

Hindcast Case Studies

Tropical Tunas: Indian Ocean Yellowfin

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Retrospective

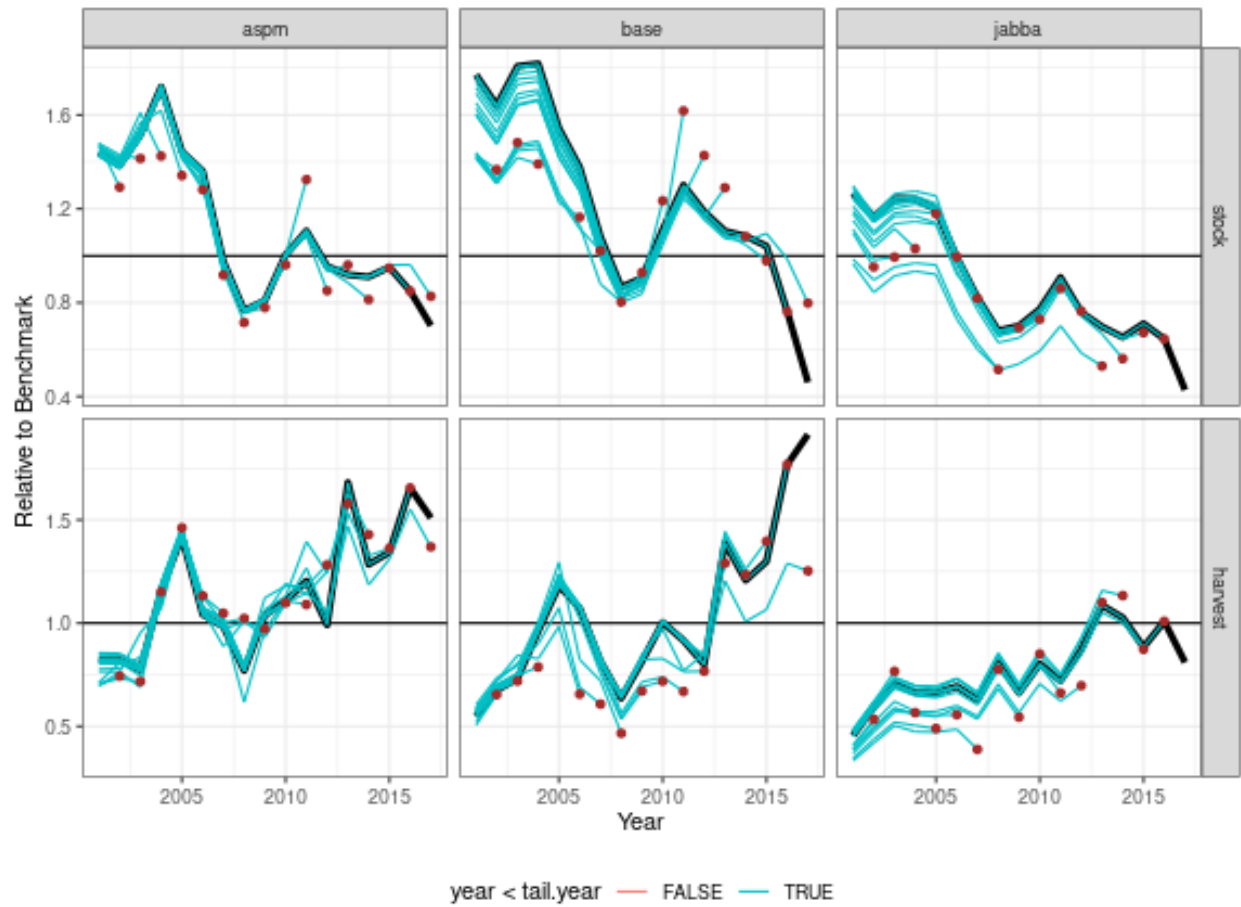


Figure 1 Retrospective analyses.

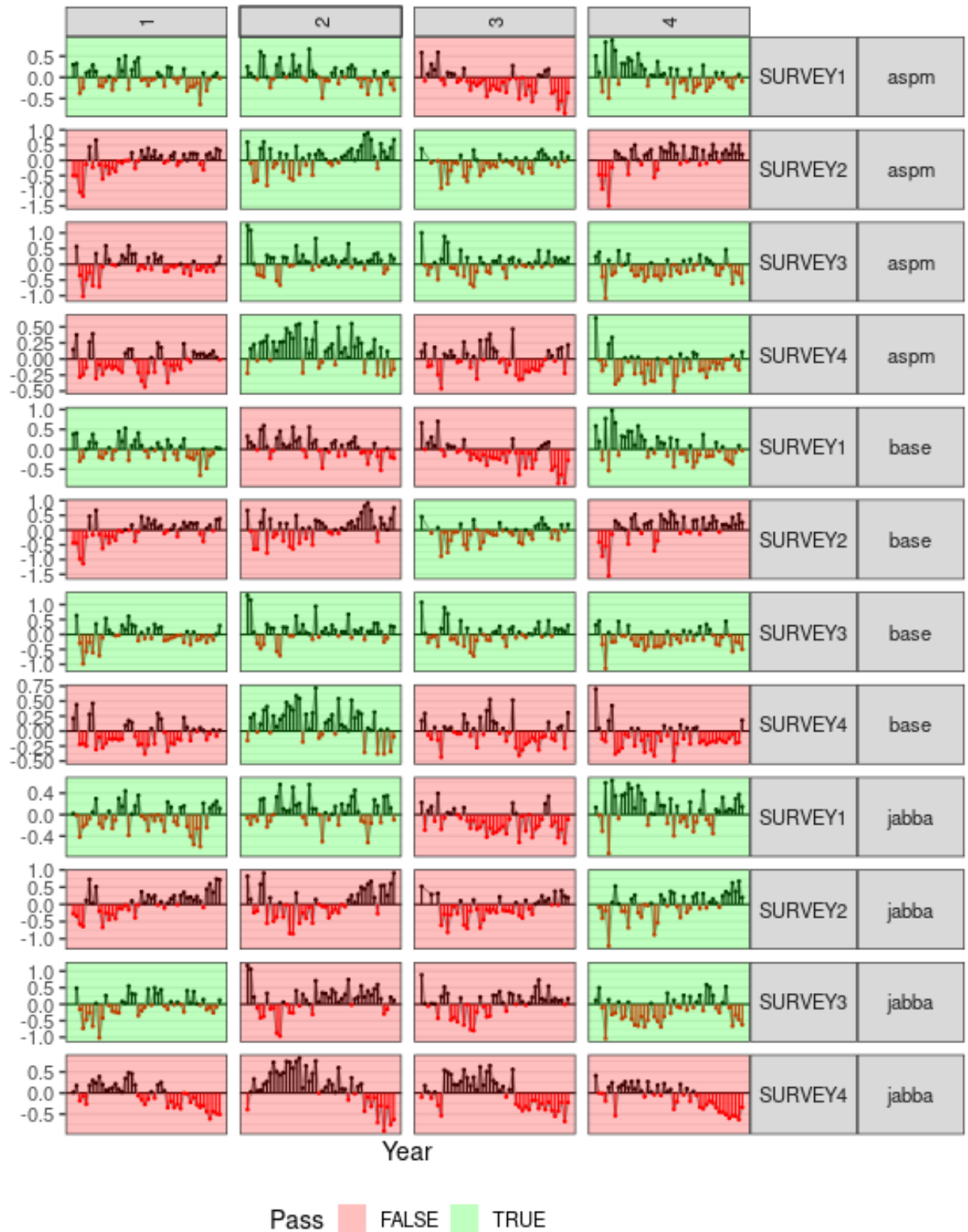


Figure 2 Retrospective analyses (cyan) with 3 year projections (pink); the thick black line is the assessed estimates, the brown points the terminal years and blue points are the 3 step ahead projections.

CPUE

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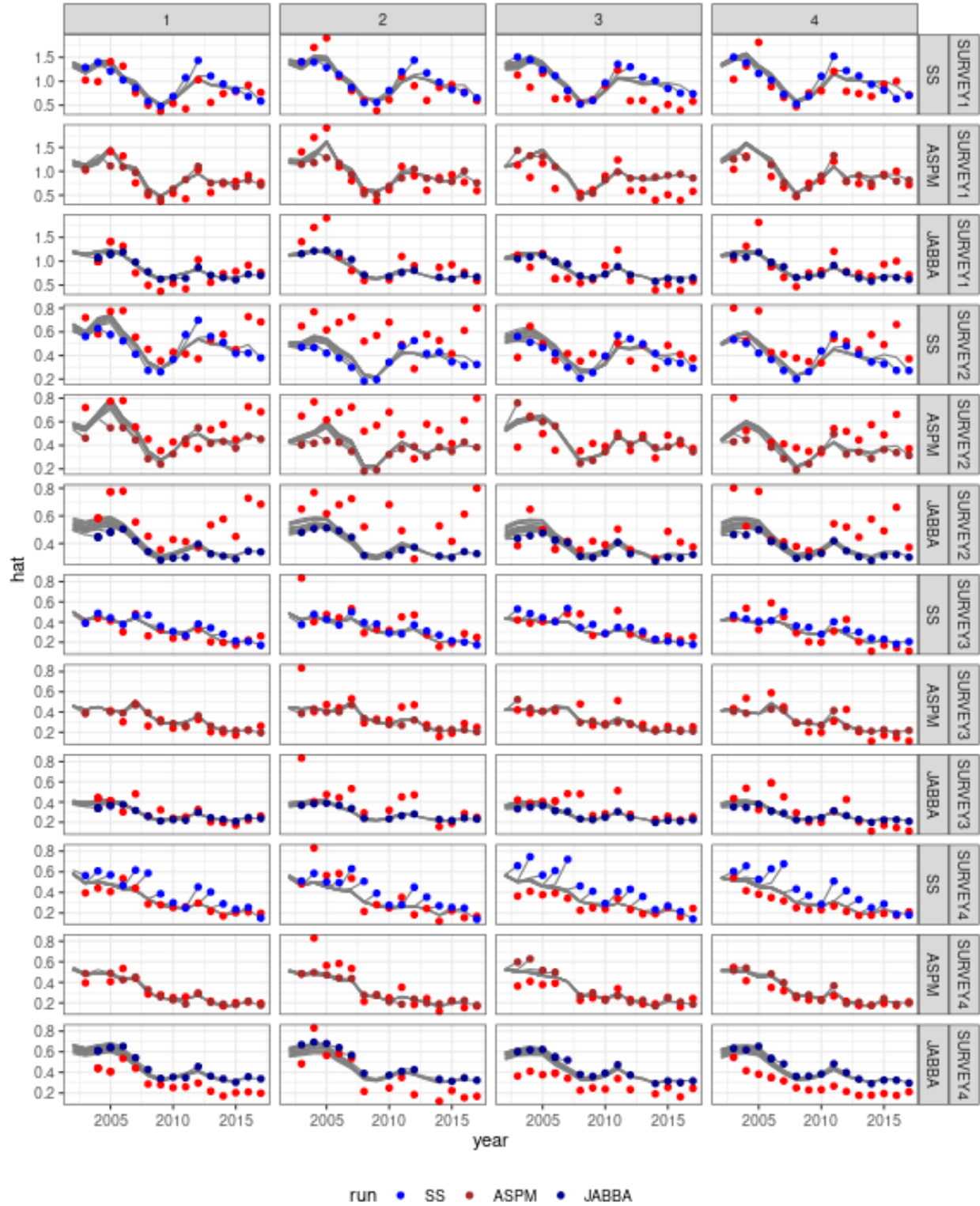


Figure 3 JABBA: Time series of CPUE indices for hindcast by **quarter**, **year** and **series**, observations (red) and estimates from hindcast (blue).

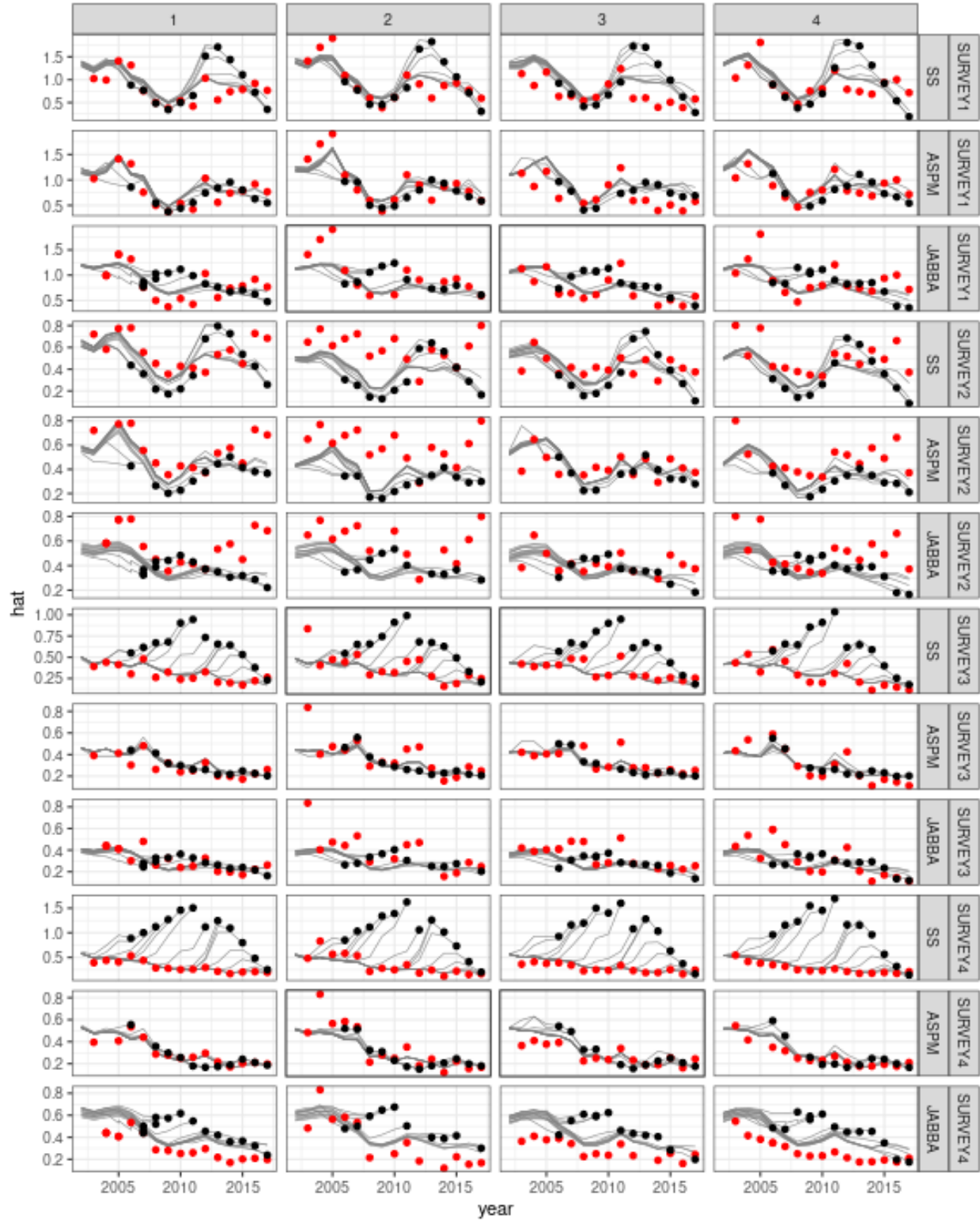


Figure 4 JABBA: Time series of CPUE indices with 3 steps ahead for hindcast by **quarter**, **year** and **series**, observations (red) and estimates from hindcast (blue).

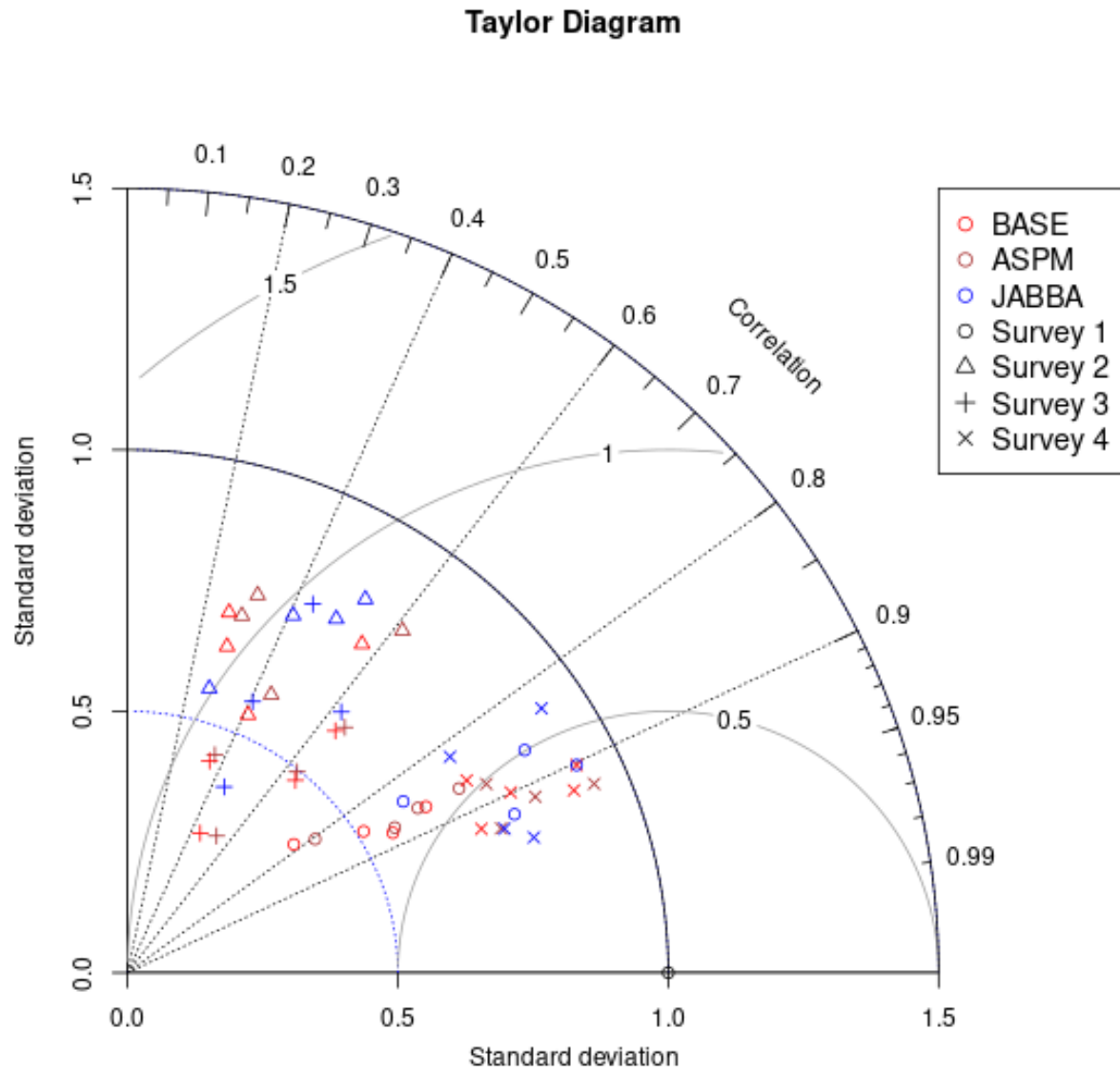


Figure 5 CPUE model fits.

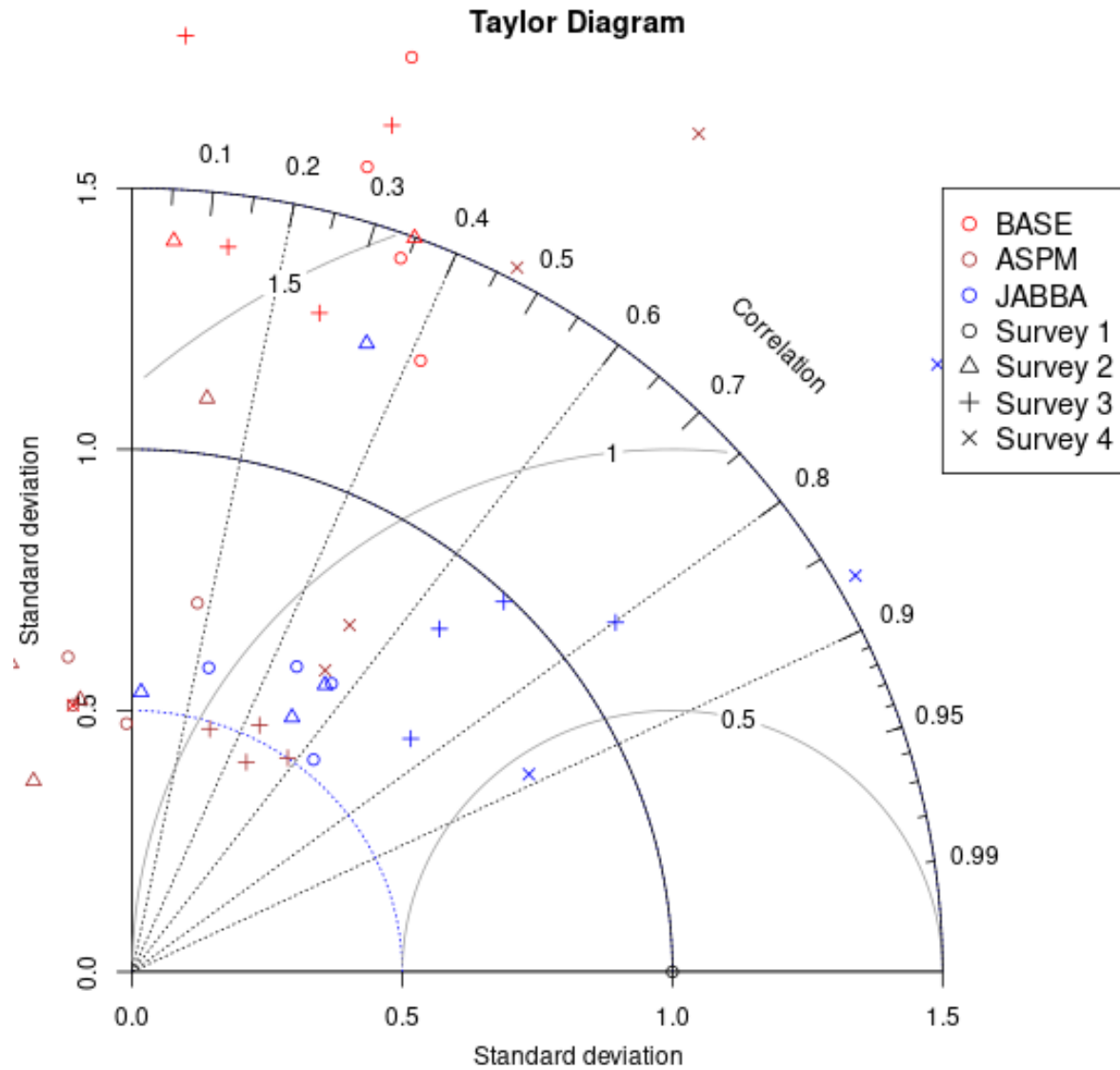


Figure 6 Three step ahead fits.



Figure 7 Residuals for SS scenarios by year, red background indicates unusually long runs or unusually few crossings.

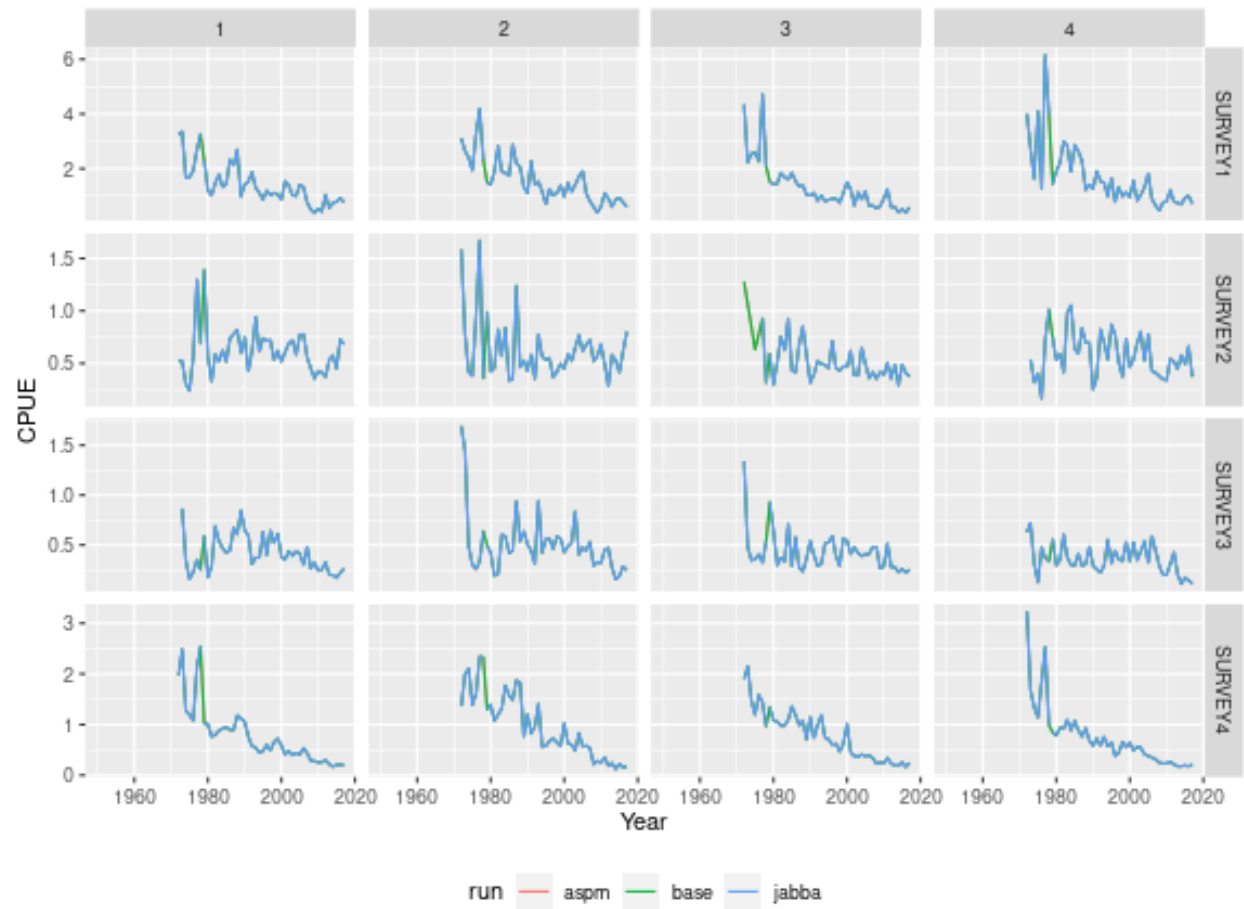


Figure 8 CPUEs as used by the three models.

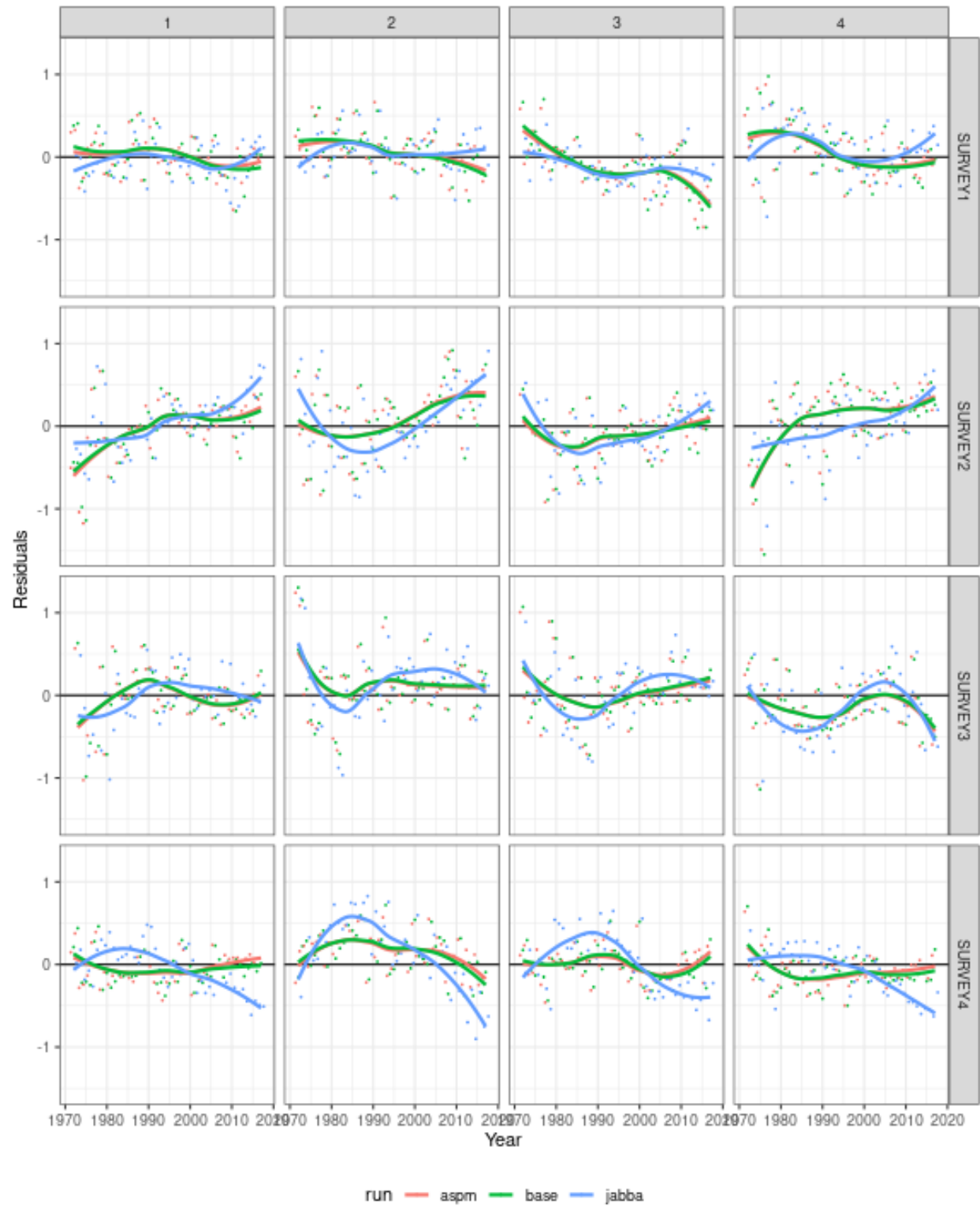


Figure 9 Residuals.

RMSE

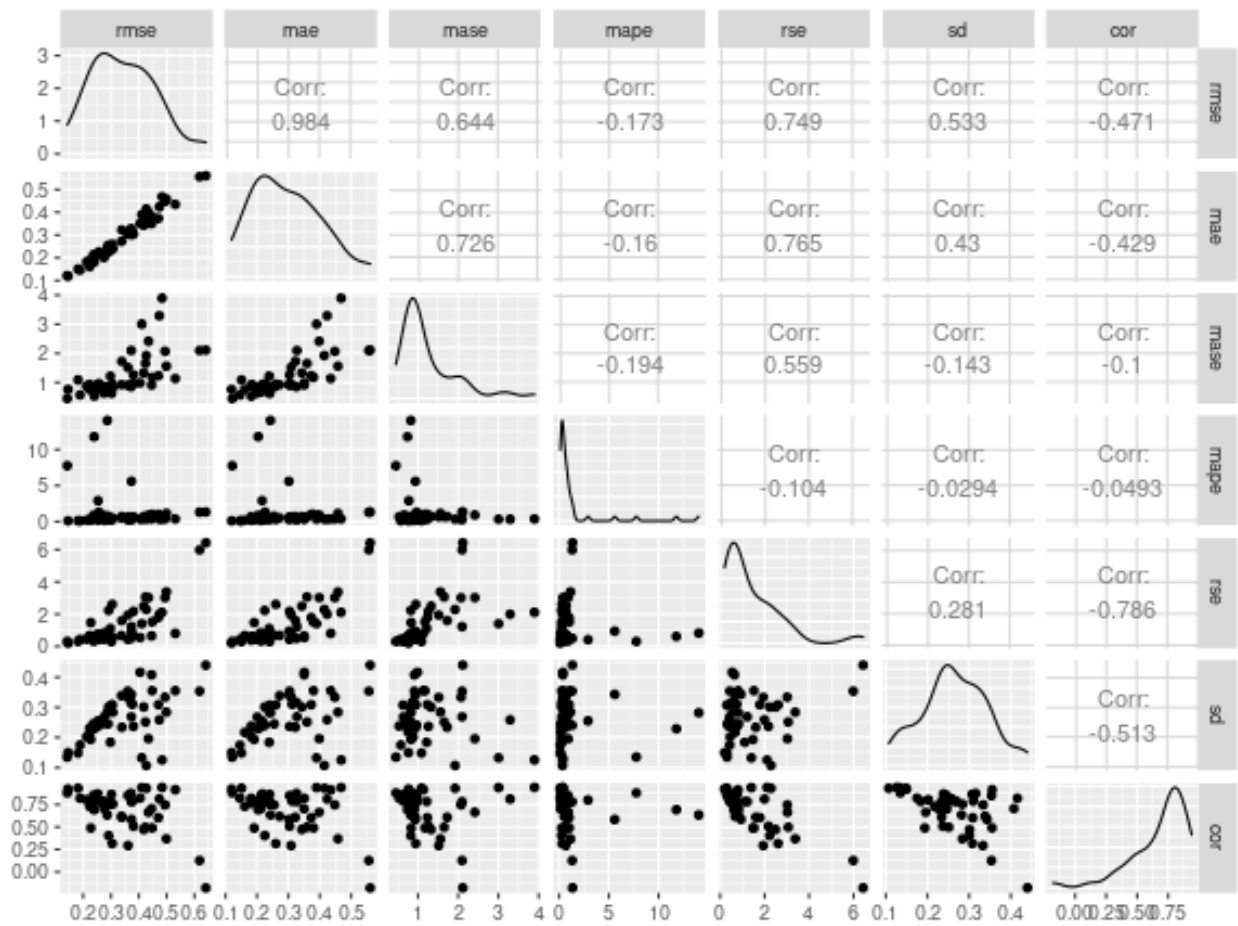


Figure 10 Metrics.

, , run = aspm

	quarter			
name	1	2	3	4
SURVEY1	0.240	0.237	0.448	0.143
SURVEY2	0.339	0.618	0.291	0.424
SURVEY3	0.189	0.307	0.224	0.361
SURVEY4	0.146	0.302	0.252	0.182

, , run = base

	quarter			
name	1	2	3	4
SURVEY1	0.373	0.275	0.470	0.287
SURVEY2	0.361	0.641	0.305	0.418
SURVEY3	0.276	0.338	0.224	0.372
SURVEY4	0.373	0.446	0.494	0.474

, , run = flabba

	quarter
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name	1	2	3	4
SURVEY1	0.254	0.257	0.290	0.240
SURVEY2	0.435	0.499	0.228	0.381
SURVEY3	0.213	0.377	0.298	0.405
SURVEY4	0.411	0.531	0.427	0.483

MASE

, , run = aspm

	quarter			
name	1	2	3	4
SURVEY1	0.531	0.673	1.173	0.451
SURVEY2	1.726	2.097	0.822	1.651
SURVEY3	0.574	0.813	0.762	0.911
SURVEY4	0.764	0.626	0.932	1.087

, , run = base

	quarter			
name	1	2	3	4
SURVEY1	0.937	0.633	1.234	0.822
SURVEY2	1.515	2.112	0.945	1.327
SURVEY3	0.860	0.925	0.933	0.855
SURVEY4	2.096	0.912	2.070	3.290

, , run = flabba

	quarter			
name	1	2	3	4
SURVEY1	0.773	0.961	0.850	0.739
SURVEY2	2.415	1.558	0.831	1.260
SURVEY3	0.879	0.921	1.216	0.986
SURVEY4	3.004	1.136	1.922	3.896