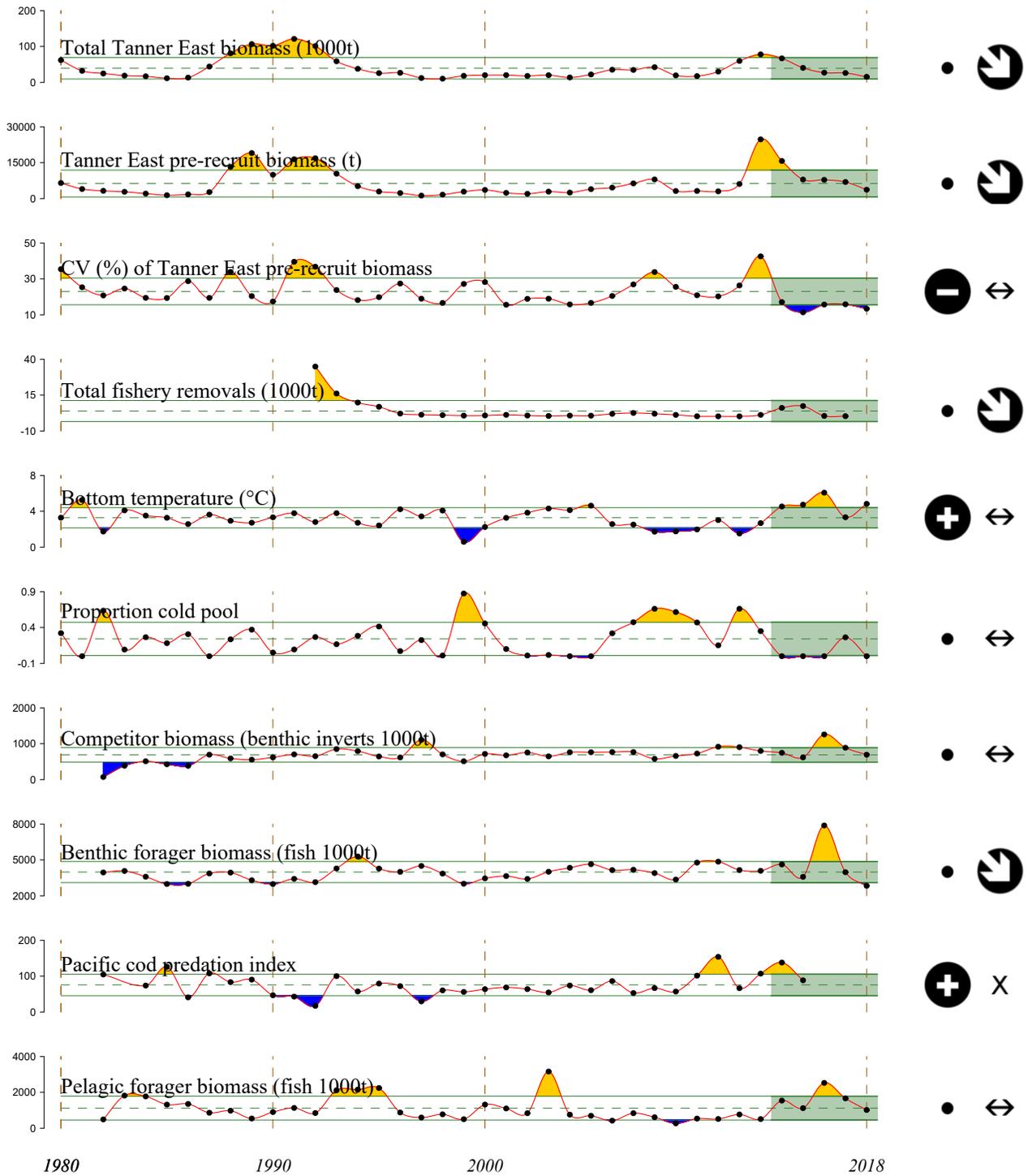


Tanner Crab East



2014-2018 Mean

- +** 1 s.d. above mean
- 1 s.d. below mean
- within 1 s.d. of mean
- X fewer than 2 data points

2014-2018 Trend

- ↻** increase by 1 s.d. over time window
- ↺** decrease by 1 s.d. over time window
- ↔ change <1 s.d. over window
- X fewer than 3 data points

Ecosystem Indicators used for Tanner Crab East

Total tanner crab east biomass: index for overall productivity of the stock. Includes all size ranges and both sexes.

Tanner crab east pre-recruit (113-124 mm CW) biomass: index for future abundance of legal crab. Includes male crabs (113-124 mm CW) that will likely enter the fishery (reach minimum legal and/or preferred size) the following year.

Coefficient of variation of tanner crab east pre-recruit biomass: index for variability in pre-recruit biomass. Variation is likely the result of spatial and temporal patterns of tanner crab abundance within the eastern Bering Sea tanner crab management area.

Total fishery removals: total catch and bycatch mortality biomass. Includes total catch estimates from the directed fishery, as well as bycatch from snow crab, Bristol Bay red king crab and groundfish fisheries.

Bottom temperature: impacts spatial distribution and growth of tanner crab.

Proportion cold pool: index of the southern extent of the cold pool.

Competitor biomass: likely competitors with juvenile and adult crabs for food. Includes sea star, hermit crab, urchin, and sea cucumber biomass from NOAA bottom trawl surveys.

Benthic forager biomass: likely predators of juvenile and adult crabs. Includes sculpin, flatfish, pacific cod, eelpout, octopus, and skate biomass from NOAA bottom trawl surveys.

Pacific cod predation index: index for top-down estimates of Pacific cod predation on tanner crab from groundfish diet data on NOAA bottom trawl surveys.

Pelagic forager biomass: likely predators of crab larvae. Includes walleye pollock, herring, capelin, salmon, eulachon, and sand lance biomass from NOAA bottom trawl surveys.

Tanner Crab East 2018 Report Card

- The 2018 **total tanner crab east biomass** was well **below the 39-year average** and **pre-recruit** (males 113-124 mm CW) biomass also remained below the long-term average, with a **decreasing trend in the past 5 years**.
- The **CV of pre-recruit biomass** indicates a **decrease in spatial variability** of tanner crab abundances east of 166W over the past 5 years.
- **Spring/summer bottom temperatures in the eastern Bering Sea were above average** during four of the past five years, and **the cold pool did not extend east of 166W** management area during these four warm years.
- **Survey biomass of competitors, benthic foragers, and pelagic foragers all increased in 2016** due to high catches of sea stars, northern rock sole, yellowfin sole, and pollock. **Since 2016, the overall trend** in biomass of competitors, benthic foragers and pelagic foragers **is decreasing**.
- **Pacific cod predation** on tanner crab has **remained high** since 2010.