RAM Legacy Stock Assessment Database:

GRSF Integration & Future Directions

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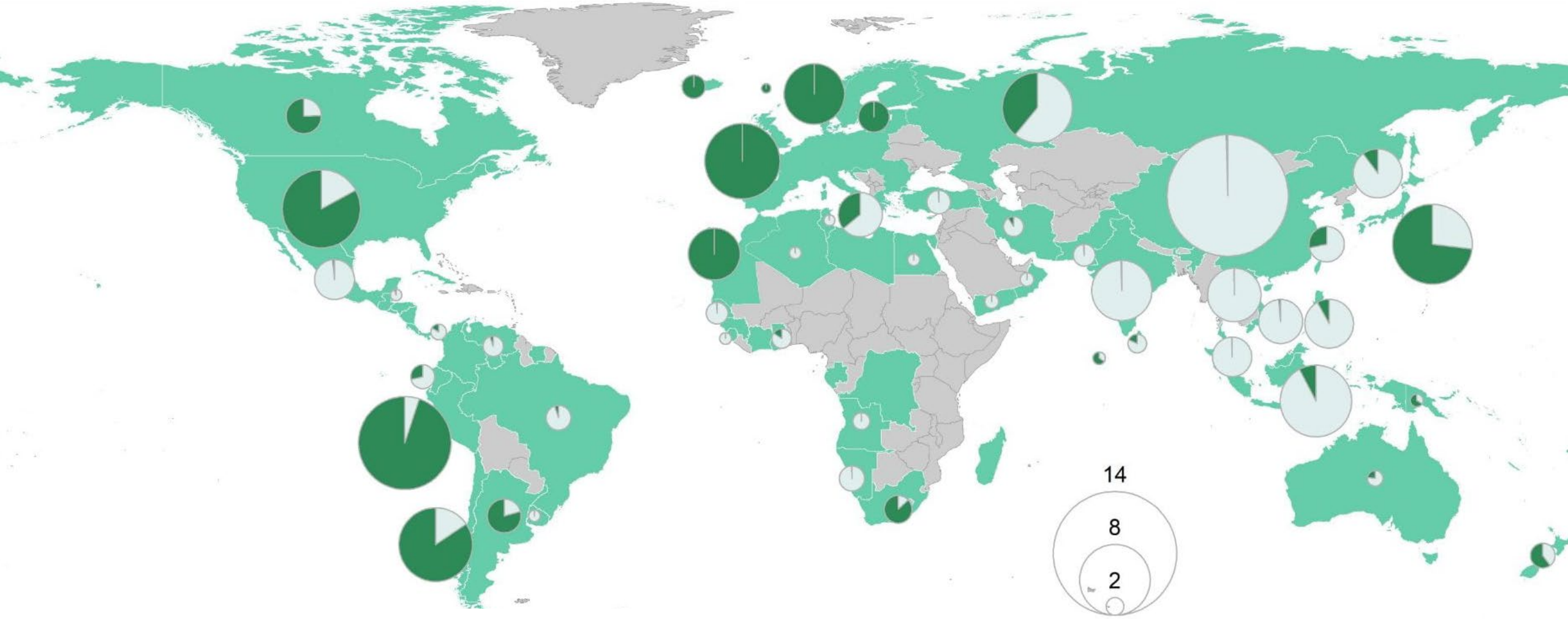
History

- RAM Myers stock recruitment data base 1990s
- NCEAS working group 2007-2009
- Hosted and managed by UW since 2011
- Now 1,372 stocks 2,198 assessments

Stock assessment coverage in RAM Legacy Database



Availability of “base” RAM Database

- assessment outputs and data compiled, harmonized, and outputted in Excel, R, and Access formats
- freely available through:
  - www.ramlegacy.org
  - Zenodo
- commonly used by science community
- key variables outputted for integration into GRSF

Adding value: “extended” RAM Database

1) Standardized summary plots
   - by region
   - by individual stock

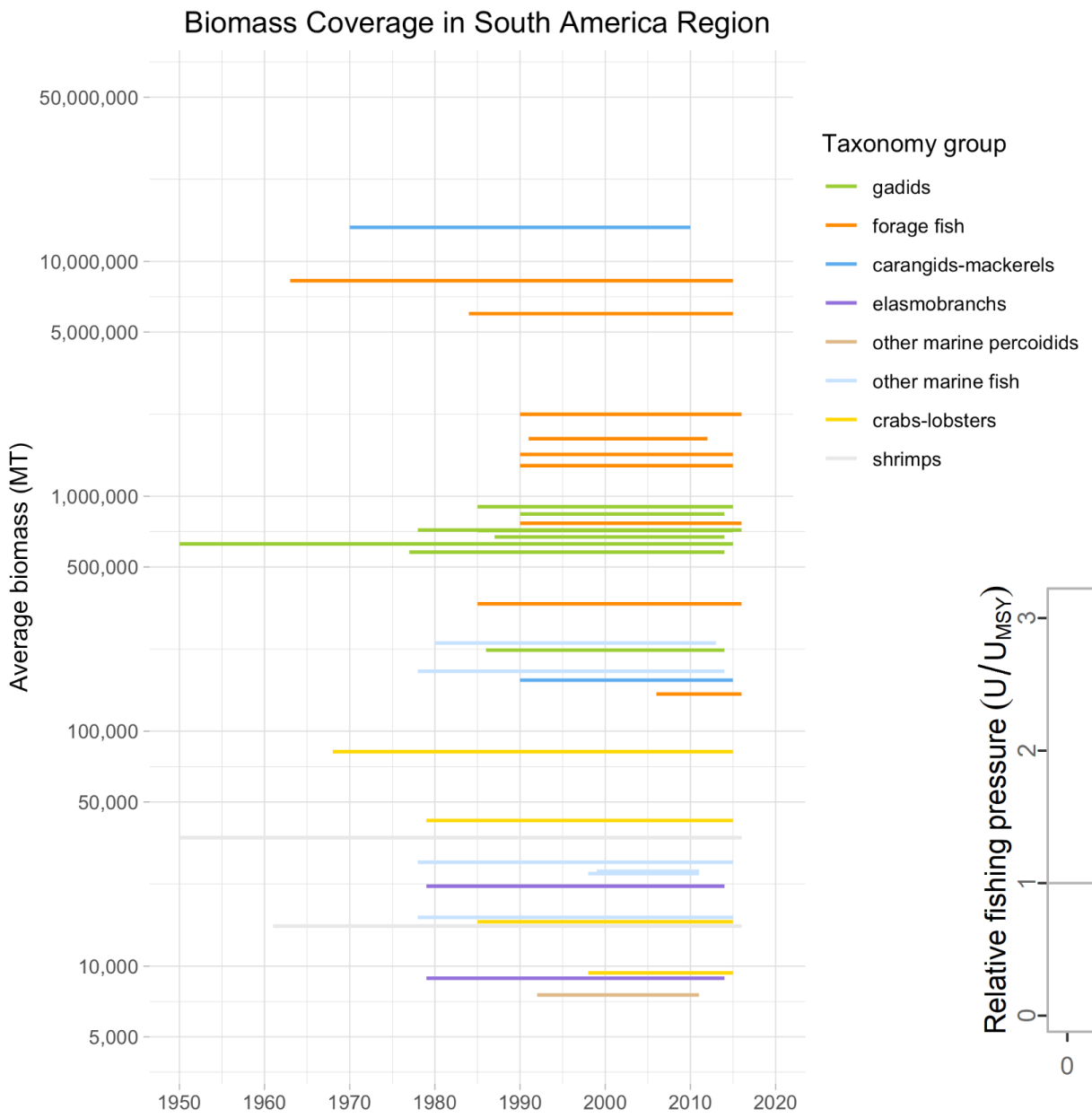
2) Fit surplus production models for estimating missing reference points

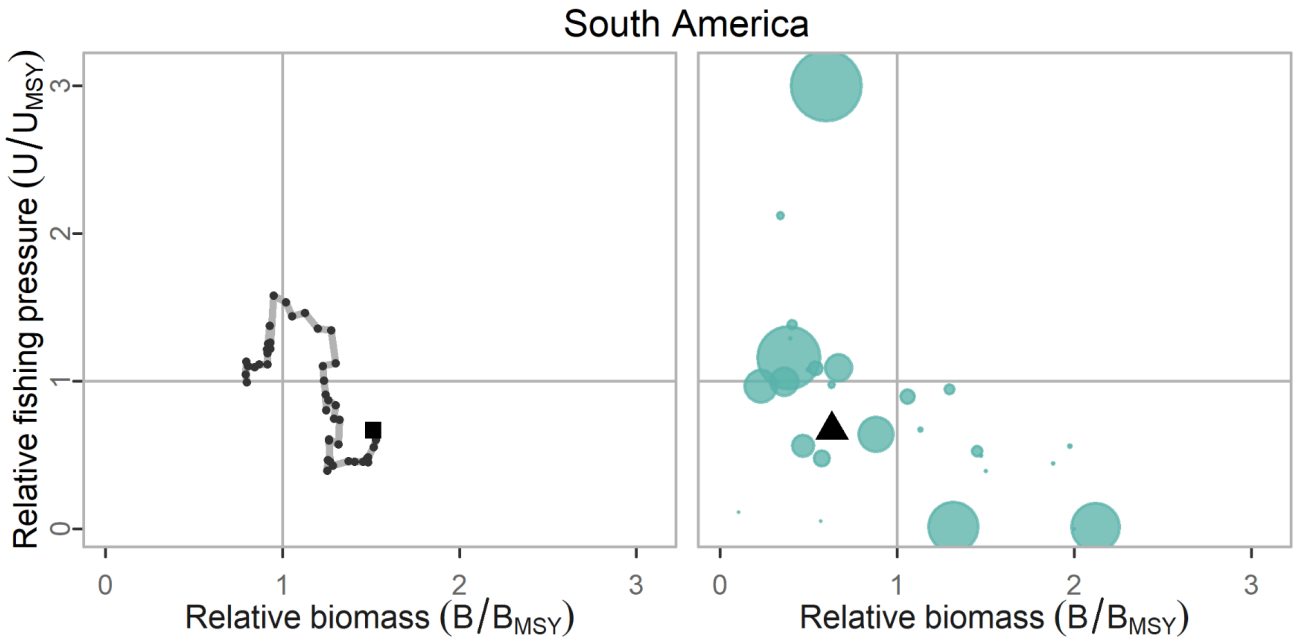
3) Regression models for converting biomass (SSB → TB)

4) Quantifying group trends, accounting for incomplete coverage of stocks
   - by region
   - by taxonomic group

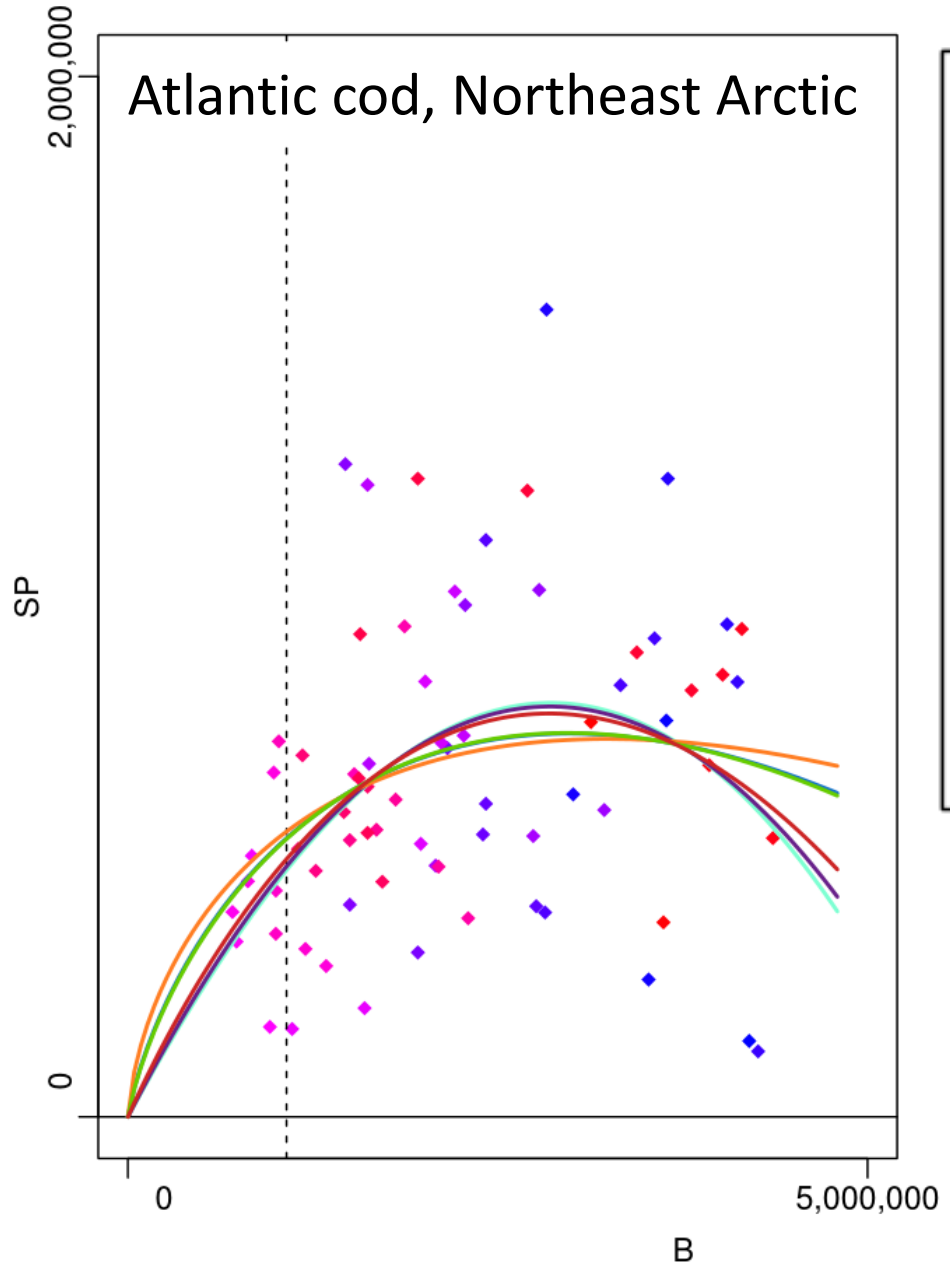
5) Stock distribution areas (compilation of shapefiles by colleague, Chris Free)

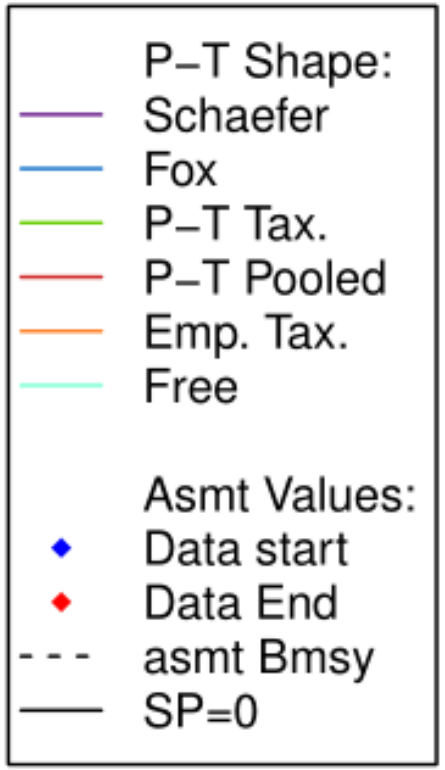
1) Standardized summary figures

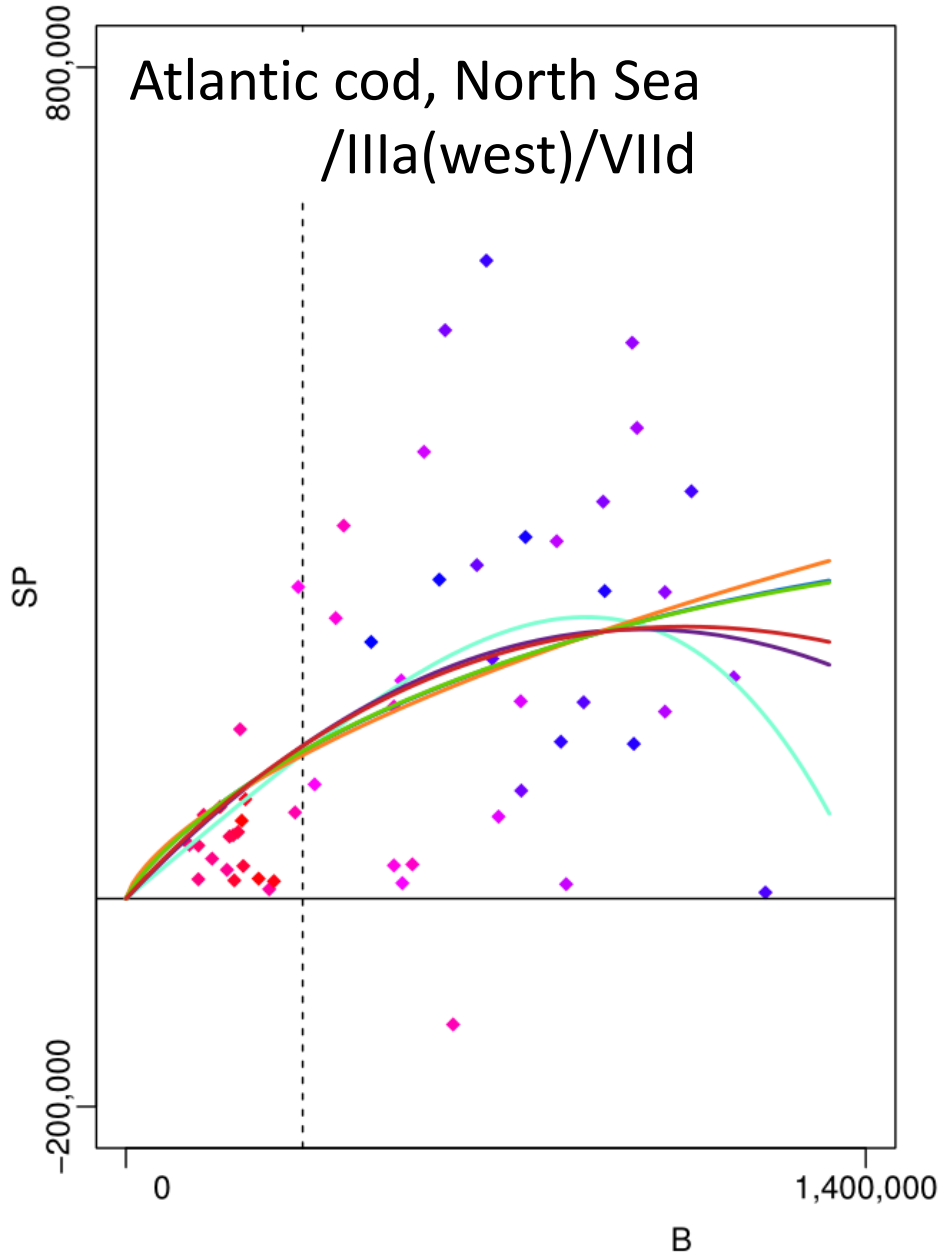




2) Surplus production models







3) Biomass conversions

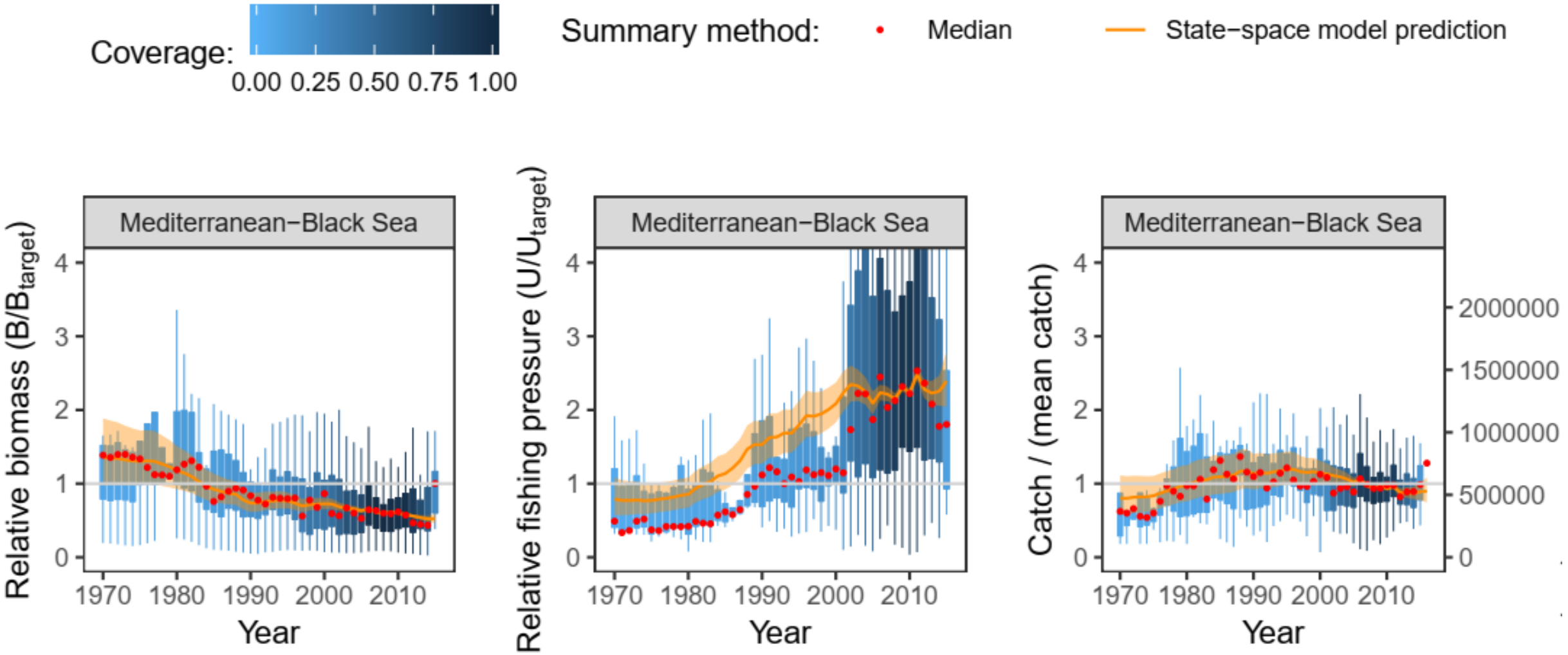
- used for:
  - i) inputs to surplus production model fitting
  - ii) regional summaries of total biomass

$\omega_{\frac{TB}{SSB}}$ = *f*(age & sex of spawners, life-history parameters,

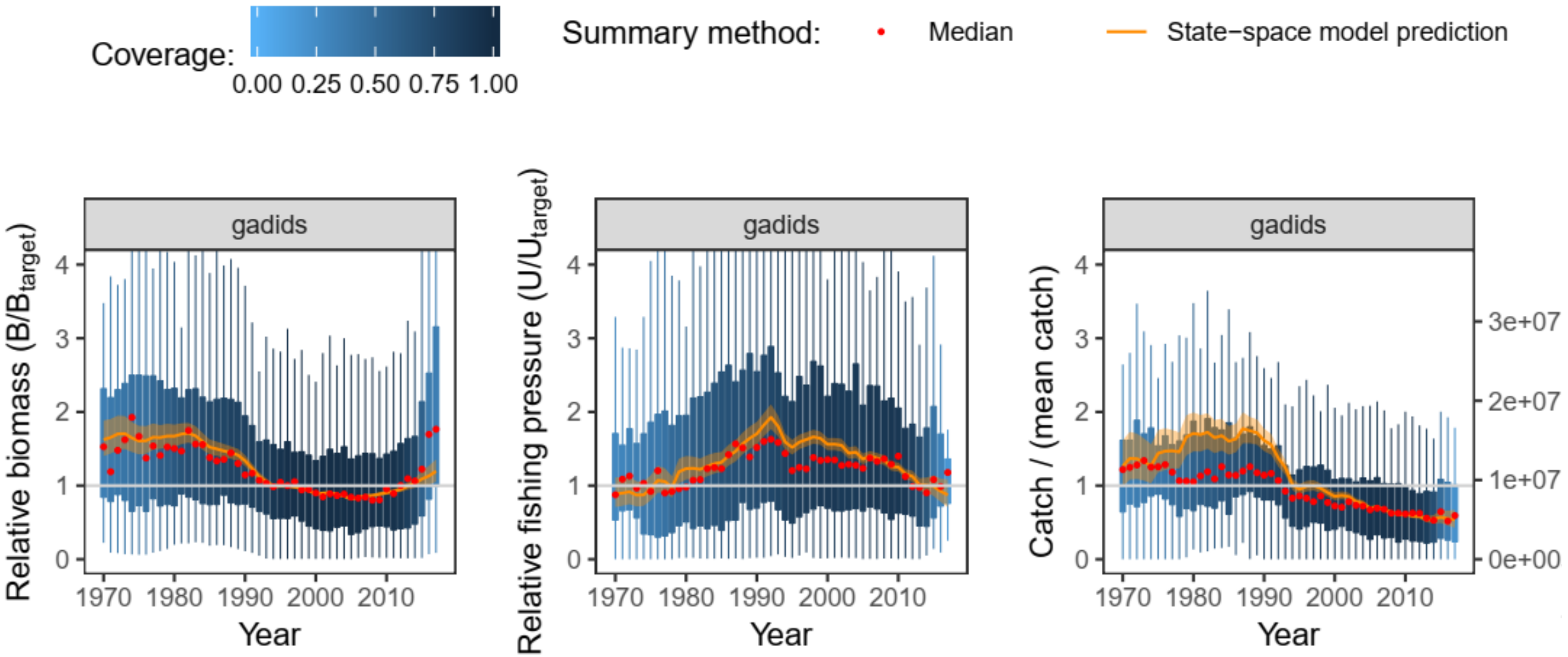
fishing mortality lags, taxonomic group, region, interactions...)

- Fit to observed TB_t / SSB_t
- Series of nested models fit; defaults to simpler model if data missing

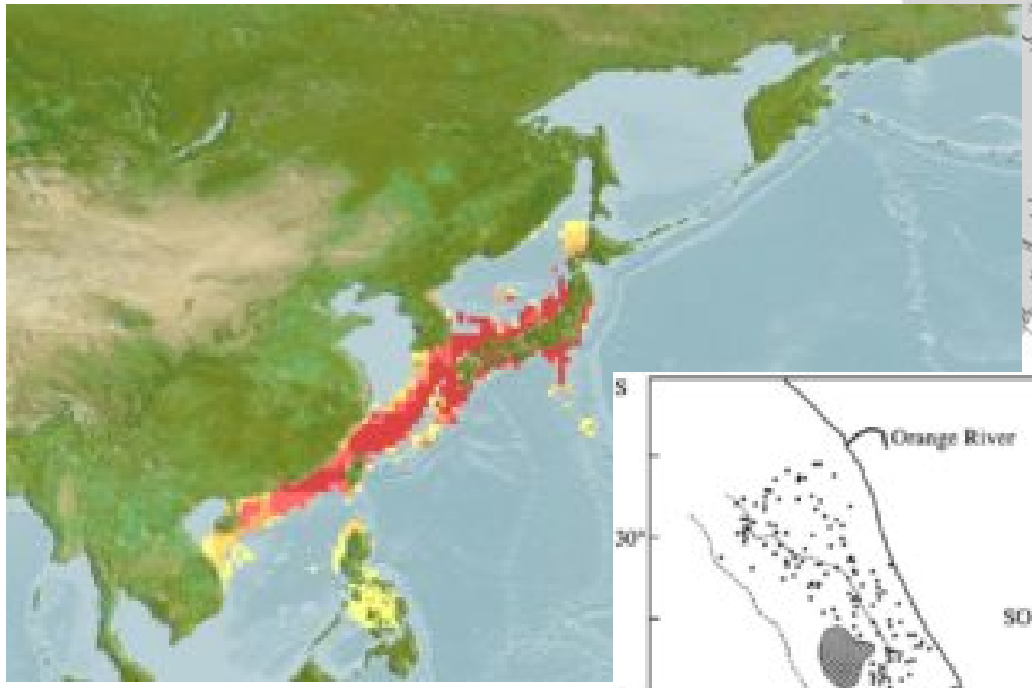
4) State-space model: quantifying regional trends

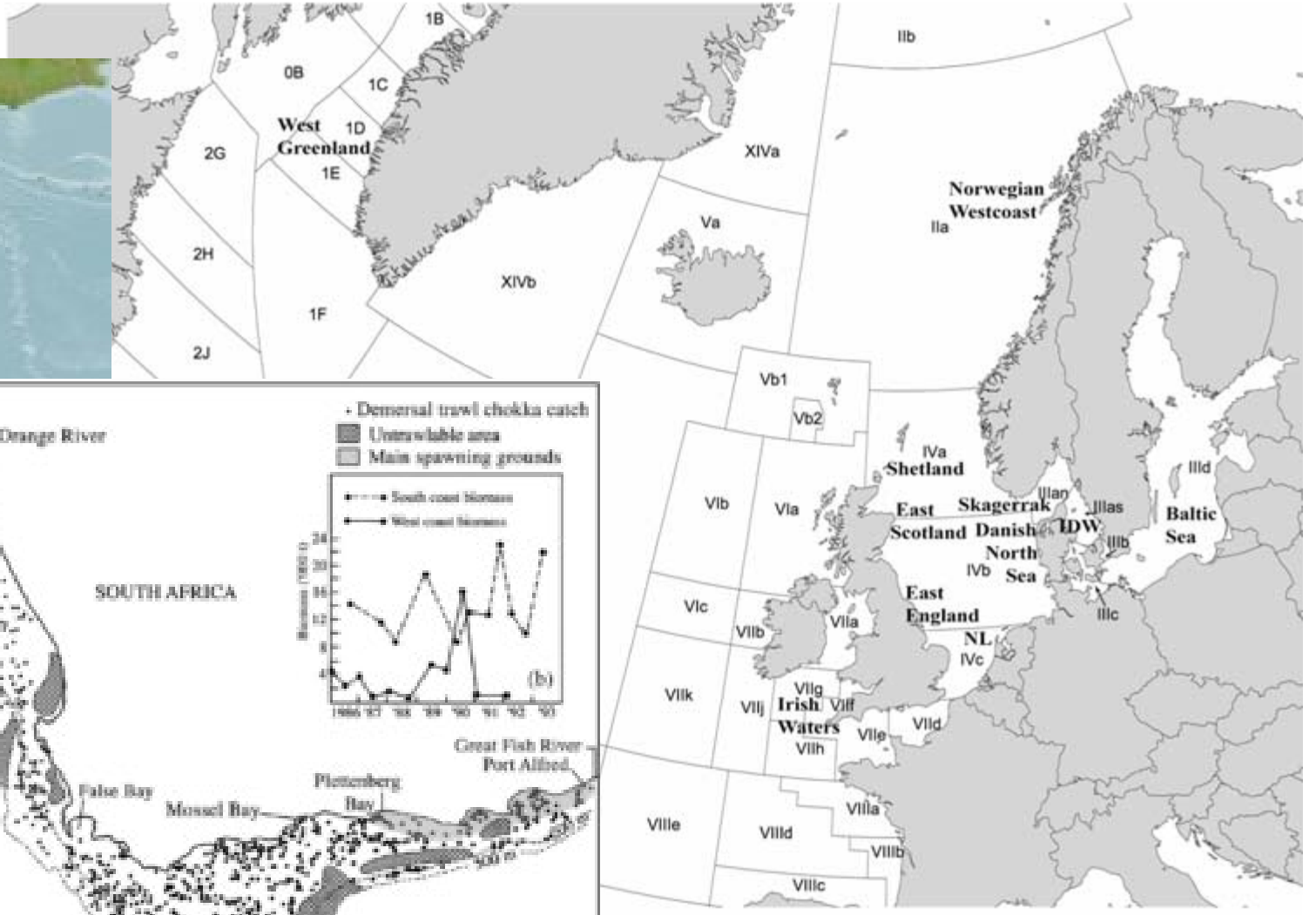


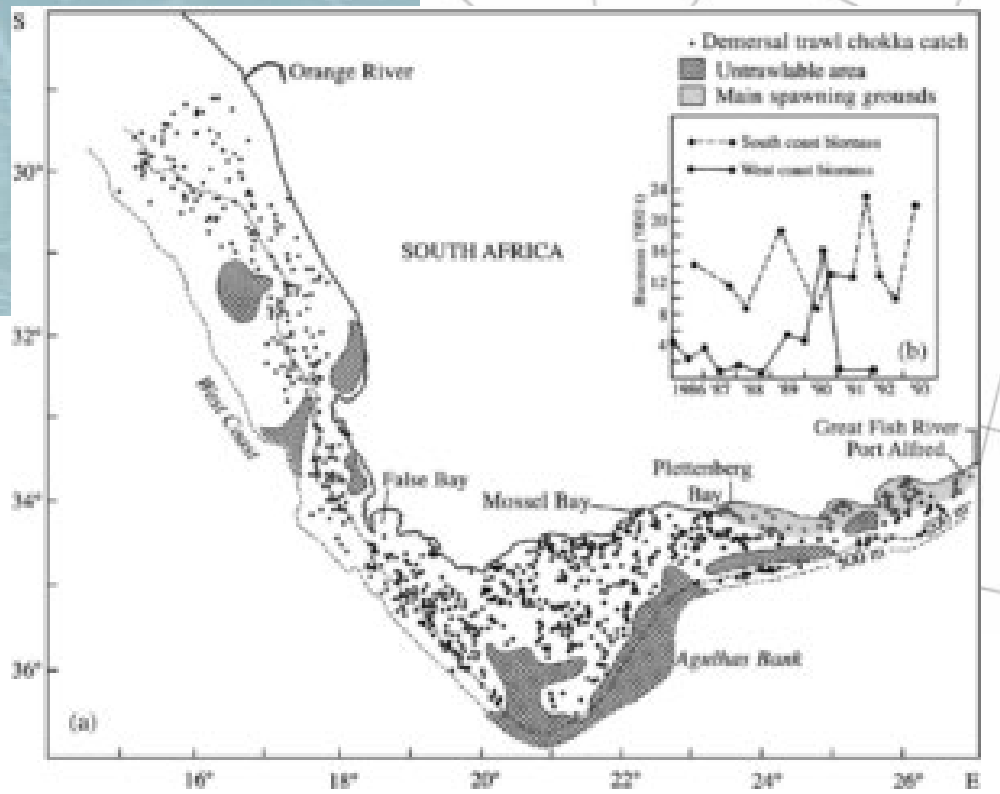
4) State-space model: quantifying taxonomic group trends



5) Stock boundary database







Future directions for RAM Legacy Database

- Maintain regular updates of assessments, facilitate automatic updating
- Expand geographic coverage as available assessments allow
- Expand data availability:
  - at-age fishery data
  - incorporation of shapefile data
  - TACs and scientific advice
- Greater coordination with FishSource for data collection
- Integrate RAM value-adding steps into GRSF ?