A Brief Introduction
Second CEARAC Expert Meeting on Eutrophication Assessment in the NOWPAP Region

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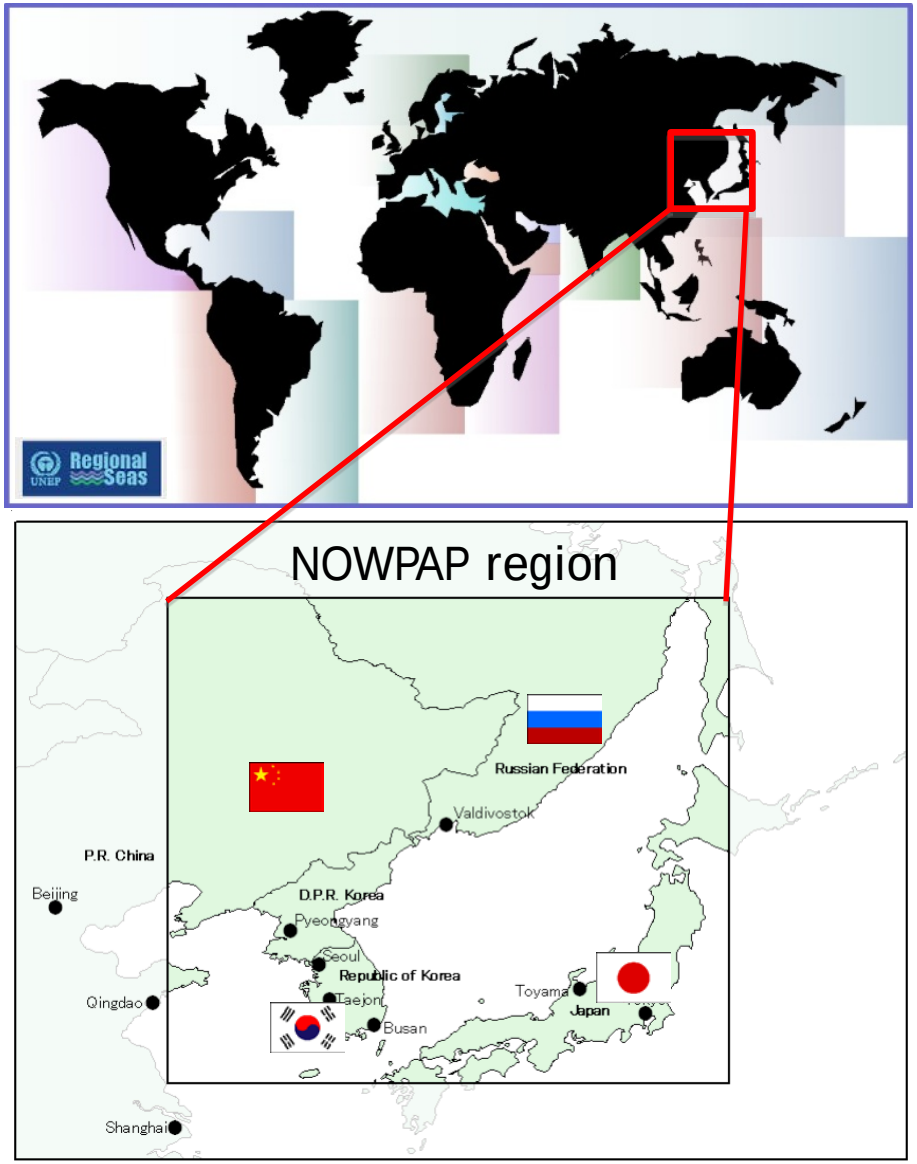
NOWPAP CEARAC

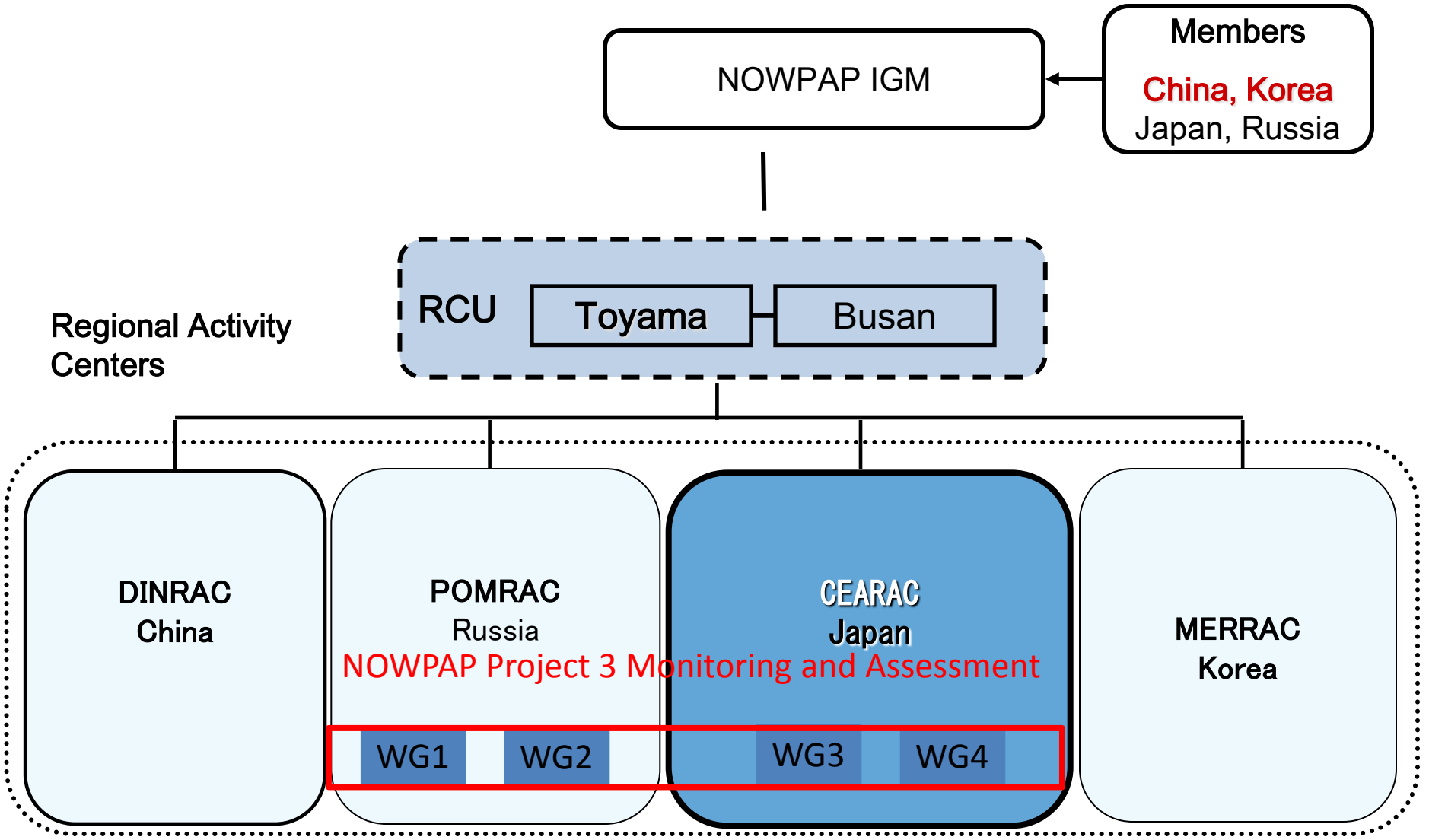
March 22, 2019

Regional Sea Program and NOWPAP

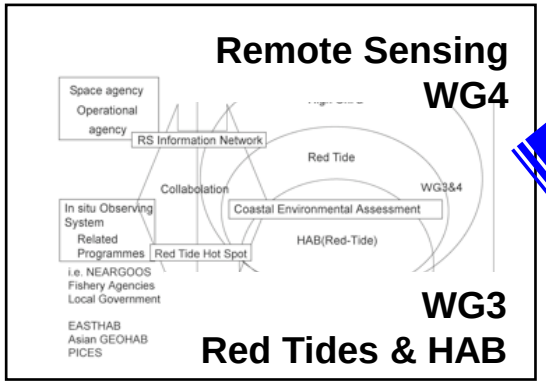
- Regional Sea Program (RSP)
  - Launched in 1974 by UNEP to address the accelerating degradation of the world's oceans and coastal areas.
  - RSP covers 18 regions across the world today
- NOWPAP (Northwest Pacific Action Plan)
  - Adopted in 1994
  - China, Japan Korea and Russia
  - Latitude 33 - 52^{O}N
  - Longitude 121 – 143E



NOWPAP Structure



Progress on CEARAC eutrophication assessment activities



CEARAC mid- and long term strategies

Procedures for assessment of eutrophication status including evaluation of land-based sources of nutrients for the NOWPAP region
(Developed in June 2009)

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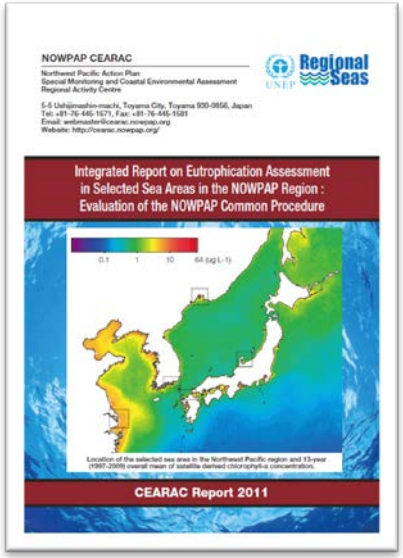
Procedures for eutrophication assessment (NOWPAP Common Procedure)

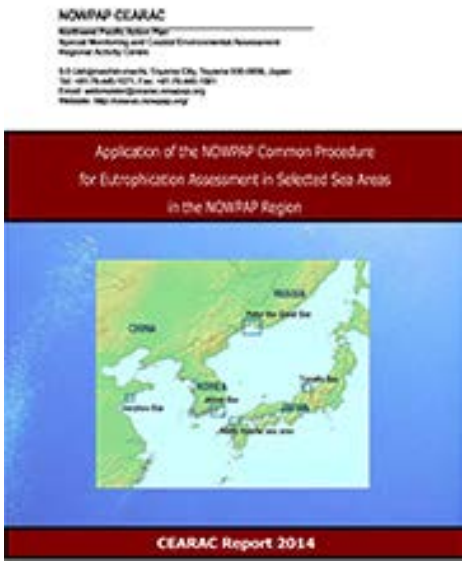


Integrated report of eutrophication assessment

Dr. Maria Laamanen HELCOM Secretariat

2007 2008-2009 2010-2011

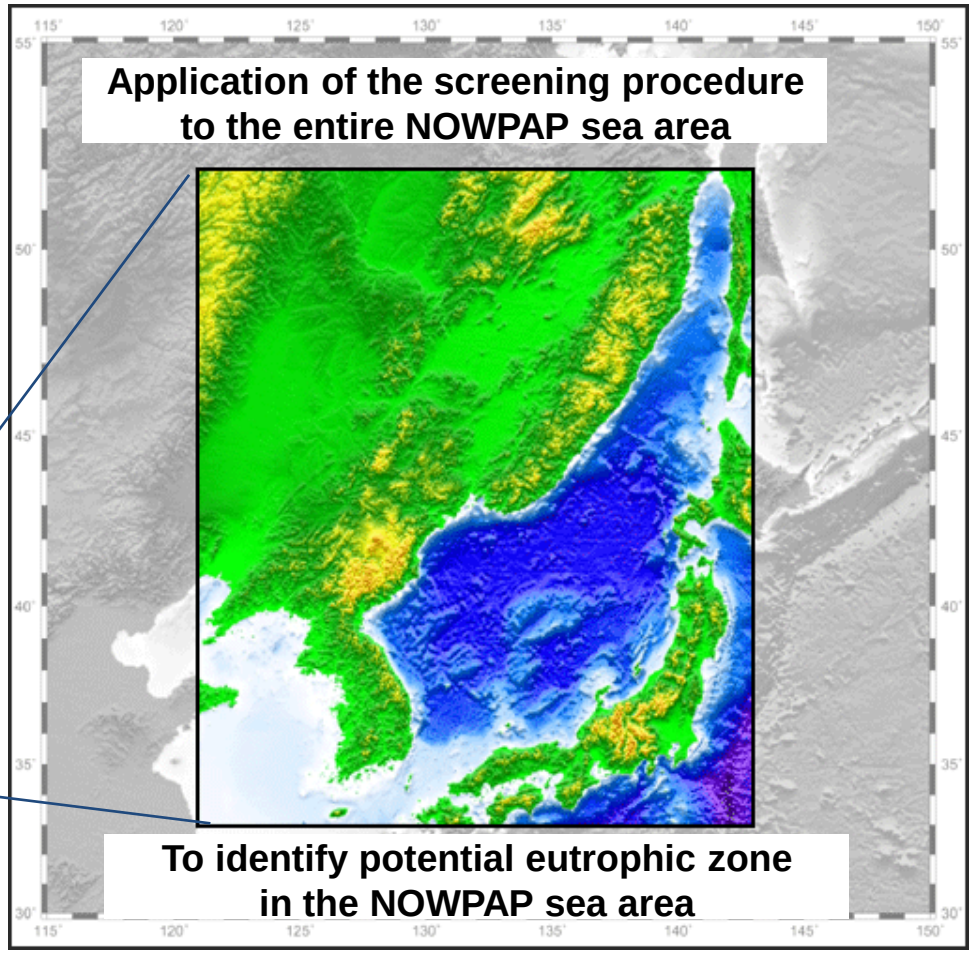
Progress on CEARAC eutrophication assessment activities



Refined Procedures

Screening Procedures

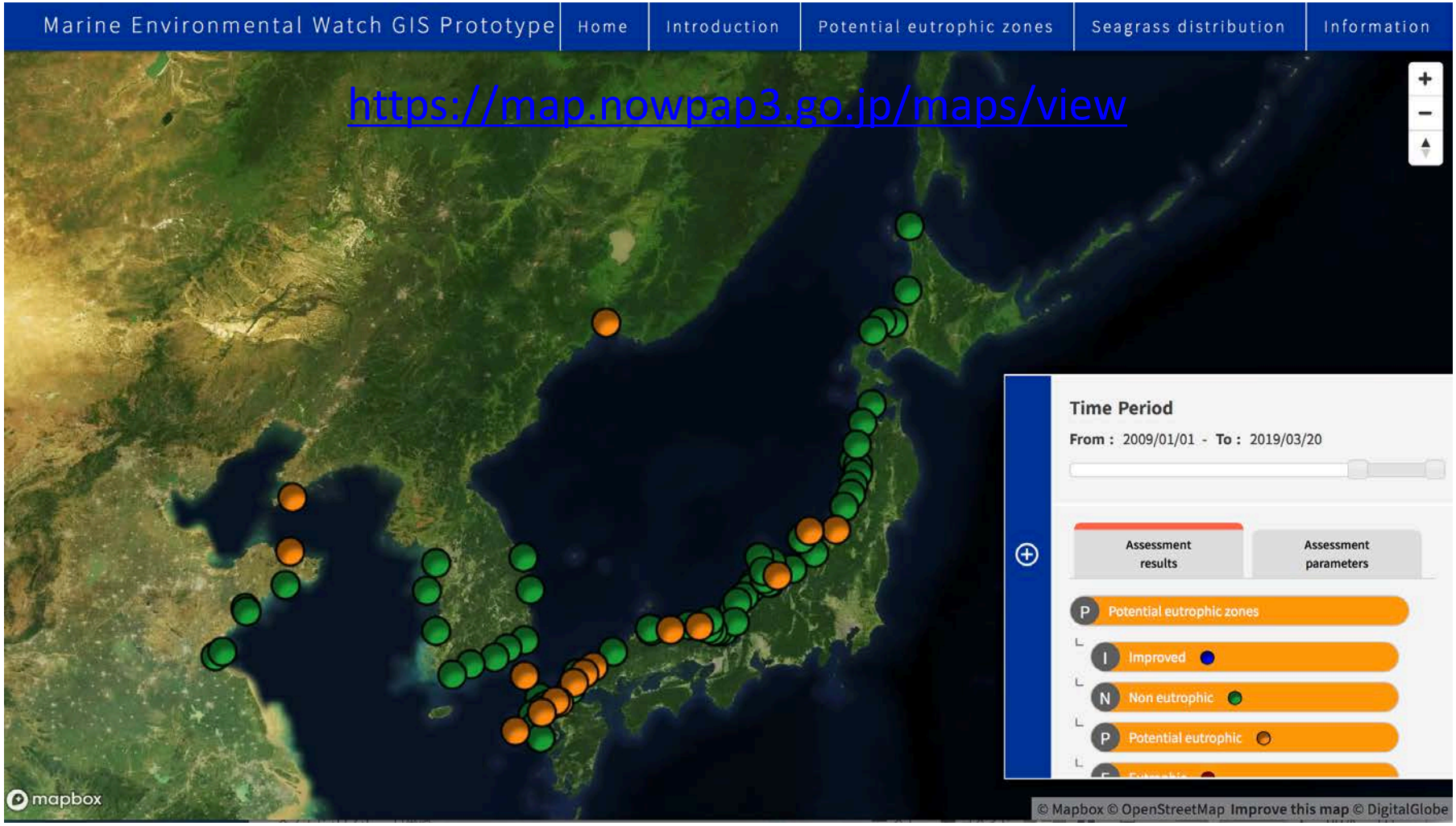
Comprehensive Procedure



2012-2013

2014-2015

Potential eutrophic zones in the NOWPAP region



16 potential eutrophic zones reported in 79 subareas in the NOWPAP region.

CEARAC Expert Meeting on Eutrophication Assessment in the **NOWPAP** Region October 18, 2017 Qingdao, China

Achievements until 2017

- Potential eutrophic zones in the NOWPAP region were identified and visualized on a map.
- Continuation of eutrophication assessment activities were suggested to fill the information gap between countries
- Annual update of satellite Chl-a map was encouraged
- Co-submission of scientific paper was also encouraged

Assessment of eutrophication using remotely sensed chlorophyll-a concentration in the Northwest Pacific region

PROCEEDINGS OF SPIE

SPIEDigitalLibrary.org/conference-proceedings-of-spie

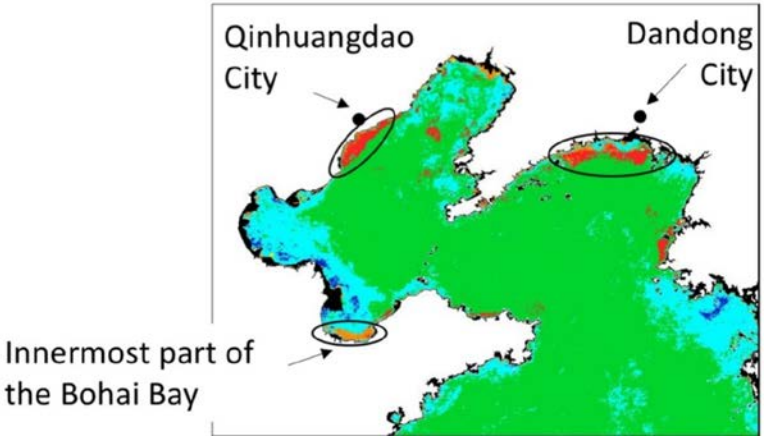
Assessment of eutrophication using remotely sensed chlorophyll-a in the Northwest Pacific region

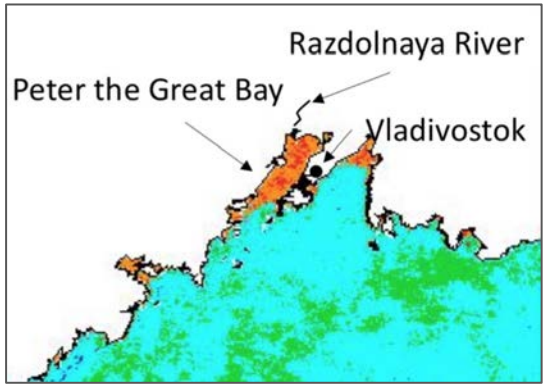
Genki Terauchi, Eligio de Raús Maure, Zhiming Yu, Zaixing Wu, Changkyu Lee, Vasiliy Kachur, Joji Ishizaka, "Assessment of eutrophication using remotely sensed chlorophyll-a in the Northwest Pacific region," Proc. SPIE 10778, Remote Sensing of the Open and Coastal Ocean and Inland Waters, 107780H (24 October 2018); doi: 10.1117/12.2324641

SPIE.

Event: SPIE Asia-Pacific Remote Sensing, 2018, Honolulu, Hawaii, United States

1998-2015





POMRAC EcoQOs

- NOWPAP EcoQO indicators proposed by POMRAC
  - 3.1.1. Nutrients concentration
  - 3.1.2. Nutrient ratio
  - 3.2.1. Chlorophyll-a concentration
  - 3.2.2. Harmful Algal Blooms(HABs)
  - 4.1.1. Concentration of contaminants
  - 5.1.1. Marine Litters