

MSE Demonstration

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iotc ctoi

SIMULATION STEPS by year

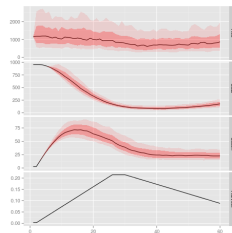
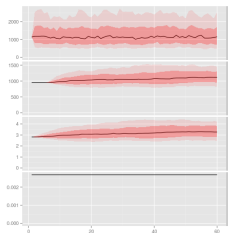
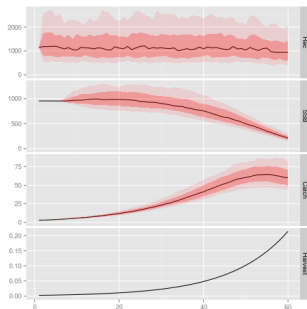


1. Get catch $y-1$
2. $CPUE = SSB + E()$
3. $\text{lm}(cpue \sim \text{year})$ for last 5 years
4. $C_y = C_{y+1} * (1 + BETA * \text{slope})$
5. Project stock w/ $C_y + SR$

Done for each iteration, HCR and OM option

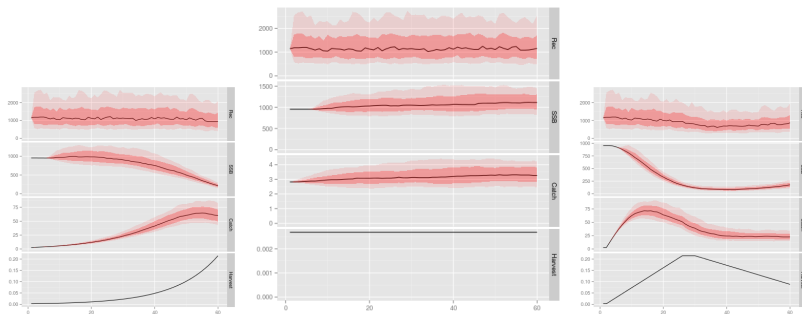
SCENARIOS

- ▶ OMs: Simulated populations w/ tuna LH
 - ▶ ow: One-way trip, F up to $0.80 \cdot F_{\text{crash}}$
 - ▶ ed: Effort dynamics, F to drive stock to MSY
 - ▶ rc: Roller coaster, F up and then down



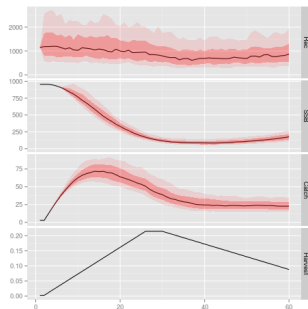
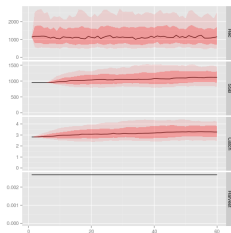
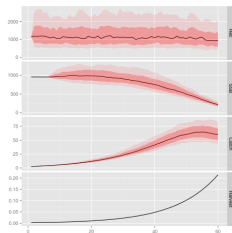
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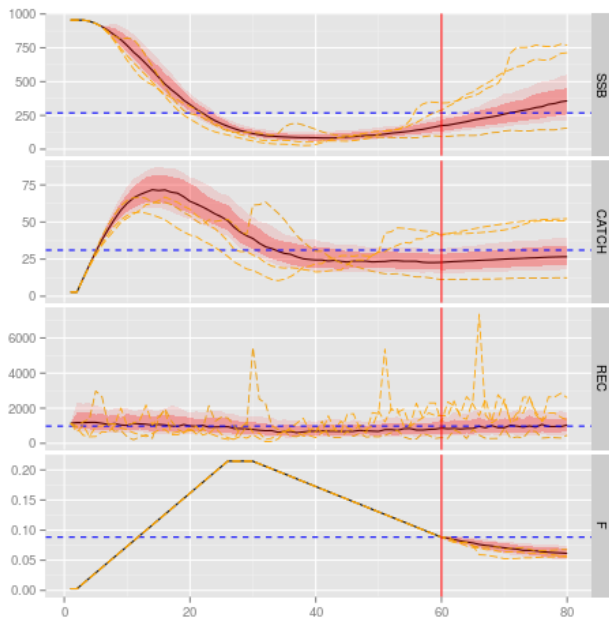
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- ▶ Recruitment residuals: 10, 20 or 40 years
- ▶ Beta parameter in HCR: 0.1, 0.2, 0.4
- ▶ Noise in CPUE signal: 0, 10, 20 SD in $\text{Norm}()$

> $3 \cdot 3 \cdot 3 \cdot 3 = 81$



<http://spark.rstudio.com/imosqueira/IOTCMSE/>