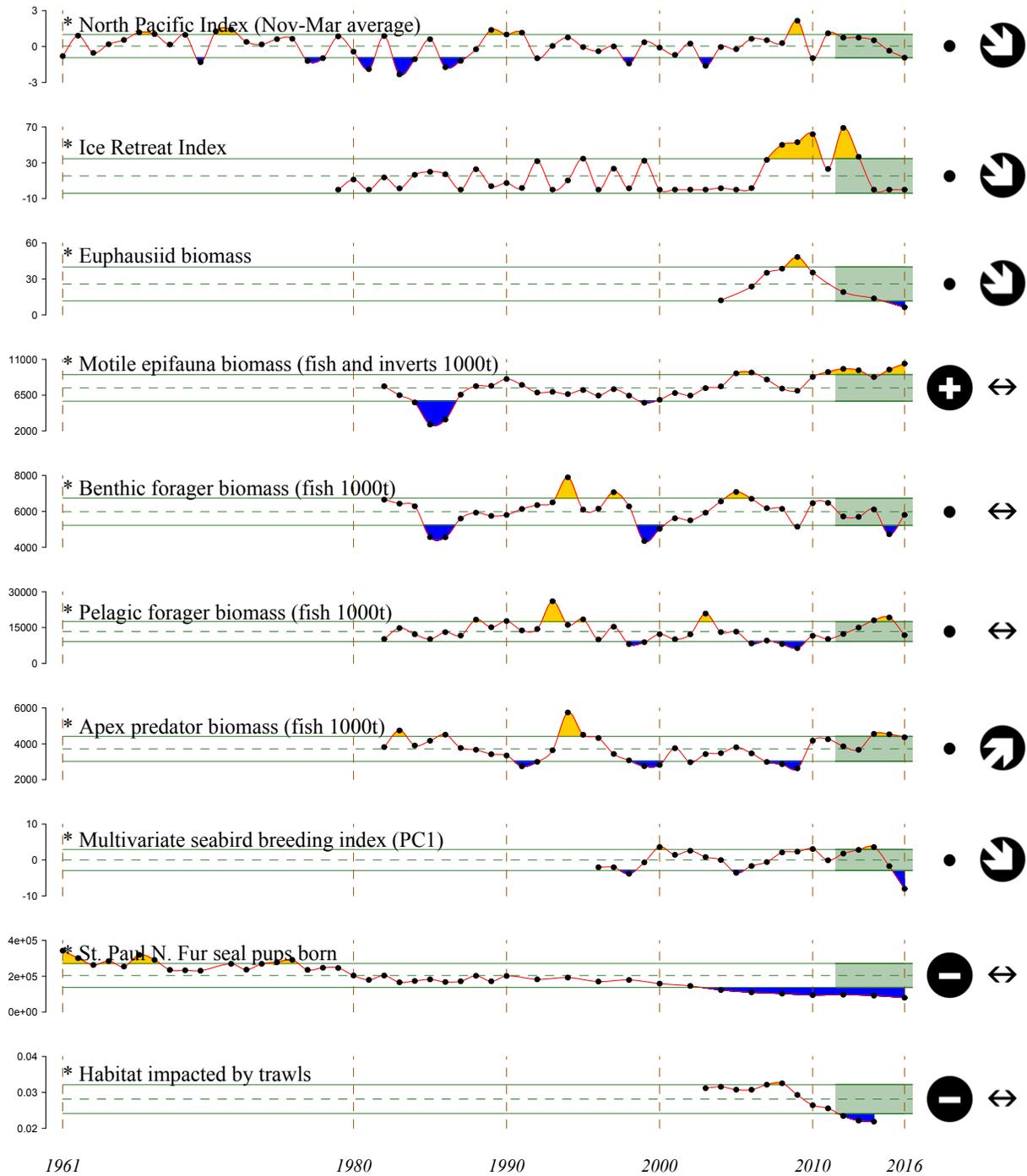


Eastern Bering Sea 2016 Report Card

- The **eastern Bering Sea in 2016 was characterized by warm conditions** that began in late 2013. The **PDO remained positive** with **neutral to weak La Niña conditions predicted for the winter of 2016-17**.
- The extent of **sea ice during winter and spring continued to be reduced** and the **cold pool was retracted over the northern shelf**.
- Zooplankton Rapid Assessments in spring and fall 2016 show **euphausiids were rare over the EBS shelf** and acoustic estimates of euphausiids from the summer trawl survey have **declined since 2009 with 2016 being the lowest in the time series**.
- **Jellyfish abundances** (principally *Chrysaora melanaster*) **declined 79% from 2015 to 2016** to one of the lowest observed levels since 1989.
- **Survey biomass of motile epifauna has been above its long-term mean** since 2010, with no noted trend in the past 6 years. There has been a unimodal increase in **brittle stars** since 1989, with a particularly large **34% increase** between 2015 and 2016. Sea urchins, sea cucumbers, and sand dollars doubled between 2004-2005 and have stayed at those high levels since then.
- **Survey biomass of benthic foragers showed a dip in 2015, but have returned to near-average levels in 2016**. The decline in 2015 was due to a 25% decline in northern rock sole, which remain at lower levels in 2016 (lowest since 1990). The return of the guild to average was due to a **50% increase in yellowfin sole** between 2015 and 2016.
- **Survey biomass of pelagic foragers decreased to its 34-year mean after increasing steadily** from 2009 to 2015. While this is primarily driven by the **increase in walleye pollock** from its historical low in the 2009 survey and **dip downward in 2015-2016**, it is also a result of **fluctuations in capelin**, which increased during the cold years between 2010-2013, **then dropped back to pre-2010 levels in 2016**.
- **Fish apex predator survey biomass is currently above its 30-year mean**, although the increasing trend seen from 2009-2014 has leveled. **The increase from below average values in 2009** back towards the long term mean is driven primarily by increases in Pacific cod from low levels in the early 2000s.
- **The multivariate seabird breeding index is well below the long term mean**, indicating that seabirds bred later and less successfully in 2016. This suggests that **foraging conditions were not favorable for piscivorous seabirds**.
- **Northern fur seal pup production for St. Paul Island remained low**. Preliminary estimates show **a decrease between 10.0 and 15.0%** on St. Paul compared to the 2014 estimates.
- A **new method for estimating seafloor habitat disturbance** due to fishing gear (pelagic and non-pelagic trawl, longline, and pot) shows **interactions have decreased steadily from 2008 through December 2014**.



2012-2016 Mean

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

2012-2016 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

Figure 1: Eastern Bering Sea ecosystem assessment indicators; see text for descriptions. * indicates time series updated in 2016.