2018 TFS weather station annual report

Colin Edgar

2018 summer was cool and wet

Toolik air temperature - deviation from 20 year mean

— Oct-April
— May-Sept

Toolik precipitation - May - Sept only
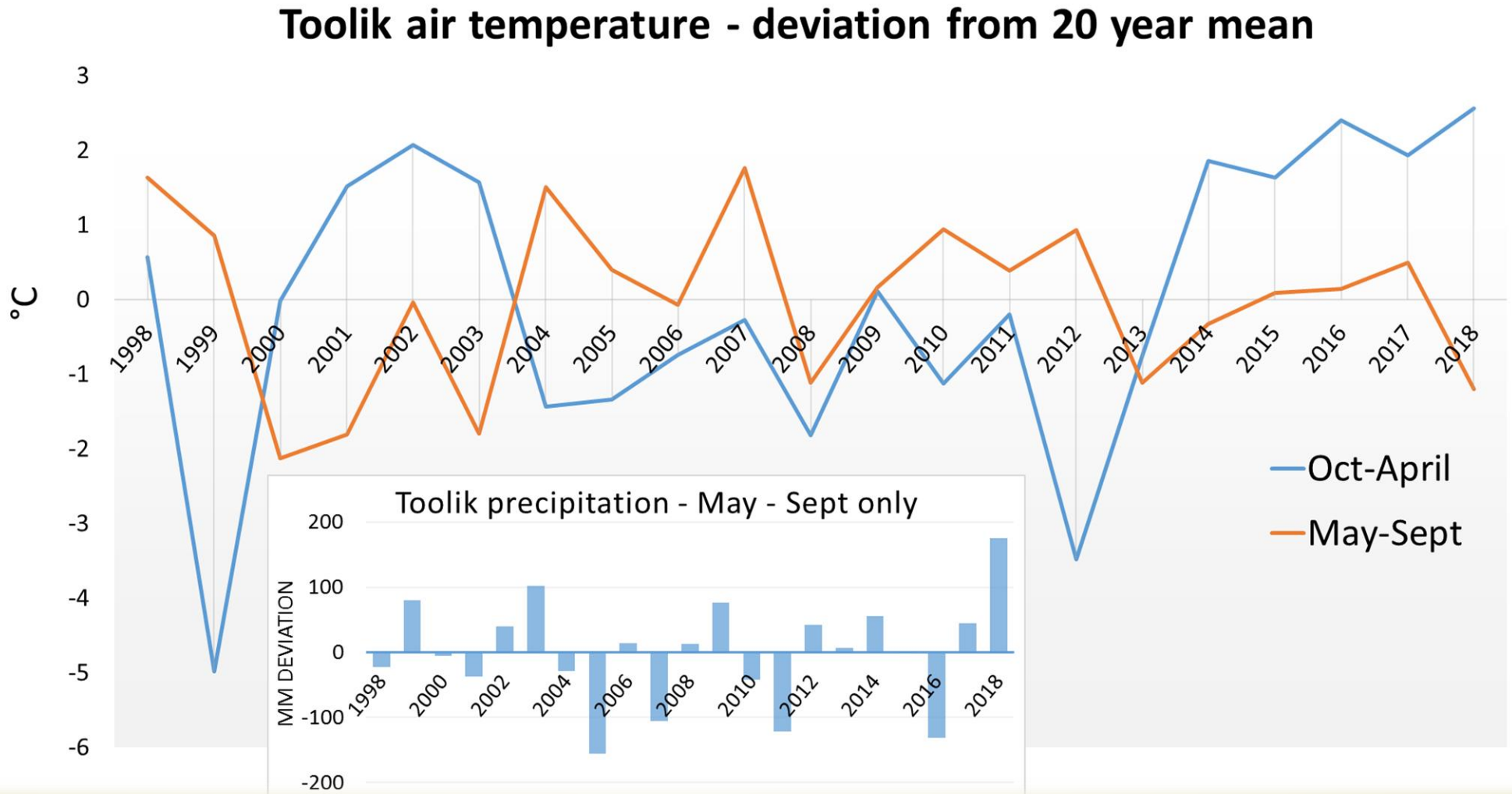
June 15 2018
1.9 C

Oct 6 2018
6.5 C

North towards Toolik Lake 2018-06-15 13:06:26

North towards Toolik Lake 2018-10-06 13:08:23

Data sharing

- **211** met data downloads from EDC webpage (Oct 2017- Sept 2018)

- **86%** of EDC data downloads are met data

- 2018 final data are now available on EDC website.
    - During the year, shared provisional 2018 data with ~20 researchers

- Will move data collection to IAB server due to connectivity issues with current system housed in IARC

Data sharing

- Submitted all historical met data (1988-2017) to Arctic Data Center for archival
  - Worked with GIS and student worker to complete this task.
  - It is currently available from ADC portal and assigned DOI.

- Worked with National Weather Service to get access to real-time data for weather forecasting. Still in progress due to NOAA understaffing.

Station maintenance and improvements

- Swapped sensors with calibrated units (annual task)

- Operated summer-only sensors, such as evaporation pan

- Straightened tower, leveled all sensors

- Improved various power and electrical issues

- Repaired lake PAR (light) sensor

- Improved snow depth sampling by updating sensor programming

- Restored lake depth sensor following accidental relocation

Current and future projects

- Make current year data available several times per year (Apr, Oct, Jan)

- Improve QA/QC procedure by using nearby weather data

- Value added products:
  - Improve historical data with additional and more uniform filtering
  - Jessie Cherry will complete documentation of regional comparisons dataset

- Move data collection and communication to IAB server

Current and future projects

- June 2019 will reinstall both lake PAR and lake level sensors to ensure proper fixed point measurements and facilitate future repair/removal of sensors.

- Improve snow measurements:
  - Move depth sensor away from tower and install flat pad
  - Consider using optical sensor to improve weighing bucket data and better distinguish blowing snow from falling snow

- Improve wind data by using a 2D sonic anemometer less affected by rime ice

Questions?