

**PICES2025 Yokohama**

**W7:BIO Topic Workshop**

**Response of Top Predators to  
Unusual Oceanographic, Climatic  
and Anthropogenic Events in the  
North Pacific**

**Welcome and Introduction to the Workshop**

**Yu Kanaji**

**(Japan Fisheries Research & Education Agency)**

# Conveners



Motohiro Ito



Patrick O'Hara  
Kaoru Hattori

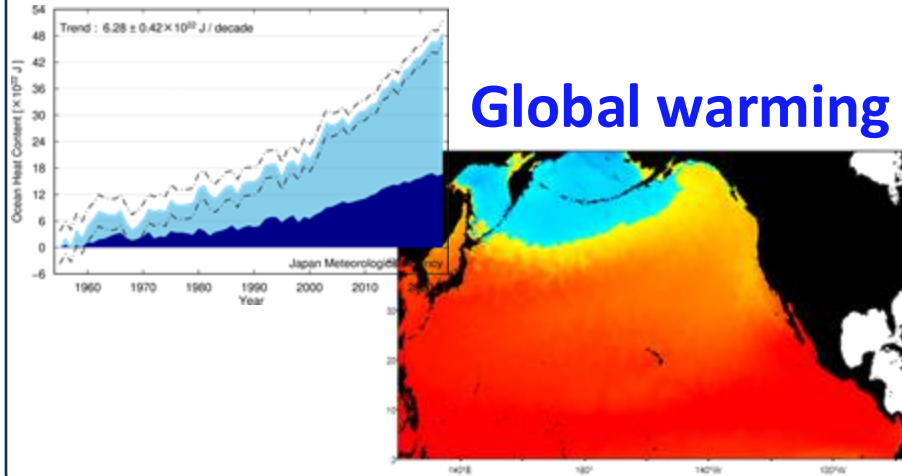
Rolf Ream

Me

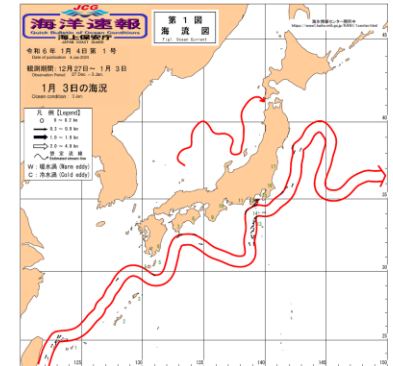
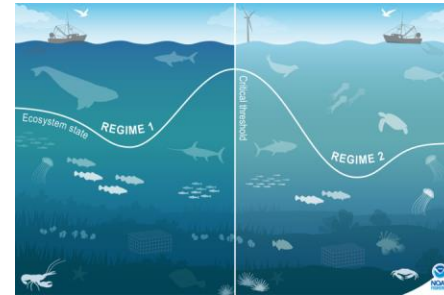
# Background

## Changes in physical oceanography in several scales

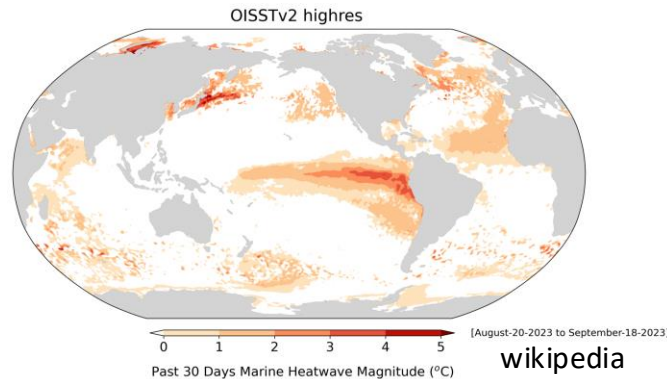
### Long-term & wide scale



### Mid-term & basin scale



### Short-term & local scale

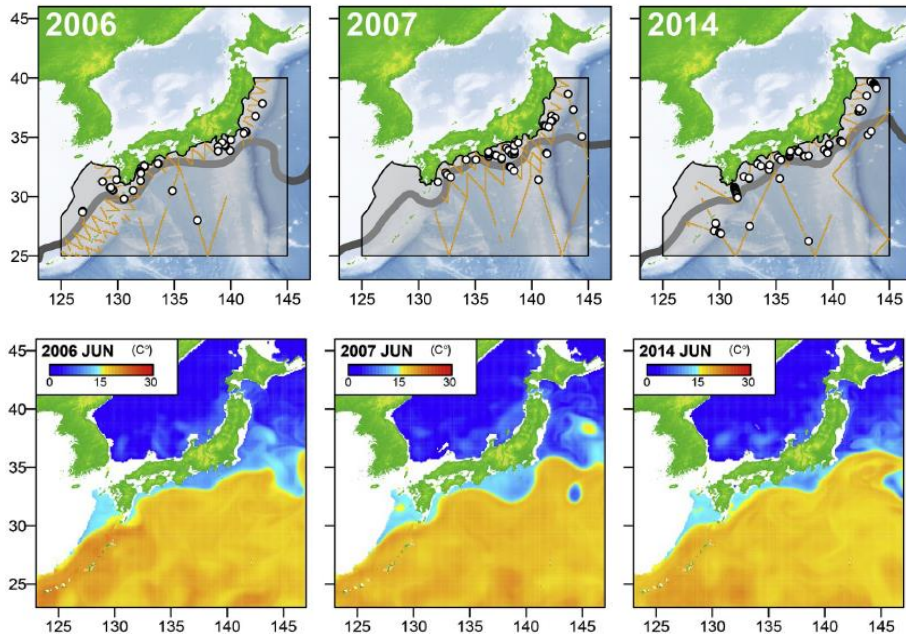


# Background

## Effects on marine top-predators



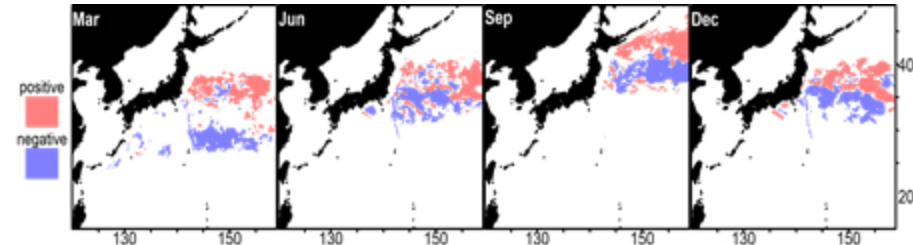
Risso's dolphin  
(*Grampus griseus*)



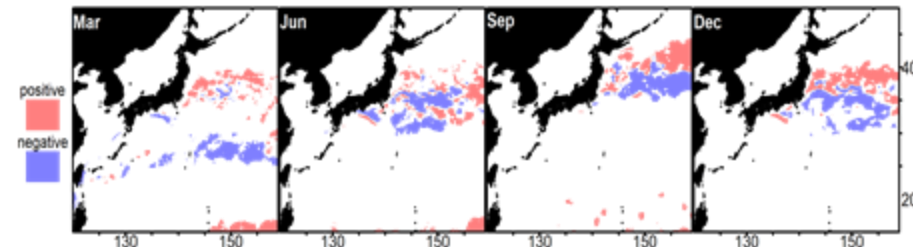
Kanaji and Gerrodette (2019, Deep-Sea Res II)



Common dolphin  
(*Delphinus delphis*)



Striped dolphin  
(*Stenella coeruleoalba*)



Kanaji et al. (in press, Diversity & Distributions)



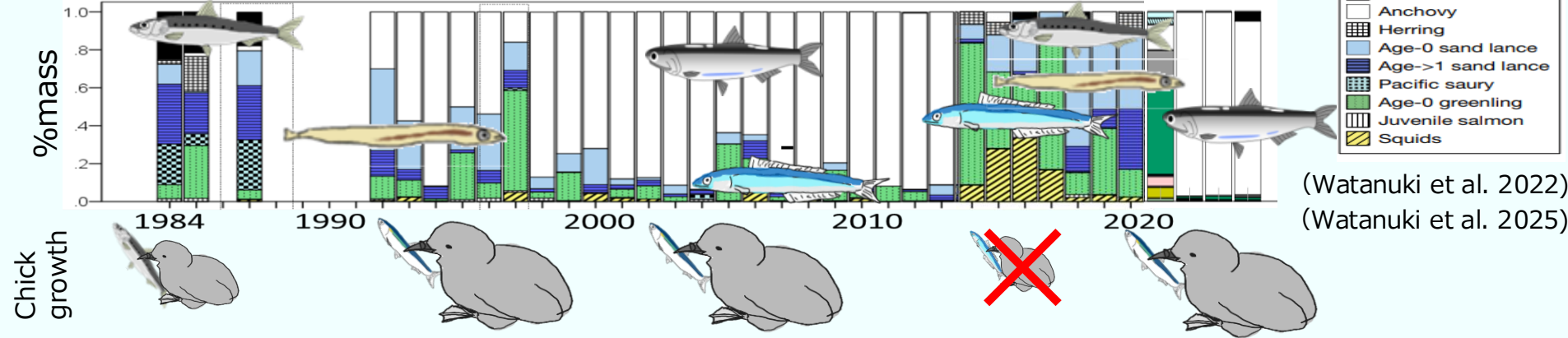
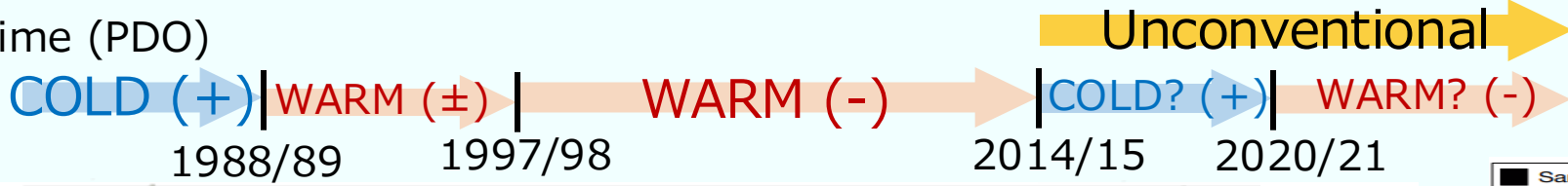


# Background

## Effects on marine top-predators

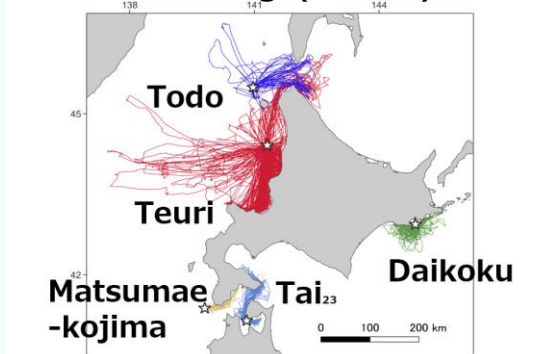
Rhinoceros auklets  
*Cerorhinca monocerata*

Regime (PDO)

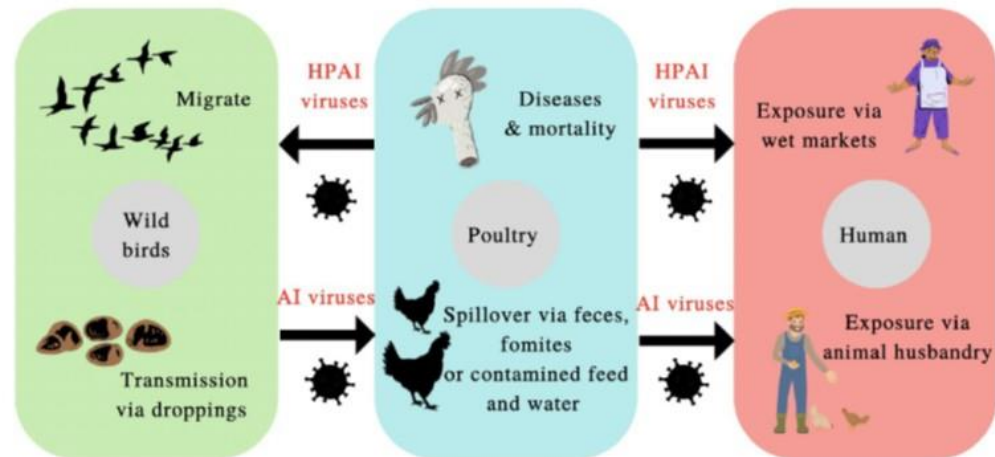


Diet monitoring and GPS tracking (2014-)

- Occurrence of anchovies during warm regimes are important for reproductive success of rhinoceros auklets.
- The PDO – Oceanic environment – Seabird relationships are widely observed across colonies around Japan.
- Behavioural responses of seabirds on the regime shifts across colonies around Japan will be studying.



# Background Avian Influenza



Chai (2024, UGA Poultry Science)

The Mainichi

Japan's National Daily Since 1922



Search

Top Latest Japan Politics World Business Sports Science Entertainment Opinion Lifestyle Obi

## Bird flu suspected in mass deaths of sea animals in eastern Hokkaido

May 8, 2025 (Mainichi Japan)

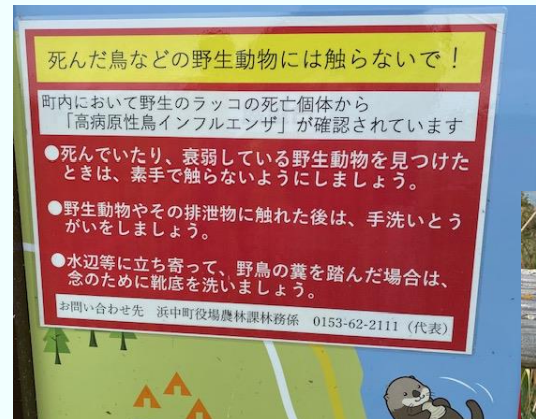
Japanese version



A slaty-backed gull collapses after stumbling in Shunkuntai in the city of Nemuro, Hokkaido, March 18, 2025, in this photo provided by the Wild Bird Society of Japan, a public interest incorporated foundation. This abnormal behavior is believed to be due to the avian flu.

NEMURO, Hokkaido -- The highly pathogenic avian influenza, known for its high mortality rate, is suspected as the cause of mass deaths and abnormal behavior of sea animals in eastern Hokkaido.

Since mid-March, the eastern coast of Hokkaido has seen a rise in seabirds and marine mammals believed to have been infected with bird flu. In the city of Nemuro, an independent survey by volunteers had confirmed the carcasses of 614 seabirds as of May 4, along with seals and sea



**Don't touch  
wild animals!**



# Goal

- 1. Understand changing ocean and its effects on top-predators (case study & review)**
- 2. Discuss how we address mortality events and health impacts under changing environments (monitoring & measurement)**

# Speakers

## Invited 1 Vladimir Burkanov



(North Pacific Wildlife Consulting LLC)

*Unprecedented Mass Mortality of Marine Mammals and Seabirds on Tuleny Island, Sakhalin, Russia, in 2023*

→ Case study of mass die-off of marine mammal and birds: how we detect unusual event

## Invited 2 Jennifer Provencher



(Environment and Climate Change Canada)

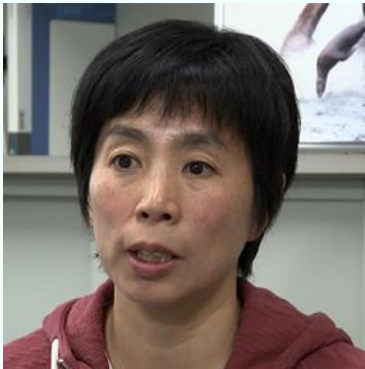
*Assessing exposure to avian influenza in seabirds in Canada*

→ Case study of avian influenza infection to wild birds: research network to monitor and prevent virus spread-out



# Speakers

## Special talk Kaoru Hattori



(Japan Fisheries Research and Education Agency)

*Status review for unusual mortality events in the world*

→TBD

## Contributed Hikari Maeda



(Japan Fisheries Research and Education Agency)

*Monitoring of life history parameters of small cetaceans: Framework to monitor population dynamics of top-predators*

→Fishery-dependent monitoring system to assess health conditions of dolphin populations