Discussion items for the sea ice research group

KICK OFF Meeting for
IARC-JAXA 4th Generation Arctic Research
Dec 15-16, 2011    Venue: IARC 401
IARC-JAXA Project (Phase-3: 2008-2010)

Ocean Research Theme:
Elucidation of the role of sea-ice cover change on the marine ecosystem using multi-sensor remote sensing approaches

SG1: Ice thickness retrieval (Enomoto, Tateyama)
SG2-1: Ocean color retrieval (Saito, Hirawake)
SG2-2: Ice-Ocean dynamics and phytoplankton dynamics (Saito, Watanabe)
SG2-3: Ocean circulation and sea-ice dynamics (Shimada, Mizobata)
SG2-4: Yukon/Mackenzie river discharges (Chikita)
Summary of the ocean researches in the 3rd phase

Overall comments on the ocean research from the review board committee (Dec.5, 2010)

1. Excellent outcomes have been obtained. However, cooperative works between sea-ice/ocean dynamics and ecosystem should have been enhanced.

2. Due to the funding limitation, next ocean research topics should be restricted to and concentrated on a one to which satellite data are effectively contributed within the next 3 years.

-> “Sea-ice and ocean dynamics related one” was recommended as the next ocean research topics.
Review results and Recommendations for 4th phase

[Main research topics: Sea-Ice]

1. “Studies on mechanisms of catastrophic reduction of sea ice and their impacts on ocean environment” proposed by Shimada PI was selected as the main research theme of ocean.

2. Continuation of the researches on sea-ice thickness retrieval using passive microwave radiometers (PMRs) and SARs is also recommended by RB.
IARC-JAXA Project (Phase-4: 2011-2013)

Ocean Research Theme:
Studies on mechanisms of catastrophic reduction of sea ice and their impacts on ocean environment

Currently Japan side member only

SG01 Development of the sea ice motion algorithm using satellite data (Shimada)
SG02 Estimation of sea surface heat flux (Shimada)
SG03 Development and improvement of a sea ice thickness (heavy ice: Wakabayashi/thin ice: Tateyama)
Discussion items

For the completion of the IARC-JAXA research plan of sea-ice group,

1. Clarify and share the scope of your research theme among Japanese and UAF sea-ice research members.

2. Confirm the role and tasks (research targets and approaches) of individual research sub-groups and members. => Complete a matrix table for describing research activities and roles of individual sub-groups.
# Cooperation matrix (Japan-US)

<table>
<thead>
<tr>
<th>Group</th>
<th>Japan</th>
<th>USA</th>
<th>What</th>
<th>How</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>Shimada K (TUMST) Tateyama K (KIT) Wakabayashi H (NU)</td>
<td>Hinzman L (IARC/UAF)</td>
<td></td>
<td></td>
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<tr>
<td>Sea ice motion</td>
<td>Shimada K (TUMST) Mizobata K (TUMST)</td>
<td>Eicken H (GI/UAF)</td>
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<tr>
<td>Thick ice thickness</td>
<td>Tateyama K (KIT) Shibata H (KIT)</td>
<td>Hutchings J (IARC/UAF)</td>
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</tr>
<tr>
<td>Thin ice thickness</td>
<td>Wakabayashi H (NU) Nakamura K (AIST) Tateyama K (KIT)</td>
<td>Eicken H (GI/UAF)</td>
<td><em>(e.g.) Measurement of dielectric properties of ice</em></td>
<td><em>(e.g.) Cooperative obs. at Barrow using VNA etc.</em></td>
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<tr>
<td>Hydrography</td>
<td>Shimada K (TUMST) Yamamoto-Kawai M (TUMST) Mizobata K (TUMST)</td>
<td>Polyakov I (IARC/UAF)</td>
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