

# Using SS3 as a basis for Indian Ocean Albacore operating model: progress and problems



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## WPM MSE WK1 @JRC

- 16-19 April 2013
- EC JRC, Ispra, Italy
- 7 Participants
- <https://github.com/iotcwpm/ALB>

## WPM MSE WK1 @JRC

- PRODUCED initial SS3 OM (Grid 1)
- RUN 729 SS3 runs
- REFINED grid (Grid 2)
- SETUP Code sharing site @github.com

## ALB SS3 OM

- IOTC WPT<sub>m</sub>T SS3 SA
  - Single area
  - 3 fleets
  - TWN LL CPUE

## ALB OM Grid

- **M:** 0.2, 0.3, 0.4
- **sigmaR:** 0.2, 0.4, 0.6
- **h:** 0.65, 0.8, 0.95
- **CV(CPUE):** 0.1, 0.2, 0.3
- **ESS:** 10, 20
- **TWN LL Q:** 1.0000, 1.0025
- **TWN LL select:** Logarithmic, DoubleNormal
- 648 SS3 runs

## RUNS 478 & 479

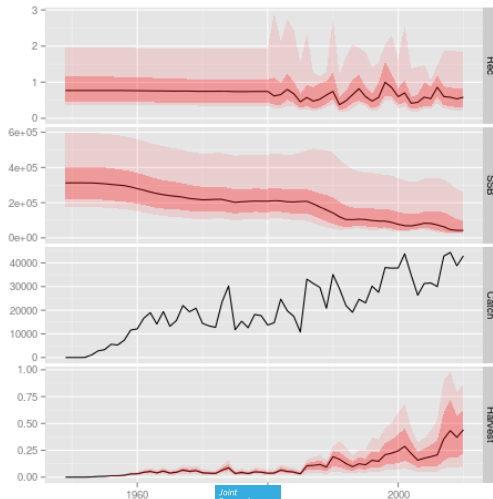
- $\sigma_R=0.2$ ,  $h=0.95$ ,  $CV(CPUE)=0.3$
- $ESS=20$ ,  $Q=1$ ,  $Sel=DoubleNormal$

	M	SSB	F	Lkhd
<b>478</b>	0.2	460763	0.3673	3496
<b>479</b>	0.3	48982000	0.002367	3515

$SSB \leq 2.5 * \text{median}(SSB)$

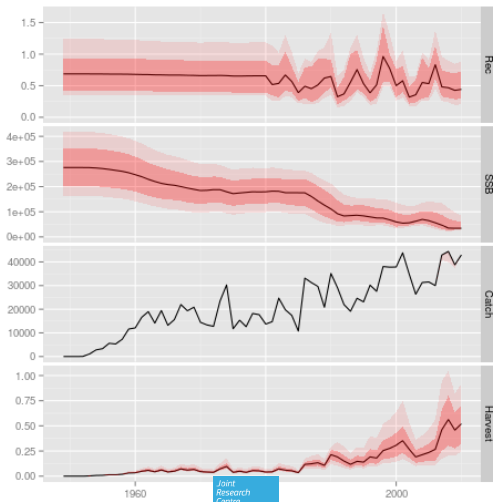
- `del if ssb[2010] >= 2.5 median(ssb[2010])`
- 142 of 648

## ALB SS3 OM





**ALB SS3 OM SSB  $\leq 2.5 * \text{median}(\text{SSB})$**



## SIMPLE ALB MP

- Targets
  - $SSB = SSB@MSY$
  - $F = F@MSY$
- Limits
  - $SSBLim: 0.4 * SSB@MSY$
  - $FLim: 1.4 * F@MSY$
- Model-based HCR
  - Biomass dynamics
  - $F = F(SSB+3=SSB@MSY)$  if
    - $SSB < 0.90 * SSB@MSY \mid F > 1.10 * SSB@MSY$
  - $F \rightarrow C$
  - $E(C)$
- Risks
  - $P(SSB < SSBLim) < 10\%$
  - $P(F > FLim) < 10\%$

## IOTC Resolution 13/10

- GREEN: maintain the stocks in a *high probability* within this quadrant
- ORANGE: aim at ending overfishing with a *high probability* in *as short a period as possible*;
- YELLOW: aim at rebuilding these stocks in *as short a period as possible*;
- RED: end overfishing with a *high probability* and at rebuilding the biomass of these stocks in *as short a period as possible*.