- Project Title : Permafrost Atmospheric Science in Cambridge Bay, Canada
    - Researcher's Name and Affiliation : Dr. Young Jun Yoon and Dr. Ok-Sun Kim Korea Polar Research Institute (KOPRI)
- Project Location : Cambridge Bay
- Timeframe : 6/29/2012 – 7/11/2012 (First research phase 2012 – 2016)
- Project Description
    - Purpose: Understanding the Arctic permafrost environment change
    - Goals & objectives:
        - Monitoring of carbon dioxide and black carbon for atmospheric sciences
        - Distribution pattern of active layer within 1 m depth
        - Temperature and precipitation manipulation experiments
        - Characterization of ecological components and their response to climate changes
    - Method of transportation: Airline
    - Any structures that will be erected (permanent / temporary):
        - Eddy covariance system for wind and carbon dioxide
        - Eathalometer for black carbon
        - Open top chamber for manipulation experiments
    - Restoration / abandonment plans: The equipments will be removed after the project is finished.

- Methodology
    - collection protocol
        - In the field, soil by corer and water by specific sampler will be collected. Some plants, moss and lichen specimens will be characterized in the field and will be collected for the laboratory works.
    - collection mechanisms:
        - Wind is measured using sound and carbon dioxide is measured using infrared. Obtained data will be transferred to a PC at a distance.
        - The distribution of active layer about 1 m depth will be examined by radar.
        - Soil, water and other biological sources will be characterized some portable instruments during field works. For the laboratory research, some soil, water and biological specimen samples will be analyzed after transportation to Korea.
    - indicate why specific communities or individuals were selected for your research: Cambridge bay is a high-latitude region with ideal condition for understanding global climate change and permafrost environments in scientific research.

- Data
    - short term & long term use of data: In short term, the data will be undergone quality control process and in long term, the data will be analyzed to understand the interaction between changing Arctic climate and environmental exchanges at permafrost region.
    - other uses of data: Input data for a computational simulation

- Reporting
    - How will the research results be communicated to the individual participants, communities, regional and Nunavut organizations? Monitoring data will be communicated by an annual report to the concerned organization after appropriate processing.

Will the research result in a publication? Yes. The results will be published in scientific journals.