S10 Synchronous and asynchronous responses of North Pacific boundary current systems to climate variability

J. Barth, S. Bograd, K. Komatsu, V. Lobanov, S. Ito

09:00-09:05  Introduction by Convenors
[Kosei]
09:05-09:35  Masami Nonaka (Invited)  Oyashio
09:35-09:55  Harold P. Batchelder  eastern boundary (E)
09:55-10:15  Elena I. Ustinova  western boundary
10:15-10:35  Steven J. Bograd  west & east

10:35-10:55  Tea/Coffee Break

[Steve]
10:55-11:25  Andrew Bakun (Invited)  eastern boundary (E)
11:25-11:45  Hiroshi Ichikawa  western boundary
11:45-12:05  Shoshiro Minobe  Kuroshio-Oyashio Extension
12:05-12:25  George Shevchenko  East Sakhalin Current (E)
12:25-14:00  Lunch
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<th>Time</th>
<th>Speaker</th>
<th>Topic</th>
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<td>14:00-14:30</td>
<td>Bo Qiu (Invited)</td>
<td>Kuroshio Extension</td>
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<td>14:30-14:50</td>
<td>Shin-ichi Ito</td>
<td>Kuroshio &amp; Oyashio</td>
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<td>14:50-15:10</td>
<td>David L. Mackas</td>
<td>California Current (E)</td>
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<td>15:10-15:30</td>
<td>Jin Woo Kim</td>
<td>Kuroshio</td>
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<td>15:30-15:50</td>
<td>Tea/Coffee Break</td>
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<td>15:50-16:20</td>
<td>Ryan R. Rykaczewski</td>
<td>California Current (E)</td>
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<td>16:20-16:40</td>
<td>William T. Peterson</td>
<td>California Current (E)</td>
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<td>16:40-17:00</td>
<td>Peter W. Lawson</td>
<td>Northeast Pacific (E)</td>
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<td>17:00-17:20</td>
<td>Kiyotaka Hidaka</td>
<td>Kuroshio (E)</td>
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<td>17:20-17:30</td>
<td>Summary by Convenors</td>
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**Posters**
- Gennady V. Khen: northern Pacific
- Victor I. Kuzin: Kuroshio
- Ryan R. Rykaczewski: California Current (E)
climatology of wintertime wind stress curl

wind stress curl
NCEP/NCAR monthly data 1949-2000
2.5 deg resolution 1-2-1 filter

Sverdrup transport
65Sv at 27.5N
-45Sv at 52.5N

Ishi and Hanawa (2005)
Wintertime wind stress curl

REOF1: wind stress curl
negative correlation with NPI -0.93
synchronized barotropic response

In real ocean, there is also baroclinic response and not only synchronized response exists.

Ishi and Hanawa (2005)
E-W synchronicity of sardine & anchovy alternation

Positive PDO (1976-87)
= “Sardine Dominant Regime”
• High PP in West, Low PP in CC
• Faster Kuroshio and Slower CC

Negative PDO (1945-75)
= “Anchovy Dominant Regime”

Chavez (2003)
The Flow Hypothesis
Species Relationships in Boundary Current System

Weak Flow
- Sardinops

Regime Shift
- Trachurus

Engraulis -- nearshore
(+ Trachurus offshore?)

Regime Shift
- Scomber

Strong Flow

McCall(2004)