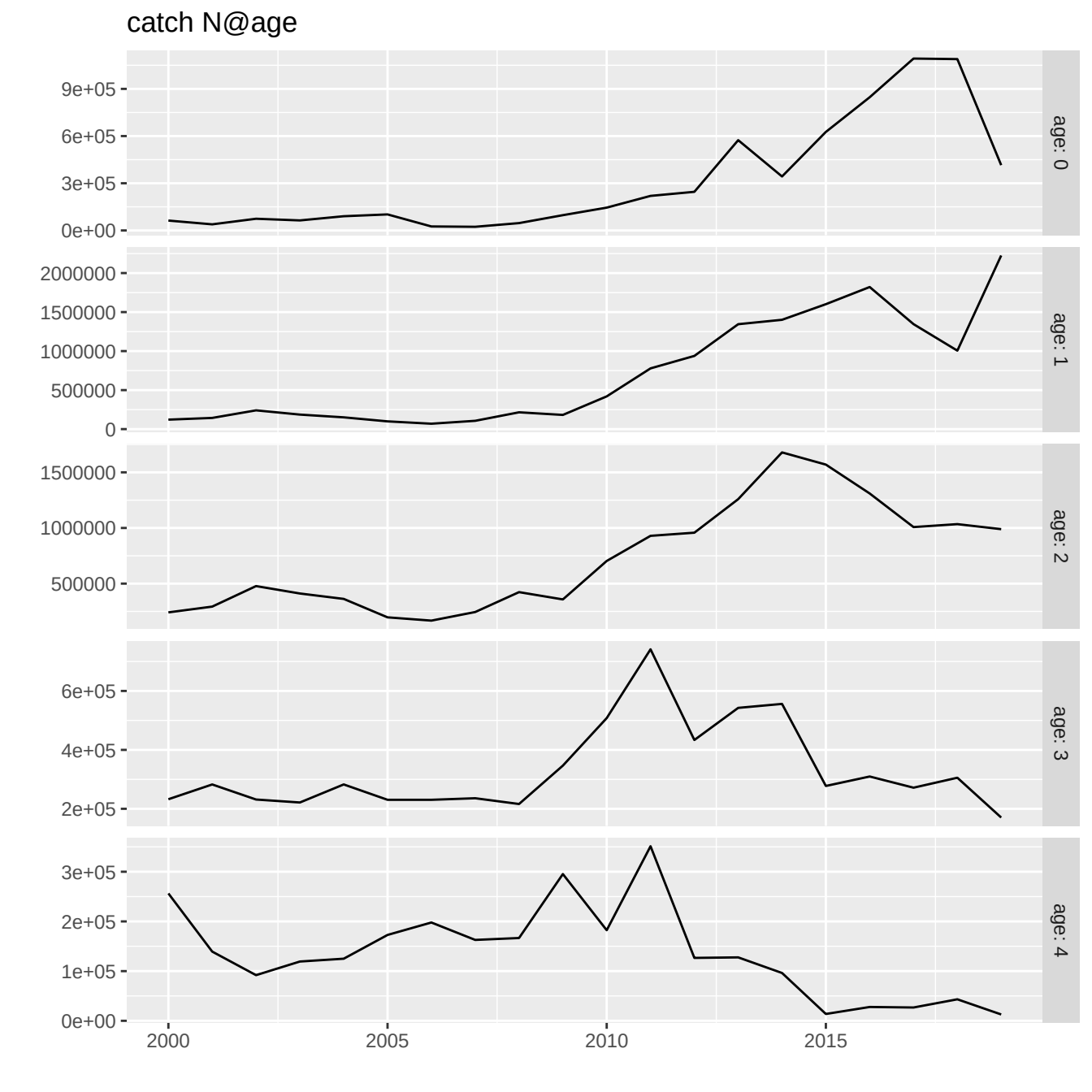
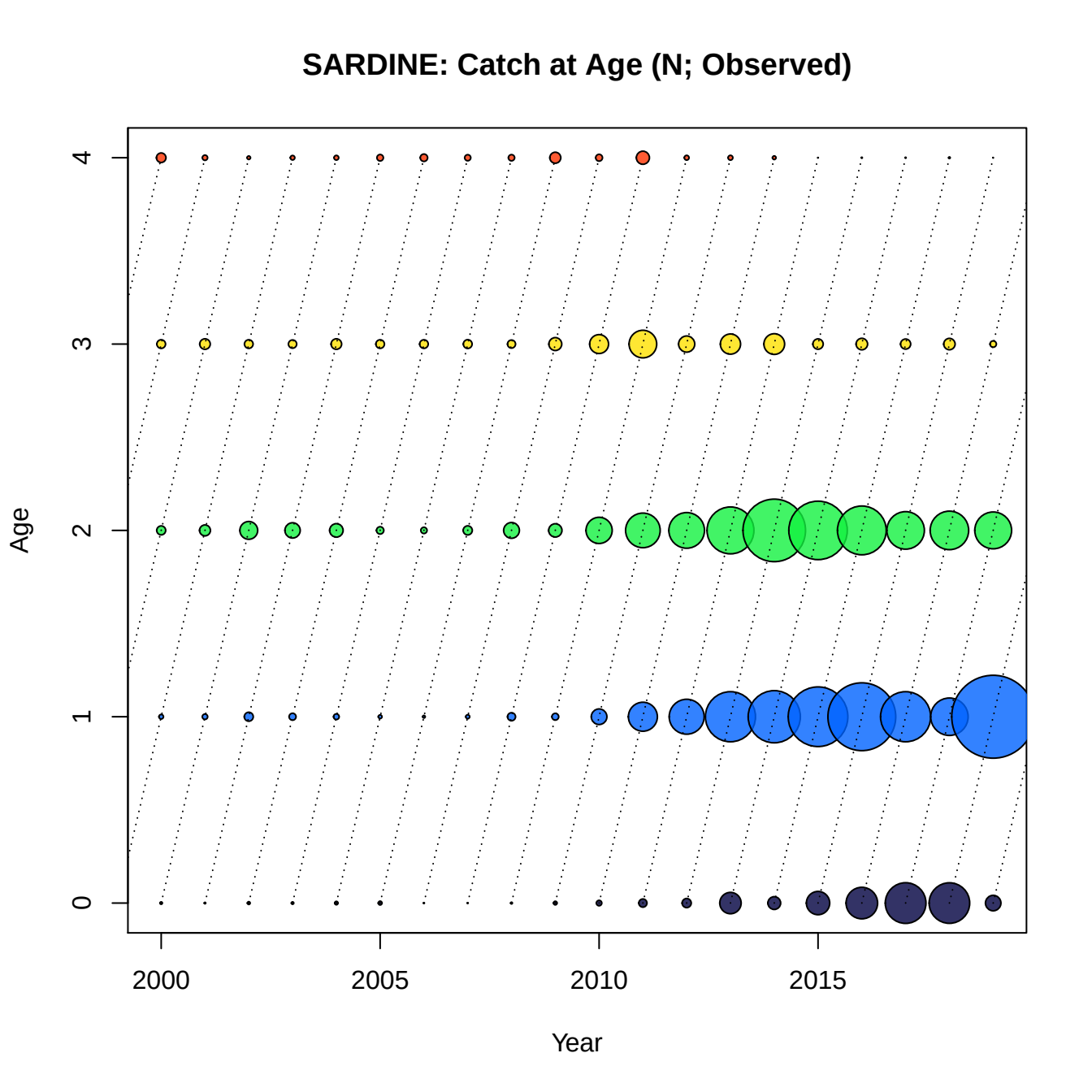
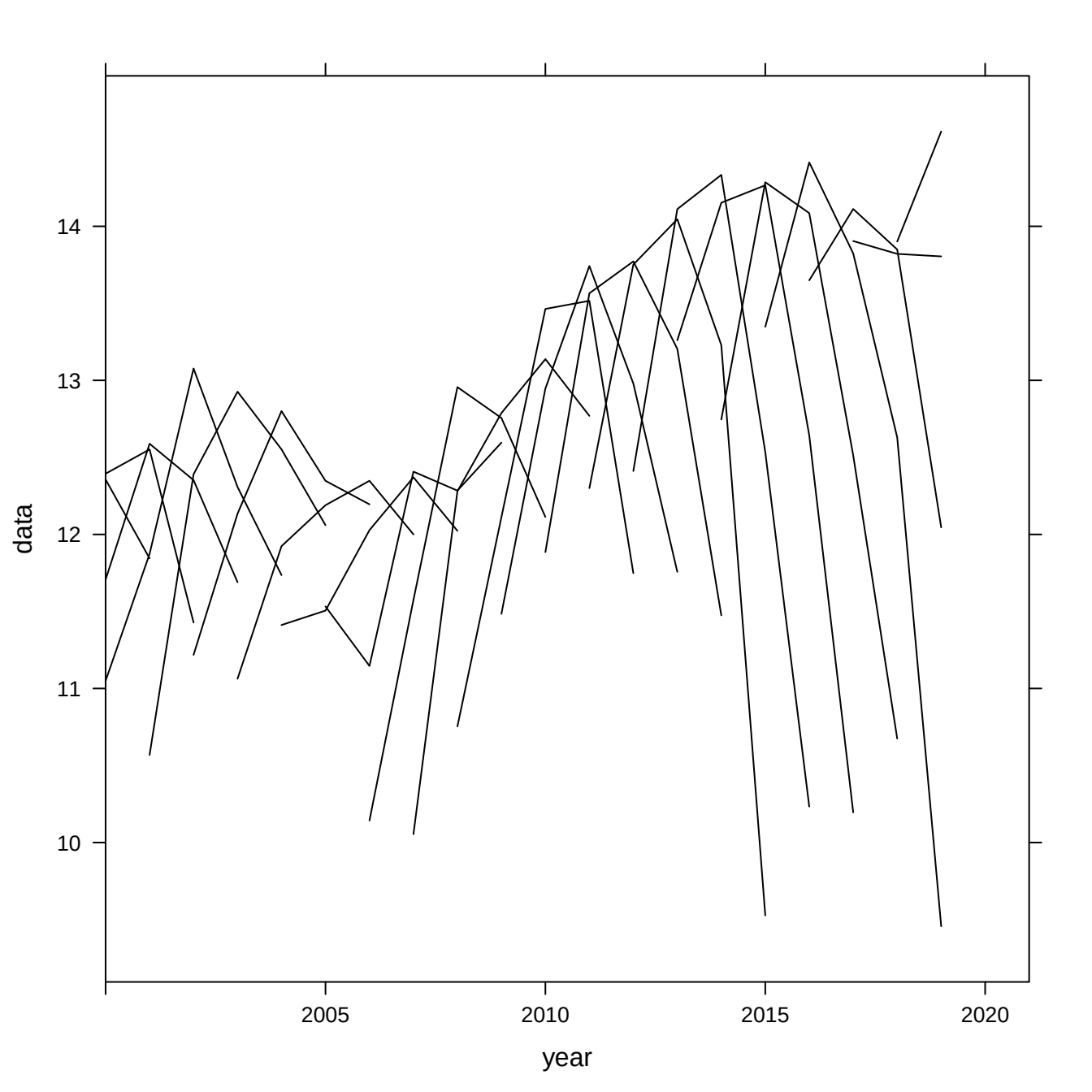
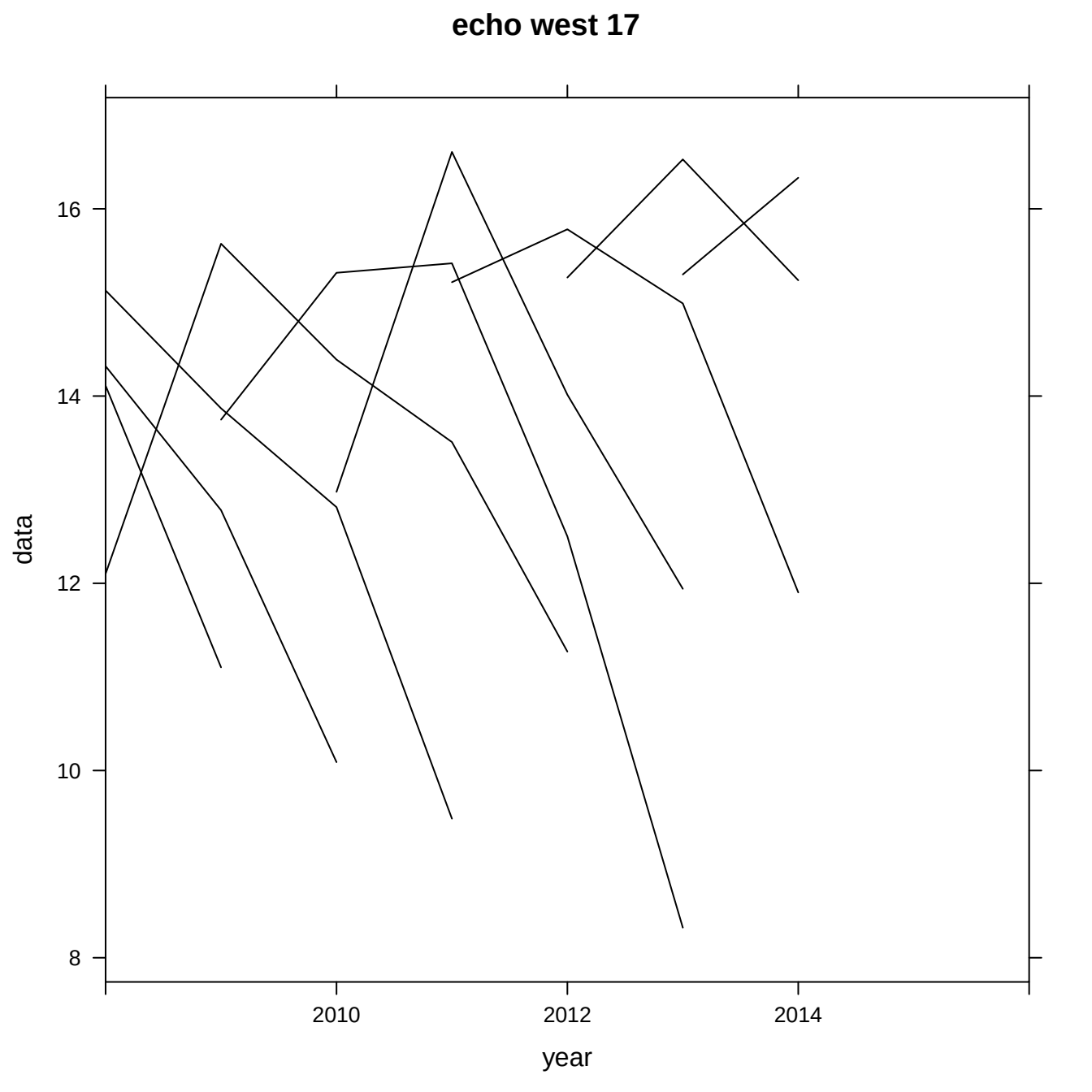
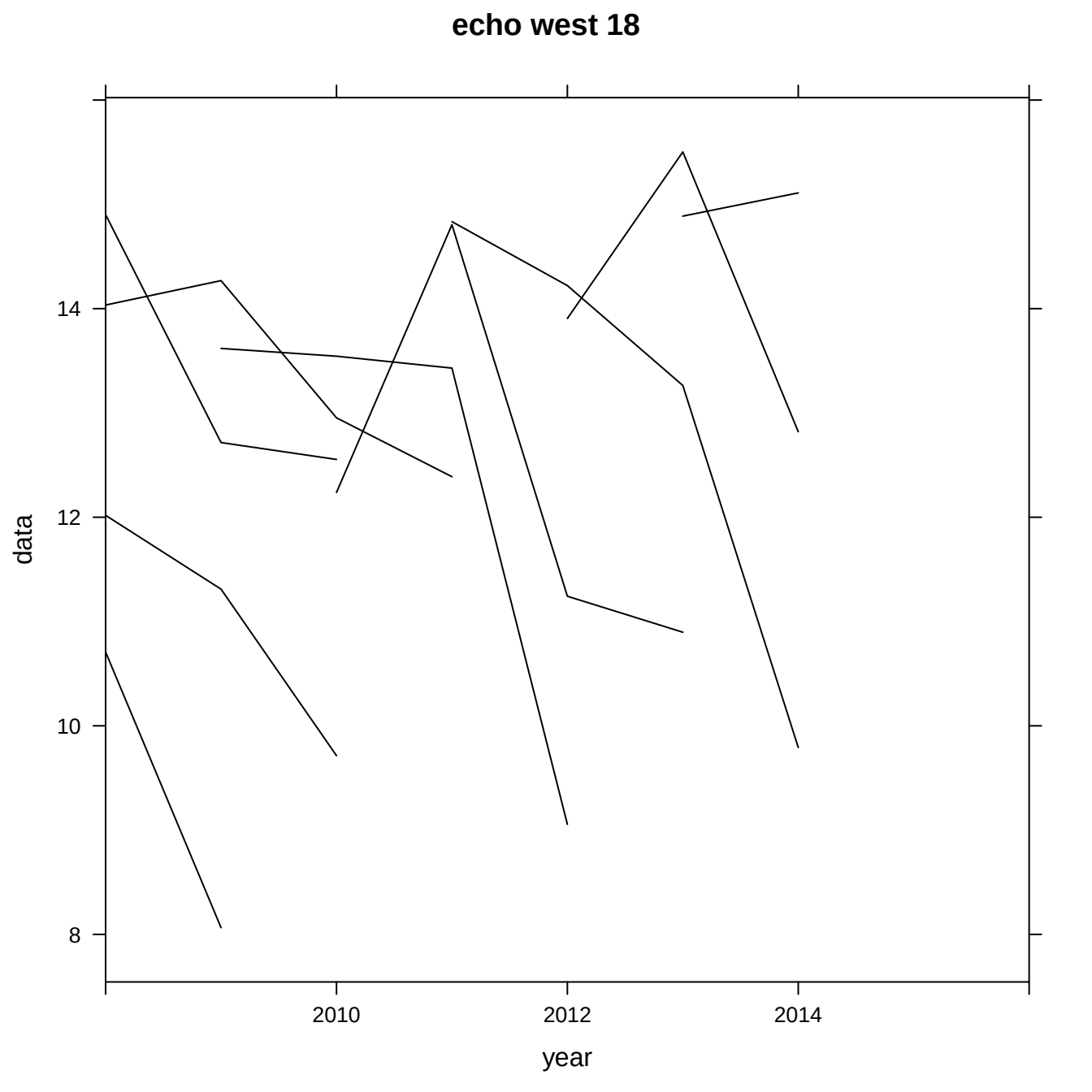
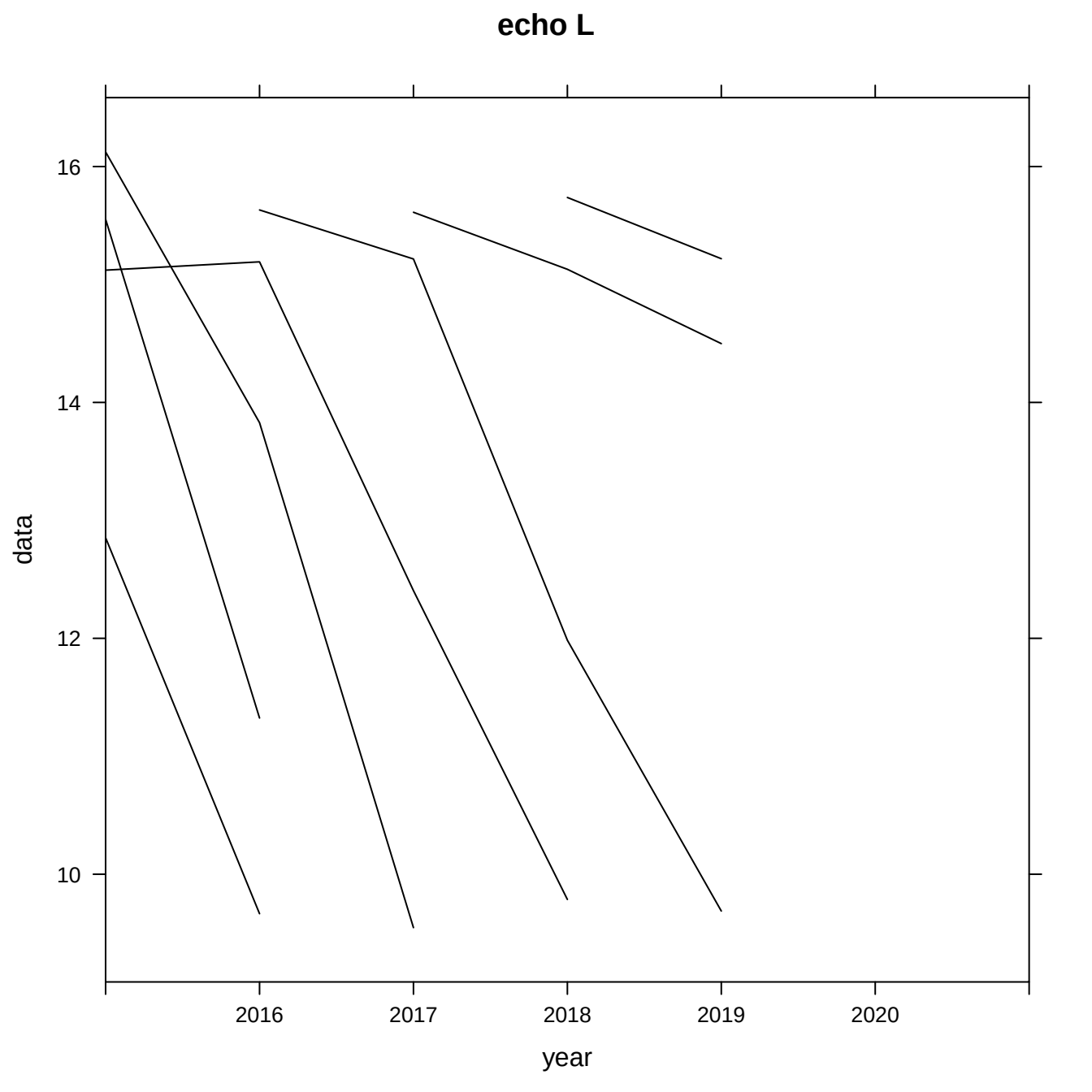

catch N@age
9e+05
6e+05
3e+05
0e+00
age: 0
2000000
1500000
1000000
500000
0
age: 1
1500000
1000000
500000
age: 2
6e+05
4e+05
2e+05
age: 3
3e+05
2e+05
1e+05
0e+00
age: 4
2000
2005
2010
2015

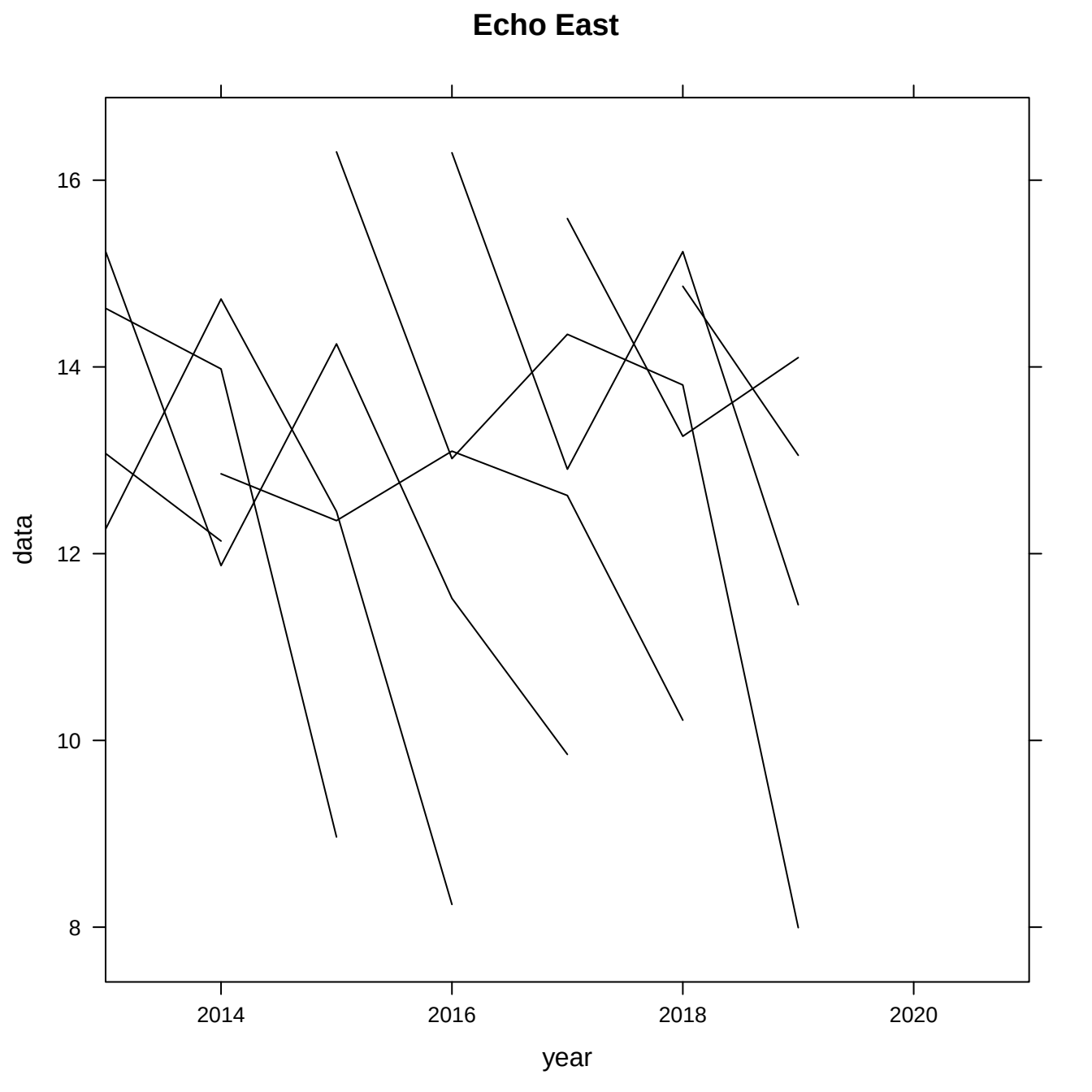

SARDINE: Catch at Age (N; Observed)
Age
0
1
2
3
4
2000
2005
2010
2015
Year

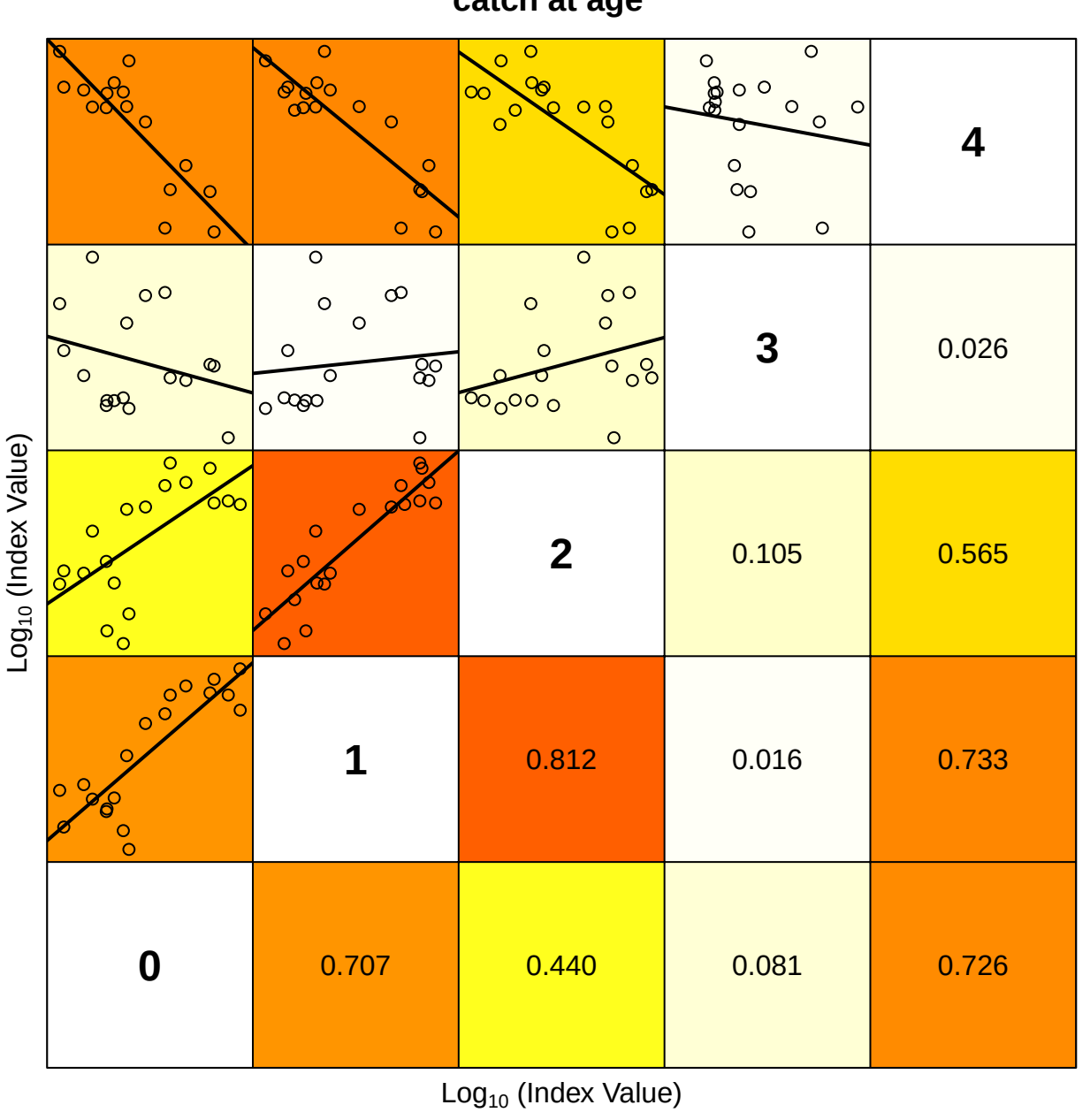

14
13
12
11
10
data
2005
2010
2015
2020
year


echo west 17
16
14
12
10
8
data
2010
2012
2014
year

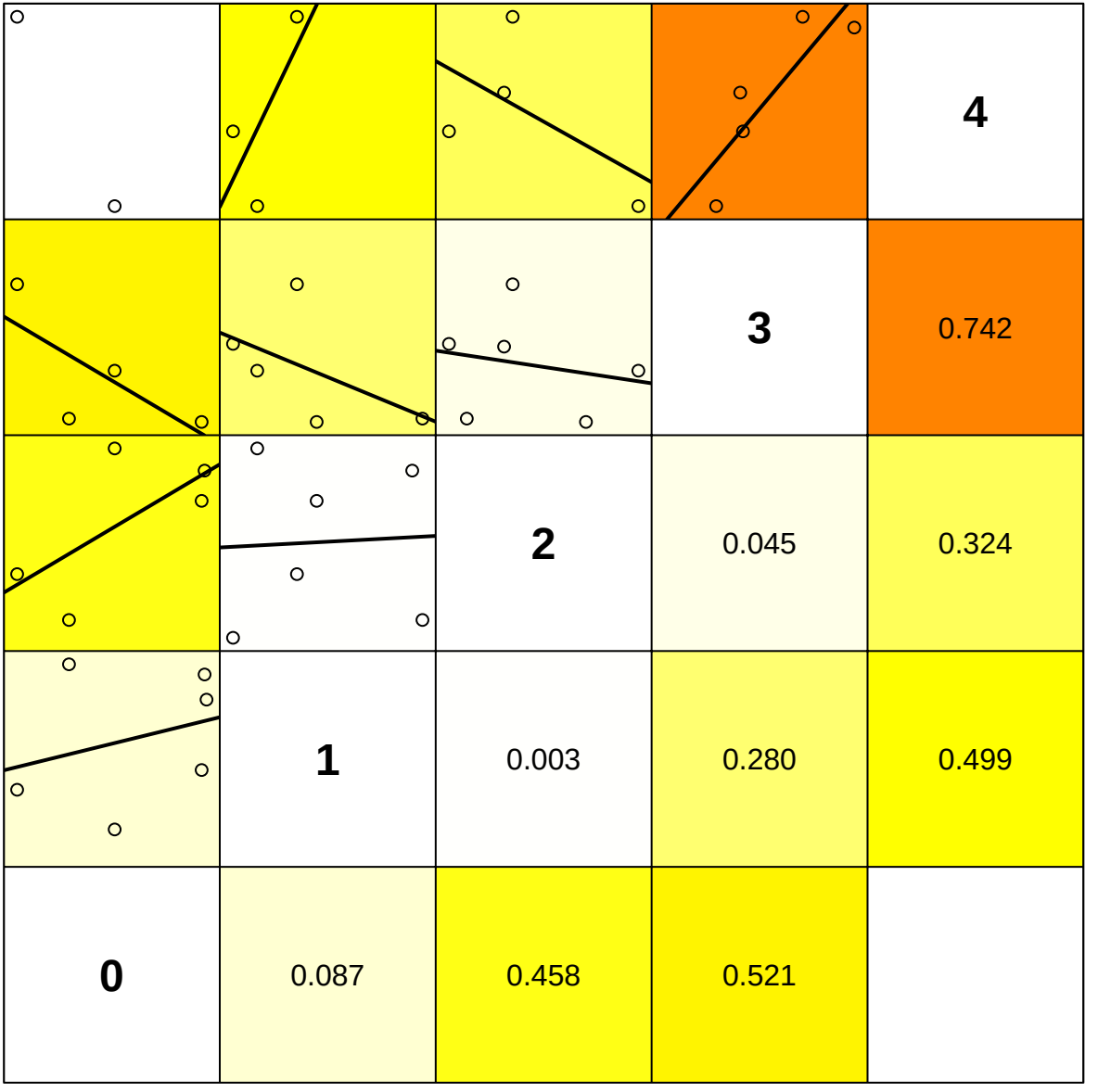

echo west 18
data
14
12
10
8
2010
2012
2014
year


echo L
16
14
12
10
data
2016
2017
2018
2019
2020
year


Echo East
16
14
12
10
8
data
2014
2016
2018
2020
year


catch at age
4
3
0.026
2
0.105
0.565
1
0.812
0.016
0.733
0
0.707
0.440
0.081
0.726
Log10 (Index Value)
Log10 (Index Value)
Lower right panels show the Coefficient of Determination (r2)

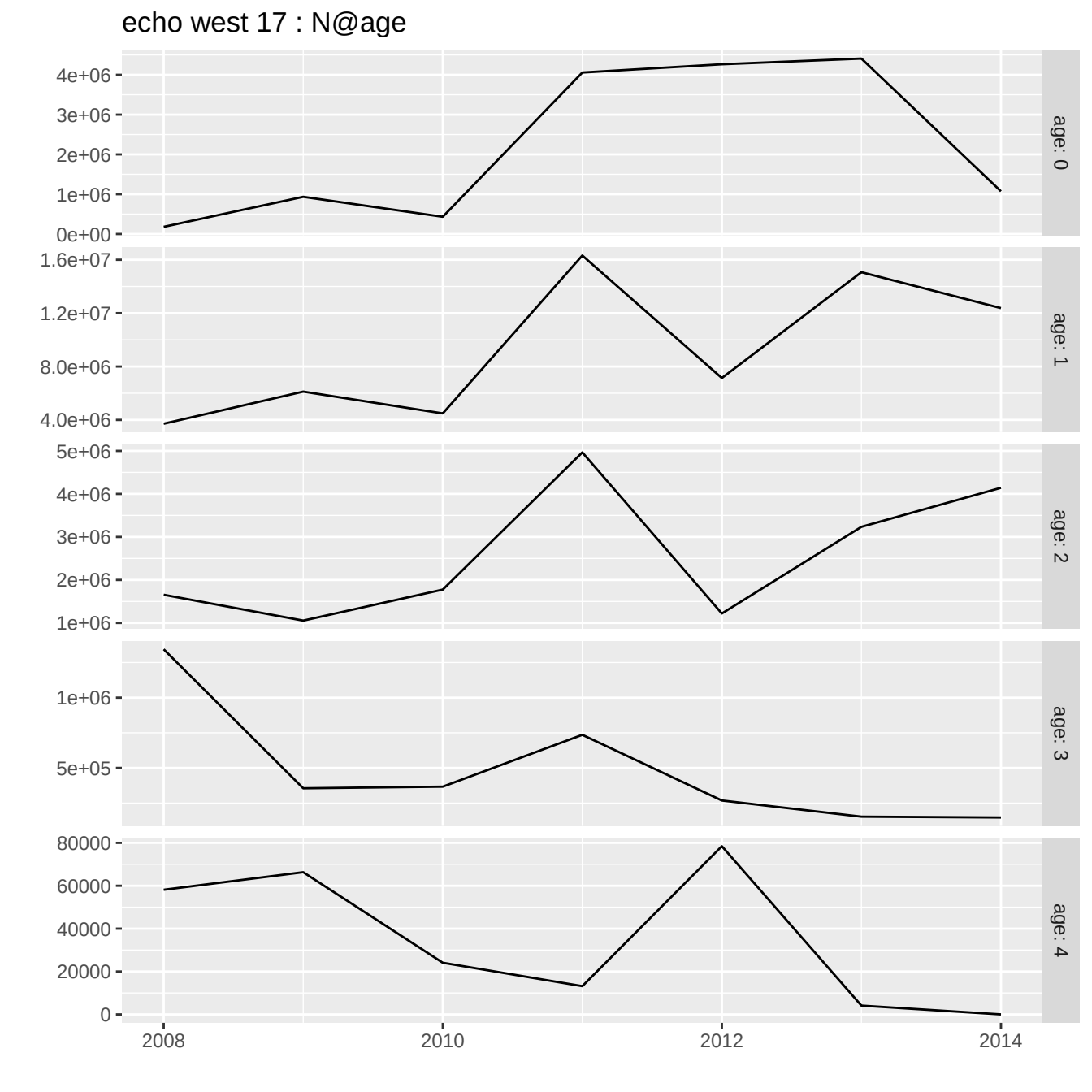
echo west 17

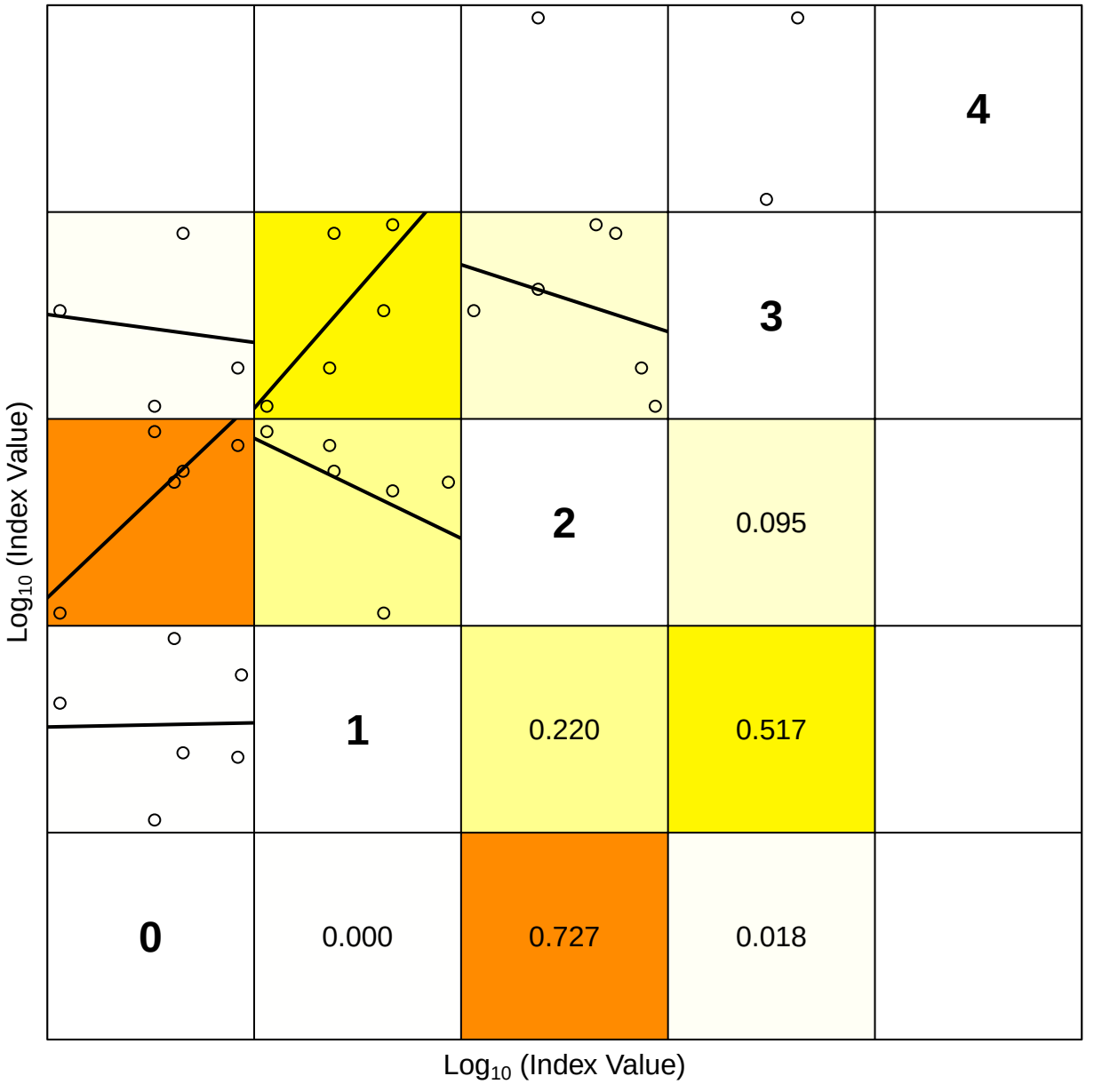


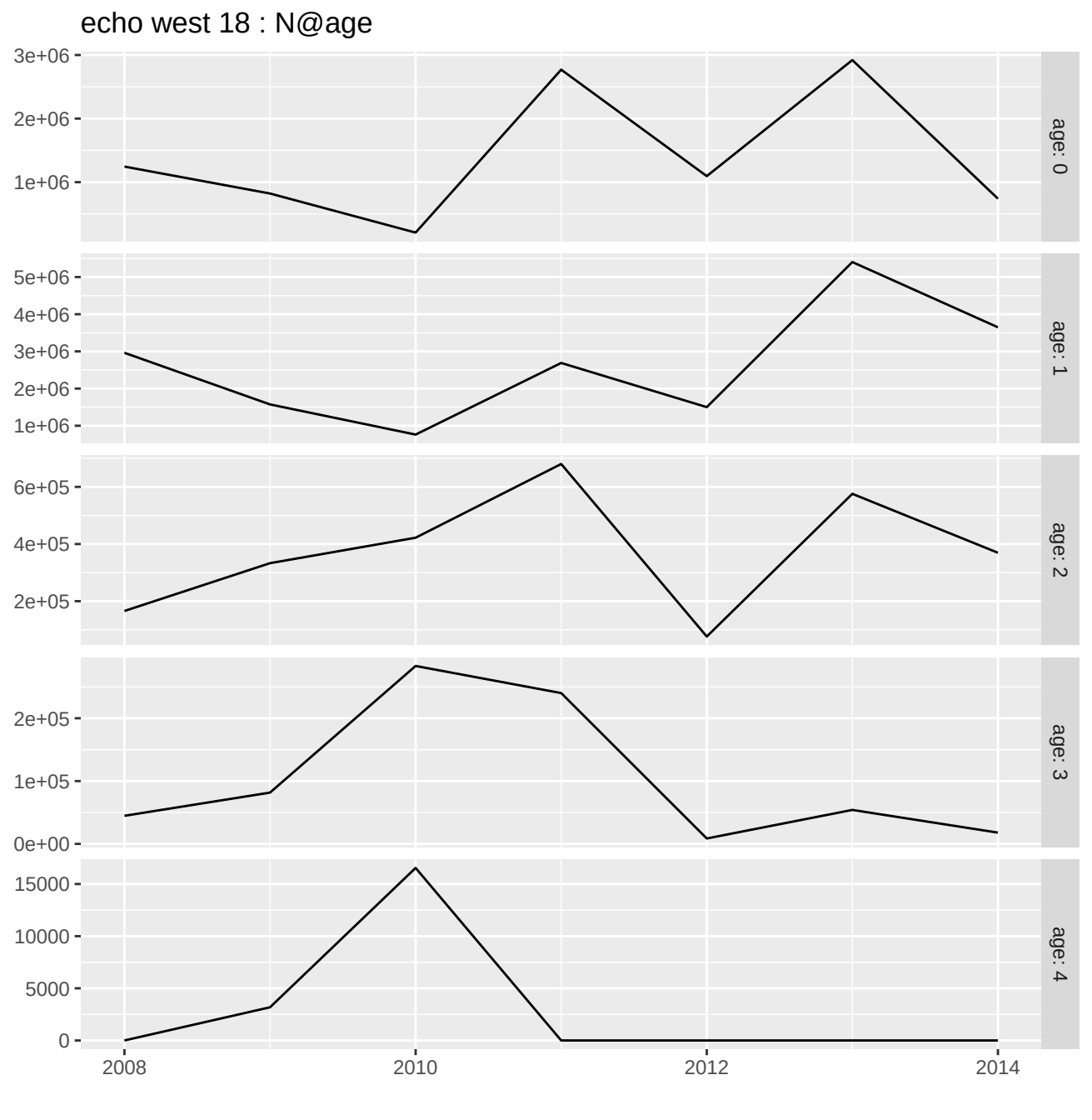
Log_{10} (Index Value)

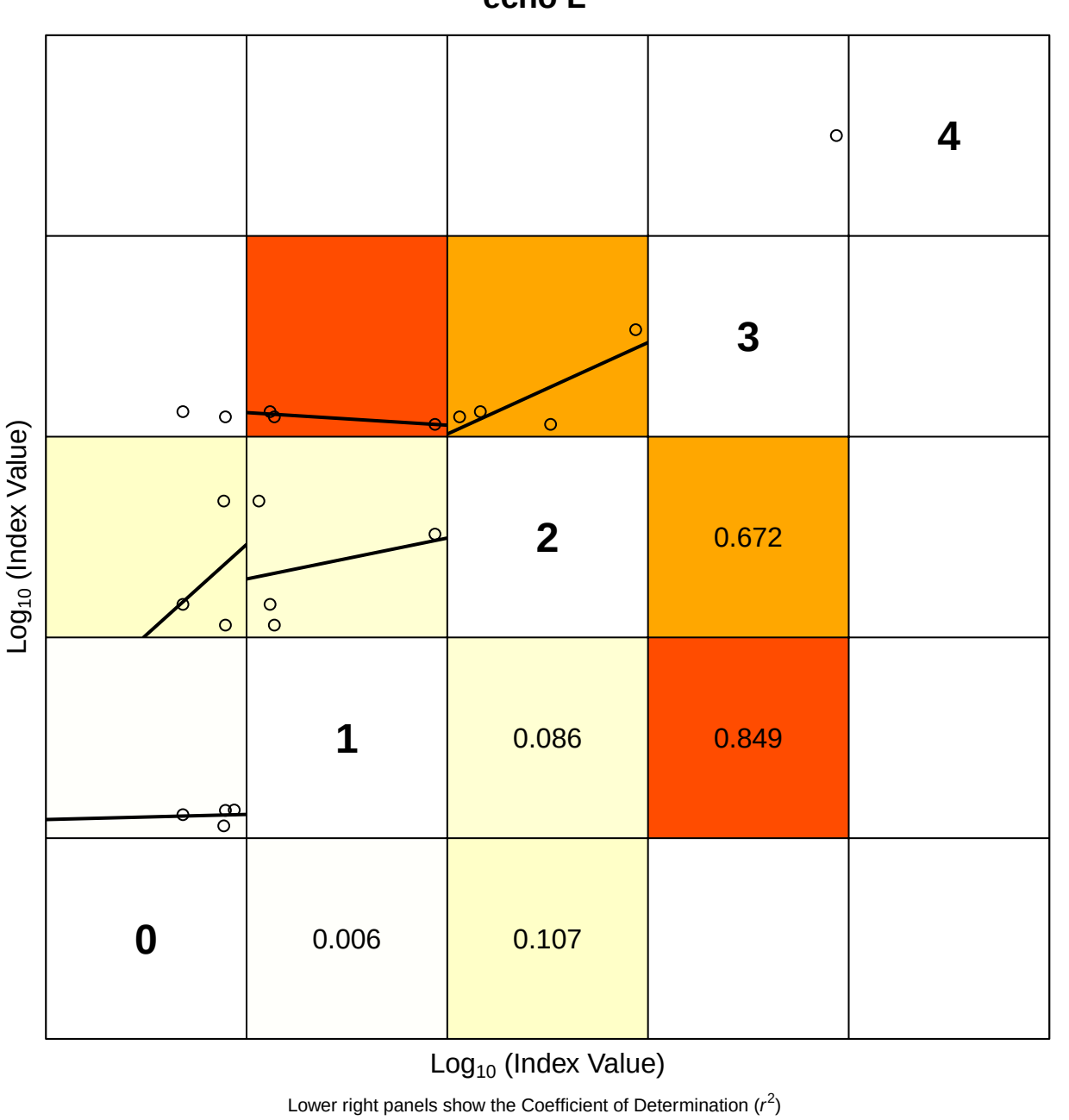
Log_{10} (Index Value)

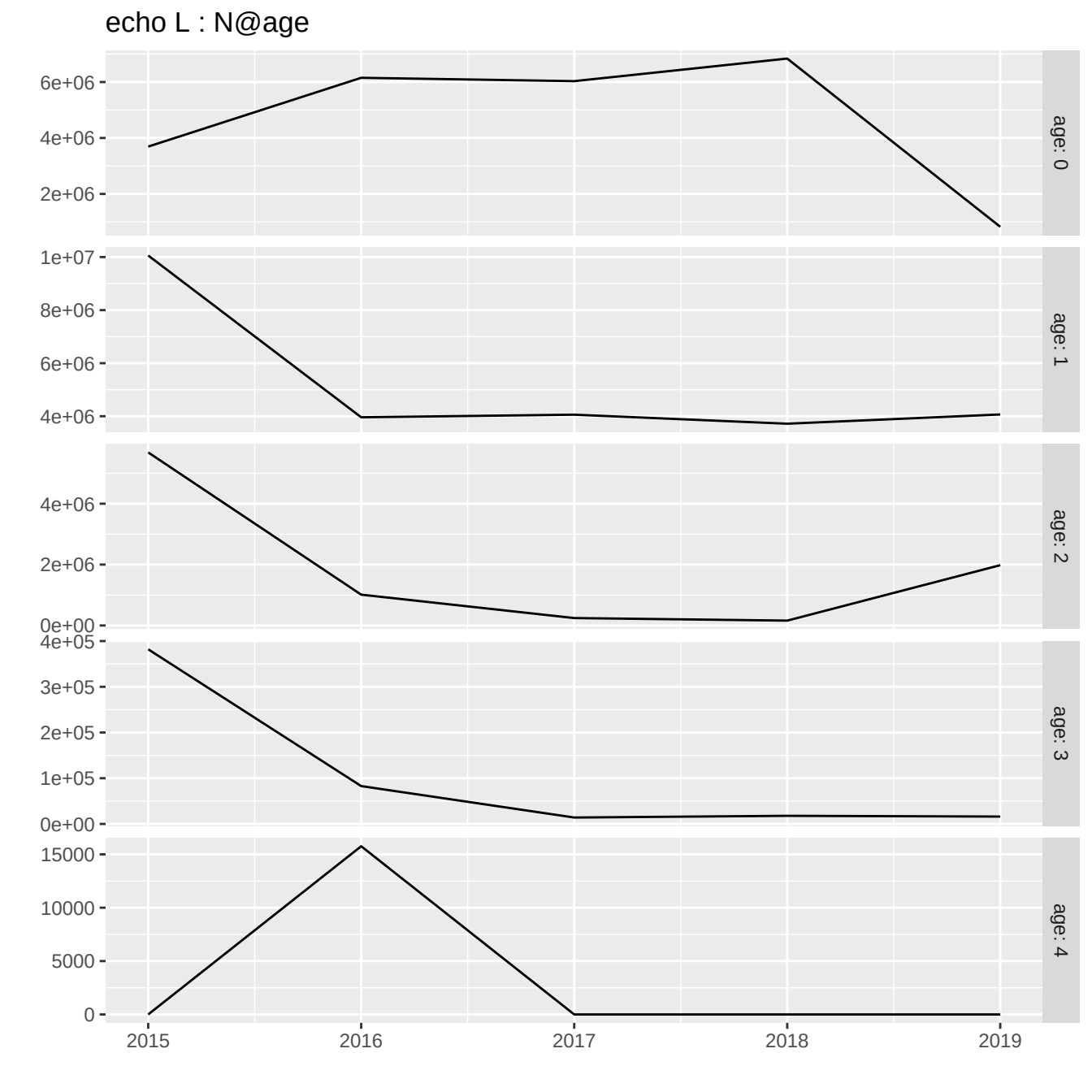
Lower right panels show the Coefficient of Determination (r^2)


echo west 17 : N@age
4e+06
3e+06
2e+06
1e+06
0e+00
age: 0
1.6e+07
1.2e+07
8.0e+06
4.0e+06
age: 1
5e+06
4e+06
3e+06
2e+06
1e+06
age: 2
1e+06
5e+05
age: 3
80000
60000
40000
20000
0
age: 4
2008
2010
2012
2014

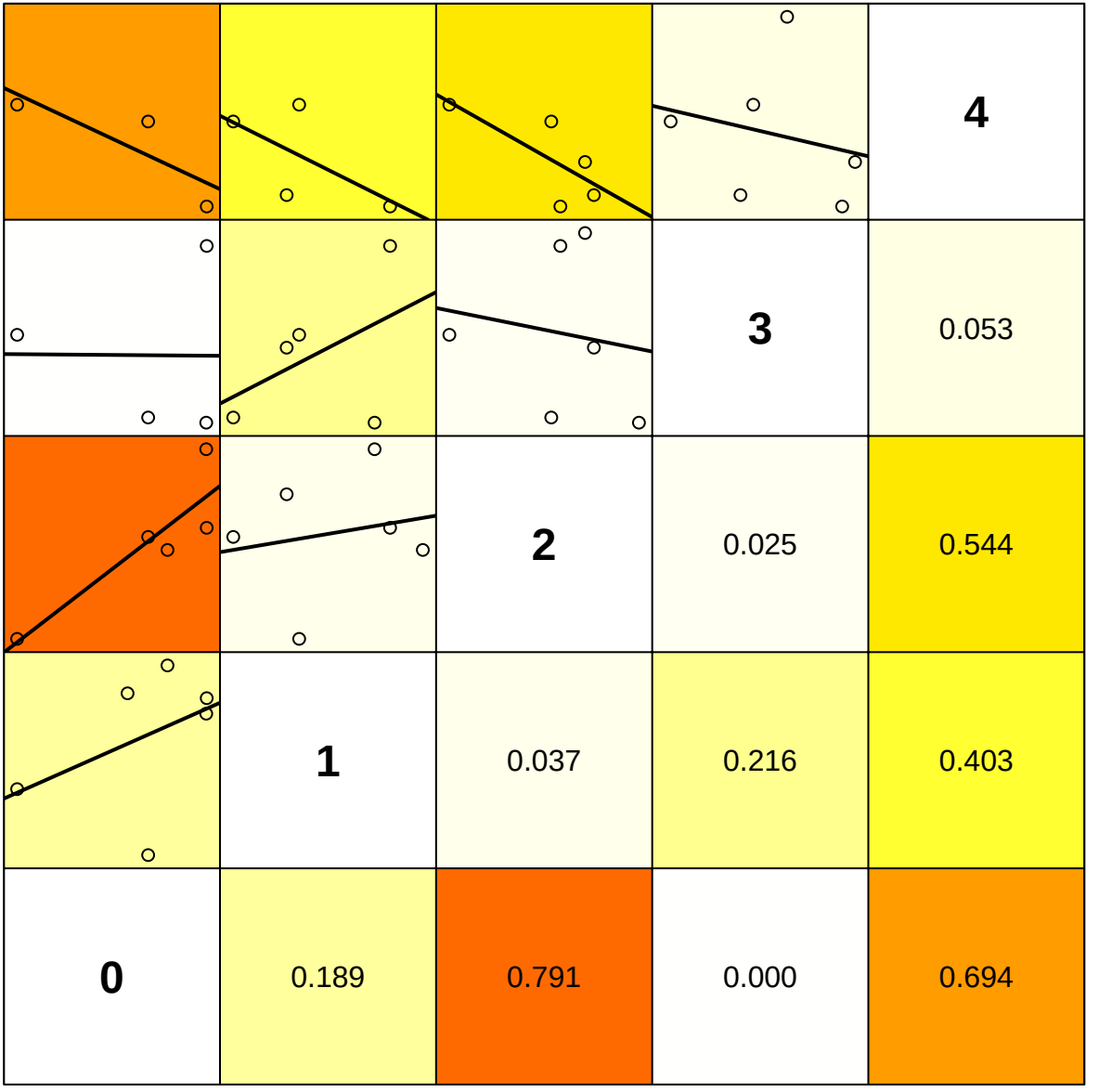

echo west 18
4
3
2
0.095
1
0.220
0.517
0
0.000
0.727
0.018
Log10 (Index Value)
Log10 (Index Value)
Lower right panels show the Coefficient of Determination (r2)


echo west 18 : N@age
3e+06
2e+06
1e+06
age: 0
5e+06
4e+06
3e+06
2e+06
1e+06
age: 1
6e+05
4e+05
2e+05
age: 2
2e+05
1e+05
0e+00
age: 3
15000
10000
5000
0
age: 4
2008
2010
2012
2014


echo L
4
3
2
0.672
1
0.086
0.849
0
0.006
0.107
Log10 (Index Value)
Log10 (Index Value)
Lower right panels show the Coefficient of Determination (r2)


echo L : N@age
6e+06
4e+06
2e+06
age: 0
1e+07
8e+06
6e+06
4e+06
age: 1
4e+06
2e+06
0e+00
age: 2
4e+05
3e+05
2e+05
1e+05
0e+00
age: 3
15000
10000
5000
0
age: 4
2015
2016
2017
2018
2019

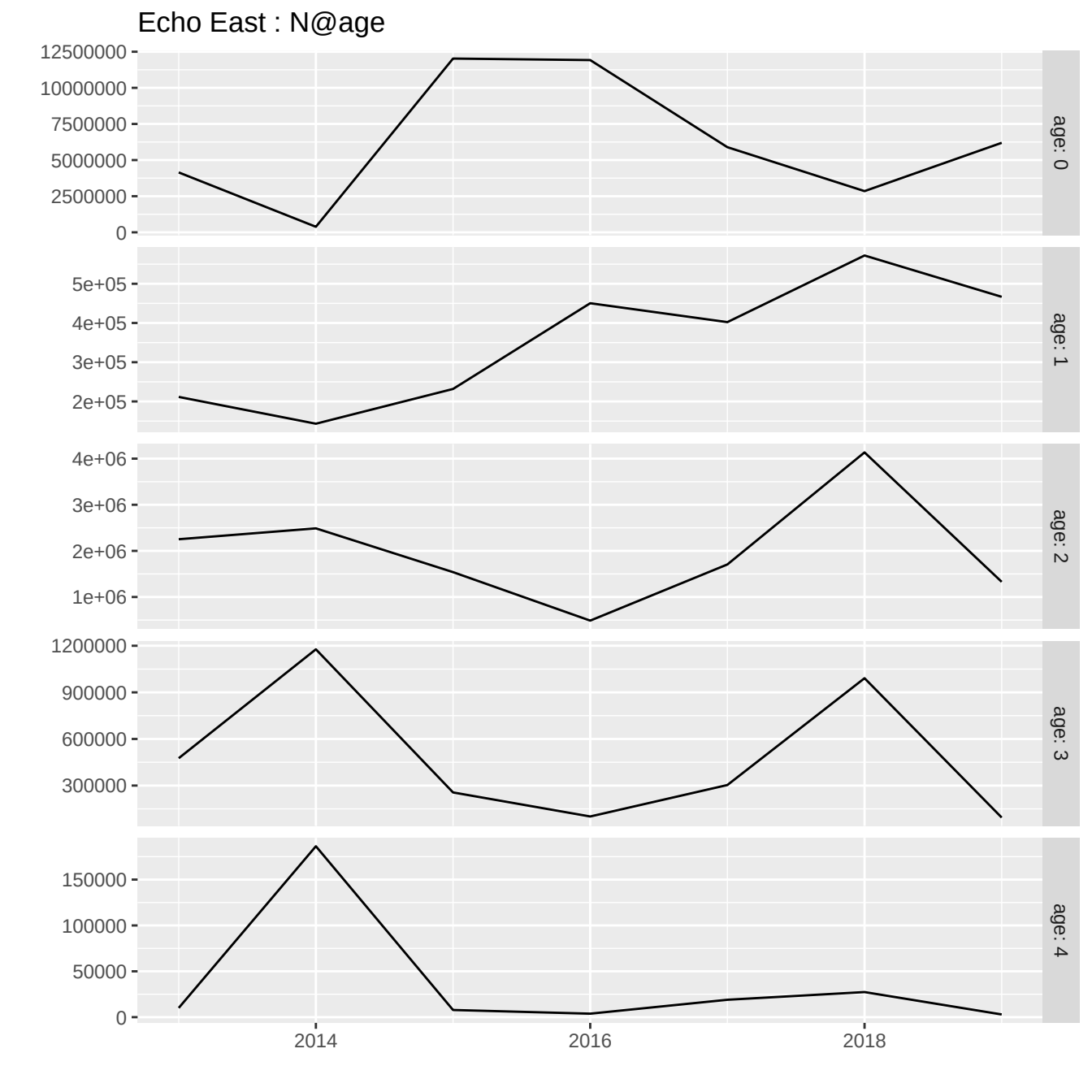
Echo East

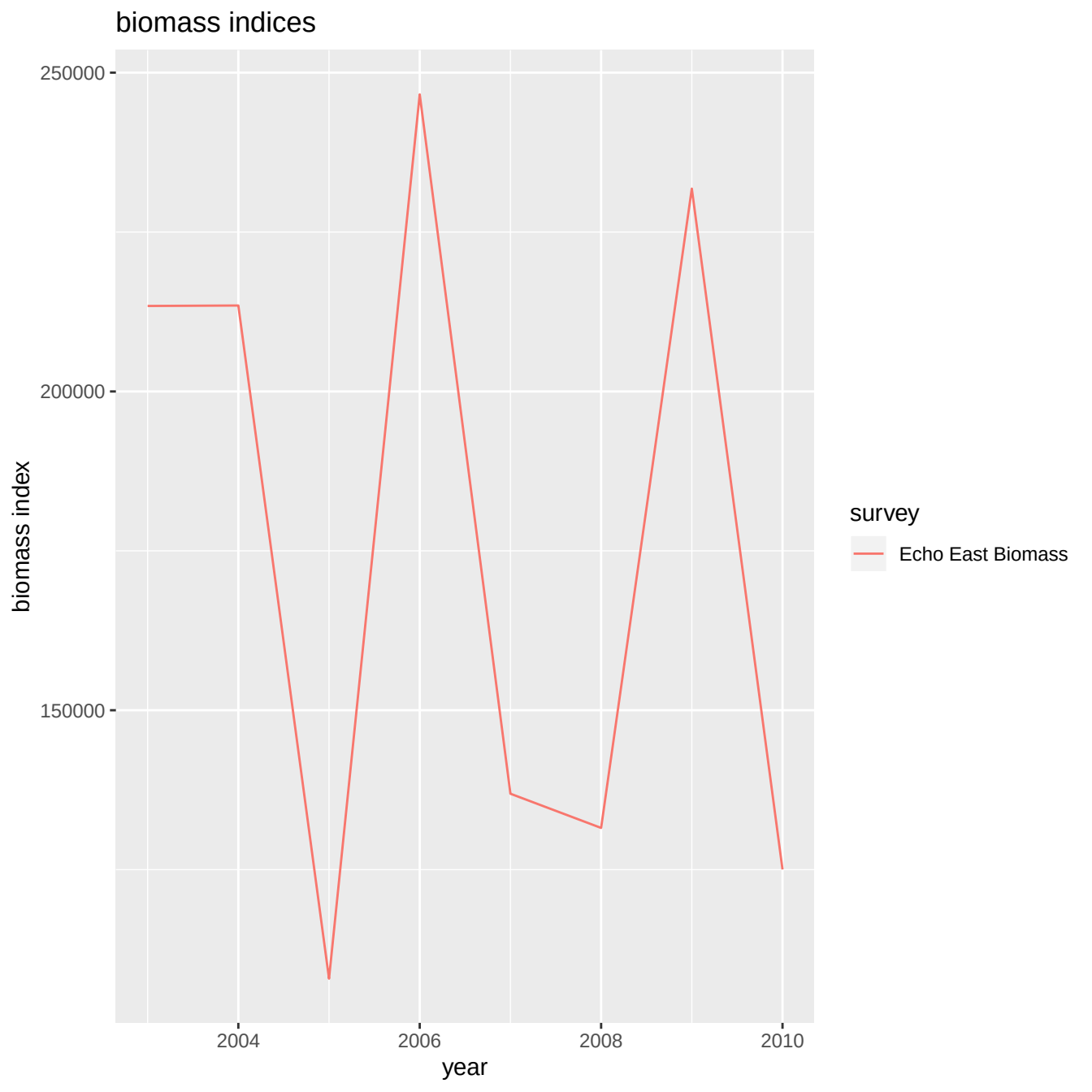


Log_{10} (Index Value)

Log_{10} (Index Value)

Lower right panels show the Coefficient of Determination (r^2)


Echo East : N@age
12500000
10000000
7500000
5000000
2500000
0
age: 0
5e+05
4e+05
3e+05
2e+05
age: 1
4e+06
3e+06
2e+06
1e+06
age: 2
1200000
900000
600000
300000
age: 3
150000
100000
50000
0
age: 4
2014
2016
2018


biomass indices
250000
200000
150000
biomass index
2004
2006
2008
2010
year
survey
Echo East Biomass