For all likert scale questions 1= not important / of no value and 6 = very important / very valuable)

**Questions about value of pre-deployment meeting:**

*Participant travel to ANDRILL headquarters in Lincoln Nebraska was supported for ANDRILL ARISE participants. This type of support is not typical.*

1. Did you participate in the summer pre-deployment meeting? YES or NO
2. How valuable was the pre-deployment meeting? (1−6 on Likert scale, with N/A option)
3. Provide details on the value of the pre-deployment meeting to you (open response)

**Questions about impact of being deployed as part of a group / team:**

*The majority of science immersion for educators embeds a single educator in a science research team. ANDRILL ARISE was unique in that it deployed a team of international educators together.*

1. How important or valuable to your E and O work was being deployed as part of a team? (1−6 on Likert scale)
2. Provide details on how being part of an E and O team impacted your on-ice and post-ice work (open response)

**Questions about value of deploying E and O coordinator with ANDRILL ARISE team:**

*Not only did ANDRILL ARISE deploy a team of educators to the ice, they also deployed the E and O coordinator. The E and O coordinator worked with the team before, during and after the on-ice experience, facilitated the geoscience course taught by scientists, worked with NSF to provide additional opportunities like on-ice field trips, scheduled our hands-on immersion into jobs on the science teams, helped coordinate outreach from the ice, and served as a liaison between educators, NSF and scientists.*

1. For which season did you deploy? MIS or SMS
2. How important or valuable to your on-ice experience and your post-ice work was the presence of the E and O coordinator? (1−6 on Likert scale)
3. Provide details supporting your response to the value of having an on-ice E and O coordinator (open response)

**Questions about attendance at the ANDRILL daily science briefings in Crary Lab:**

*ANDRILL ARISE members were expected to attend (where possible) the daily science briefings on coring progress, and initial description progress. ANDRILL ARISE participants also presented at a couple of meetings.*

1. How important to your E and O work was participation in the ANDRILL daily science briefings? (1−6 on Likert scale)
2. Provide details supporting your response to participation in the ANDRILL daily science briefings: (open response)
3. How important to your personal understanding of science was participation in the ANDRILL daily science meetings? (1−6 on Likert scale)
4. Provide details supporting your response to how your understanding of science was impacted by the ANDRILL daily science meetings: (open response)

**Questions about ANDRILL on-ice jobs:**

*ANDRILL ARISE participants contributed to ANDRILL science by completing on-ice jobs. Some of these were in the field, and others were at Crary Lab. These questions focus on the value of those jobs to your learning about Antarctic science and your E and O work.*

1. Did you complete a field-based assignment? YES or NO (if no, move to question 6)
2. How important or valuable to your personal understanding of science and ANDRILL was your field experience? (1−6 on Likert scale)
3. Provide details to support your response to the value/importance of your field experience to your personal understanding of science and ANDRILL: (open response)
4. How important to your E and O work was your field experience? (1−6 on Likert scale)
5. Provide details to support your response to the value/importance of your field experience to your E and O work: (open response)
6. What was / were your Crary Lab job/jobs?

Core Lab (Physical Properties)
Paleomagnetism
Micropaleontology (Chronostratigraphy)
Core scanning
Core splitting
Other (space for saying what it was)
7. How important to your E and O work and personal understanding of Science and ANDRILL was / were your lab jobs? (1−6 on ikert scale)
8. Provide details supporting your response to the importance of your lab job in your E and O work and your personal understanding of science and ANDRILL (open response)

**Questions about impact of participation in post-ice ANDRILL workshops and Conferences**

*ANDRILL ARISE participants were offered the opportunity to participate in both the May 2007 post-ice workshop at Florida State University (FSU) in Tallahassee and the SMS Science Integration Workshop in April 2010. Educators are not typically fully supported for continued involvement in research projects.*

1. Did you participate in the FSU Tallahassee workshop? Yes or No
2. If you did not participate in the FSU workshop, briefly provide a reason: (open response)
3. Did you participate in the Erice Science Integration Workshop? Yes or No
4. If you did not participate in the Erice workshop, briefly provide a reason: (open response)
5. Was participation in the Tallahassee Workshop/Erice Conference valuable to you?
(1−6 on Likert scale, with N/A option)
6. Provide details supporting your response to the value of participating in the Tallahassee Workshop / Erice Conference: (open response)

**Questions about the impact of the on-ice science course**

*One of the facets of the ANDRILL ARISE on-ice experience was participating in an on-ice ‘science course’ in which participants were introduced to or reviewed a specific aspect of the science being conducted. This only featured in the SMS deployment.*

1. Was the ‘science course’ valuable to your understanding of science and/or ANDRILL? (1−6 on Likert scale, with N/A option)
2. Provide details supporting your response to the value of the ‘science course’: (open response)

**Questions about impact of connections made during and after ANDRILL deployment**

*As a participant in ANDRILL you made connections with educators on your team, previous or subsequent ANDRILL ARISE participants, and scientists involved in ANDRILL. These questions touch on the role of those connections in building your understanding of ANDRILL science and your E and O work.*

1. How valuable are/were the connections you built through ANDRILL to your work in science and/or E and O? (1−6 on Likert scale)
2. Provide details/examples of how you have used those connections to complete your ANDRILL ARISE project or other continued and new E and O work: (open response)
3. How valuable/important were the **Educator−Educator** connections you made to your teaching / E and O? (1−6 on Likert scale)
4. Provide details or examples of the **Educator−Educator** connections that were valuable to you: (open response)
5. How valuable/important were the **Educator−Scientist** connections you made during ANDRILL to your teaching / E and O? (1−6 on Likert scale)
6. Provide details or examples of the **Educator−Scientist** connections that were valuable to you: (open response)
7. List and provide information on the collaborations that developed as a result of connections you built through ANDRILL (open response)

**Questions about International Aspect of ANDRILL**

*ANDRILL was a multinational cooperative scientific research project. Scientists and educators from the USA, New Zealand, Germany and Italy all participated; E and O team immersion in a multidisciplinary international project is unique to the ANDRILL ARISE experience.*

1. Overall, was the international aspect of ANDRILL of value to your experience? (1−6 on Likert scale)
2. Provide details or examples of how the international aspect of ANDRILL added value to your on-ice experience or continued off-ice E and O work: (open response)

**Question about NET ‘Secrets beneath the ice’ video**

*NSF funded an informal science grant to produce the NET Secrets beneath the Ice film / video in conjunction with ANDRILL.*

1. Did you / do you use the ‘Secrets beneath the Ice’ video as part of your teaching or outreach? Yes or No
2. Provide feedback on your usage of the video (open response)

**Question about Flexhibit materials**

One of the key links between E and O during the MIS season and the SMS season was the development of the Flexhibit materials.

1. Did you use the Flexhibit materials in any way during your E and O work? YES or NO
2. Provide examples of how you used the materials to best effect: (open response)

**Question about the ‘Long View’**

It is ~10 years since we were on the ice together. While it may be hard to recall some details of all your E and O work, provide some reflection on how you have drawn on your ANDRILL immersion in the ten years, and how that has changed or evolved (open response)

**Questions about your E and O, and what you ‘took away’ from your ANDRILL ARISE experience**

1. Please rate the relative impact & importance of your immersion experience with ANDRILL on you in the following outcome areas:

(Rating options from 1−6 with **1 being least impact** and **6 being greatest impact** - with an additional N/A choice)

a. Learned new scientific skills

b. Learned new scientific information

c. Improved understanding of the processes of science

d. Improved understand of interrelated nature of science

e. Improved understanding of impact of field science on everyday life issues

f. Changed classroom teaching methods

g. Changed classroom teaching content

h. Observed increased student engagement

i. Observed increased demonstration of student knowledge/skills

j. Became more willing to speak about climate change in formal education environment

k. Became more willing to pursue leadership roles in formal education environment

l. More leadership roles were made available/offered in formal education environment

m. Changed informal educational methods

n. Changed informal educational content

o. Observed increased participant engagement

p. Observed increased demonstration of participant knowledge/skills

q. Became more willing to speak about climate change in informal education environments

r. Became more willing to pursue leadership roles in informal education environments

s. More leadership roles were made available/offered in informal educational environments

t. Stayed in education

u. Increased collaboration with colleagues

v. Overall professional growth

w. Overall materials development

x. Other (fill in field)

1. Please compare your ANDRILL immersion experience with other STEM-related professional development activities in which you have participated:

(Rating options of "Much more effective", "more effective", "about the same", "less effective", "much less effective" and "N/A")

a.  School-based in-service offerings

b. District-based in-service offerings

c. Team-based collaborative projects

d. Professional organization conference sessions

e. Professional organization conference mini-courses

f. Professional organization workshops

g. Professional organization online support materials

h. Other workshops (eg. local university, industry or non-profit organization provided programs)

i. Other research or industry immersion experiences (eg. Honeywell Educators at Space Camp)

j. Other (fill in field)

k. Provide some thoughts on positive (and negative) aspects of the ANDRILL immersion experience as professional development when compared with ‘typical’ professional development opportunities (listed above)

1. We want to capture the types (and number if possible) of presentations, papers, books, field experiences, etc. you have made / completed as a consequence of your participation in ANDRILL.
2. Will you continue to use material, ideas, or experiences in your teaching? YES or NO
3. Provide some reasons for your answer in (4) above (open response)
4. We realize you may not recall (or be able to determine) exact numbers, BUT please enter estimated or specific numbers of individuals to whom you have presented ANDRILL-based or inspired education and outreach materials/events/programs. Be as specific or general as you need to share the most complete view of your Ed & Outreach activities possible.

(rows for each event entered)

Column headings with pull down options= Event (Presentation, Lecture, Flexhibit, Single-day Workshop, Multiple-day Workshop, PBL or Maker Project, Investigation, Inquiry-based, other), Audience (formal, informal, other), Numbers (by age groups: Pre-K, Primary, Intermediate, Middle School, High School, College, Adult, Senior)

1. Please share the most memorable anecdote you have experienced showing the impact of your participation in ANDRILL on you professionally. (open response space)
2. Please share an anecdote about the most memorable experience relating to the impact of your participation in ANDRILL on students. (open response space)
3. Please share an anecdote about the most memorable experience relating to the impact of your participation in ANDRILL on other adults. (open response space)
4. Is there anything else you wish to share about the impact of ANDRILL's Education and Outreach Programs and your participation in their Immersion Research Experience? (open response space)