

# ***Multidisciplinary drifting Observatory for the Study of Arctic Climate (MOSAIC)***

***Science Planning Workshop***

***27-29 June 2012***

***Boulder, Colorado, USA***

## **Concept of MOSAIC:**

Establish an international, multi-year, manned, drifting observatory in the central Arctic sea-ice pack to obtain comprehensive observations of interdependent atmosphere, sea-ice, and ocean processes that are important to the Arctic climate system. The drifting observatory will act as a centerpiece for a mosaic of coordinated and distributed observational activities throughout the Arctic Basin. Together these observational activities will comprise a testbed for process, regional, and global model evaluation and development.

## **Workshop Objective:**

Clearly delineate the high-level science drivers and questions concerning the central Arctic climate that can and should be addressed using a drifting observatory and related activities. Emphasis will be on defining fundamental questions that capture the important process-level linkages between the Arctic sea-ice, ocean, and atmosphere. An additional objective is to develop pathways towards broader coordination of these activities within the Arctic science community. Workshop results will contribute towards the development of a MOSAIC Science Plan.

**Organized and Supported by:** *International Arctic Science Committee*

**Additional Workshop Support:** *University of Colorado – CIRES*

*NOAA Earth System Research Laboratory*



## **Workshop Details:**

*Location:*

Rooms GB-124 and GC-402 (one floor down from main lobby)  
NOAA David Skaggs Research Center  
325 Broadway, Boulder, CO 80305

*Multidisciplinary drifting Observatory for the Study of Arctic Climate (MOSAIC)*

*Science Planning Workshop, 27-29 June 2012, Boulder, CO*

**DRAFT AGENDA**

**Wednesday, 27 June 2012: Room GB-124**

**Please try to arrive on site by 13:00 to allow for sufficient check in time.**

<b>13:30-14:00</b>	<b>Welcome and General Workshop Overview – Matthew Shupe</b> Establish workshop objectives; Background on prior planning activities; Acknowledge support of IASC and others; Structure of meeting and associated logistics; Introduction of participants; Charge to participants
<b>14:00-14:30</b>	<b>Science Driver Overview – Ola Persson</b> Broadly paint the picture of the system as a whole and motivate the need to study the system as a whole; Indicate that there has been a great lack of observations in the central Arctic; Outline the very top-level difficulties with modeling the system as a whole
<b>14:30-15:45</b>	<b>Science Discipline Overviews – Atmosphere</b> What are the primary science questions? What has past work shown us? Model perspectives and needs. What specific observations are needed? <ul style="list-style-type: none"><li>• Presentation #1: Michael Tjernström – 30 min</li><li>• Presentation #2: John Walsh – 30 min</li><li>• Questions/discussion – 15 min</li></ul>
<b>15:45-16:15</b>	<b>Break – Beverages and light refreshments</b>
<b>16:15-17:30</b>	<b>Science Discipline Overviews – Sea-Ice</b> What are the primary science questions? What has past work shown us? Model perspectives and needs. What specific observations are needed? <ul style="list-style-type: none"><li>• Presentation #1: Don Perovich – 30 min</li><li>• Presentation #2: Sebastian Gerland – 30 min</li><li>• Questions/discussion – 15 min</li></ul>
<b>17:30-17:45</b>	<b>Wrap up, Logistics, Establish tomorrow's plan</b>
<b>17:45</b>	<b>Adjourn</b>
<b>19:00</b>	<b>Workshop dinner</b> Joint with <i>Arctic Boundary Layers Workshop</i>  <i>Gold Hill Inn, 401 Main St. Gold Hill, Colorado</i> Charter bus pickup 6 pm at NOAA and 6:15 pm at hotels Return by about 10 pm

*Multidisciplinary drifting Observatory for the Study of Arctic Climate (MOSAIC)*

*Science Planning Workshop, 27-29 June 2012, Boulder, CO*

**Thursday, 28 June 2012: Room GC-402**

<b>08:30-09:45</b>	<b>Science Discipline Overviews – Ocean</b> What are the primary science questions? What has past work shown us? Model perspectives and needs. What specific observations are needed? <ul style="list-style-type: none"><li>• Presentation #1: Craig Lee – 30 min</li><li>• Presentation #2: Jinping Zhao – 30 min</li><li>• Presentation #3: Christine Michel – 30 min (Biological Focus)</li><li>• Questions/discussion – 15 min</li></ul>
<b>09:45-10:15</b>	<b>Break - Beverages and light refreshments</b>
<b>10:15-11:30</b>	<b>Plenary Discussion</b> <ul style="list-style-type: none"><li>• General discussion</li><li>• Other disciplines and/or scientific linkages to consider</li><li>• Report from Russian colleagues</li><li>• Breakout session structure and objectives, identify rapporteurs</li></ul>
<b>11:30-13:00</b>	<b>Lunch</b>
<b>13:00-15:00</b>	<b>Breakout Sessions: Individual Disciplines in parallel</b> <ul style="list-style-type: none"><li>• Identify highest level science questions and links to other disciplines</li><li>• Discuss specific observational needs within discipline (although not “implementation”) and links to others</li><li>• Rapporteur collects ideas in slide form for presentation.</li></ul>
<b>15:00-15:30</b>	<b>Break - Beverages and light refreshments</b>
<b>15:30-17:00</b>	<b>Breakout Sessions: Individual Disciplines in parallel (continued)</b>
<b>17:00-17:30</b>	<b>Plenary Session – Wrap up and plan for tomorrow</b>
<b>17:30</b>	<b>Adjourn</b>

*Multidisciplinary drifting Observatory for the Study of Arctic Climate (MOSAIC)*

*Science Planning Workshop, 27-29 June 2012, Boulder, CO*

**Friday, 29 June 2012: Room GC-402**

<b>08:30-10:00</b>	<b>Plenary Session: Developing Science Drivers</b> Summary presentations of individual discipline science questions (15min each). General discussion of these topics, Identify cross-cutting themes.
<b>10:00-10:30</b>	<b>Break - Beverages and light refreshments</b>
<b>10:30-12:00</b>	<b>Plenary Session: Developing Science Drivers</b> Discussion of linkages and larger-scale connections between disciplines. Discussion of implications and other influences on the science objectives (i.e., commercial, ecosystems, communities, data users, other stakeholders)
<b>12:00-13:30</b>	<b>Lunch</b>
<b>13:30-15:00</b>	<b>Plenary Session: Developing Science Drivers</b> Discussion and formulation of high-level guiding science questions, working towards “rough” but “final” ideas.
<b>15:00-15:30</b>	<b>Break - Beverages and light refreshments</b>
<b>15:30-17:00</b>	<b>Plenary Session: Logistical Details</b> <ul style="list-style-type: none"><li>• Funding sources: Develop a list of potential agencies that should be engaged in this process so that individuals can help to lay the necessary ground work for drawing in future agency support.</li><li>• International coordination strategies: IASC is an important vehicle. What others will help to support this general movement (CLiC, SAON, ISAC, AOS, etc.). Identify liaisons.</li><li>• Engagement of key communities: satellite, operational models, commercial, other stakeholders, etc. Identify liaisons where needed.</li><li>• Engaging young scientist participation: Connections with APECS, gaining participation of young scientists; Identify liaison.</li><li>• Future planning activities</li></ul>
<b>17:00</b>	<b>Adjourn</b>

***Thanks for your participation!***