

Top-down interactions and temperature control of snow crab abundance in the northwest Atlantic Ocean

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Marine Ecology Progress Series 429:169–183 (2011)

Supplement. We tested for robustness by grouping some of the regions that demonstrated similar trends and repeated the analyses. The regional groupings tested were: (1) southern Gulf of St. Lawrence and northern Gulf of St. Lawrence, (2) northern Newfoundland and eastern Newfoundland, (3) eastern Newfoundland, southern Gulf of St. Lawrence, and northern Newfoundland, (4) northern Cape Breton and southern Newfoundland, (5) northern Cape Breton, southern Newfoundland and Flemish Cap and (6) all regions excluding the Gulf of Maine and Flemish Cap (i.e. using only fishery-dependent CPUE).

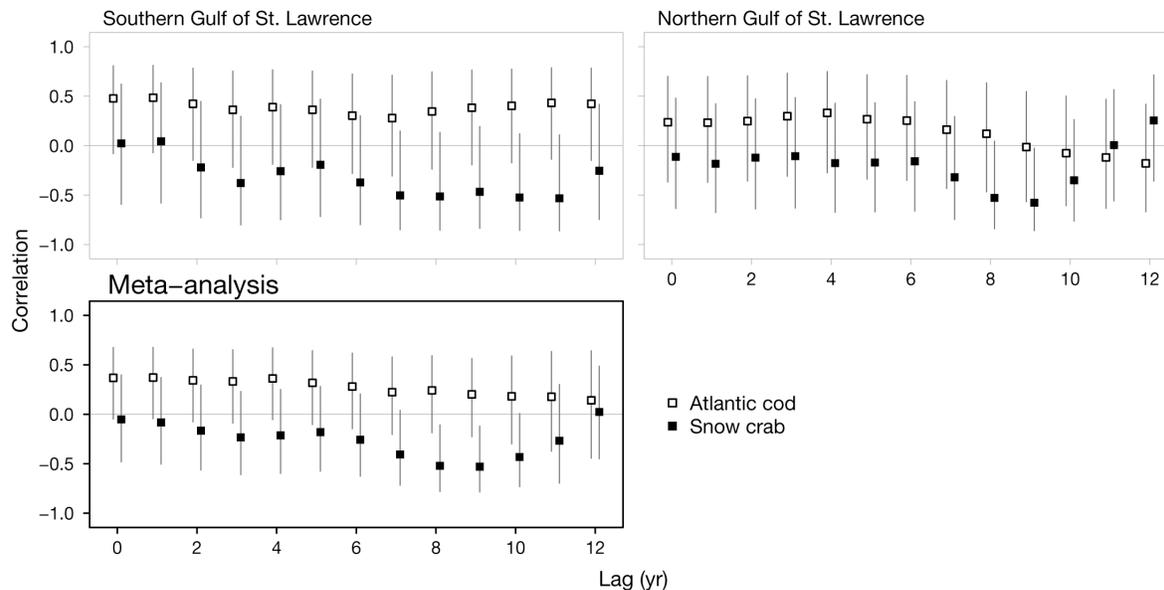


Fig. S1. *Gadus morhua* and *Chionoecetes opilio*. Temperature analysis for southern and northern Gulf of St. Lawrence only. Shown are the correlation coefficients at various lags between time series of temperature and Atlantic cod (open squares), and temperature and snow crab (closed squares). Vertical bars illustrate 95% CIs corrected for autocorrelation. Meta-analysis results are presented in the final panel

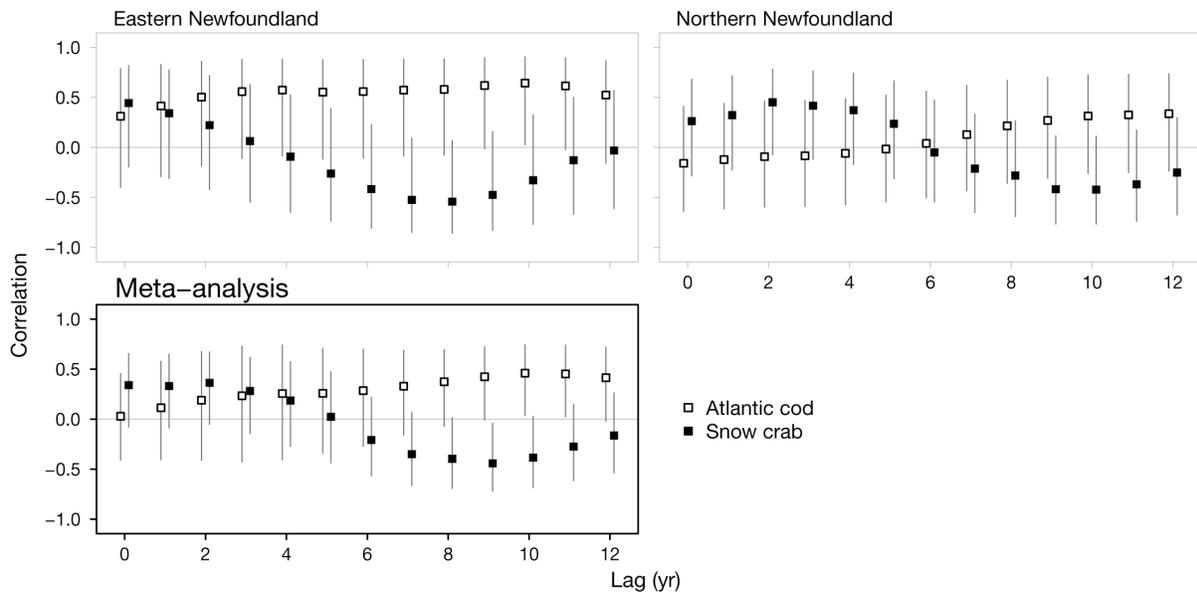


Fig. S2. *Gadus morhua* and *Chionoecetes opilio*. Temperature analysis for eastern and northern Newfoundland only. Shown are the correlation coefficients at various lags between time series of temperature and Atlantic cod (open squares), and temperature and snow crab (closed squares). Vertical bars illustrate 95% CIs corrected for autocorrelation. Meta-analysis results are presented in the final panel

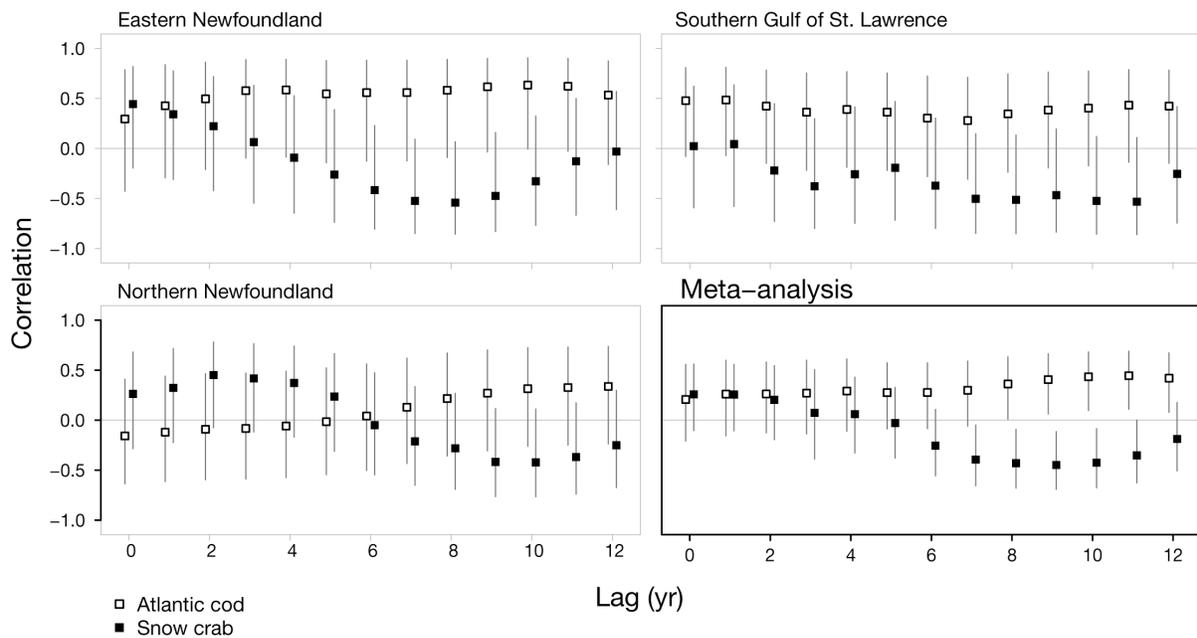


Fig. S3. *Gadus morhua* and *Chionoecetes opilio*. Temperature analysis for eastern Newfoundland, southern Gulf of St. Lawrence and northern Newfoundland only. Shown are the correlation coefficients at various lags between time series of temperature and Atlantic cod (open squares), and temperature and snow crab (closed squares). Vertical bars illustrate 95% CIs corrected for autocorrelation. Meta-analysis results are presented in the final panel

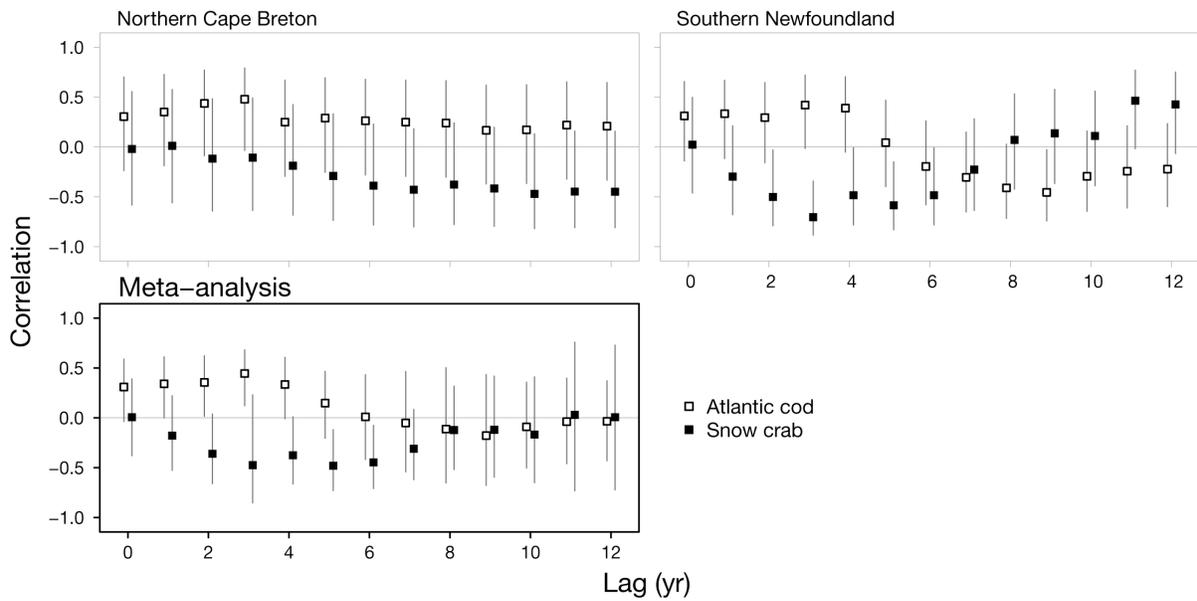


Fig. S4. *Gadus morhua* and *Chionoecetes opilio*. Temperature analysis for northern Cape Breton and southern Newfoundland only. Shown are the correlation coefficients at various lags between time series of temperature and Atlantic cod (open squares), and temperature and snow crab (closed squares). Vertical bars illustrate 95% CIs corrected for autocorrelation. Meta-analysis results are presented in the final panel

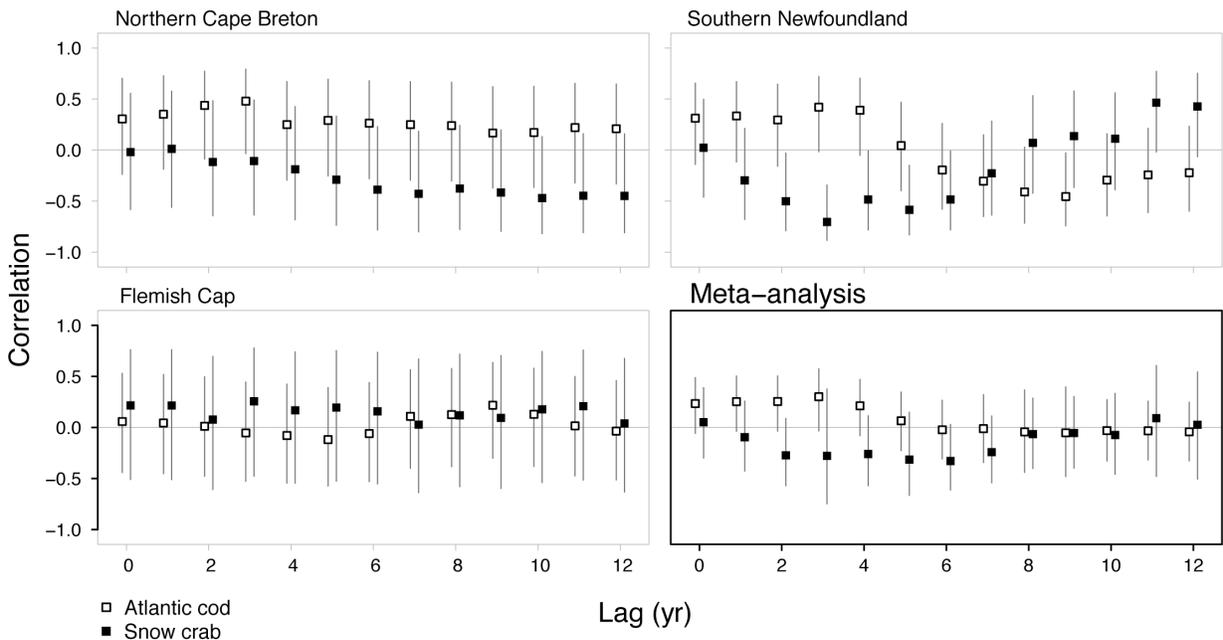


Fig. S5. *Gadus morhua* and *Chionoecetes opilio*. Temperature analysis for northern Cape Breton, southern Newfoundland, and Flemish Cap only. Shown are the correlation coefficients at various lags between time series of temperature and Atlantic cod (open squares), and temperature and snow crab (closed squares). Vertical bars illustrate 95% CIs corrected for autocorrelation. Meta-analysis results are presented in the final panel

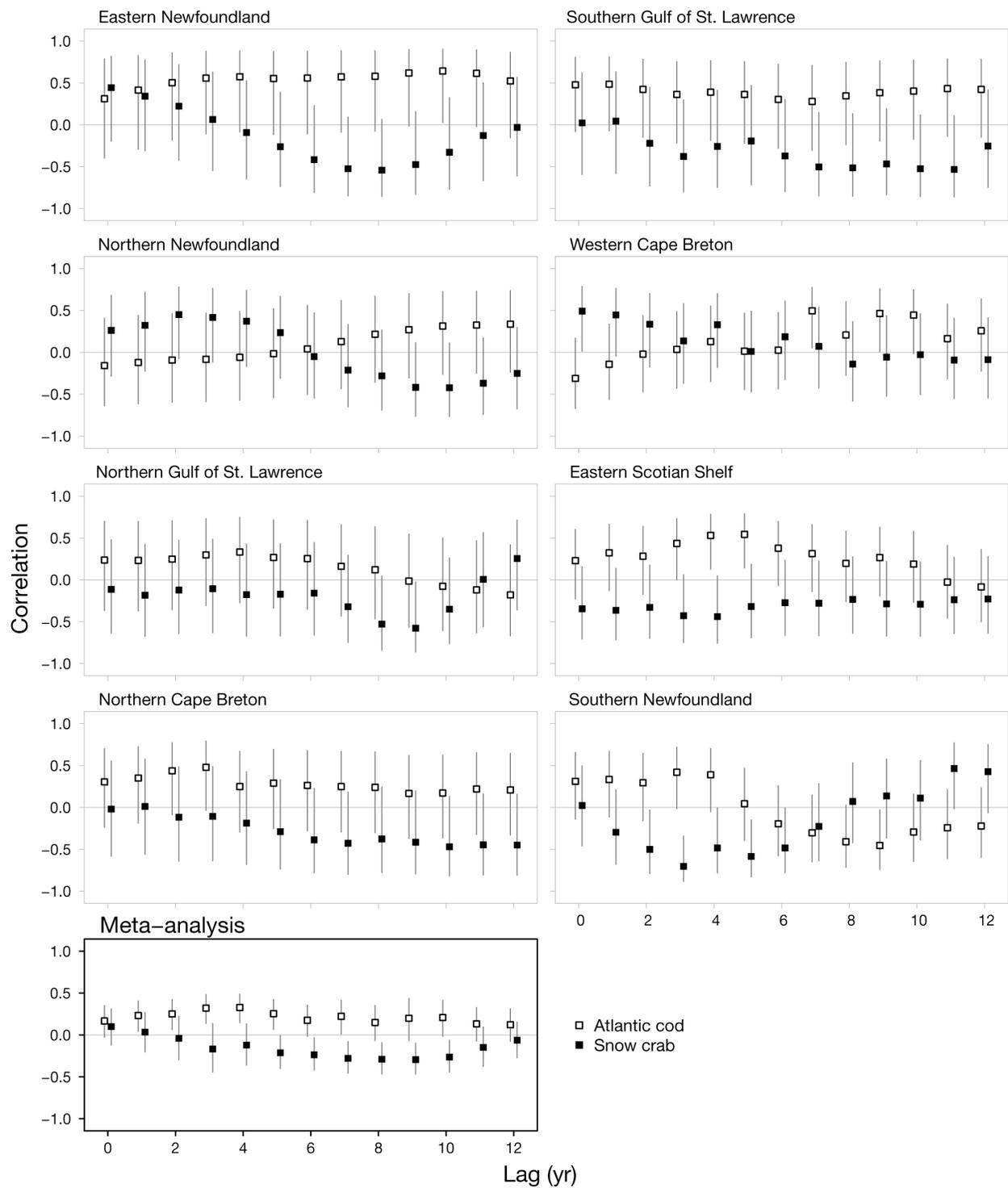


Fig. S6. *Gadus morhua* and *Chionoecetes opilio*. Temperature analysis for all regions except Flemish Cap and Gulf of Maine. Shown are the correlation coefficients at various lags between time series of temperature and Atlantic cod (open squares), and temperature and snow crab (closed squares). Vertical bars illustrate 95% CIs corrected for autocorrelation. Meta-analysis results are presented in the final panel

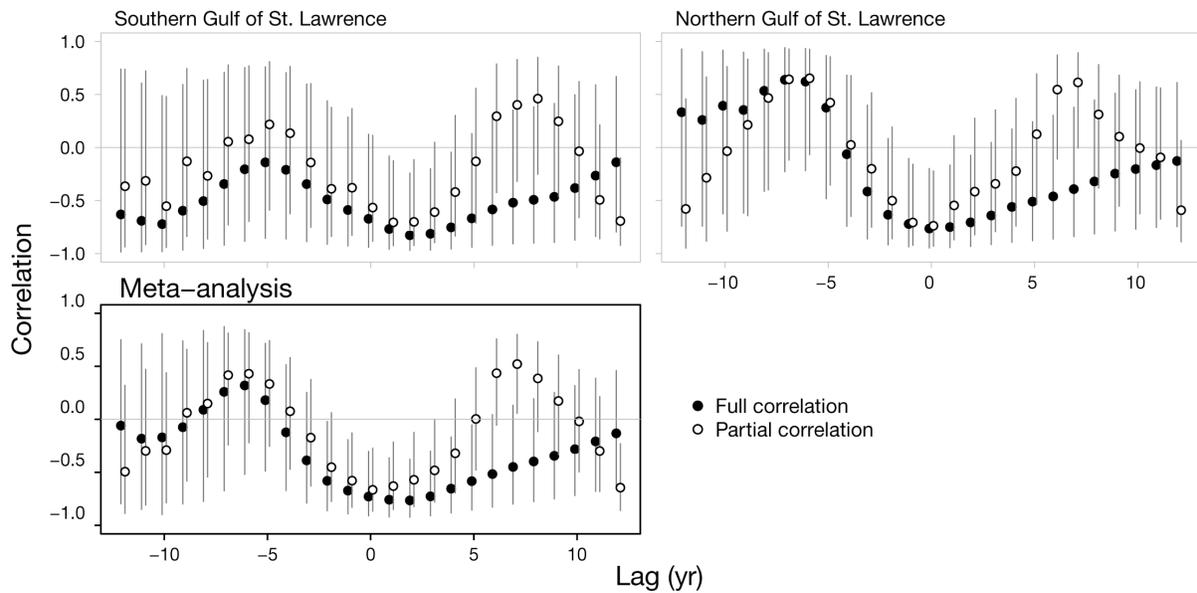


Fig. S7. *Gadus morhua* and *Chionoecetes opilio*. Analysis of cod–crab interactions for southern and northern Gulf of St. Lawrence only. Shown are the full (closed circles) and partial (open circles) correlation coefficients of snow crab biomass indices with lagged Atlantic cod biomass indices, along with 95% CIs corrected for autocorrelation. Meta-analysis results are presented in the final panel. The partial correlations have been corrected for the effects of temperature at a 7 yr lag

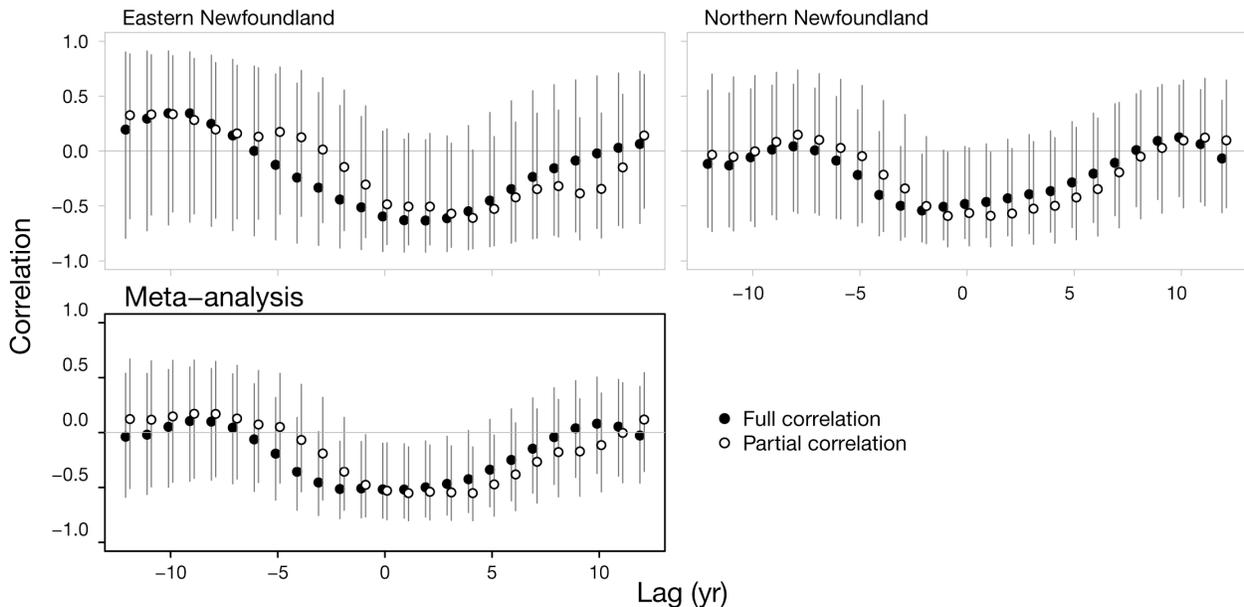


Fig. S8. *Gadus morhua* and *Chionoecetes opilio*. Analysis of cod–crab interactions for eastern and northern Newfoundland only. Shown are the full (closed circles) and partial (open circles) correlation coefficients of snow crab biomass indices with lagged cod biomass indices, along with 95% CIs corrected for autocorrelation. Meta-analysis results are presented in the final panel. The partial correlations have been corrected for the effects of temperature at a 7 yr lag

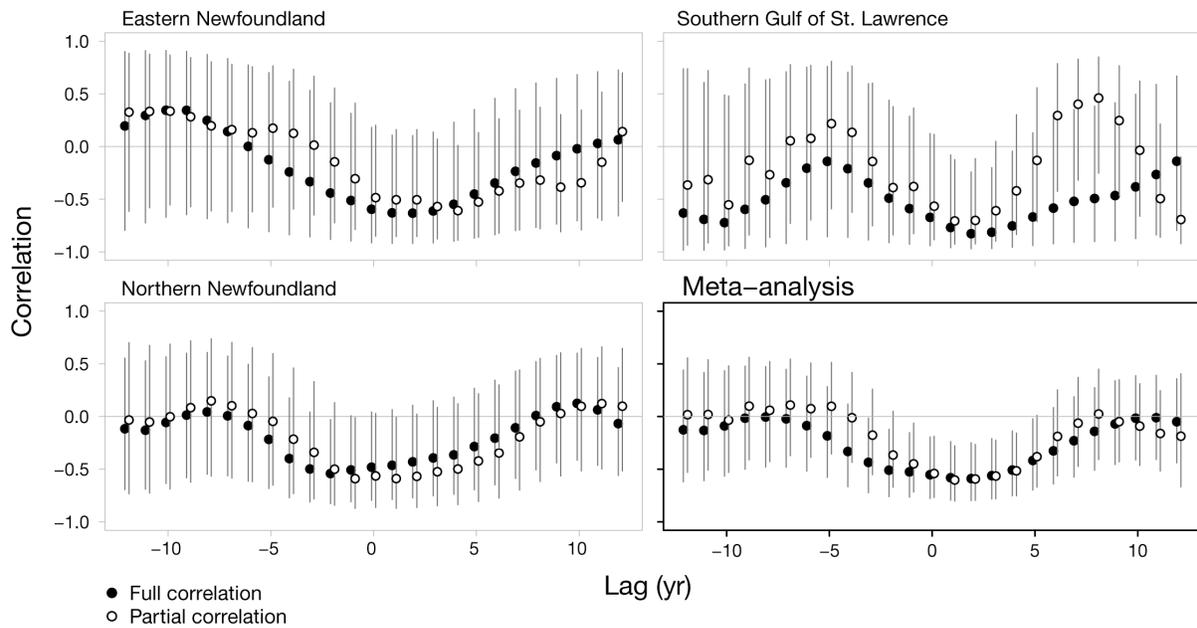


Fig. S9. *Gadus morhua* and *Chionoecetes opilio*. Analysis of cod–crab interactions for eastern Newfoundland, southern Gulf of St. Lawrence and northern Newfoundland only. Shown are the full (closed circles) and partial (open circles) correlation coefficients of snow crab biomass indices with lagged cod biomass indices, along with 95% CIs corrected for autocorrelation. Meta-analysis results are presented in the final panel. The partial correlations have been corrected for the effects of temperature at a 7 yr lag

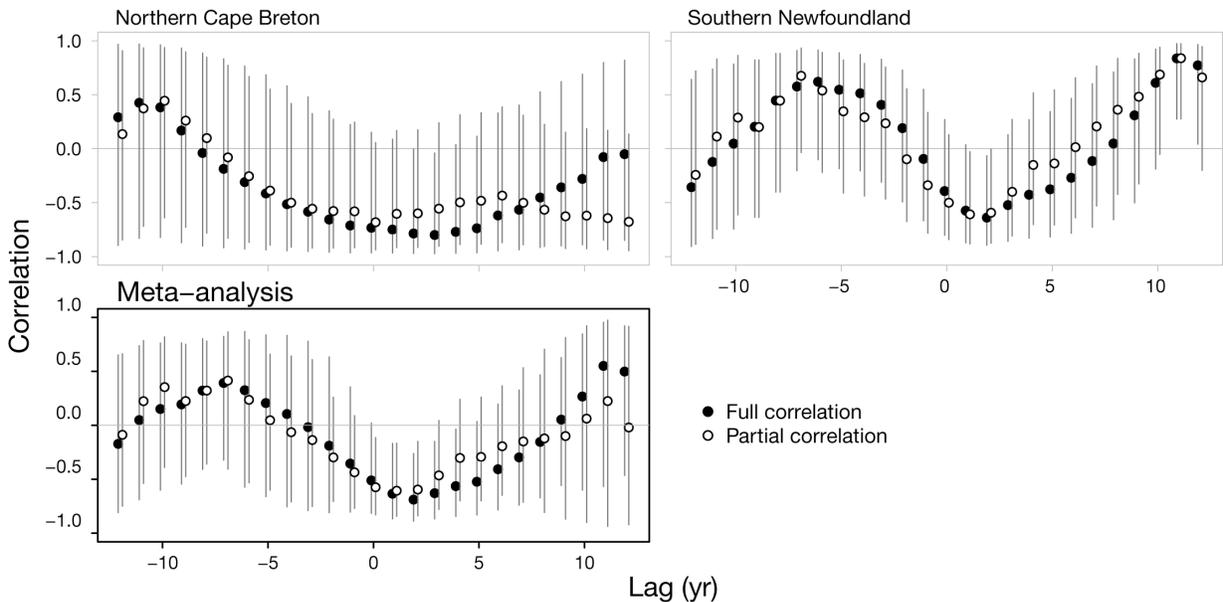


Fig. S10. *Gadus morhua* and *Chionoecetes opilio*. Analysis of cod–crab interactions for northern Cape Breton and southern Newfoundland only. Shown are the full (closed circles) and partial (open circles) correlation coefficients of snow crab biomass indices with lagged cod biomass indices, along with 95% CIs corrected for autocorrelation. Meta-analysis results are presented in the final panel. The partial correlations have been corrected for the effects of temperature at a 7 yr lag

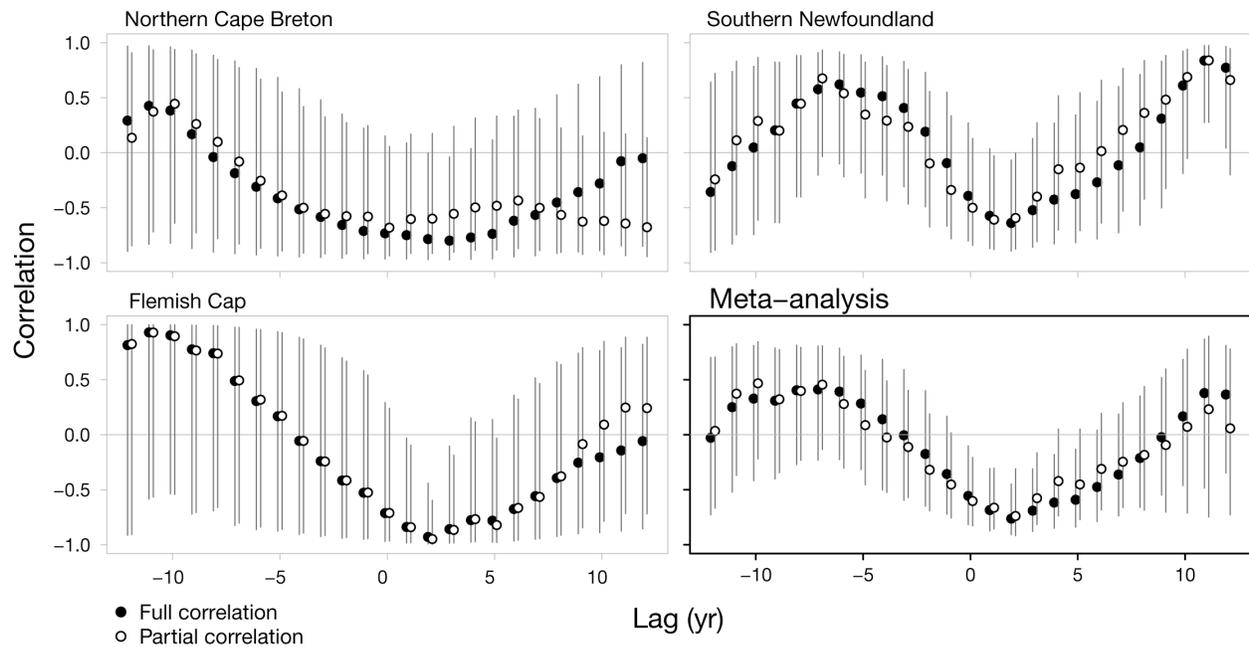


Fig. S11. *Gadus morhua* and *Chionoecetes opilio*. Analysis of cod–crab interactions for northern Cape Breton, southern Newfoundland and Flemish Cap only. Shown are the full (closed circles) and partial (open circles) correlation coefficients of snow crab biomass indices with lagged cod biomass indices, along with 95% CIs corrected for autocorrelation. Meta-analysis results are presented in the final panel.

The partial correlations have been corrected for the effects of temperature at a 7 yr lag

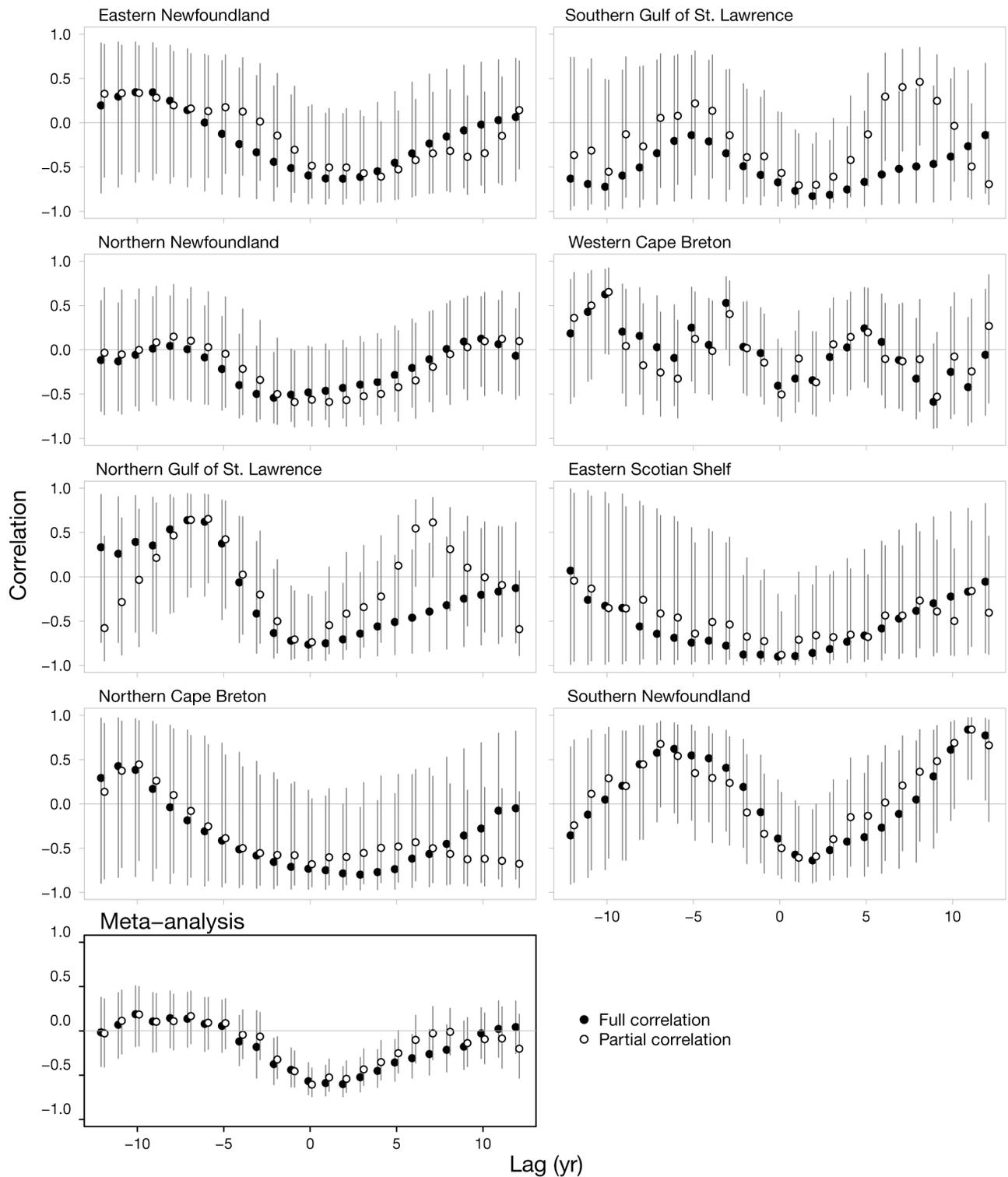


Fig. S12. *Gadus morhua* and *Chionoecetes opilio*. Analysis of cod–crab interactions for all regions except Flemish Cap and the Gulf of Maine. Shown are the full (closed circles) and partial (open circles) correlation coefficients of snow crab biomass indices with lagged cod biomass indices, along with 95% CIs corrected for autocorrelation. Meta-analysis results are presented in the final panel. The partial correlations have been corrected for the effects of temperature at a 7 yr lag