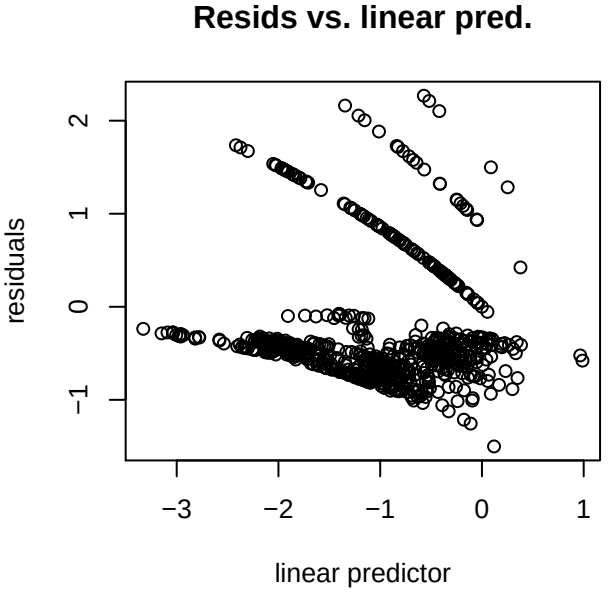


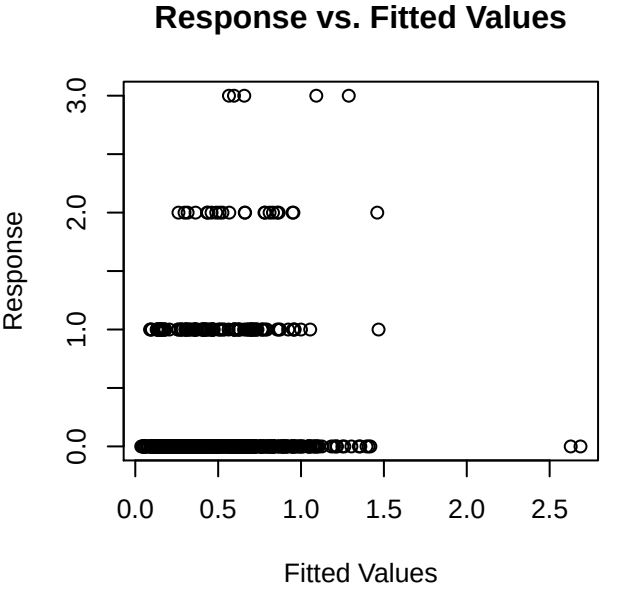


ZINB counts part

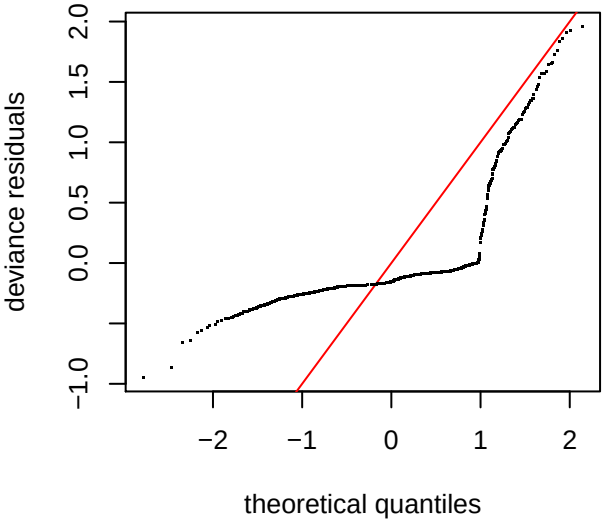


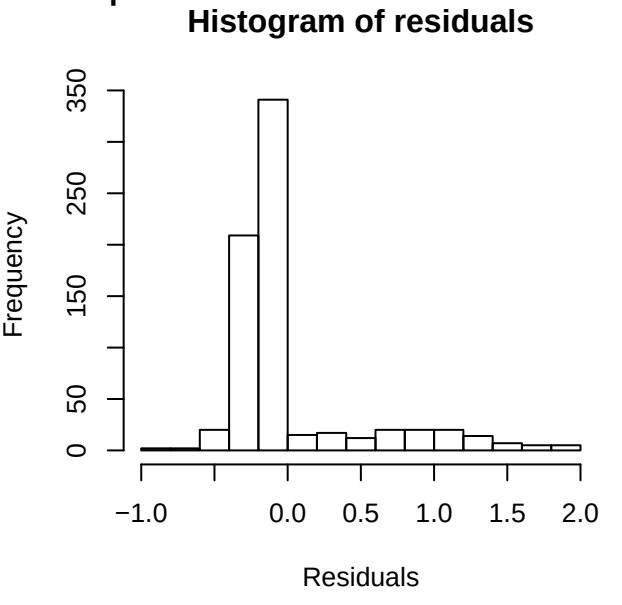


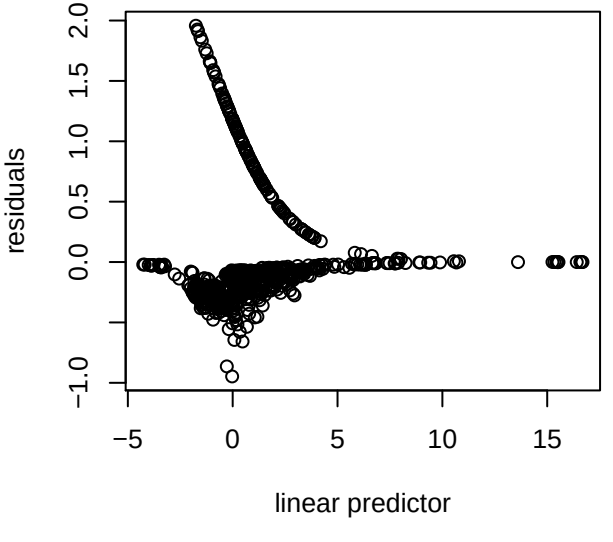


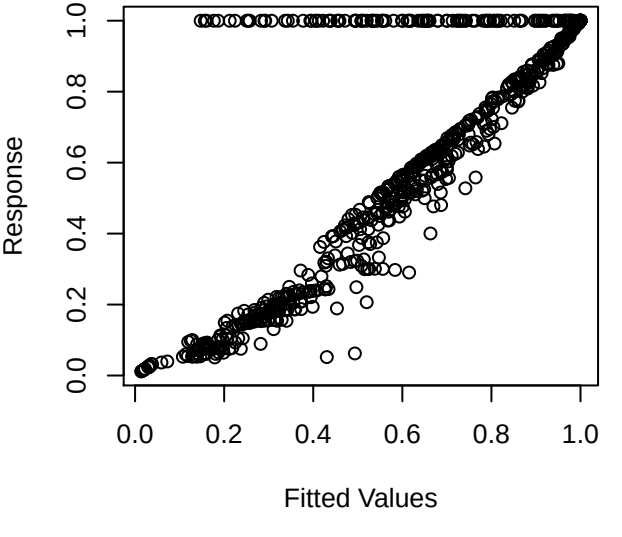


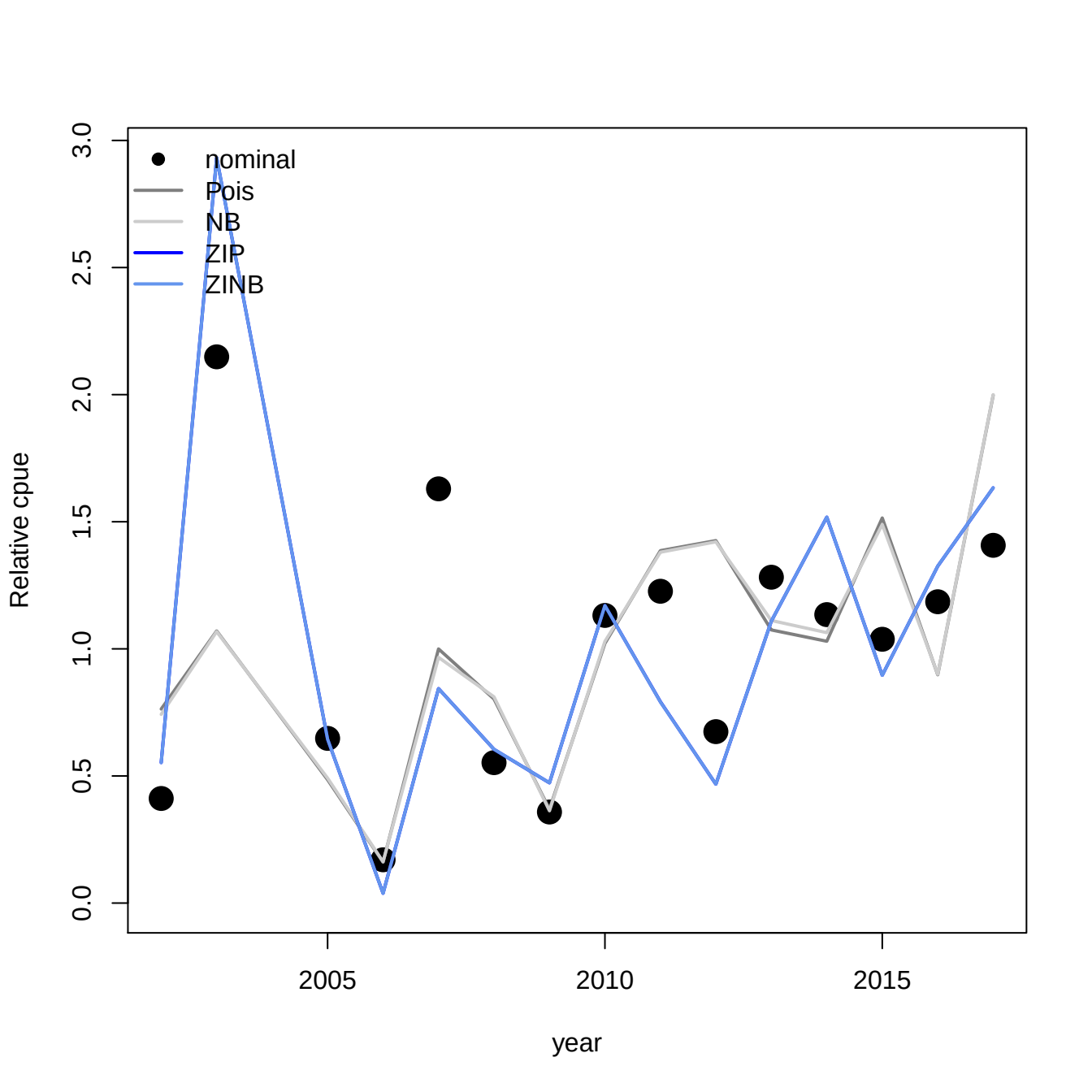
ZINB binomial part









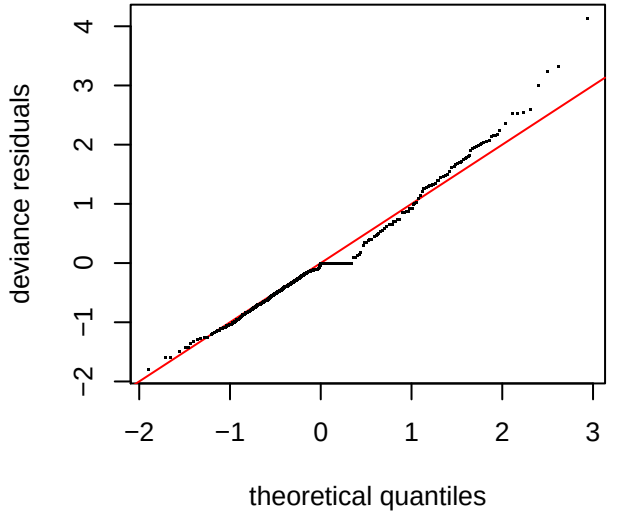

nominal
Pois
NB
ZIP
ZINB
Relative cpue
0.0
0.5
1.0
1.5
2.0
2.5
3.0
2005
2010
2015
year

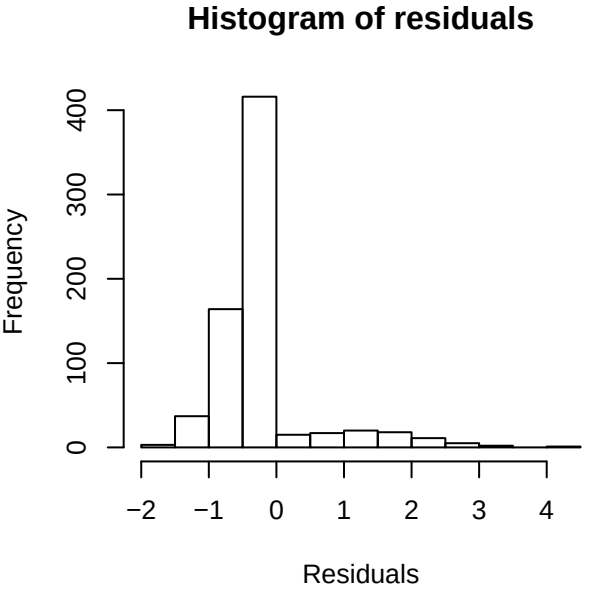
Blacktip sharks

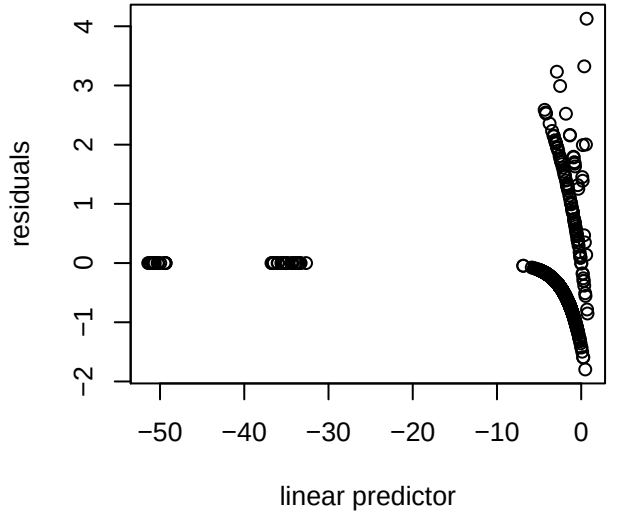
	Log.Like	AIC.c	AIC.delta	AIC.w	AIC.Ev.ratio
Pois	−310	659	12	2.18e−03	4.58e+02
NB	−304	646	0	9.98e−01	1.00e+00
ZIP	−327	732	86	2.19e−19	4.56e+18
ZINB	−300	687	41	1.21e−09	8.27e+08

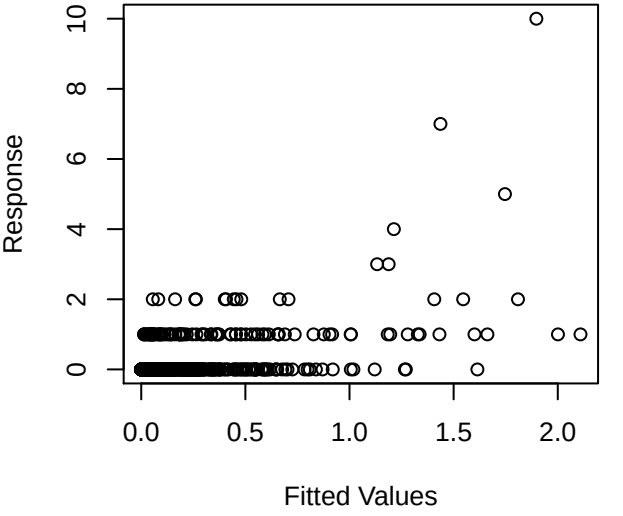
Best.AIC.w= NB
Catch.Target ~ c("year", "s(Mid.Lat,k=3)", "s(BOTDEPTH,k=3)") + offset(log.Ef)

Pois

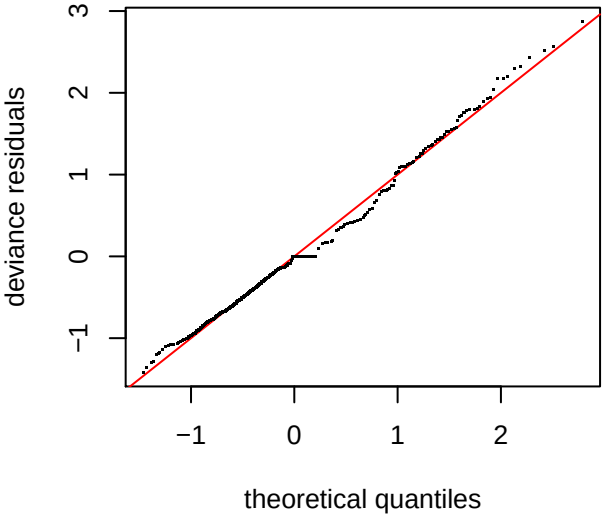

deviance residuals
theoretical quantiles

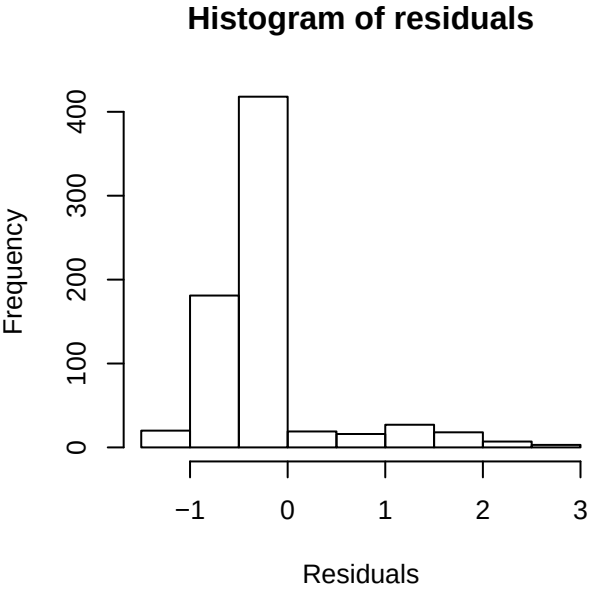

Histogram of residuals
Frequency
Residuals

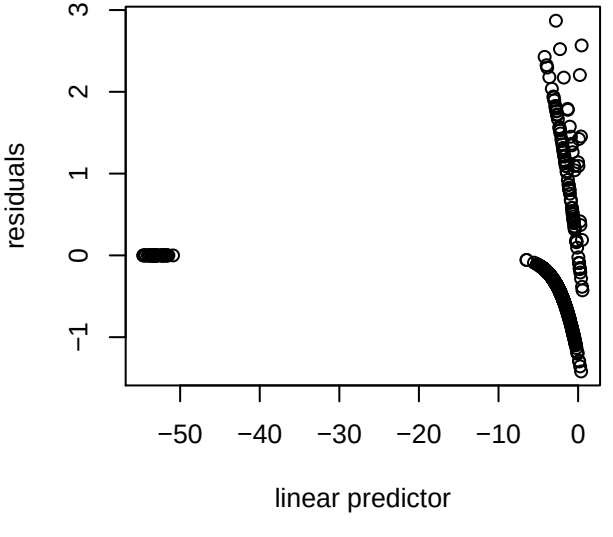

Resids vs. linear pred.
residuals
linear predictor

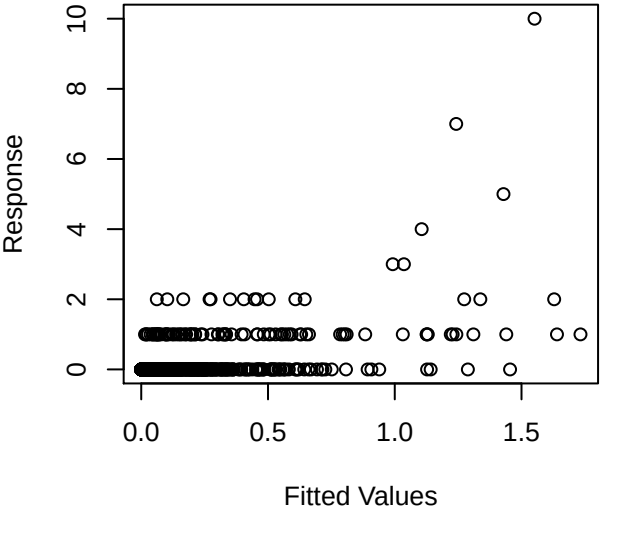

Response vs. Fitted Values
Response
Fitted Values

NB

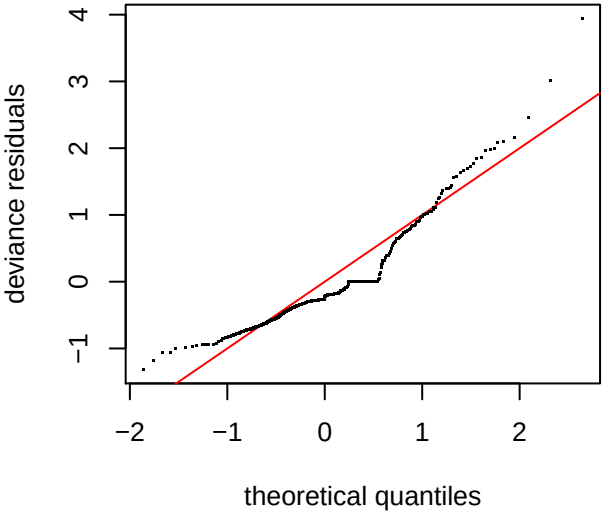

deviance residuals
theoretical quantiles

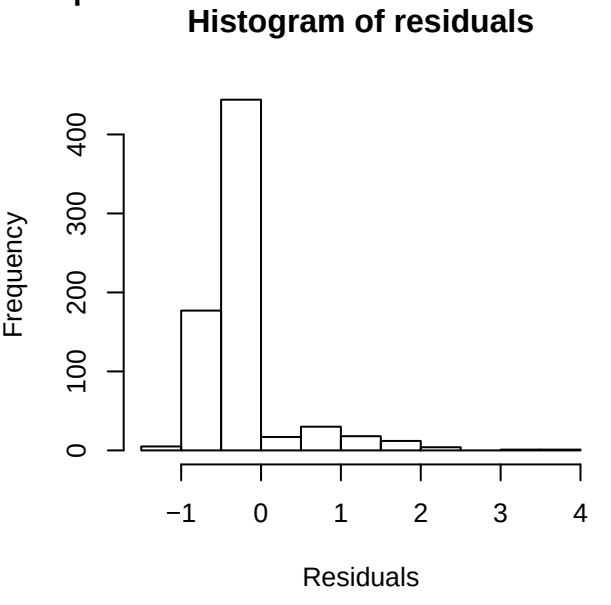

Histogram of residuals
Frequency
Residuals

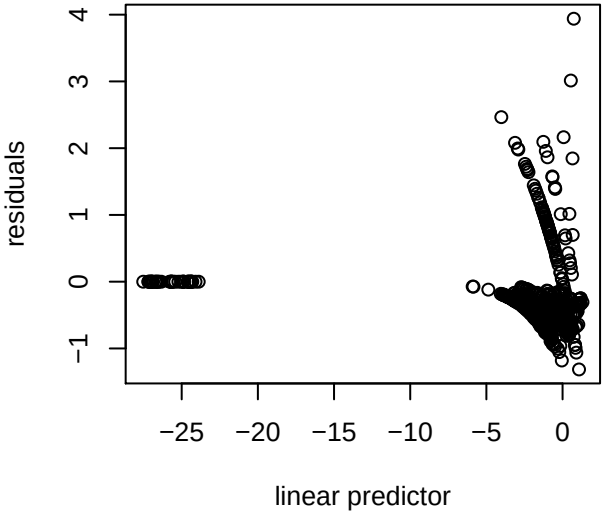

Resids vs. linear pred.
residuals
linear predictor

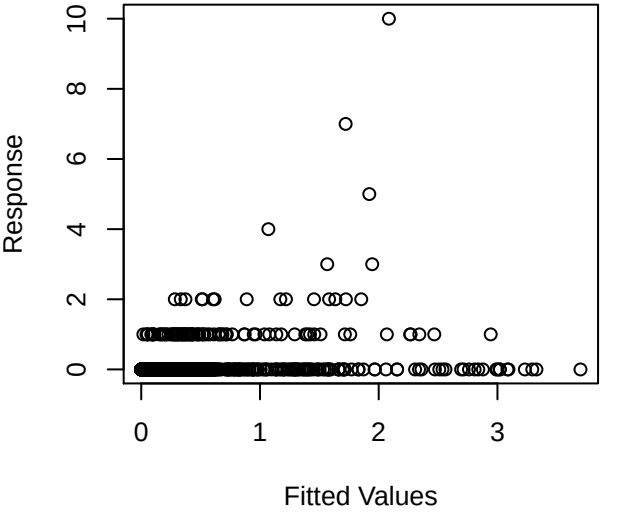

Response vs. Fitted Values
Response
Fitted Values

ZIP counts part

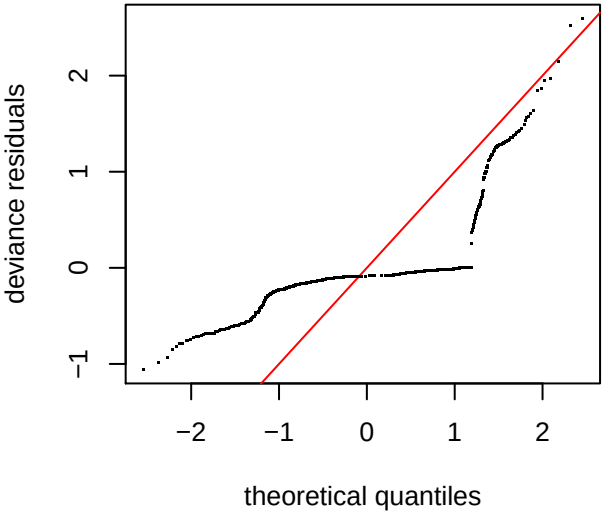


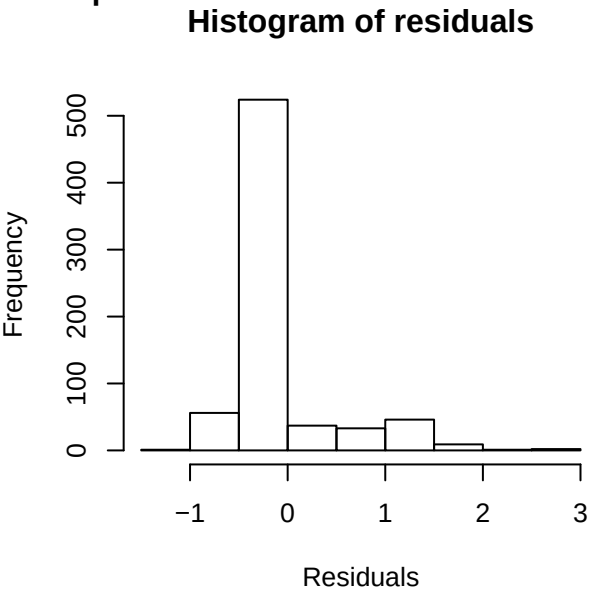


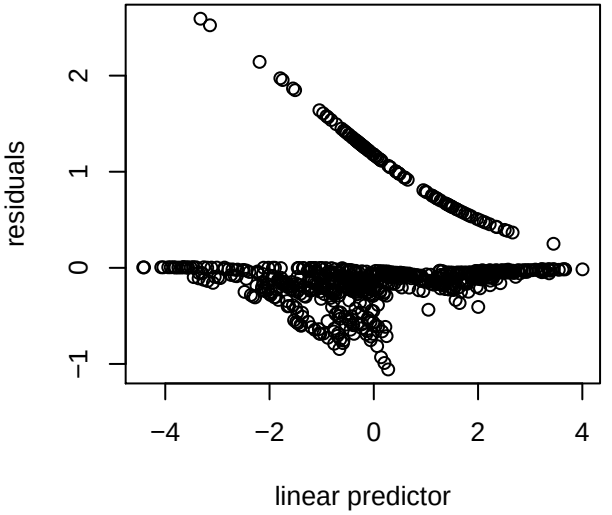


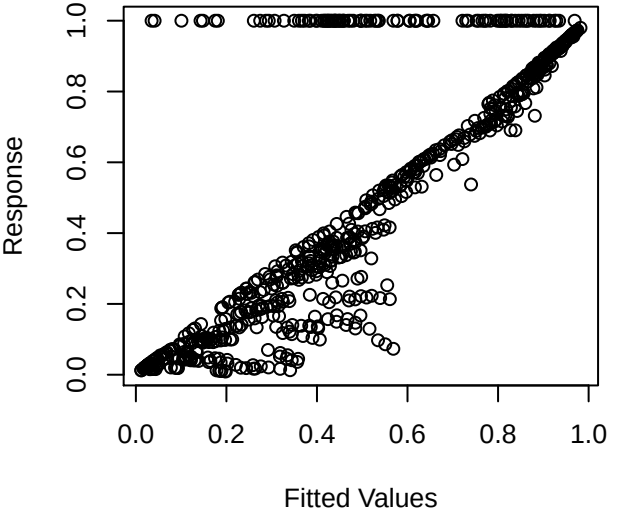


ZIP binomial part

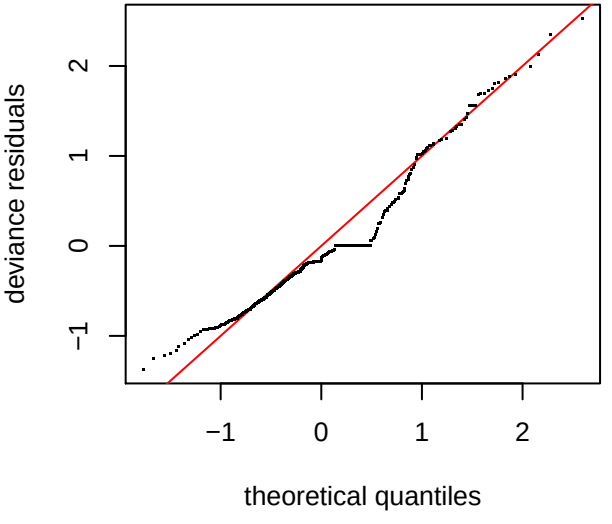


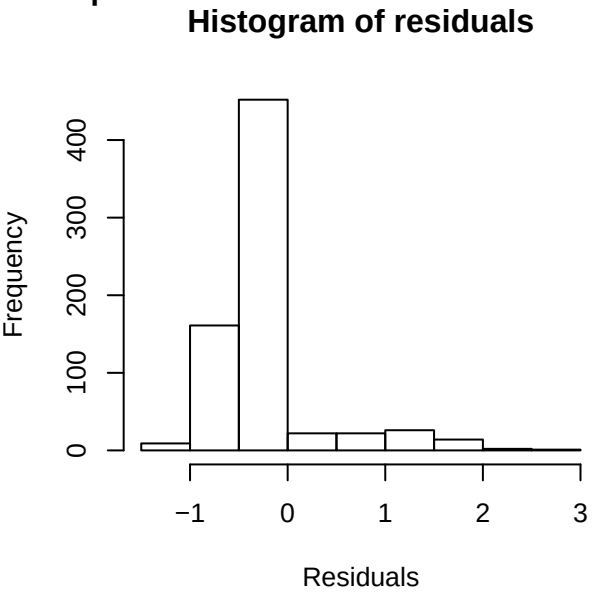


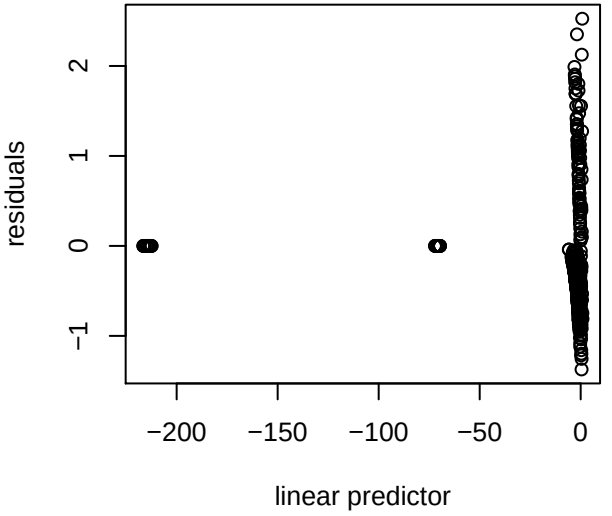


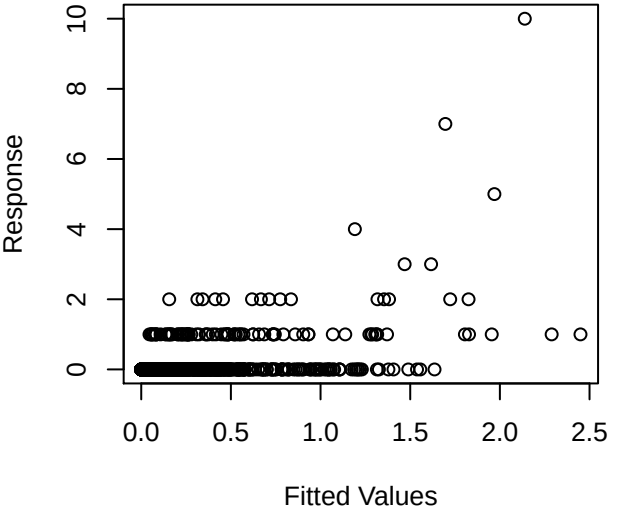


ZINB counts part

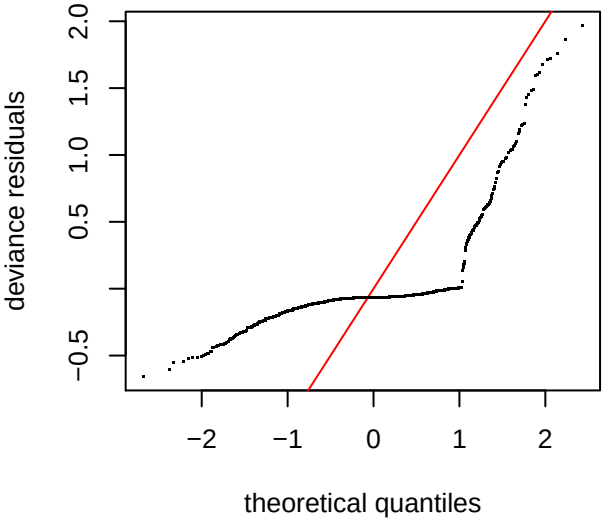


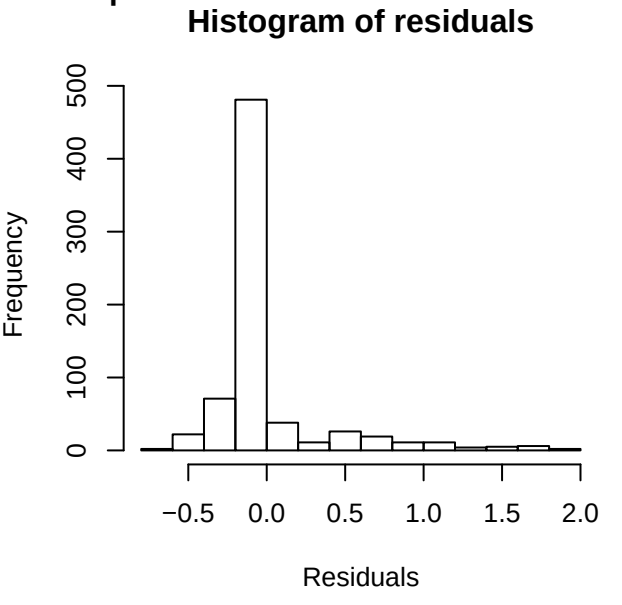


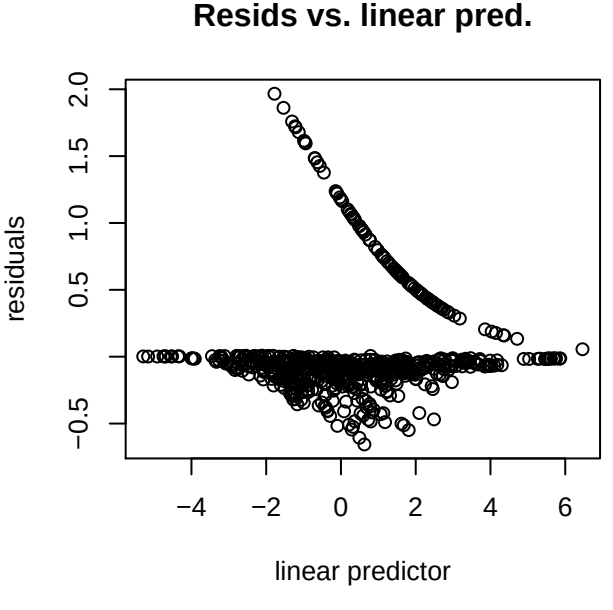


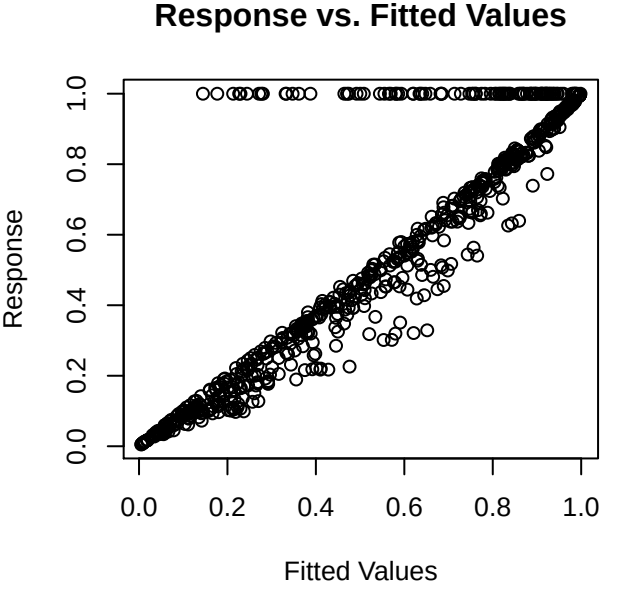


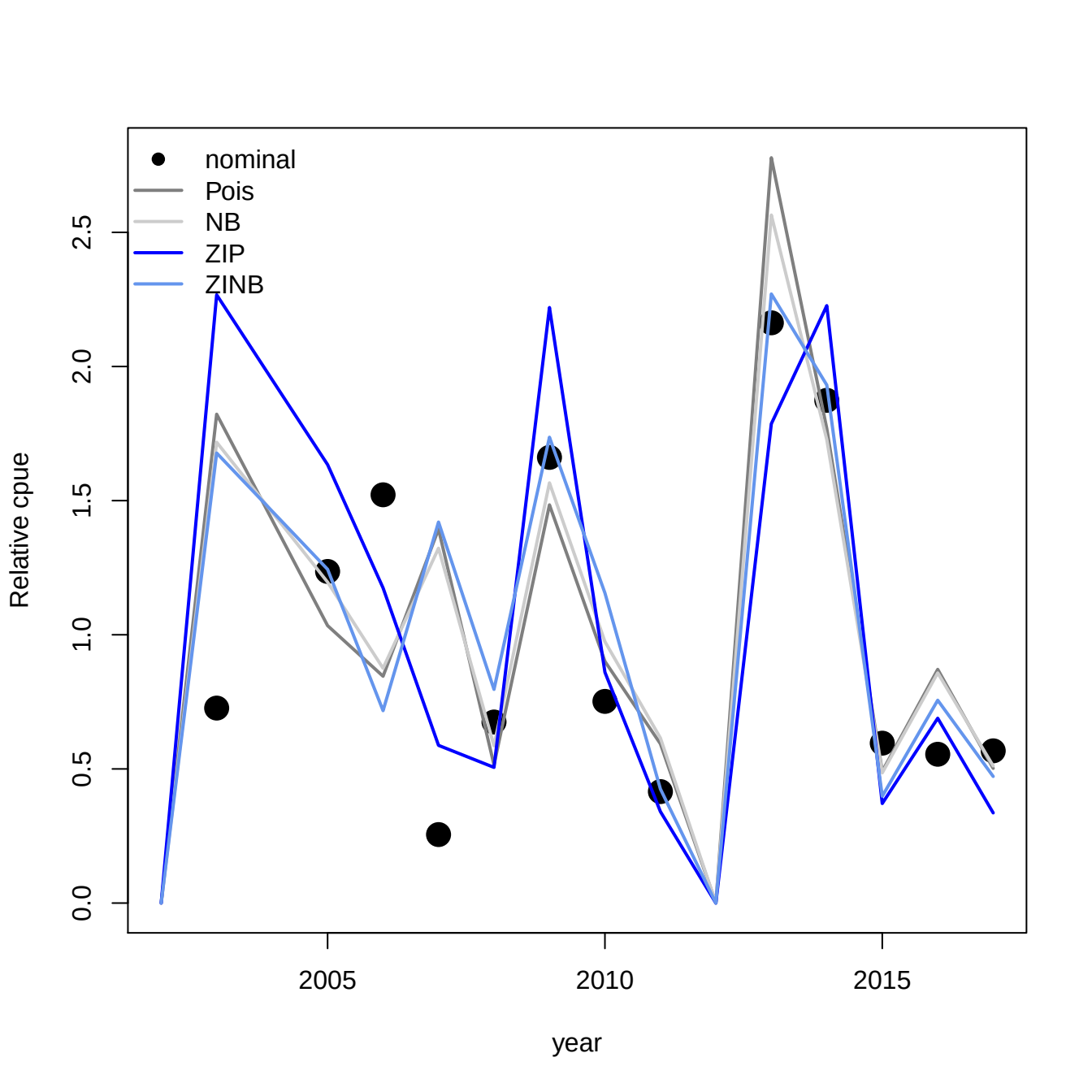
ZINB binomial part









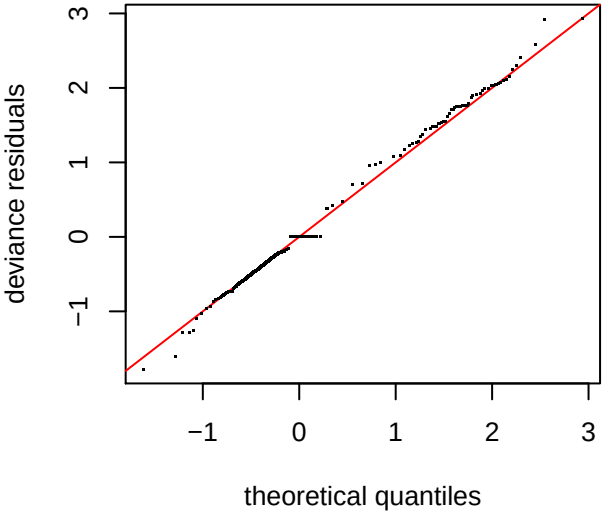

nominal
Pois
NB
ZIP
ZINB
Relative cpue
0.0
0.5
1.0
1.5
2.0
2.5
2005
2010
2015
year

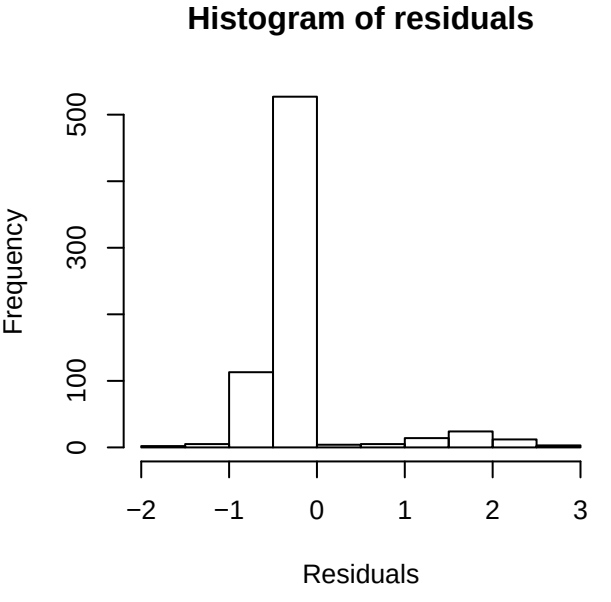
Scalloped hammerhead

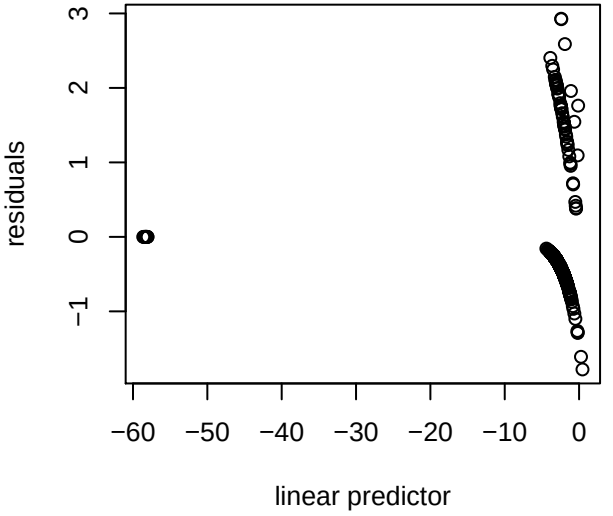
	Log.Like	AIC.c	AIC.delta	AIC.w	AIC.Ev.ratio
Pois	−213	458	0	4.44e−01	1.24e+00
NB	−213	458	0	5.53e−01	1.00e+00
ZIP	−200	469	11	2.67e−03	2.07e+02
ZINB	−204	474	16	1.56e−04	3.54e+03

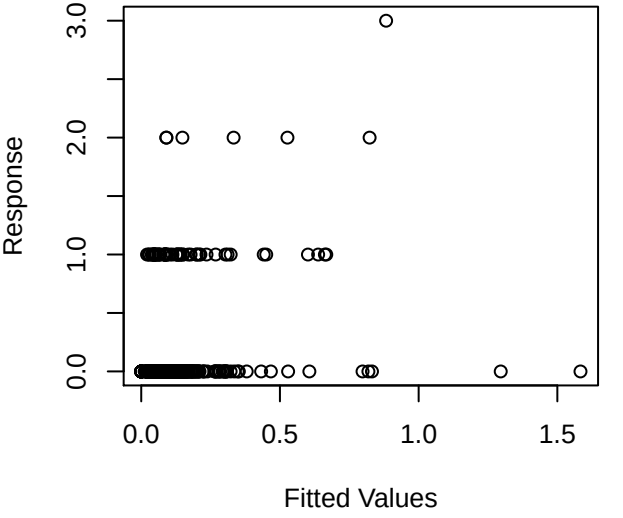
Best.AIC.w= NB
Catch.Target ~ c("year", "s(Mid.Lat,k=3)", "s(BOTDEPTH,k=3)") + offset(log.Ef)

Pois

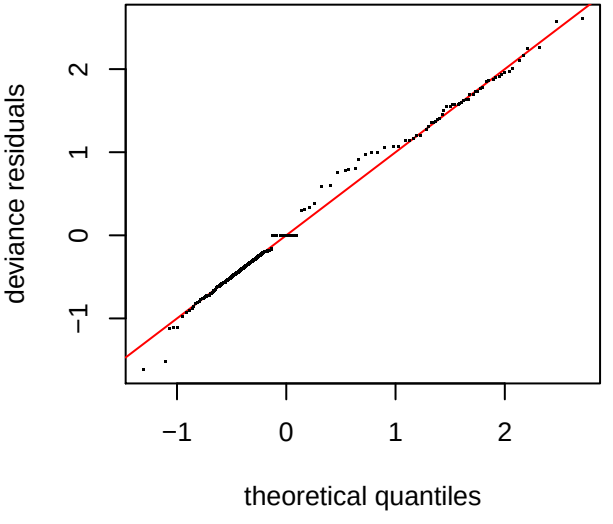

deviance residuals
theoretical quantiles

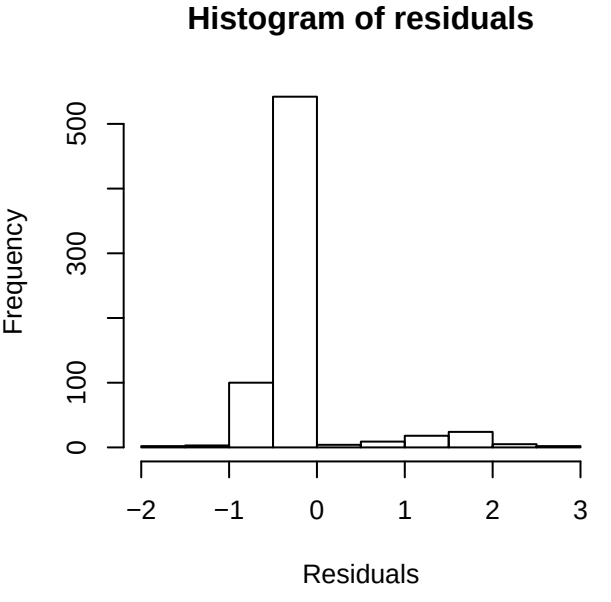

Histogram of residuals
Frequency
Residuals

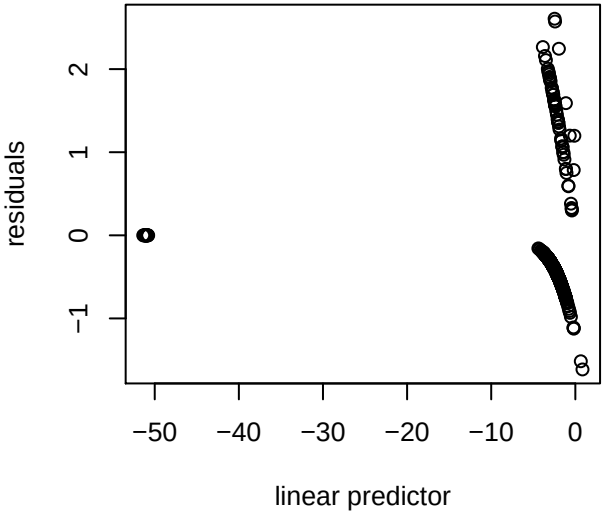

Resids vs. linear pred.
residuals
linear predictor

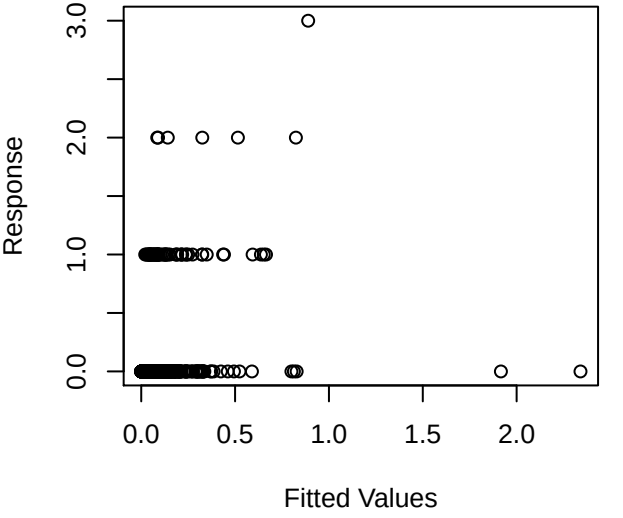

Response vs. Fitted Values
Response
Fitted Values

NB

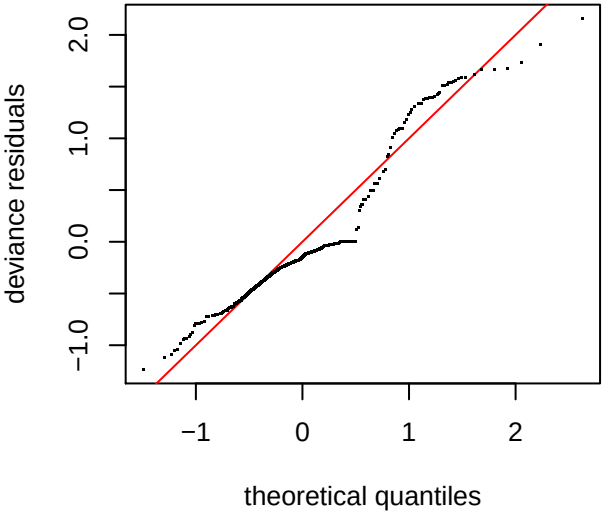

deviance residuals
theoretical quantiles

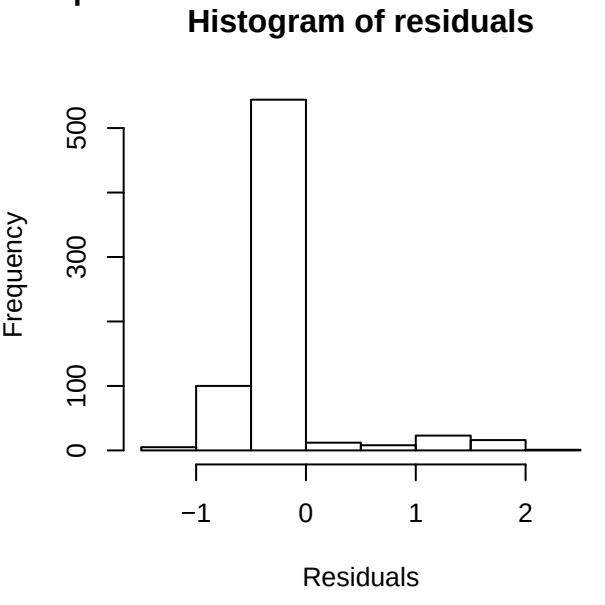

Histogram of residuals
Frequency
Residuals

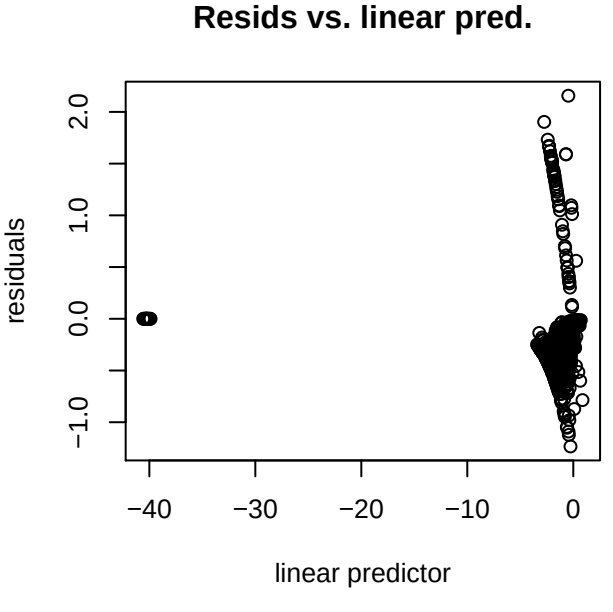

Resids vs. linear pred.
residuals
linear predictor

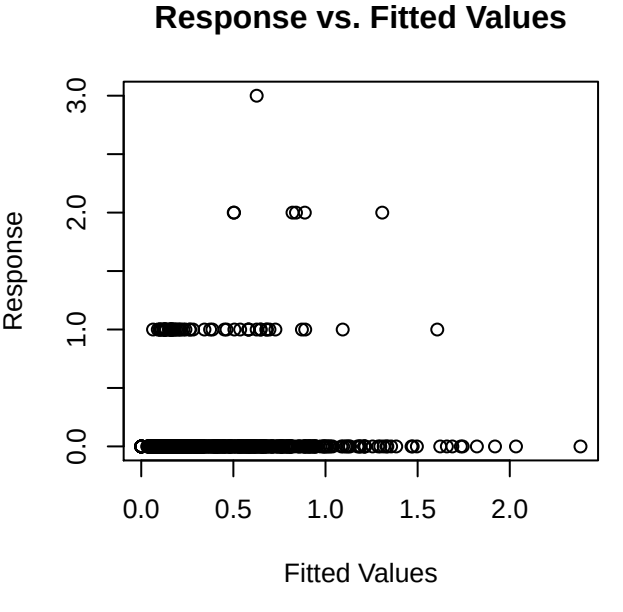

Response vs. Fitted Values
Response
Fitted Values

ZIP counts part

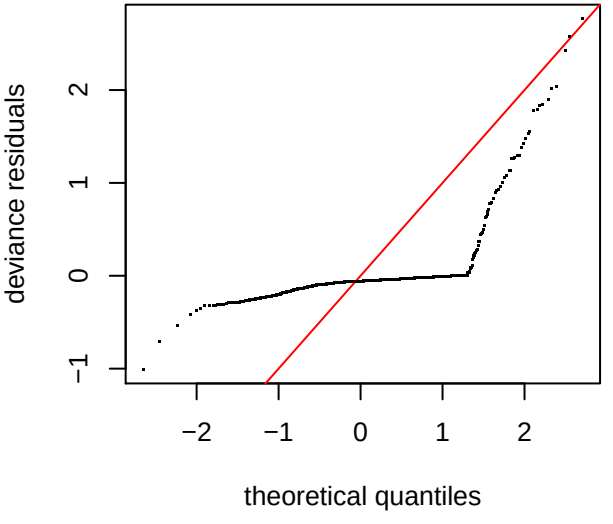


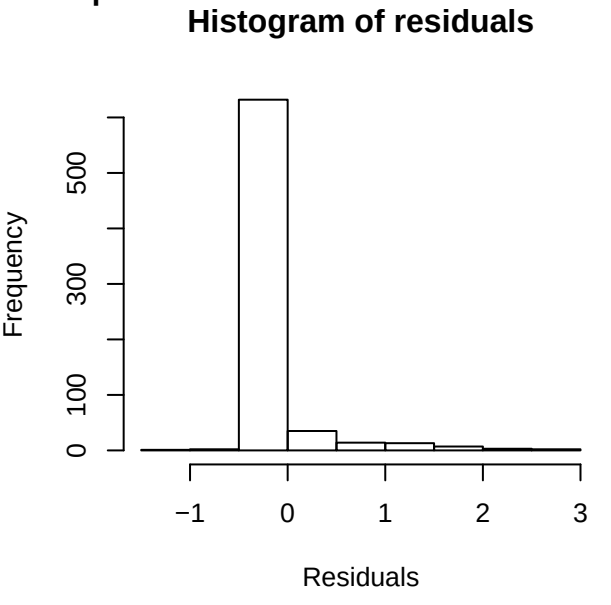


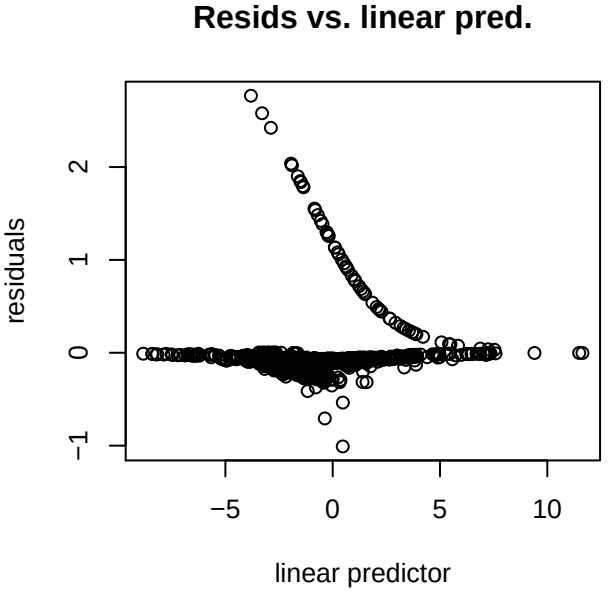


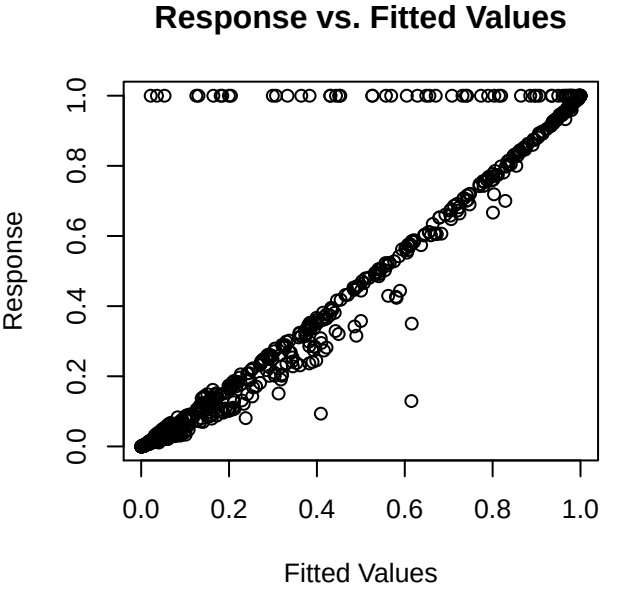


ZIP binomial part

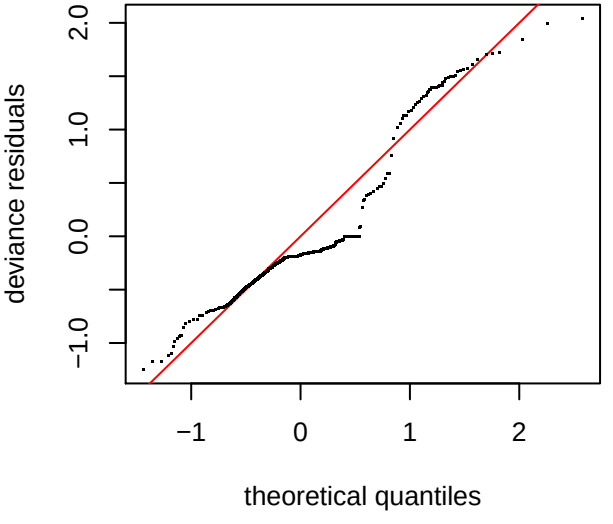


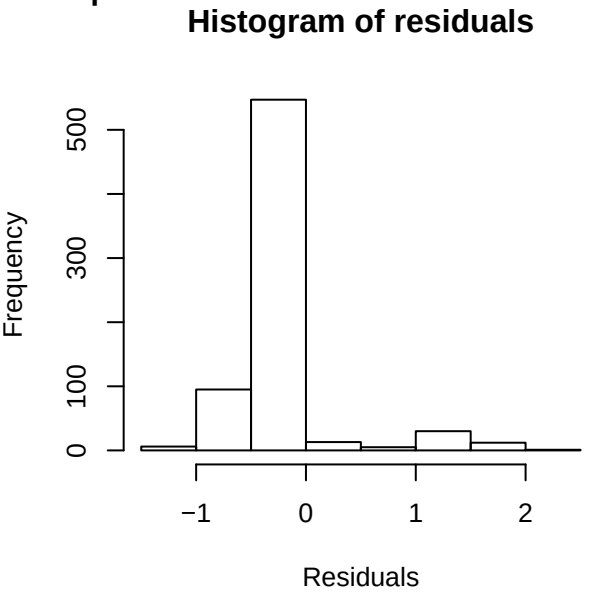


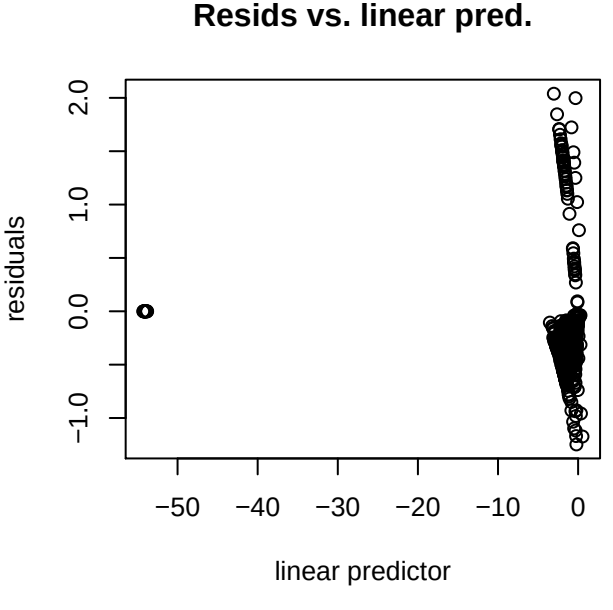


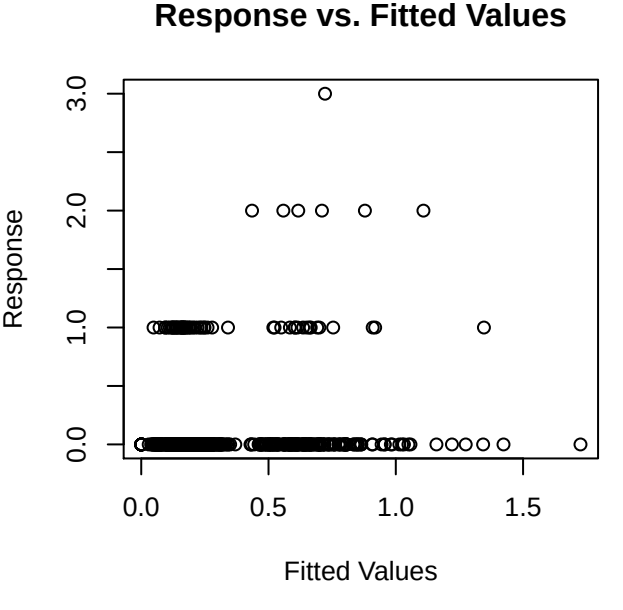


ZINB counts part

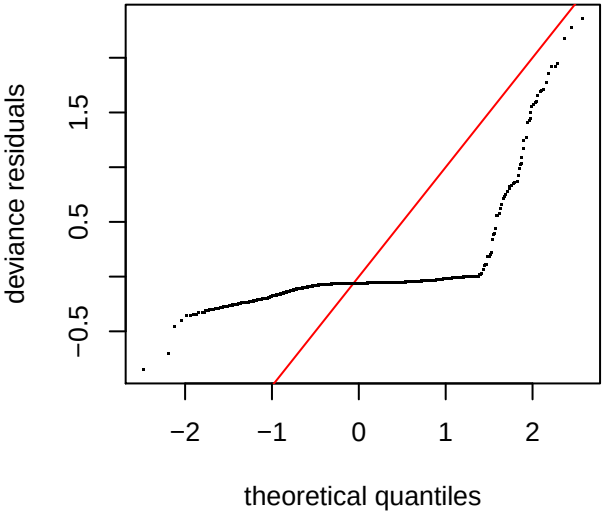


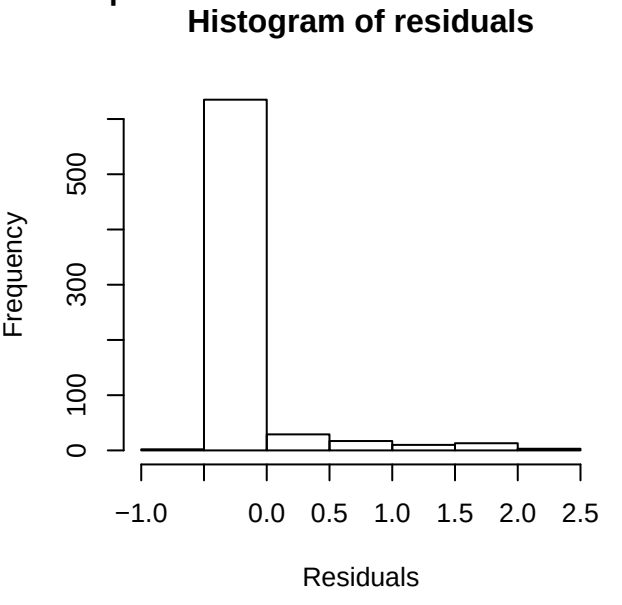


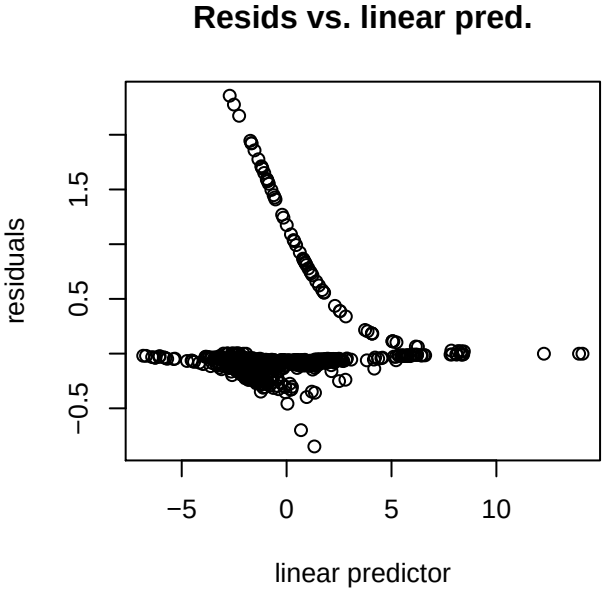


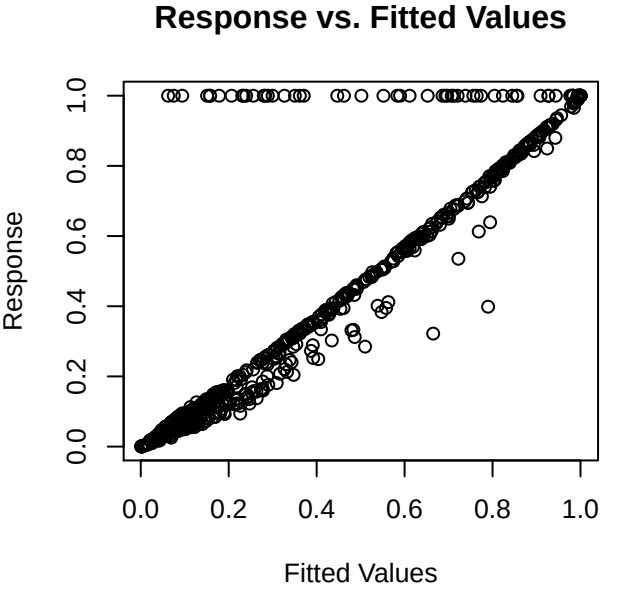


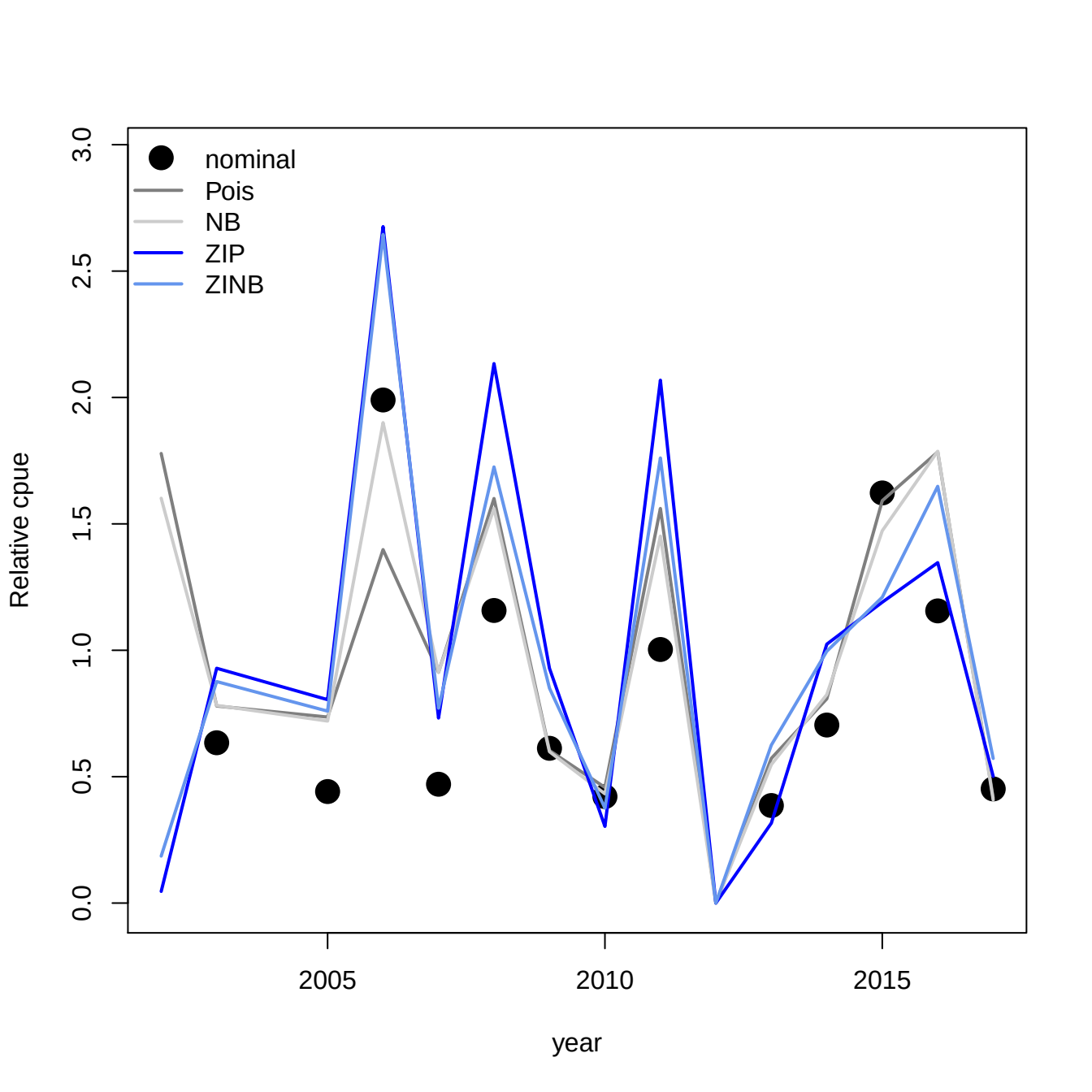
ZINB binomial part









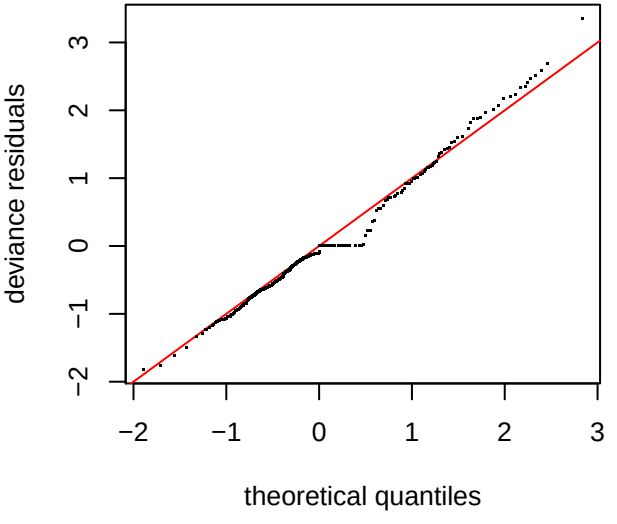

nominal
Pois
NB
ZIP
ZINB
Relative cpue
0.0
0.5
1.0
1.5
2.0
2.5
3.0
2005
2010
2015
year

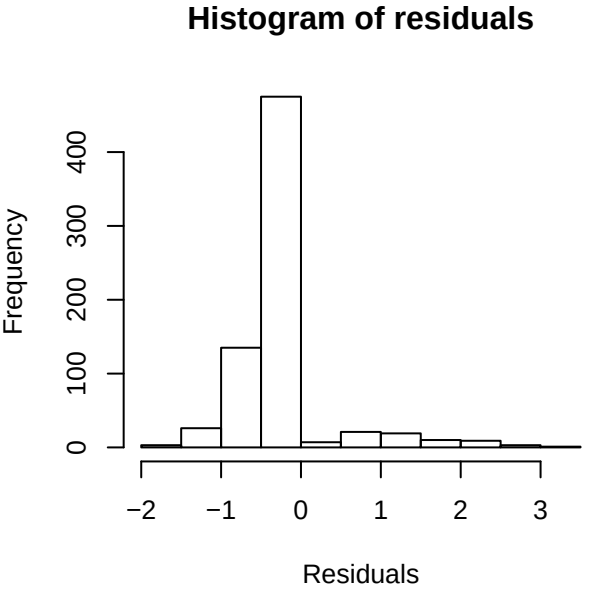
Dusky shark

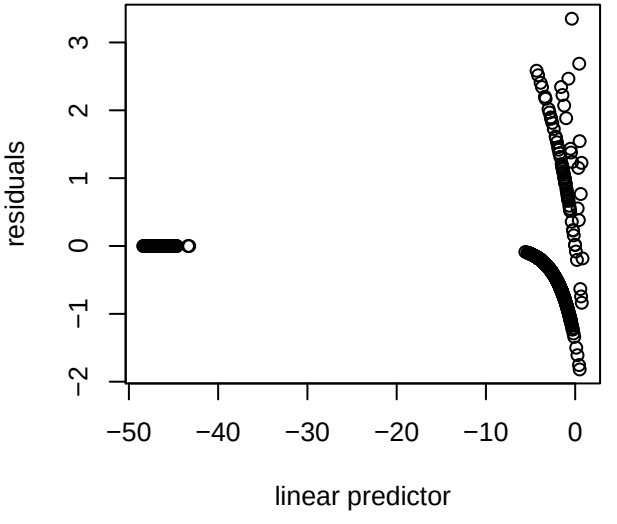
	Log.Like	AIC.c	AIC.delta	AIC.w	AIC.Ev.ratio
Pois	−223	485	4	1.45e−01	5.89e+00
NB	−221	482	0	8.55e−01	1.00e+00
ZIP	−225	515	33	4.61e−08	1.86e+07
ZINB	−223	515	33	6.31e−08	1.36e+07

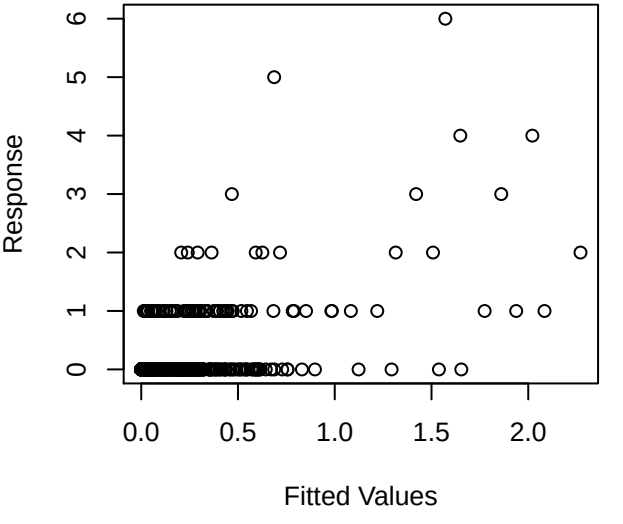
Best.AIC.w= NB
Catch.Target ~ c("year", "s(Mid.Lat,k=3)", "s(BOTDEPTH,k=3)") + offset(log.Ef)

Pois

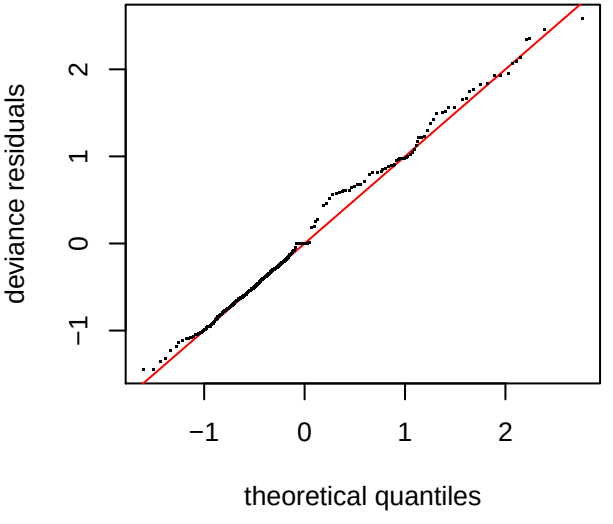

deviance residuals
theoretical quantiles

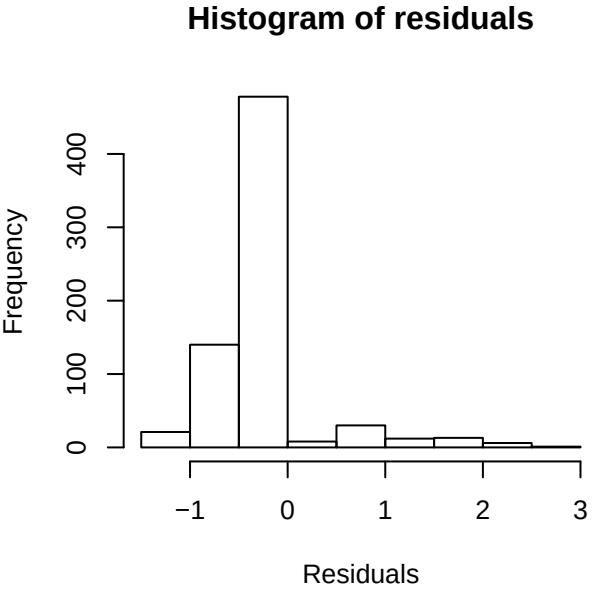

Histogram of residuals
Frequency
Residuals

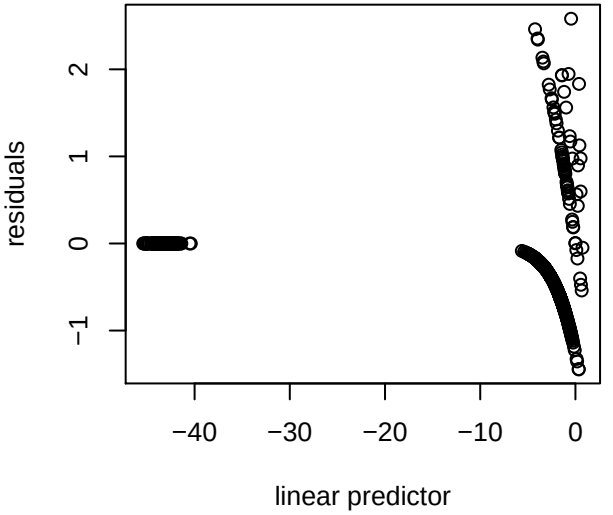

Resids vs. linear pred.
residuals
linear predictor

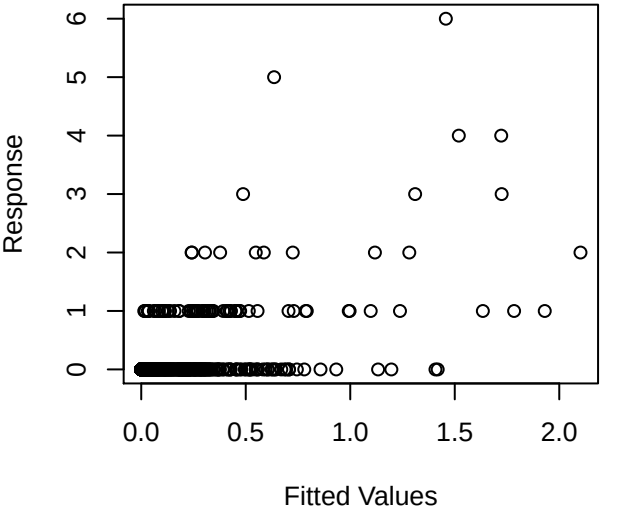

Response vs. Fitted Values
Response
Fitted Values

NB

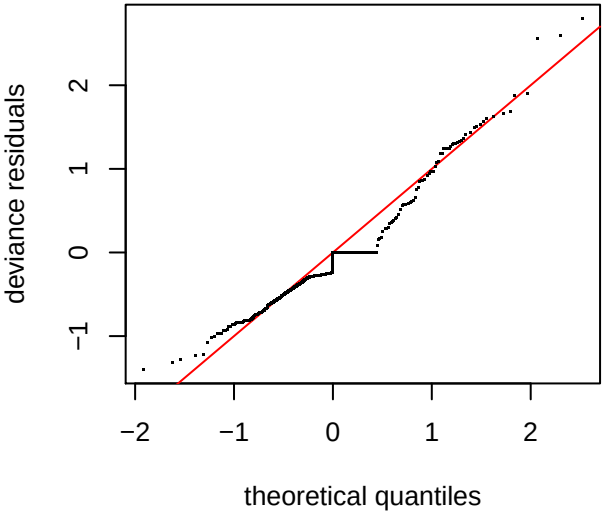

deviance residuals
theoretical quantiles

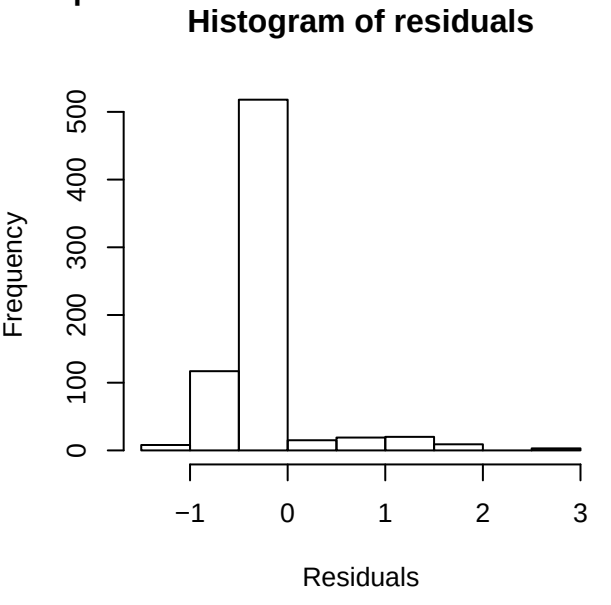

Histogram of residuals
Frequency
Residuals

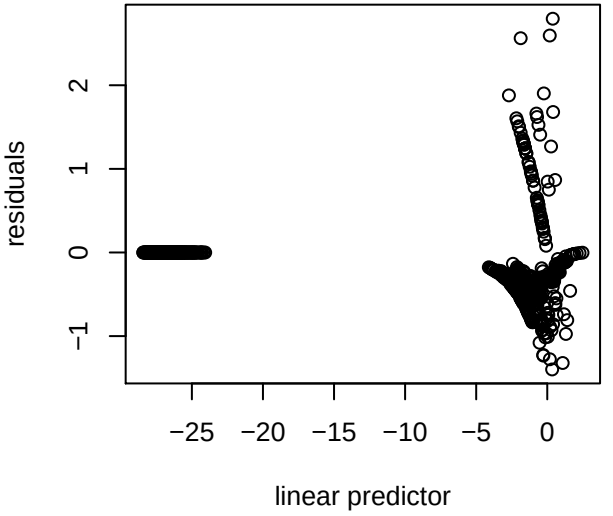

Resids vs. linear pred.
residuals
linear predictor

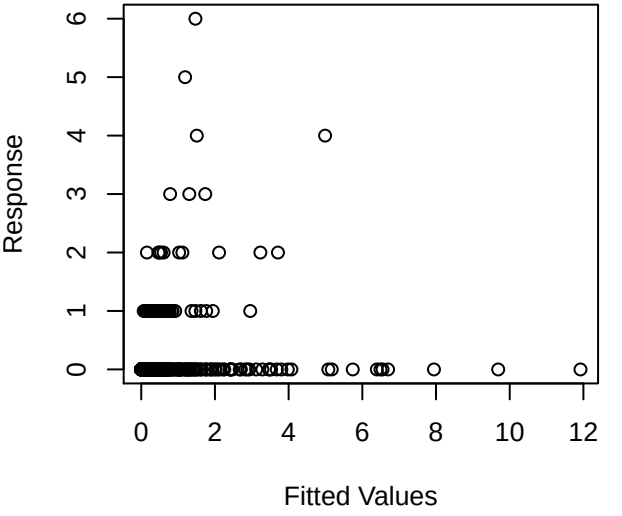

Response vs. Fitted Values
Response
Fitted Values

ZIP counts part

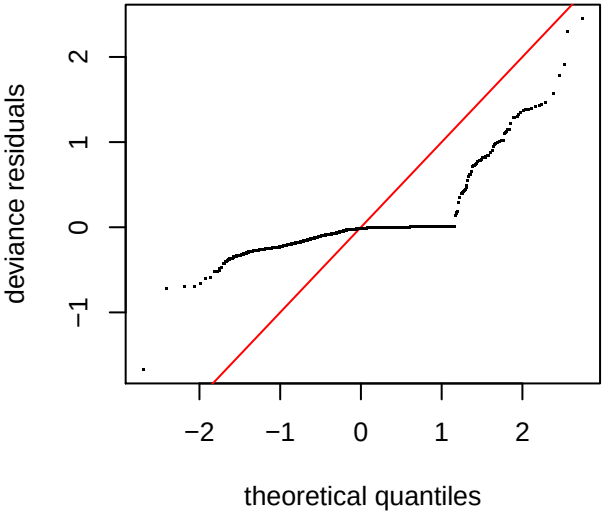


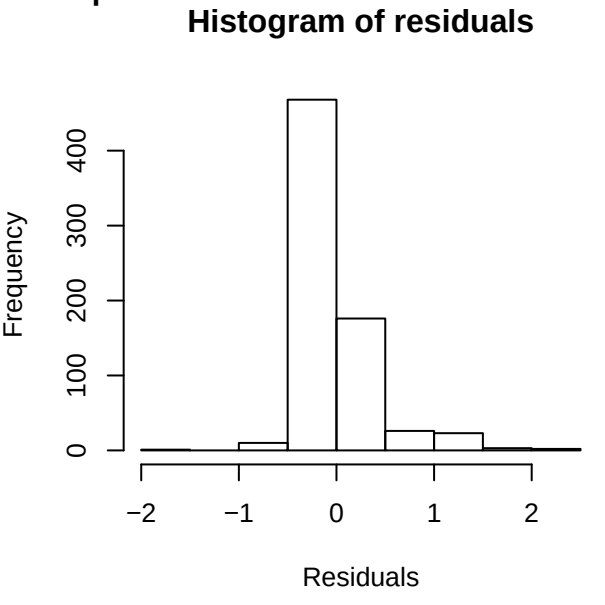


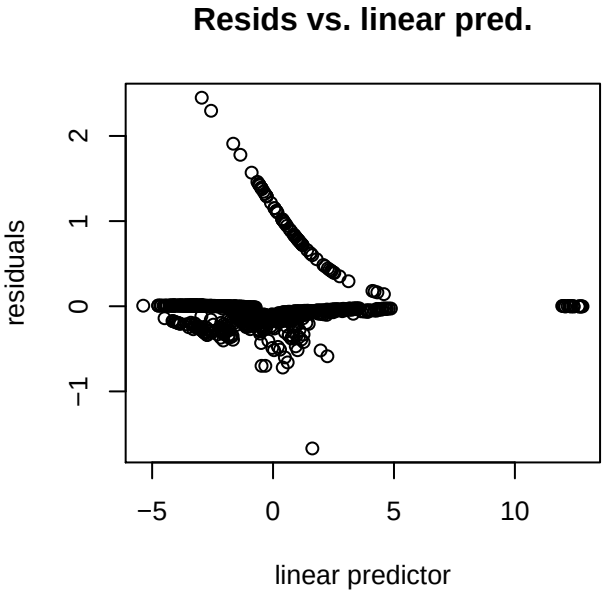


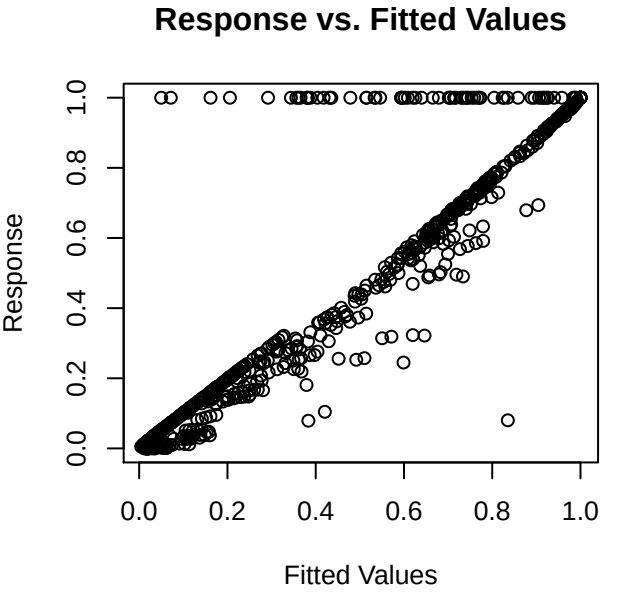


ZIP binomial part

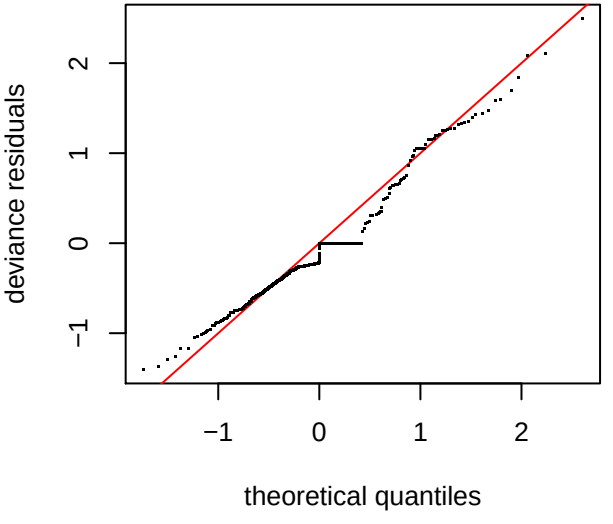


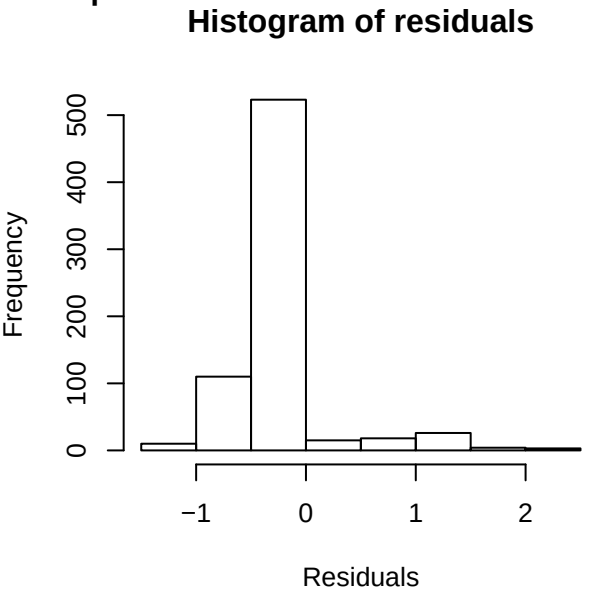


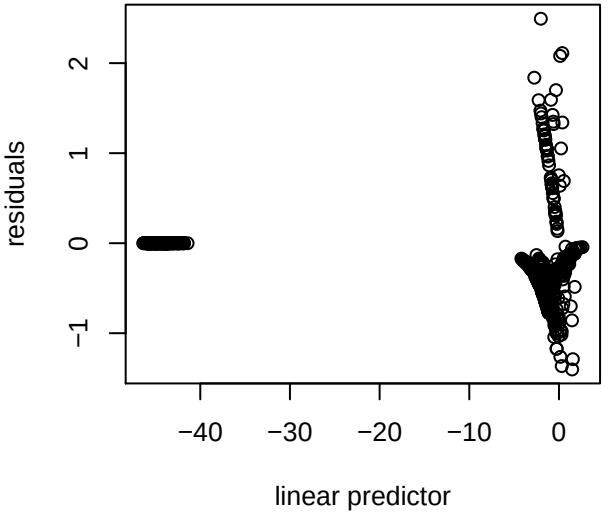


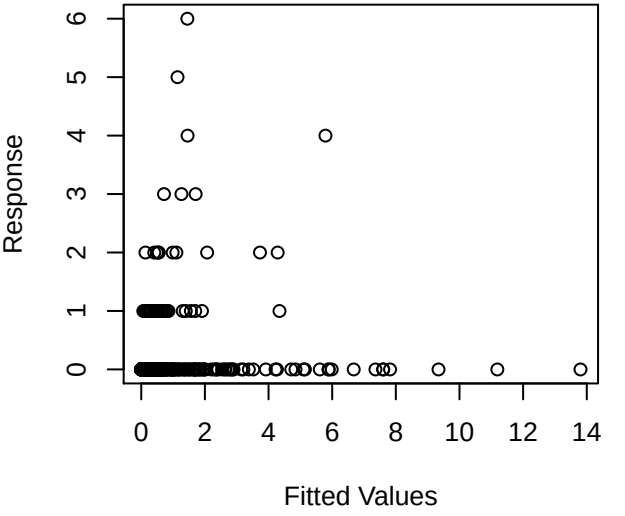


ZINB counts part

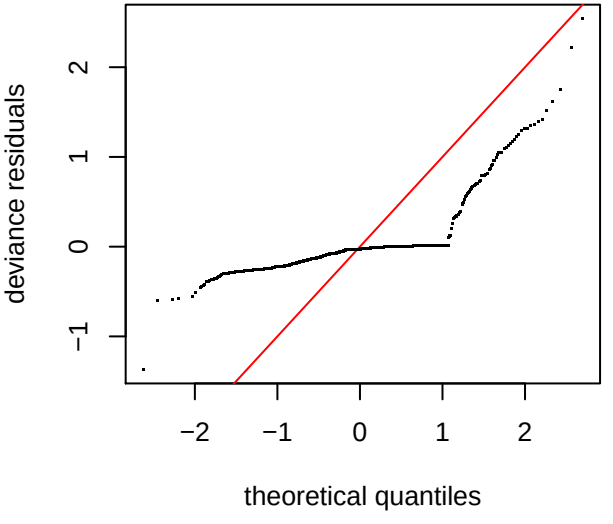


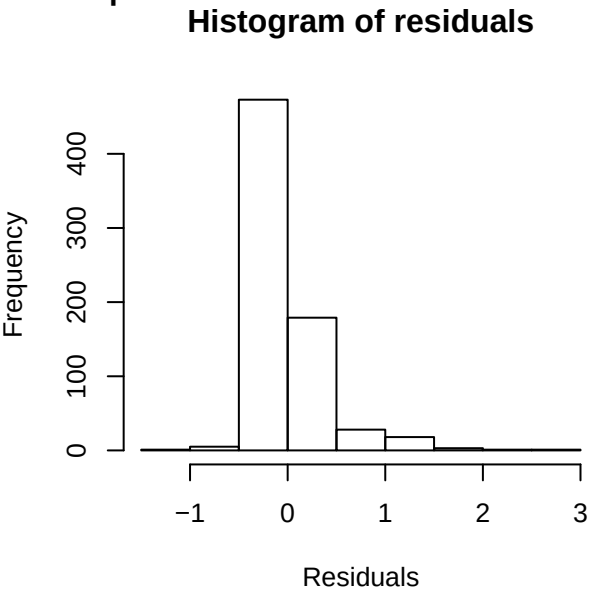


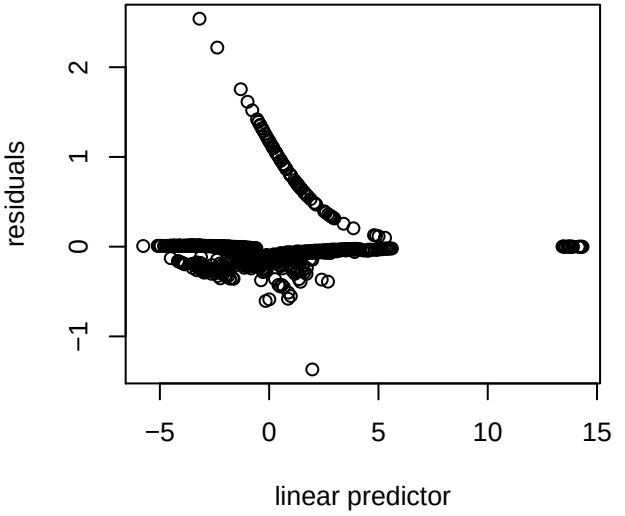


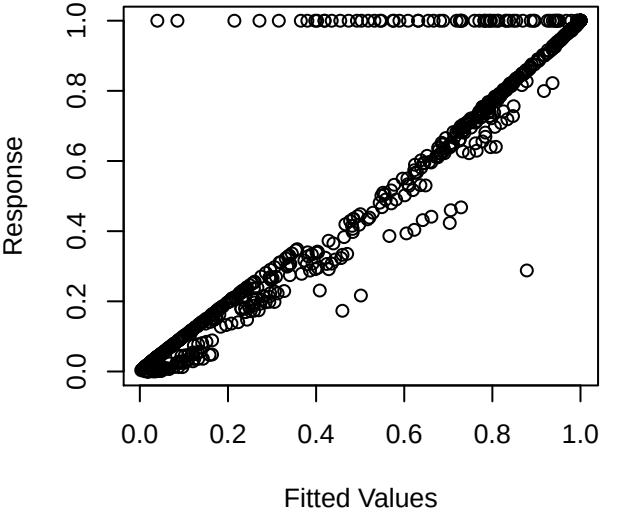


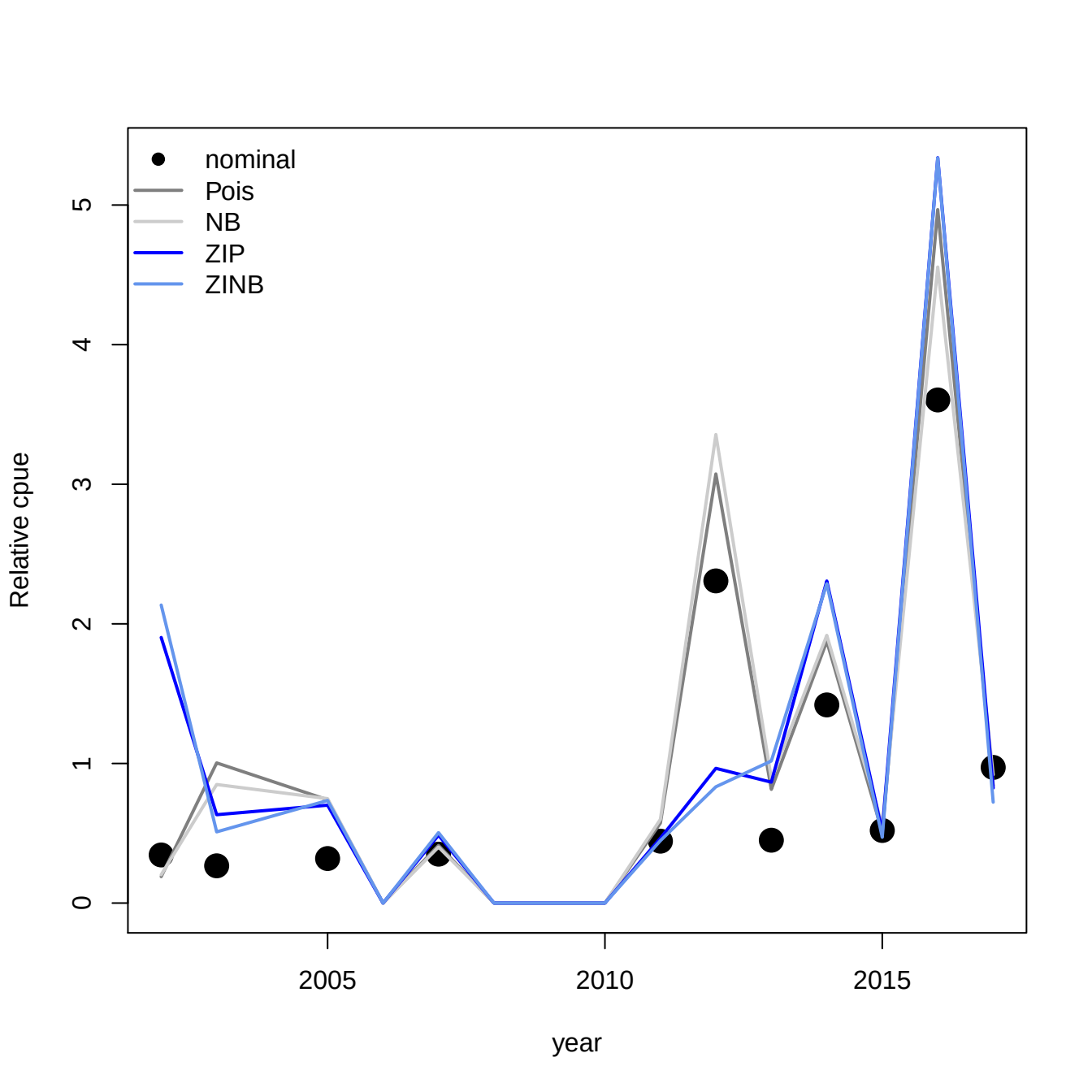
ZINB binomial part









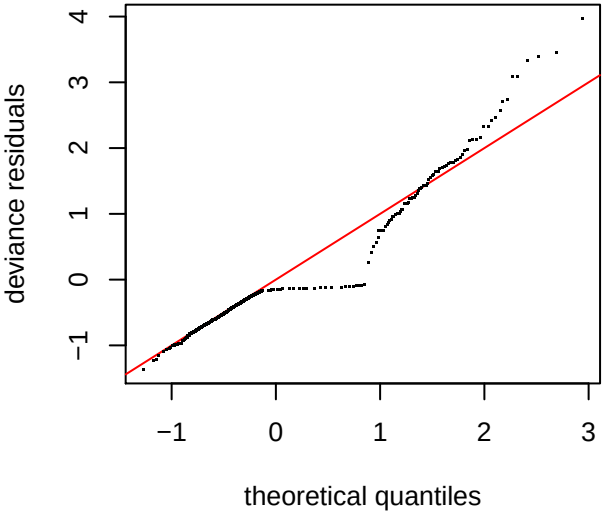

nominal
Pois
NB
ZIP
ZINB
Relative cpue
0
1
2
3
4
5
2005
2010
2015
year

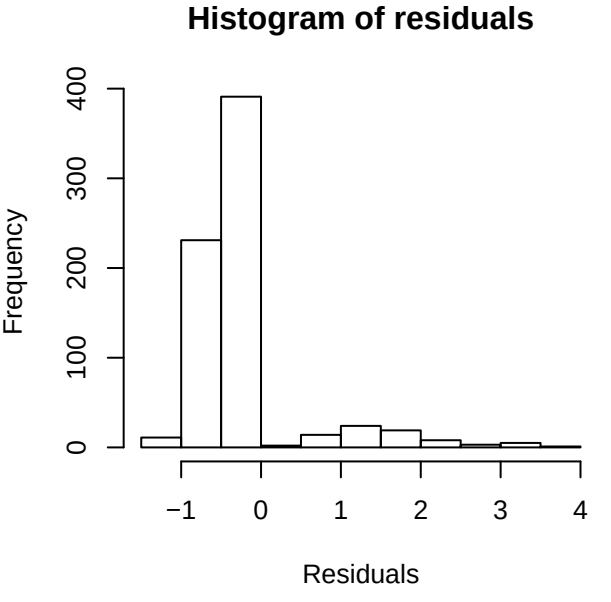
Sliteye shark

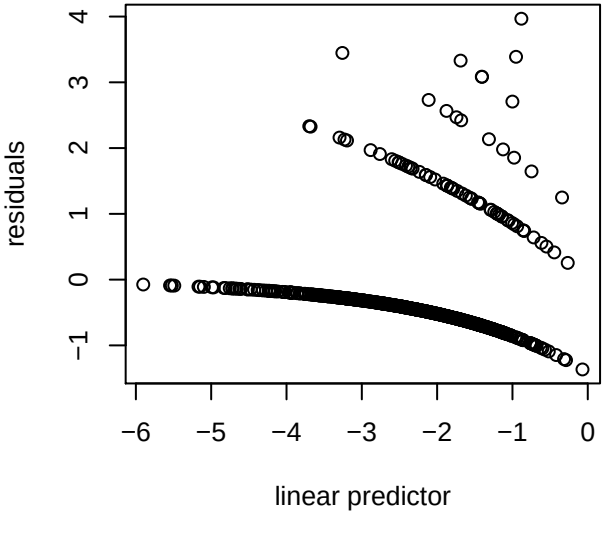
	Log.Like	AIC.c	AIC.delta	AIC.w	AIC.Ev.ratio
Pois	−283	600	23	8.85e−06	8.29e+04
NB	−272	577	0	7.34e−01	1.00e+00
ZIP	−249	580	2	2.17e−01	3.39e+00
ZINB	−249	583	5	4.99e−02	1.47e+01

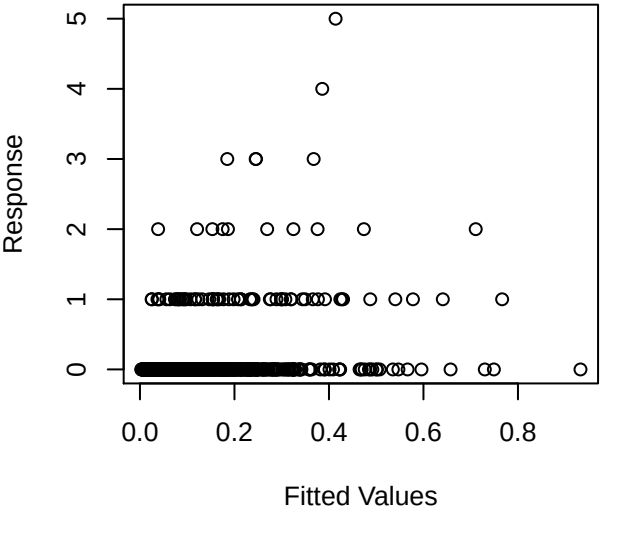
Best.AIC.w= NB
Catch.Target ~ c("year", "s(Mid.Lat,k=3)", "s(BOTDEPTH,k=3)") + offset(log.Ef)

Pois

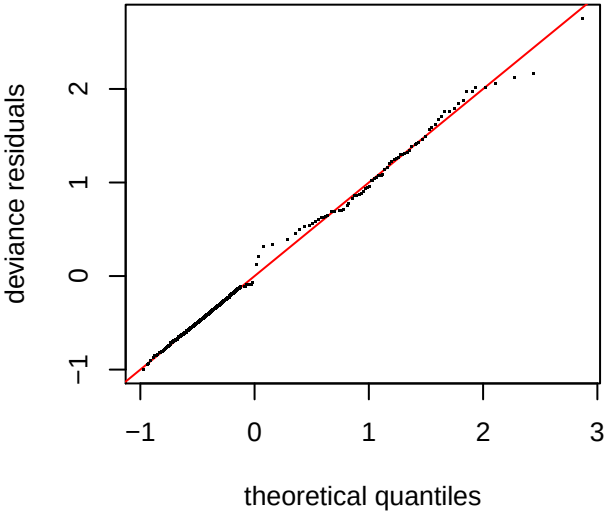

deviance residuals
theoretical quantiles

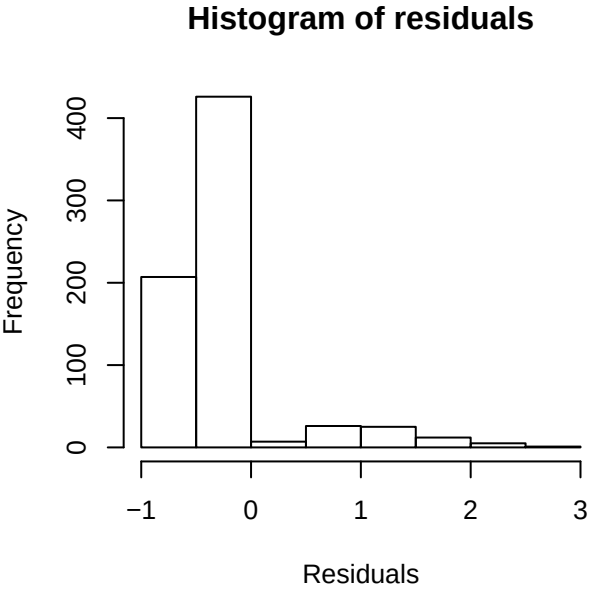

Histogram of residuals
Frequency
Residuals

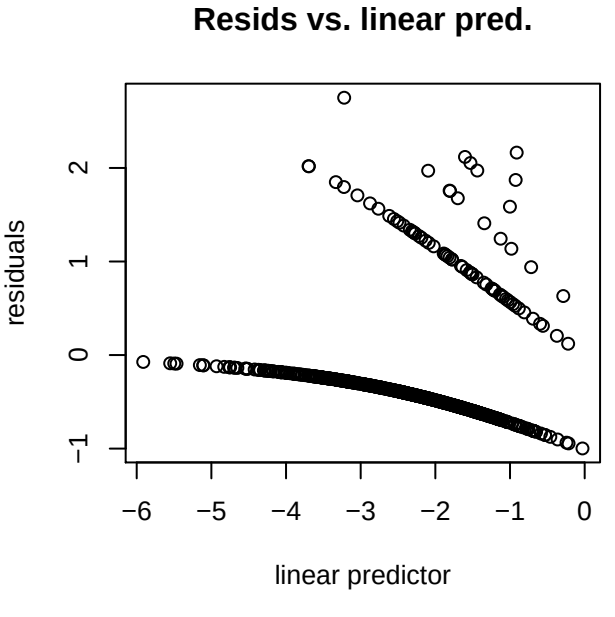

Resids vs. linear pred.
residuals
linear predictor

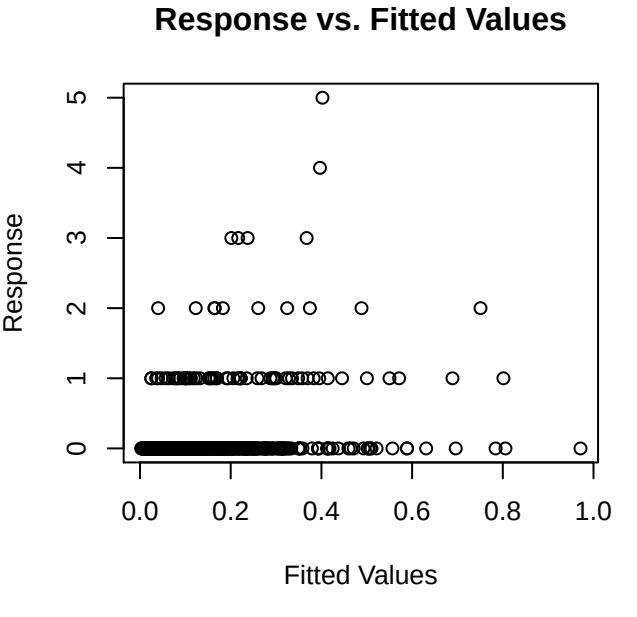

Response vs. Fitted Values
Response
Fitted Values

NB

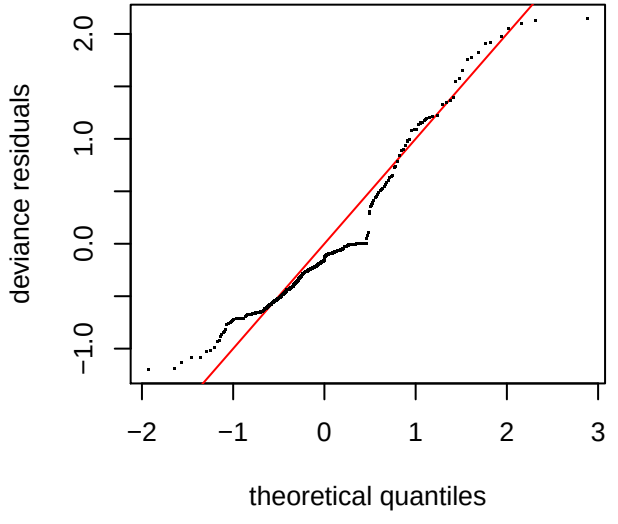

deviance residuals
theoretical quantiles

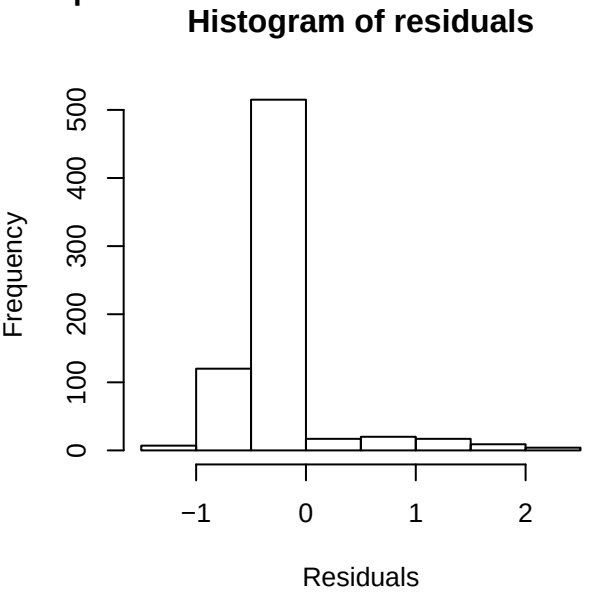

Histogram of residuals
Frequency
Residuals

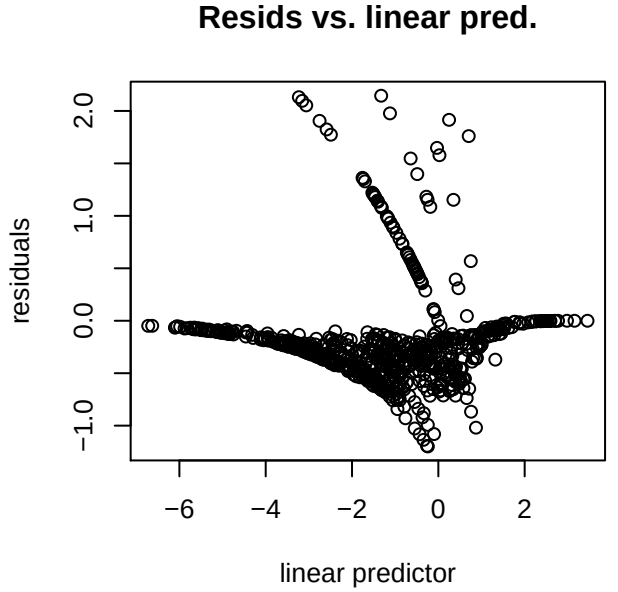

Resids vs. linear pred.
residuals
linear predictor

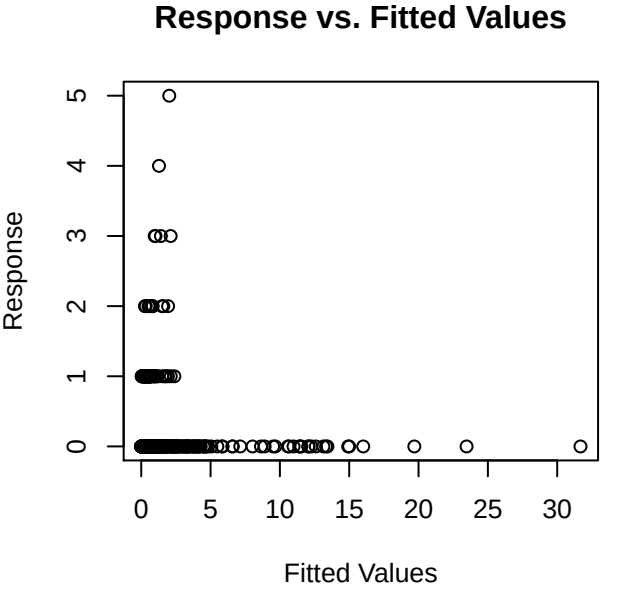

Response vs. Fitted Values
Response
Fitted Values

ZIP counts part

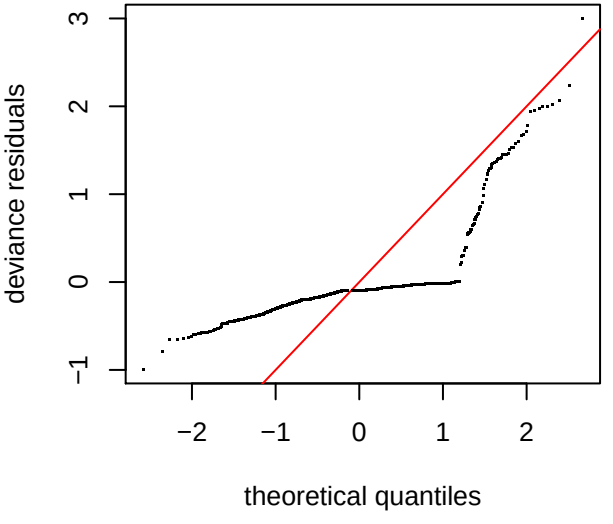


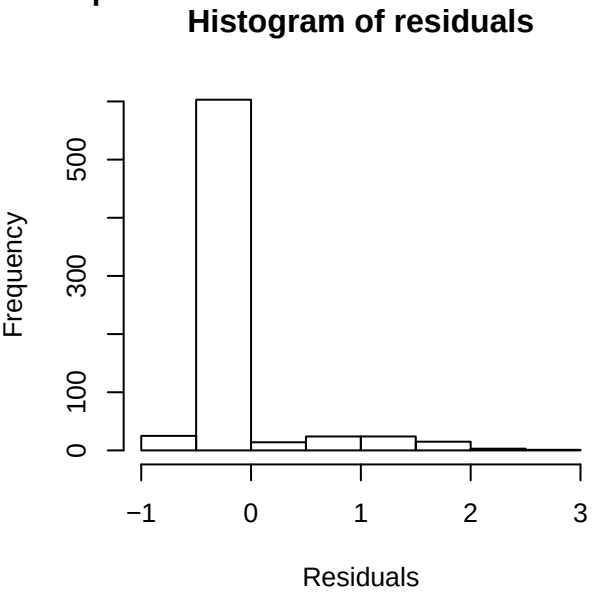


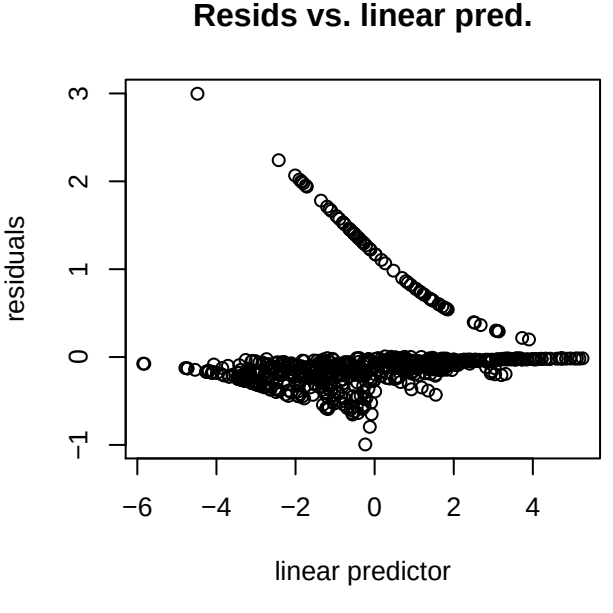


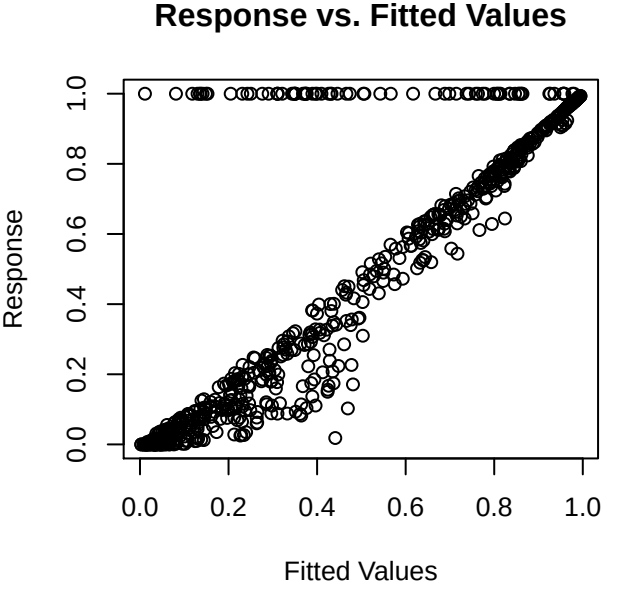


ZIP binomial part

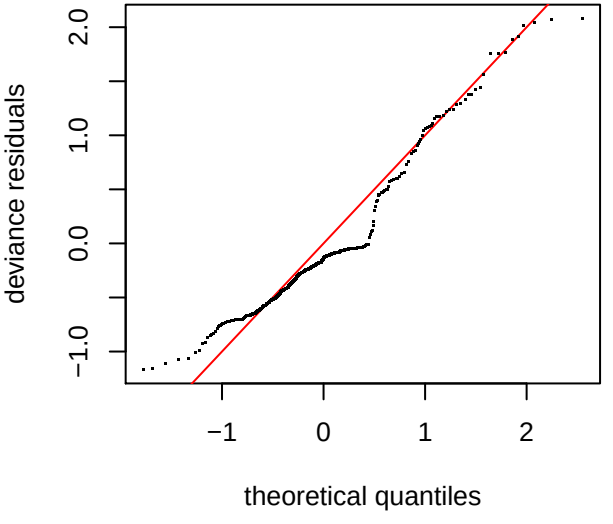


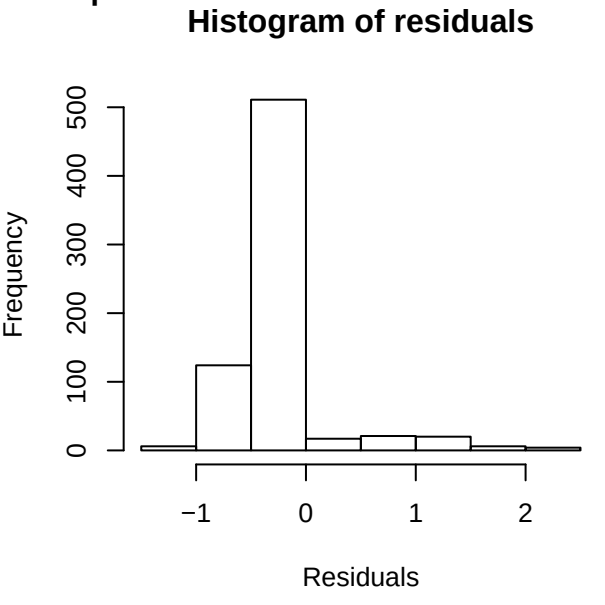


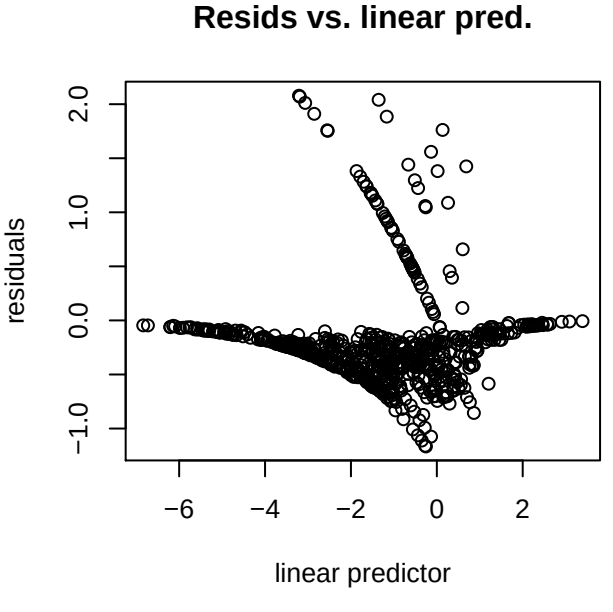


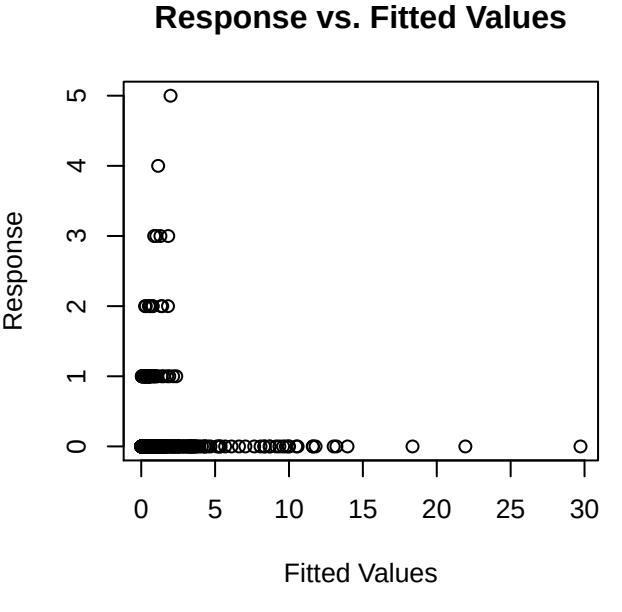


ZINB counts part

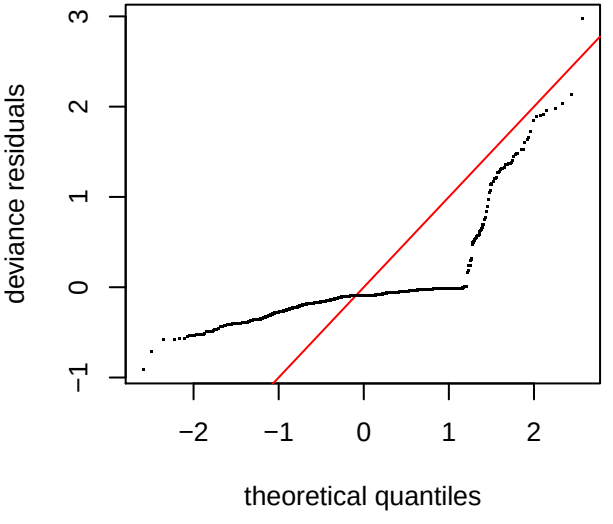


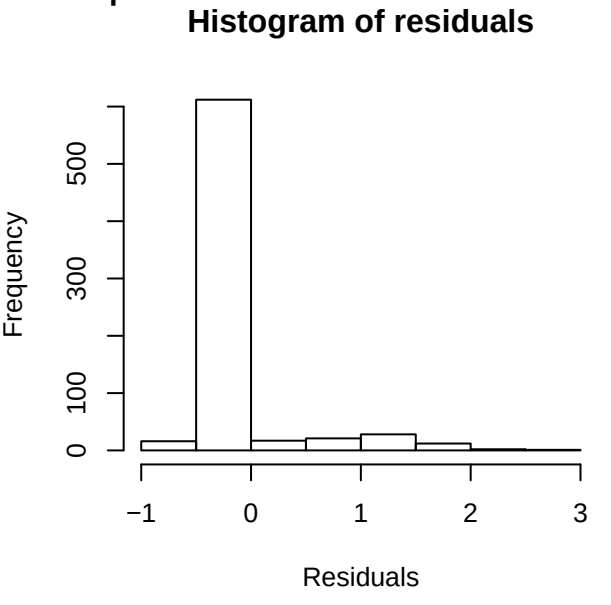


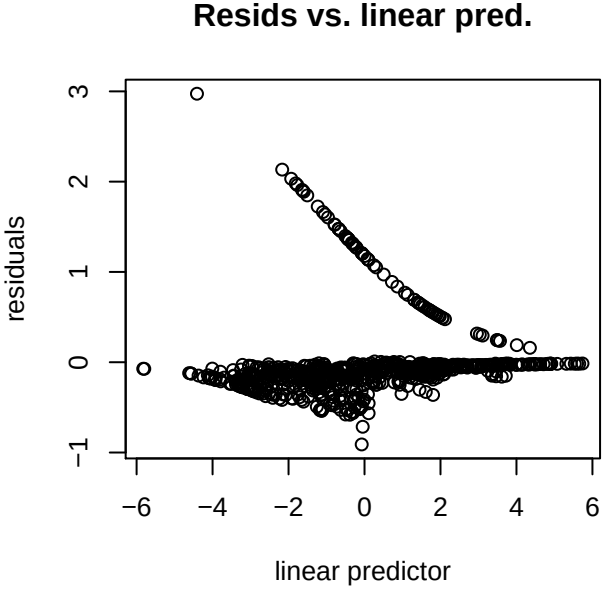


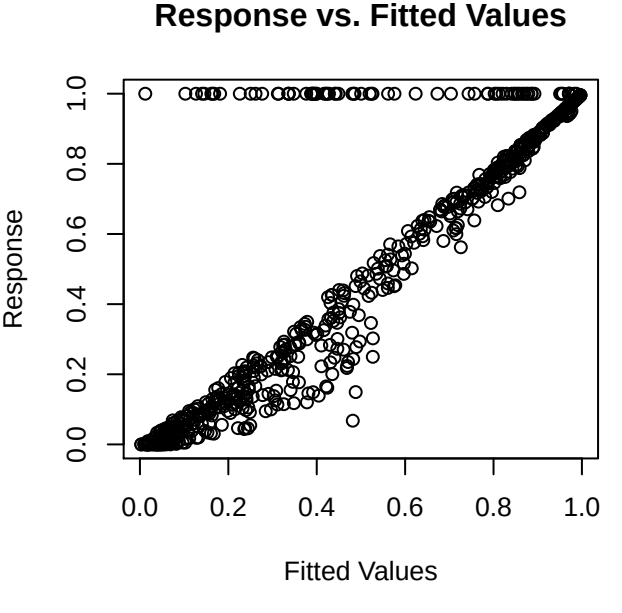


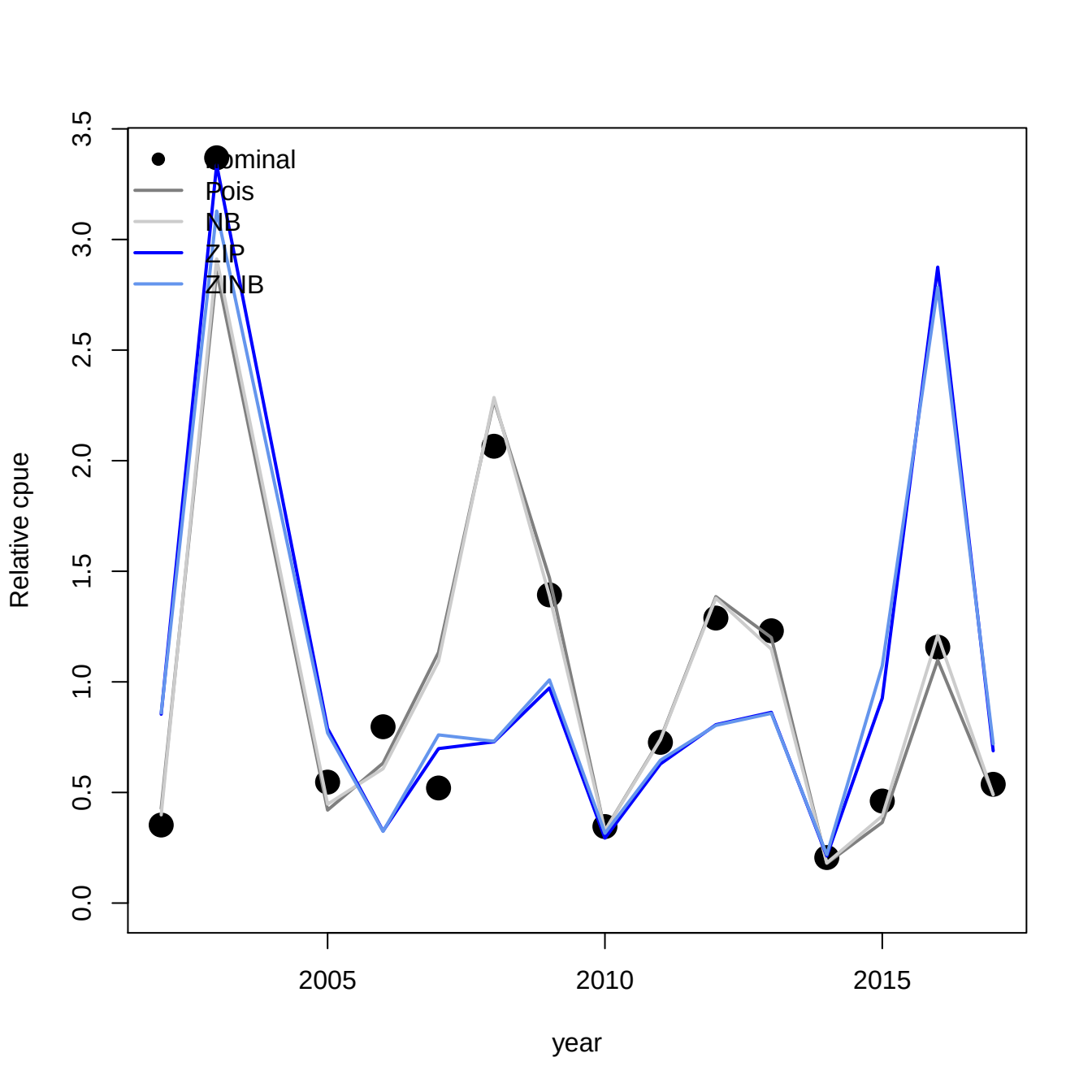
ZINB binomial part










Nominal
Pois
NB
ZIP
ZINB
Relative cpue
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
2005
2010
2015
year