Comisión Interamericana del Atún Tropical
Inter-American Tropical Tuna Commission

REVIEW OF ISSUES WITH THE LONGLINE-DERIVED INDEX OF ABUNDANCE FOR YELLOWFIN TUNA

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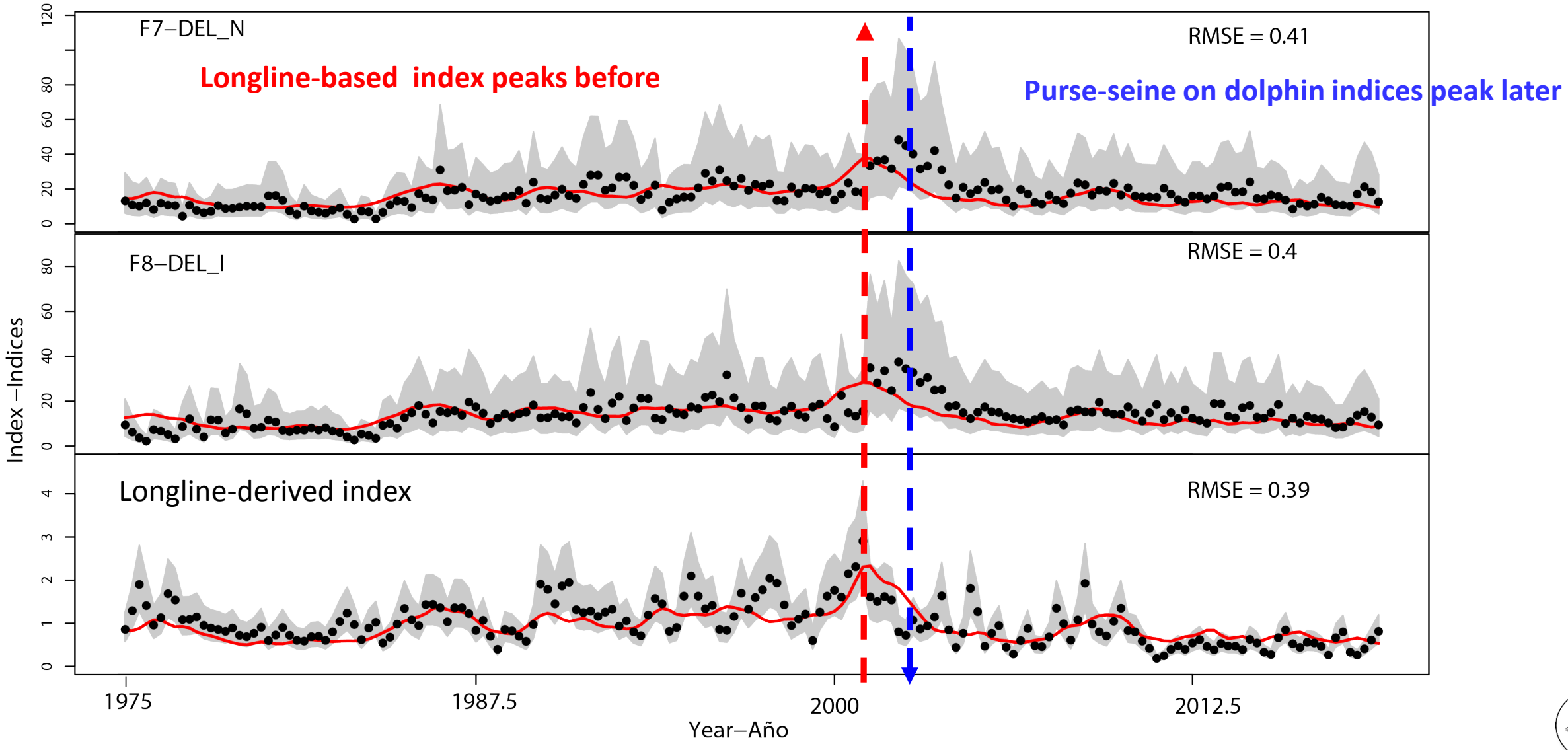
Background

- Data from Japan
- Standardization
- Main index of abundance
- Issues highlighted with the 2018 BET assessment
- YFT assessment was thought robust
- Five indices of abundance and length composition data
- In 2019 assessment results driven by the longline-derived index of abundance
- Longline workshop – many lessons learnt

Issue 1: inconsistencies among indices



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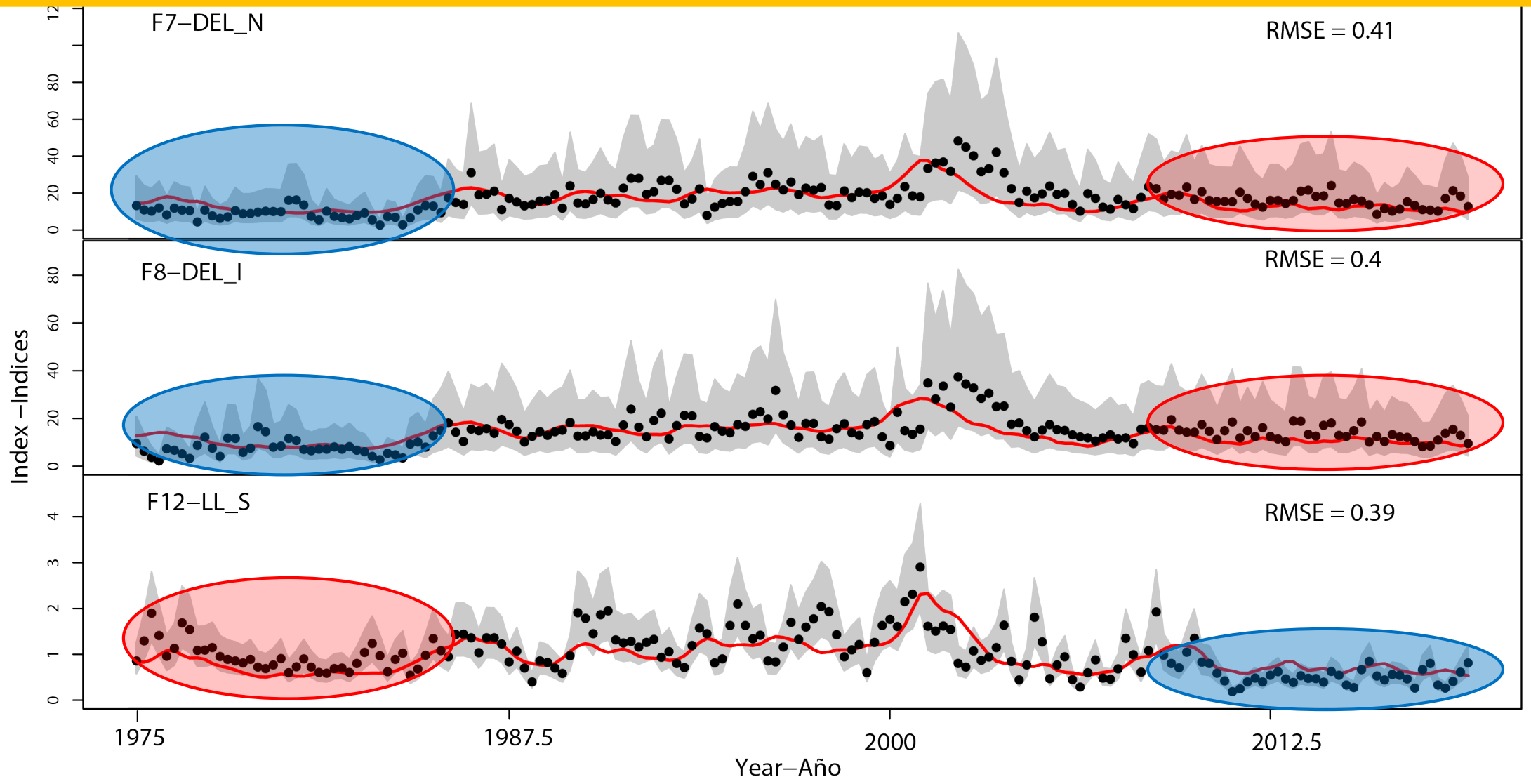
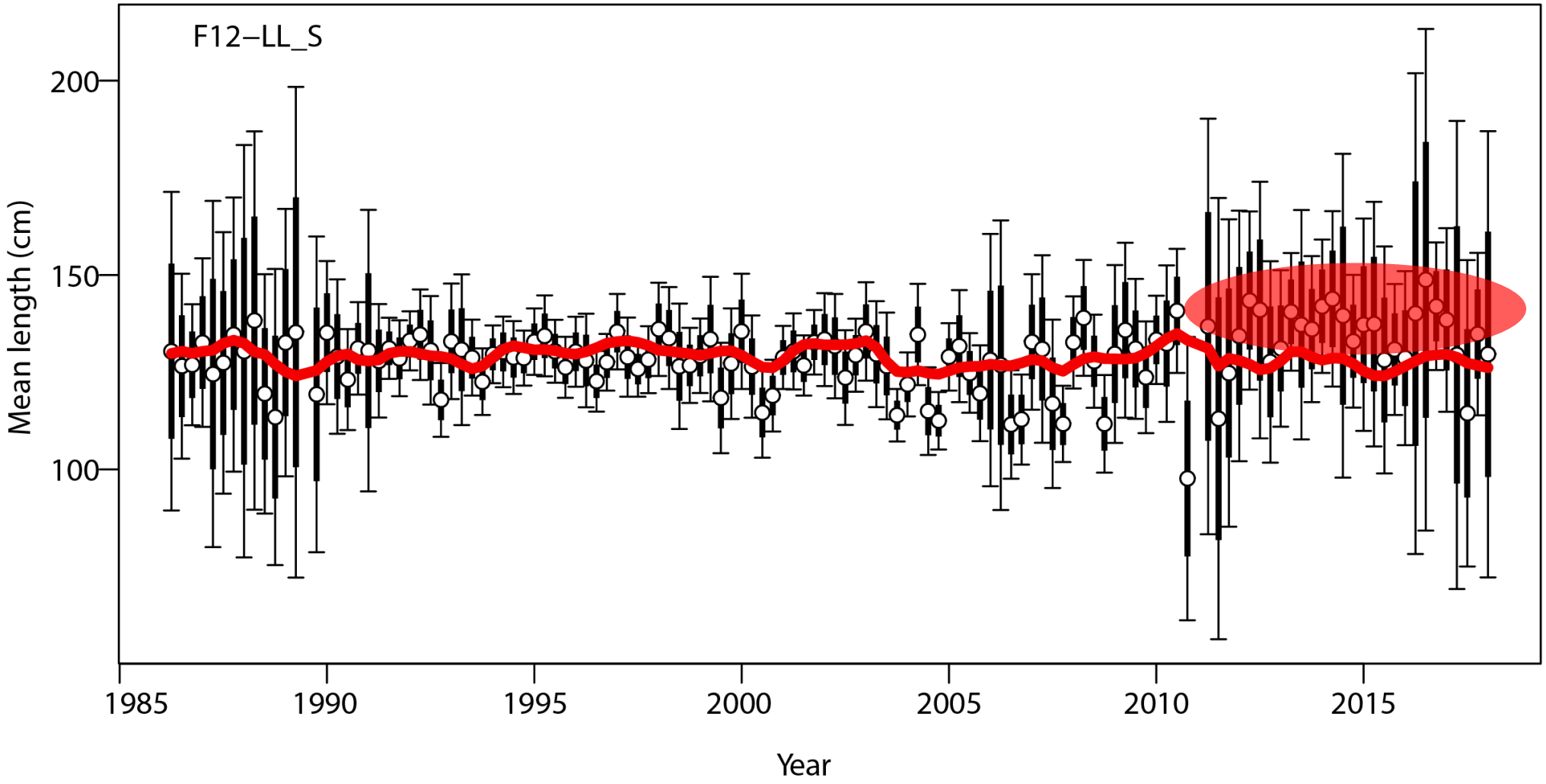
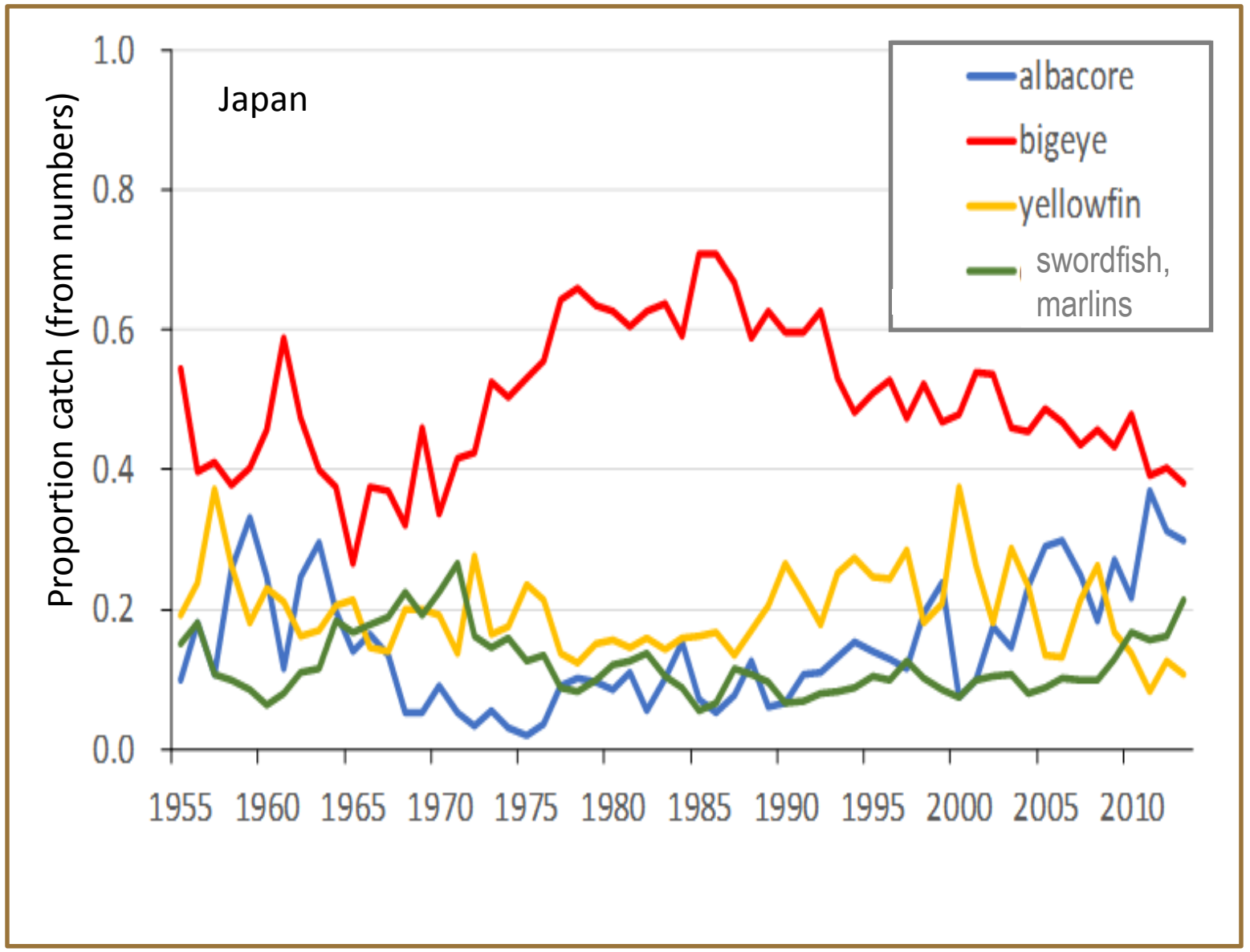


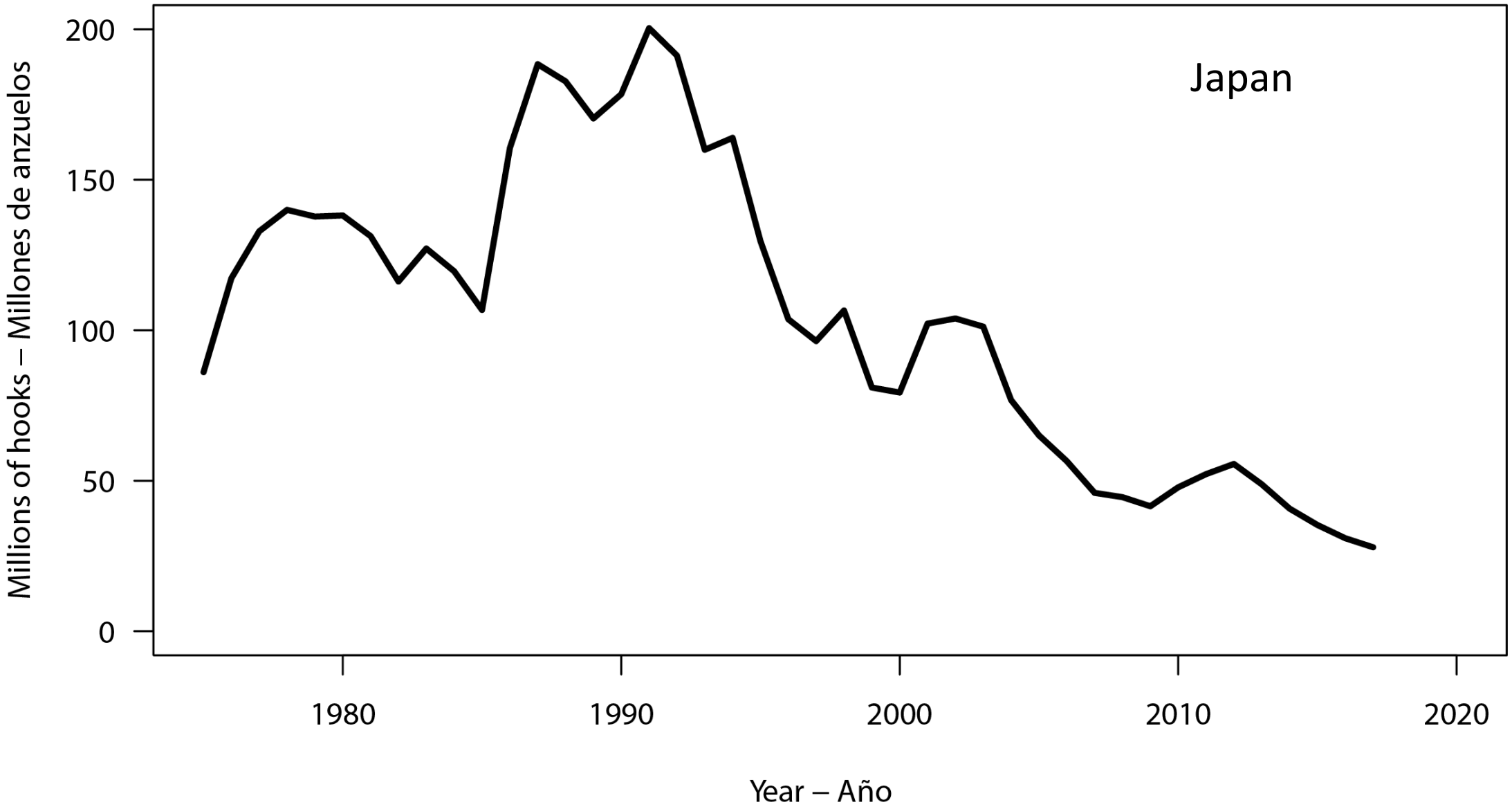
Issue 2: Change in longline length composition



Issue 3: potential change in target

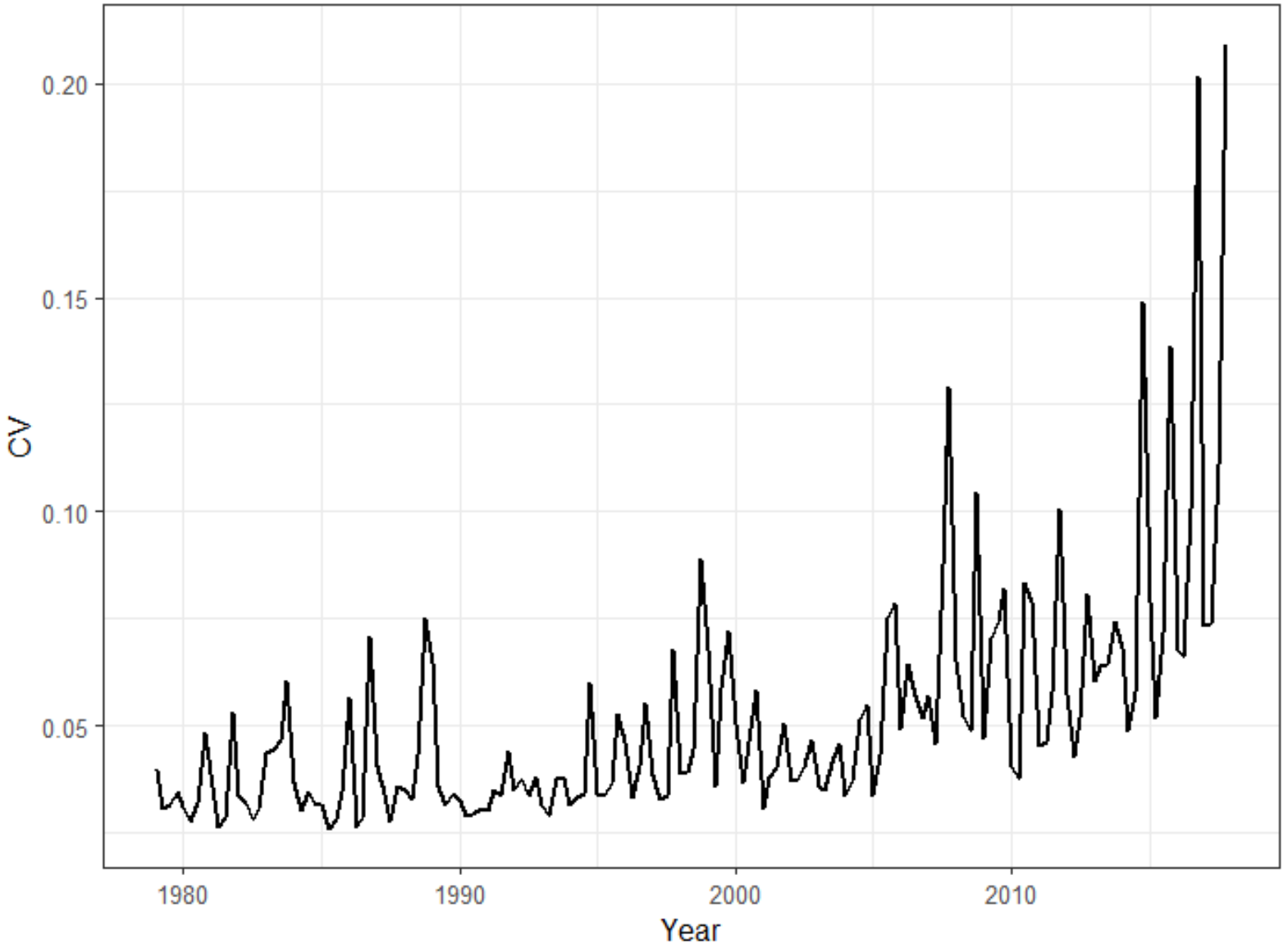


Issue 4: Decrease of effort over time



Issue 5: CV of the index is increasing

Coefficient of variation

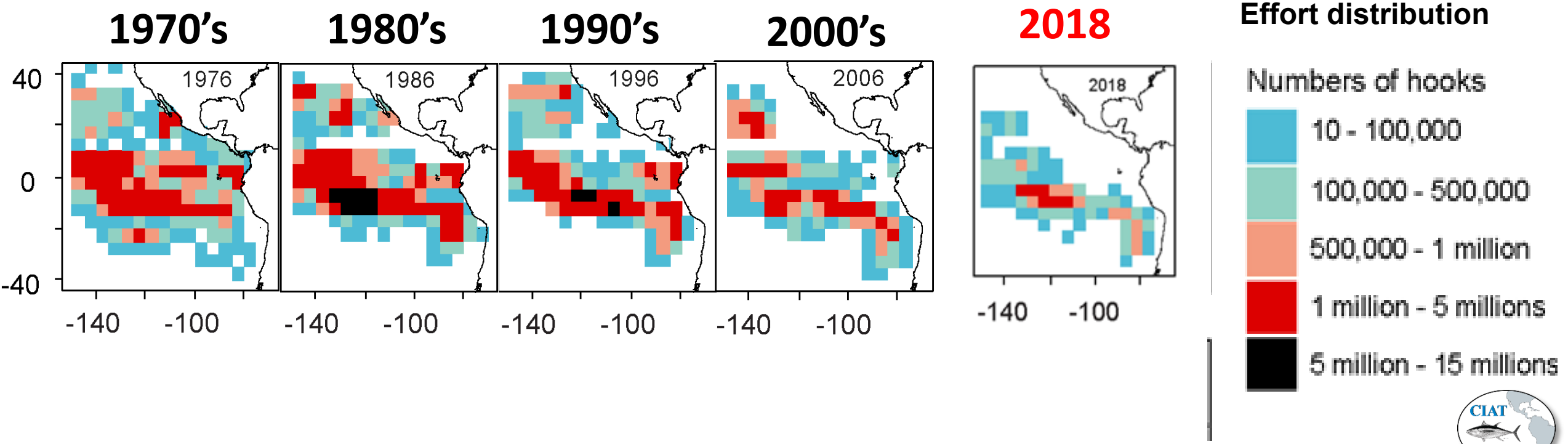


Japan
unpublished
results
WSLL-01

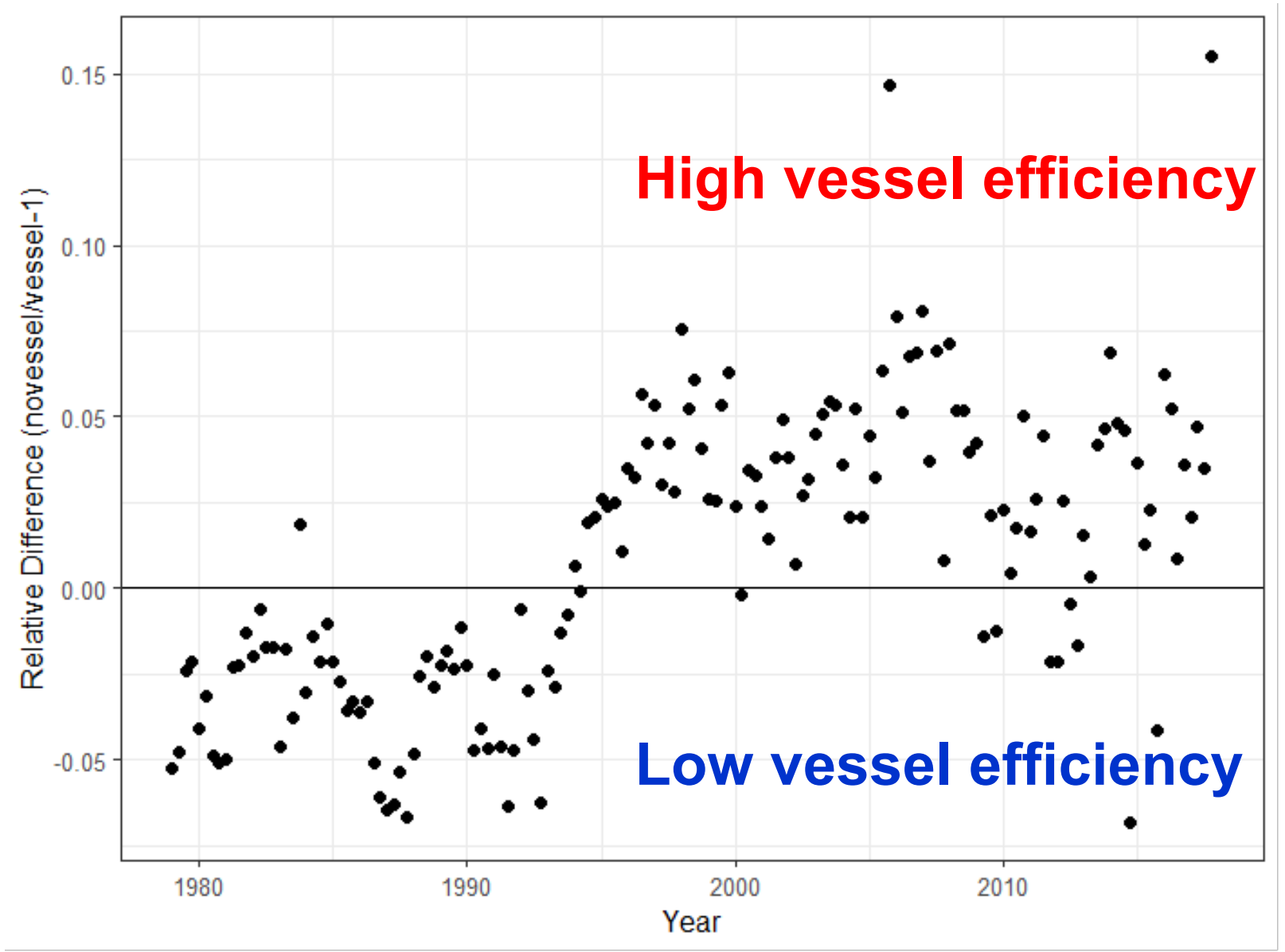
for bigeye tuna
Area 1:
150°W - 110°W
10° S – 10°N

Issue 6: contraction of spatial range

The area of operation of the Japanese fleet is contracting



Issue 7: temporal changes in catchability



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Summary of the issues

1. Inconsistency of the dolphin associate indices with the longline one
2. Change in the length frequency
3. Potential changes in targeting
4. Reduced effort (reduced sample size)
5. Increased the variance in the estimate in the most recent time-period
6. The spatial coverage has been reducing over time
7. Temporal changes in catchability (“vessel effects”)
8. **Catchability related to the environment**

Conclusion

- Several issues were identified with the longline-derived index of abundance over the years
- None taken into account the current indices, nor is reflected in the weighting in the stock assessment models.
- New tools recently available: spatiotemporal models
- In the last year: access to operational level data from main longline fleets
- Considerable work has been done to understand the issues and possible solutions for constructing longline-derived indices (WSLL-01)
- Workplan to construct indices for benchmark assessments

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Thank you!