AURORA COLLEGE

IDENTIFICATION

Department	Position Title	
Aurora College	Remotely Piloted Aircraft Systems (RPAS) Coordinator	
Position Number(s)	**Community**	**Division/Region(s)**
91-17334	Inuvik	Research Division

PURPOSE OF THE POSITION

The Remotely Piloted Aircraft Systems (RPAS) Coordinator will support the operation and growth of the Aurora research Institute's (ARI) RPAS program. This program provides mapping and monitoring services for ARI's research projects, research projects of Western Arctic researchers, as well as, Western Arctic Community Groups. In addition, the incumbent will actively participate in ARI's geomatics outreach and capacity building programs. The incumbent will be a member of a team whose mission is to advance the use of Earth Observation (EO) data in the Western Arctic.

SCOPE

The position is located in Inuvik, at the Western Arctic Research Center (WARC) and the RPAS Coordinator will report to the Manager, GIS Programs. The incumbent is expected to play an integral role in the coordination and delivery of RPAS services across the Western Arctic. This will include but not limited to: the coordination of RPAS mapping and monitoring activities, the maintenance of RPAS equipment, as well as the delivery of RPAS training to Western Arctic community members.

RESPONSIBILITIES

1. **Coordinate the operation of ARI's RPAS program**
   - Provide oversight to all RPAS operations;
   - Ensure that all RPAS flights are completed in full compliance with ARIs Standard Operating Procedures (SOP), the Canadian Aviation Regulations, (CARs), applicable bylaws, manufacturers' publications, and Special Flight Operations Certificate (SFOC) where applicable;
   - Lead and maintain the professional standards of the RPAS program by:
     - Supporting the cyclic Development of SOP;

- Developing and implementing all required approved training programs for RPAS pilots;
- Action and distribute accident, incident, and other occurrence reports;
- Processing/reviewing any reports;
- Participating in the recruitment of prospective RPAS pilots;
- Ensuring each RPAS pilot possesses current mandatory licenses, certificates and ratings.

2. **Coordinate the delivery of RPAS services across the Western Arctic.**
   - Develop partnerships to advance the use of RPAS in research data collection (particularly in the area of climate change mapping and monitoring);
   - Coordinate all RPAS mission planning and data capture;
   - Assist in the design of ground control networks for RPAS surveys;
   - Participate in establishing ground control points for RPAS surveys using GNSS;
   - Coordinate and assist in the processing of RPAS data.
   - Provide consultation to researchers and community groups on:
     - The application of RPAS surveys in supporting climate change monitoring;
     - RPAS data capture; and
     - RPAS data processing.
   - Coordinate and assist in the presentation/transfer of RPAS data to clients in the required format;
   - Support the integration of RPAS data with other types of EO datasets to advance climate change research;
   - Perform geospatial data capture (may include for example digitizing, geo-referencing, and GPS data collection);
   - Represent ARI's RPAS program in an informative and professional manner at Northern conferences, workshops and exhibits.

3. **Coordinate the implementation of ARI's RPAS Asset Management Program.**
   - Lead the continuous development of ARI's RPAS Asset Management program;
   - Maintain ARI's fleet of RPAS aircrafts and batteries according to the manufacturers' recommended standards;
   - Ensure the timely updates of RPAS related software and software licences;
   - Keep abreast with the latest development in RPAS software and hardware;
   - Recommend in a timely manner RPAS hardware and software upgrades;
   - Provide timely revision of ARI's RPAS standard operating procedures;
   - Problem-solve RPAS technical or workflow-related issues through consultation with manufacturers' technical support teams, web forums, and other available resources;
   - Coordinate the repairs of aircrafts;
   - Prepare regular status reports, highlighting RPAS issues requiring attention;
   - Support the asset management activities of the GIS Team;

4. **Deliver RPAS training to Western Arctic community members.**
   - Design and deliver the following RPAS courses:
     - Theoretical training programs for Transport Canada's Basic RPAS certification;

- - Theoretical training programs for Transport Canada's Advanced RPAS certification;
    - Practical training programs for Transport Canada's Advanced RPAS certification;
  - Develop, revise, and deliver the following RPAS training courses:
    - The operation of an RPAS program;
    - The processing of RPAS data; and
    - Others requested by Western Arctic communities.
  - Develop instructional manuals on the processing of RPAS data.

5. **Work closely with the GIS Manager on the management of ARI's RPAS data.**
   - Support the continuous development of the GIS Programs' Data Management Plan;
   - Assist in the development of quality control workflows for RPAS data;
   - Perform quality control checks on RPAS datasets;
   - Ensure RPAS data are managed within the context of the GIS Programs' Data Management Plan. Example:
     - Maintain metadata definitions;
     - Develop and implement procedures to ensure RPAS data are correctly/safely stored, easily accessible, and readily available.

6. **Support geomatics outreach and capacity building programs.**
   - Work closely with the ARI's Outreach team to develop and deliver STEM/geomatics outreach and capacity building activities. Example:
     - Support the development of program content, presentations, and training manuals (for schools, youth, camps, organizations, and community groups) that clearly illustrates the use of STEM/geomatics in climate change monitoring.
     - Demonstrate, using hands-on activities the application of STEM/geomatics tools and methodologies to everyday activities.

WORKING CONDITIONS
Physical Demands

The majority of the time is spent on a computer, generally a minimum of 5 hours/day, 5 days/week with extensive use of a mouse. Some projects may require 7 hours/day for 2 to 3 weeks at a time. Some travel is required with the associated demands.

Environmental Conditions

Most work will be undertaken in a comfortable environment. However, occasionally fieldwork may be required as part of the job. This may involve exposure to climatic conditions, which may include extremes in temperature values and the presence of wildlife. During summer months, bugs may be a nuisance.

Sensory Demands

Concentrated visual attention to colours, tones, textures of digital maps on a computer monitor. The ability to determine the full range of colours must be unencumbered. The demand to minute detail, focusing for long periods on a computer monitor can lead to eyestrain.

Mental Demands

Mental demands to meet deadlines of overlapping projects. In some circumstances, balancing priorities may be extremely difficult.

KNOWLEDGE, SKILLS AND ABILITIES

The successful RPAS Coordinator will have these skills and qualifications:
- Experience in operating an RPAS program;
- Extensive experience in RPAS mission planning and RPAS data collection
- At least 3 years' experience in processing RPAS data
- Knowledge of the principles of photogrammetry
- Working Knowledge of Pix4D
- Practical experience and knowledge of ESRI products (e.g., ArcGIS Pro, and the common extensions (e.g., Drone2Map), and ArcGIS Online)
- Practical experience working with space-based earth observation data
- Experience in mapping and monitoring the effects of climate driven changes
- Experience in maintaining RPAS equipment
- Knowledge of geospatial data management
- Experience in supervising technical personnel
- Very strong oral and written communication skills
- Detail-oriented with very strong organizational skills
- Demonstrated ability to meet tight deadlines and work independently under pressure
- Strong people skills and an ability to work in a team environment
- Ability to commit to actively upholding and consistently practicing personal diversity, inclusion and cultural awareness, as well as safety and sensitivity approaches in the workplace.

Typically, the above qualifications would be attained by:
- An Advanced Technical Diploma in GIS and/or a University Degree in Geography, Geomatics or other related discipline from an accredited post-secondary institution;
- Transport Canada Advanced RPAS Pilot Certification for at least 3 years; and
- Restricted Radio Telephone Operators Certificate.

Equivalent combinations of education and experience will be considered.

Assets:
- Experience working with geoscience data
- Experience working with Indigenous Communities
- Experience in mapping and analyzing earth movement
- Experience working with climate change data
- Experience in working with adult learners

ADDITIONAL REQUIREMENTS

Position Security (check one)

- ❑ No criminal records check required
- ✓ Position of Trust – criminal records check required
- ❑ Highly sensitive position – requires verification of identity and a criminal records check

French language (check one if applies)

- ❑ French required (must identify required level below)
  Level required for this Designated Position is:
  ORAL EXPRESSION AND COMPREHENSION
      Basic (B) ❑   Intermediate (I) ❑   Advanced (A) ❑
  READING COMPREHENSION:
      Basic (B) ❑   Intermediate (I) ❑   Advanced (A) ❑
  WRITING SKILLS:
      Basic (B) ❑   Intermediate (I) ❑   Advanced (A) ❑
- ❑ French preferred

Indigenous language: Choose a language

- ❑ Required
- ❑ Preferred