MONITORING OF TSUSHIMA WARM CURRENT IN THE NORTHERN JAPAN SEA IN SPRING 2003

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Monitoring of Tsushima Warm Current

• 1. Satellite SST measurements in the northern Japan Sea
• 2. CTD measurements at standard section cape Slepkovsky – cape Zolotoy
• Installation of mooring in southern part of Tartary Strait in winter 2003
Decadal SST maps, April 2003

1-10 April

11-20 April

21-31 April
Decadal SST maps, May 2003

1-10 May

11-20 May

21-31 May

Weak warm water flux of Tsushima and Soya Warm Currents in May 2003
CTD surveying and moorings installation in the southern part of Tartary Strait

<table>
<thead>
<tr>
<th>Mooring</th>
<th>Period</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>T106</td>
<td>18.12.1997-16.03.1998</td>
<td>20 m</td>
</tr>
<tr>
<td>KS</td>
<td>25.01. – 28.05.2003</td>
<td>30 m</td>
</tr>
<tr>
<td>KM</td>
<td>24.01 – 28.05.2003</td>
<td>30 m</td>
</tr>
</tbody>
</table>

(SZ) standard section

c. Slepikovsky – c. Zolotoy
Temperature distribution, SZ section

Multiyear mean

April 25, 2003
Salinity distribution, SZ section

Multiyear mean

April 25, 2003
Geostrophic velocity, SZ section

Multiyear mean

April 25, 2003
Temperature and salinity anomalies in the western (Primorie) and eastern (Sakhalin) parts of SZ standard section and standard deviation calculated from multiyear observations (in denominator).

<table>
<thead>
<tr>
<th>Layer / parameter</th>
<th>0-20</th>
<th>0-30</th>
<th>0-50</th>
<th>0-100</th>
<th>20-100</th>
<th>30-100</th>
<th>50-100</th>
<th>100-200</th>
<th>0-200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature, °C.</td>
<td>+0.65</td>
<td>+0.64</td>
<td>+0.59</td>
<td>+0.54</td>
<td>+0.52</td>
<td>+0.5</td>
<td>+0.49</td>
<td>+0.49</td>
<td>+0.52</td>
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<tr>
<td></td>
<td>0.89</td>
<td>0.89</td>
<td>0.87</td>
<td>0.82</td>
<td>0.8</td>
<td>0.79</td>
<td>0.77</td>
<td>0.57</td>
<td>0.72</td>
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<tr>
<td>Salinity, ‰.</td>
<td>+0.13</td>
<td>+0.12</td>
<td>+0.1</td>
<td>+0.07</td>
<td>+0.05</td>
<td>+0.04</td>
<td>+0.03</td>
<td>-0.01</td>
<td>+0.03</td>
</tr>
<tr>
<td></td>
<td>0.2</td>
<td>0.2</td>
<td>0.18</td>
<td>0.15</td>
<td>0.14</td>
<td>0.13</td>
<td>0.12</td>
<td>0.08</td>
<td>0.13</td>
</tr>
<tr>
<td>Temperature, °C.</td>
<td>-0.13</td>
<td>-0.1</td>
<td>-0.12</td>
<td>-0.21</td>
<td>-0.23</td>
<td>-0.25</td>
<td>-0.29</td>
<td>-0.1</td>
<td>-0.16</td>
</tr>
<tr>
<td></td>
<td>1.25</td>
<td>1.23</td>
<td>1.18</td>
<td>1.07</td>
<td>1.02</td>
<td>1.0</td>
<td>0.95</td>
<td>0.66</td>
<td>0.87</td>
</tr>
<tr>
<td>Salinity, ‰.</td>
<td>-0.13</td>
<td>-0.13</td>
<td>-0.13</td>
<td>-0.1</td>
<td>-0.1</td>
<td>-0.09</td>
<td>-0.08</td>
<td>-0.07</td>
<td>-0.09</td>
</tr>
<tr>
<td></td>
<td>0.17</td>
<td>0.16</td>
<td>0.15</td>
<td>0.12</td>
<td>0.11</td>
<td>0.1</td>
<td>0.09</td>
<td>0.06</td>
<td>0.09</td>
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</tbody>
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Current velocity near Moneron Island, T106 mooring winter 1998

Current velocity near Moneron Island, KS mooring winter –spring 2003
CONCLUSION

• 1. We found weakening of Tsushima and Soya warm currents from satellite SST maps
• 2. Temperature and salinity negative anomalies were revealed in the eastern part of SZ section
• 3. Relatively small depth of Tsushima current and weakening of West Sakhalin current too
• 4. North-directed current in 2003 2-3 times less then in 1998