**Wyoming Cloud LIDAR (WCL)**

*The Wyoming Cloud Lidar is available for deployment on the University of Wyoming King Air (UWKA) or other platforms with support through the LAOF Deployment Pool. Deployment of the WCL on the UWKA requires more resources than the standard instrument suite. Requests for the WCL require additional information pertaining to both operational considerations and scientific justification.*

*Specific Technical Questions may be addressed to:*

[*Dr. Min Deng*](mailto:mdeng2@uwyo.edu) *| (307) 766-6334*

[*Wyoming Cloud Lidar summary page*](https://www.uwyo.edu/atsc/uwka/wyoming-cloud-lidar.html)

**LIDAR OPERATIONS**

**Aircraft the WCL is requested to be deployed on:**

**Scientific rationale for the use of WCL in the proposed project:**

**Weather events during which collection is desired (ie clouds, precipitation, aerosol):**

**Estimated number of flights for which the lidar will be used:**

**Desired lidar configuration and parameters** *(if known)***:**

The WCL system consists of an up- and down-pointing lidar, which can be deployed together or individually. Both operate at 355 nm and provide similar along beam sampling/resolution (3-5 m, typical). Both Lidars are capable of providing measurements of parallel and perpendicular channels returned power.

|  |  |
| --- | --- |
| **Lidar configuration**(*select all desired*): |  |
| Zenith-pointing WCL |  |
| Nadir-pointing WCL |  |

|  |  |
| --- | --- |
| ***Typical operating parameters*** |  |
| Maximum range: | 7 km |
| Minimum sampling along the beam: | 1.5 m |
| Minimum sampling along the flight track: | 5 – 100 m |
| First Useable gate: | 30 m |

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |

**Scientific rationale for desired configuration(s):**

*Standard processed data made available after quality control include:*

* Level 0 product
  + Parallel and perpendicular channels return power
  + Depolarization ratio
* Level 1 product
  + Calibrated attenuated backscattering coefficient for parallel channel
  + Lab calibrated depolarization ratio

*Non-standard products (e.g. Cloud mask, Cloud phase, Retrieved cloud extinction, Collocated lidar and radar data (assuming WCR operation) that require more extensive analyses or development may be available through special arrangement with the UWKA facility but require additional funding from the project. Please contact the UWKA facility manager or the WCL scientist for consultation.*

**Do you intend to request any WCL non-standard products? If yes, please list the products and relate the corresponding funding budget.** *Please contact the UWKA facility manager or WCL scientist for consultation.*

**Summary of on-site lidar data access and analysis requirements:**

**Note:** *Consultation with the UWKA facility manager or WCL scientist is encouraged before submitting a request that includes the WCL***.**