UN Ocean Decade Programme
UN24 Explore the strongest ocean current in the Western Pacific: the 2nd Cooperative Study of Kuroshio and Adjacent Regions – from its sciences to human well beings (CSK-2)

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Endorsed by the IOC Sub-Commission for the Western Pacific

Fourteenth Intergovernmental Session of the IOC Sub-Commission for the Western Pacific
4-7 April 2023, Jakarta, Indonesia
Presentation outline

1. Justification for the Decade
2. Brief descriptions of the Decade Action
3. Main progress made since it was accepted as the Ocean Decade Actions in June 2022
4. Activities tentatively planned for May 2023- April 2025
5. Recommendations
1. Justification

Background: CSK-1 (1965-1979), ~50 years ago,

- Gave us a preliminary understanding of the circulation, ecosystem, and fishery characteristics of the Kuroshio region
- Substantial knowledge gaps become increasingly prominent, and need to be filled in the understanding of the Kuroshio

![Diagram of ocean currents and cycling]

**Fig. 1-1.** Schematic map of currents, fronts, and fishing grounds (from Uda, 1972).
1. Justification

Kuroshio and its adjacent region is one of the key regions for the ecosystem, and also has been known as one of the most responsive areas to the global warming.
1. Justification

Multi-scale ocean and air-sea processes are unclear.
1. Justification

Responses of the Kuroshio and Adjacent Regions to global climate changes, and associated impacts on surroundings and fish catches are still unclear.

![Graph showing normalized AMO index and fish catches anomaly around Kuroshio]

**Normalized AMO index**

- **Amplitude**
  - 3
  - 2
  - 1
  - 0
  - -1
  - -2
  - -3

- **Year**
  - 1945
  - 1955
  - 1965
  - 1975
  - 1985
  - 1995
  - 2005

**Fish catches anomaly around Kuroshio**

- **Annual catch in millions**
  - 0
  - 50
  - 100
  - 150

**Species Catch**

- **Columbia River spring chinook**
- **Washington–Oregon–California coho**
- **Seattle–Vancouver–San Diego sablefish**

**Sources**

- **PDO**
  - Tian et al., 2014

- **The salmon catch in the NE Pacific**
  - Mantua et al., 1997

- **Mantua et al.**
  - Wu et al., 2020, NCC

- **NCC**
  - Wu et al. 2020
2. Brief descriptions of the Decade Action

Objective 1: to understand the Kuroshio and its impact on global and regional weather and climate, with a societal outcome to achieve improved regional weather forecasts and climate predictions;

Objective 2: to understand the Kuroshio in relation to its marine ecosystem, with a societal outcome to achieve better management of regional fisheries and aquaculture along the Kuroshio and in its adjacent regions.

April 2021 – December 2030

2022-2024

- Initiatives/projects
- Data and Information Management Plan
- Seek more engagements

2024-2026

- Scientific products from initiatives/projects
- Data sharing
- Co-design with stakeholders

2024-2026

- More scientific products
- More data
- Societal benefits (co-delivery) via co-production

2024-2026

- More scientific products
- More data
- Societal benefits (co-delivery) via co-production
3. Main progress made since accepted as the Ocean Decade Actions in June 2022

Before 2022:
- Established by IOC/WESTPAC in April 2021,
- The 1st ISG meeting in December 2021
  Submit the CSK-2 to UN Decade Action
- CSK-2 was registered as UN-24 in April 2022.

After June 2022:
- The 2nd ISG meeting in July 2022.
  Call new initiative as Project
  Done in November 2022 with 12 proposals submitted
- The 1st international symposium in February 2023 in Bangkok,
  Followed by the 3rd ISG meeting
  11 proposals were endorsed, 1 for improvement.
  National and institutional annual reports
  Importance of CSK-2 data system was well recognized
  2nd call for project proposal will be take place
  ECOP of CSK-2 will start by ECOPs
  4th ISG will be hosted by Laoshan Laboratory in Qingdao, China.
4. Plan activities for May 2023-April 2025

1. Scientific papers to be published from endorsed projects/initiatives
2. Some data nodes in operation
3. Data portal sites in operation
4. Support office to be launched
5. More engagements from operational agencies in member states
6. More dialogues with stakeholders
7. Start co-design (or re-design) processes with dedicated stakeholders
## 4. Plan activities for May 2023-April 2025

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<td>1. 4th ISG</td>
<td>Discuss way forward</td>
<td>Exchange scientific information</td>
<td>Engagements of operational agencies and young experts</td>
<td>Fall in 2023</td>
<td>0</td>
<td>200K</td>
<td>Laoshan Laboratory</td>
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<td>2. 5th ISG and 2nd Science Symposium</td>
<td>Exchange scientific information Discuss way forward</td>
<td>Papers and reports</td>
<td>Spring in 2024</td>
<td>0</td>
<td>200k</td>
<td>Host not determined yet</td>
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<td>3. Session at the WESTPAC Conference</td>
<td>Exchange scientific achievements</td>
<td>Papers and reports</td>
<td>Spring in 2024</td>
<td>0</td>
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<td>4. Decade Incubator at the regional Decade Conference</td>
<td>Develop framework to sustain dialogues with stakeholders</td>
<td>Framework</td>
<td>Spring in 2024</td>
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<td>5. 6th ISG</td>
<td>Exchange scientific information Discuss way forward</td>
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<td>6. 7th ISG and 3rd Science Symposium</td>
<td>Exchange scientific information Discuss way forward</td>
<td>Papers and reports</td>
<td>2025</td>
<td>0</td>
<td>200k</td>
<td>Host not determined yet</td>
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5. Recommendations

- Engagement more experts into the CSK-2 programm
- Cooperate with governments to engage operational agencies in each member state
- A support office is planned
Figure 2.2 Tanka: a Japanese poem of thirty-one syllables by Prof. Michitaka Uda. The poem reads “Thinking of life at ocean fronts “Shiome” in the unceasing Kuroshio, flowing vigorously during day and night.”

Fig. 1-1. Schematic map of currents, fronts, and fishing grounds (from Uda, 1972).