

Air Quality Monitoring DASHBOARD REPORT

October -
November
2015



Continuous Monitoring Stations

October
2015

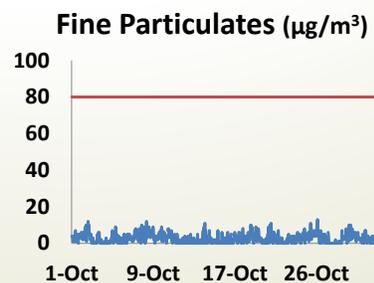
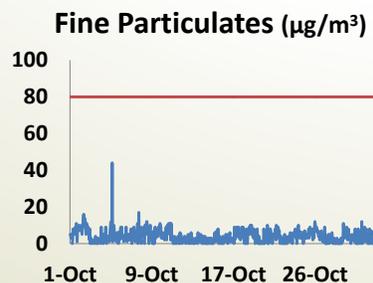
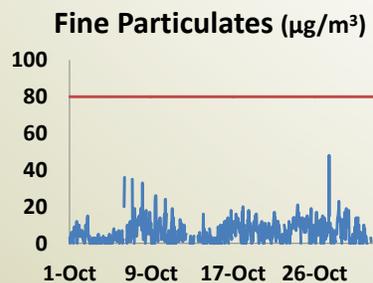
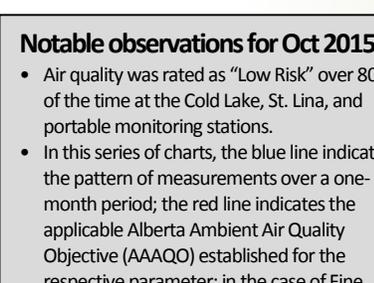
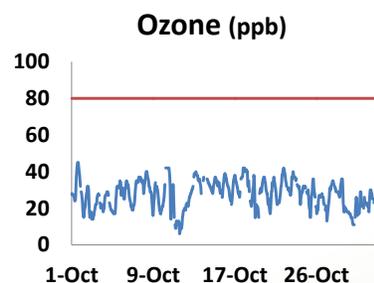
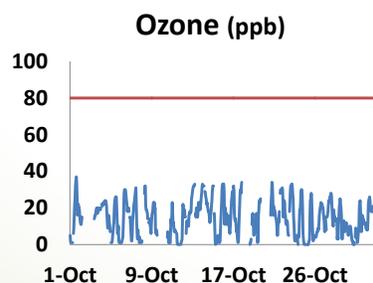
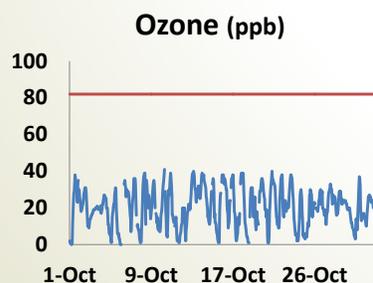
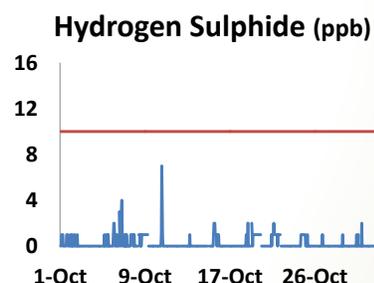
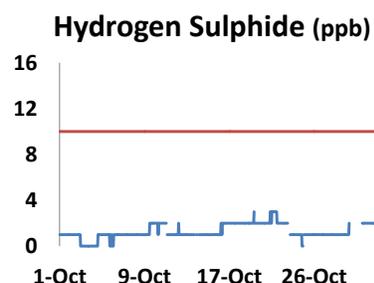
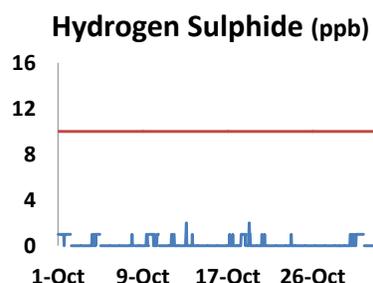
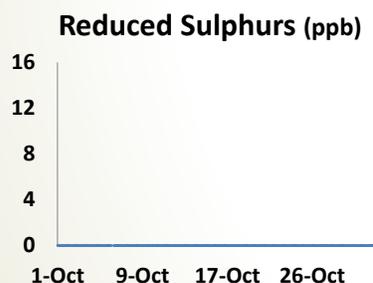
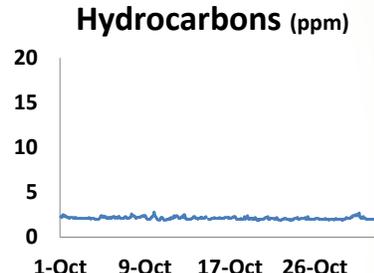
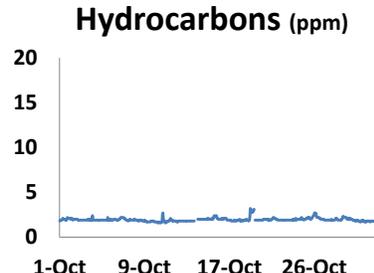
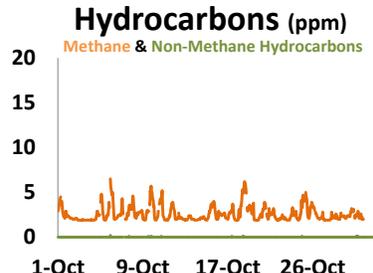
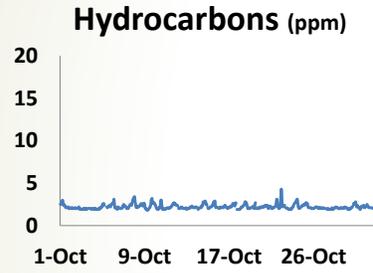
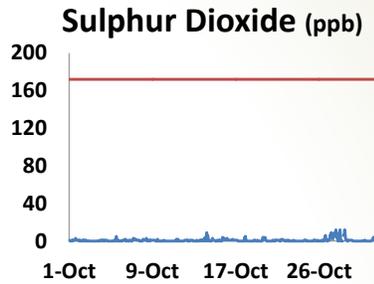
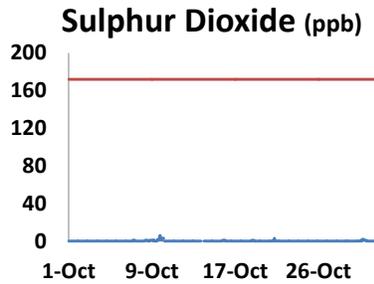
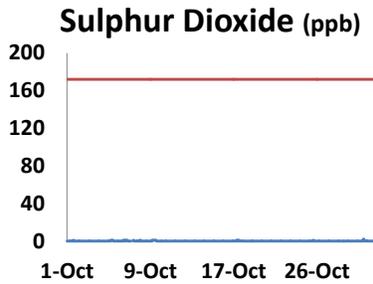
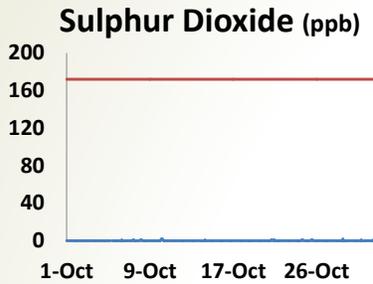
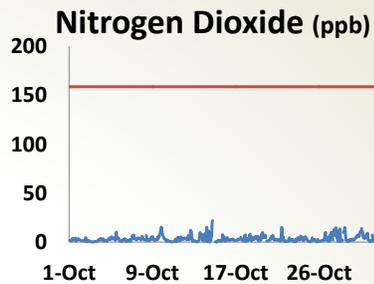
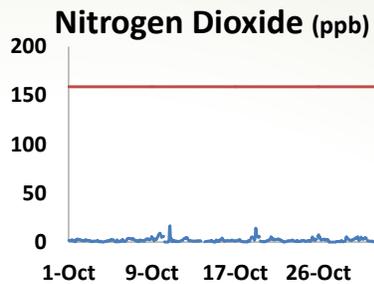
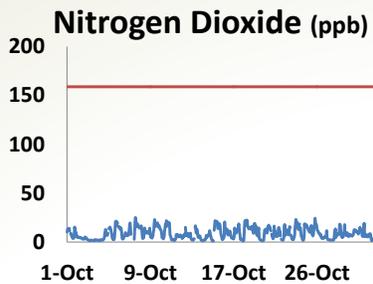
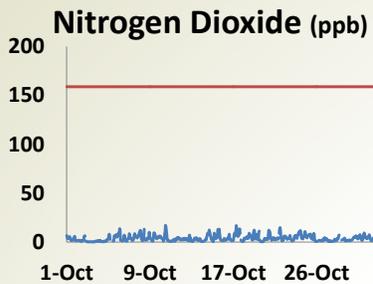


Cold Lake

PAMS (Elk Point)

St. Lina

Maskwa



Notable observations for Oct 2015:

- Air quality was rated as "Low Risk" over 80% of the time at the Cold Lake, St. Lina, and portable monitoring stations.
- In this series of charts, the blue line indicates the pattern of measurements over a one-month period; the red line indicates the applicable Alberta Ambient Air Quality Objective (AAAQO) established for the respective parameter; in the case of Fine Particulates, the red line indicates the Alberta Ambient Air Quality Guideline.

Continuous Monitoring Stations

November
2015

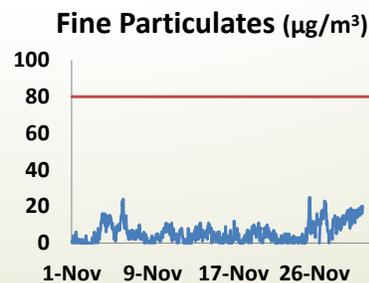
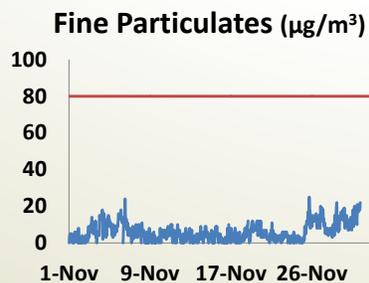
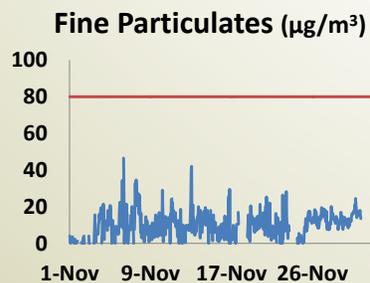
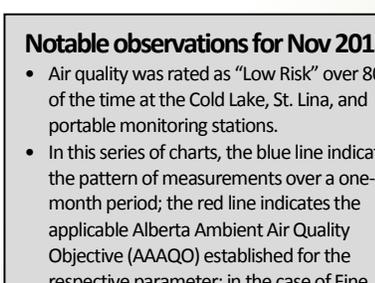
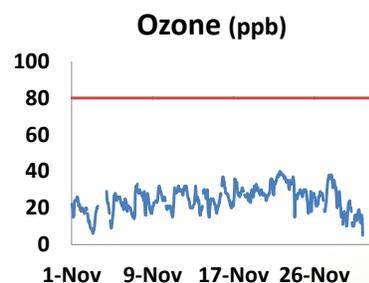
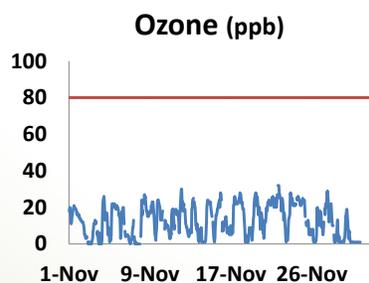
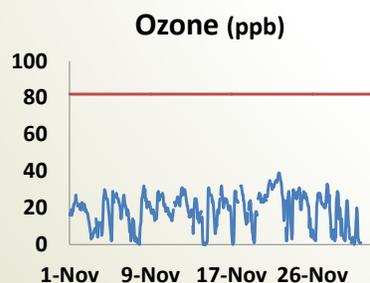
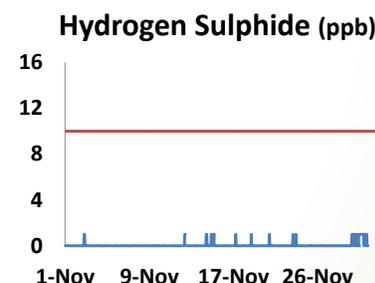
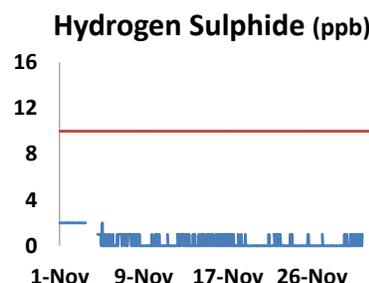
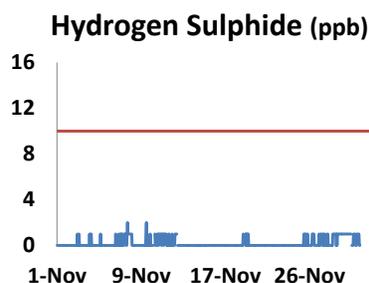
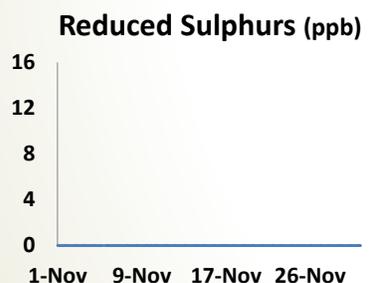
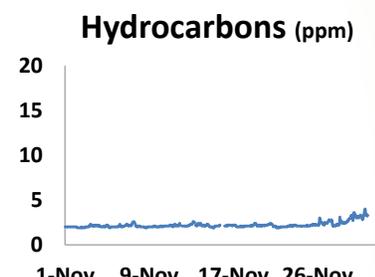
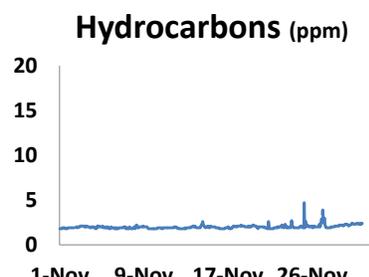
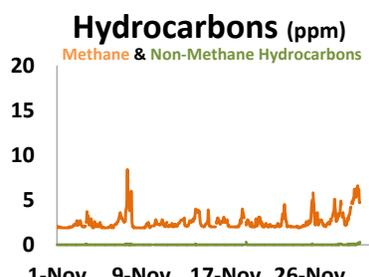
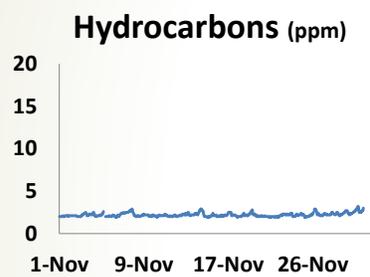
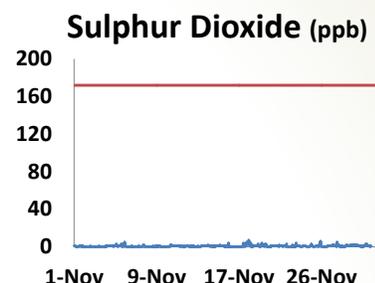
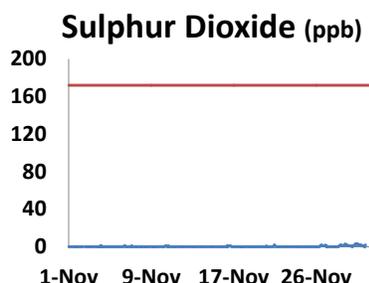
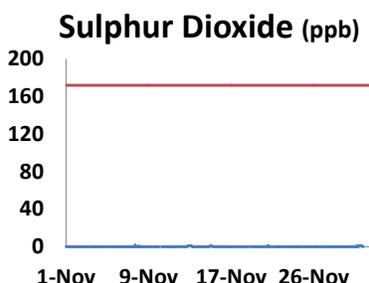
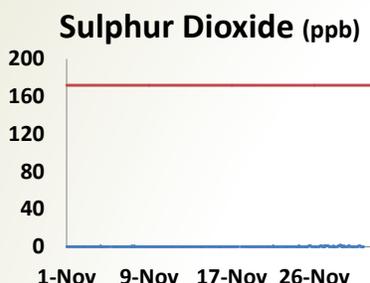
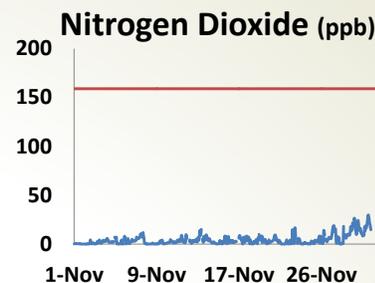
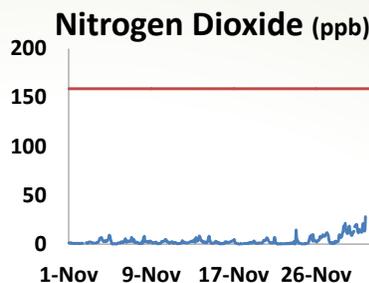
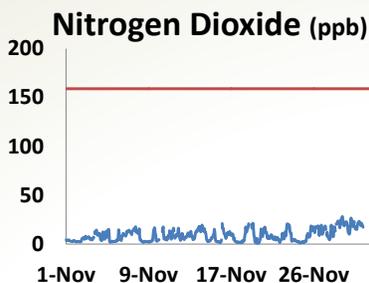
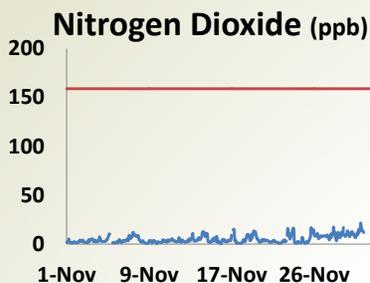


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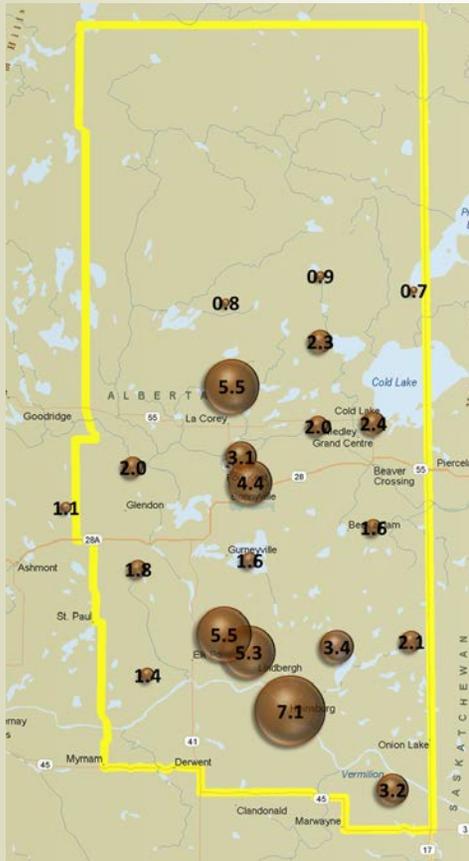
Passive Monitoring Stations

October -
November
2015

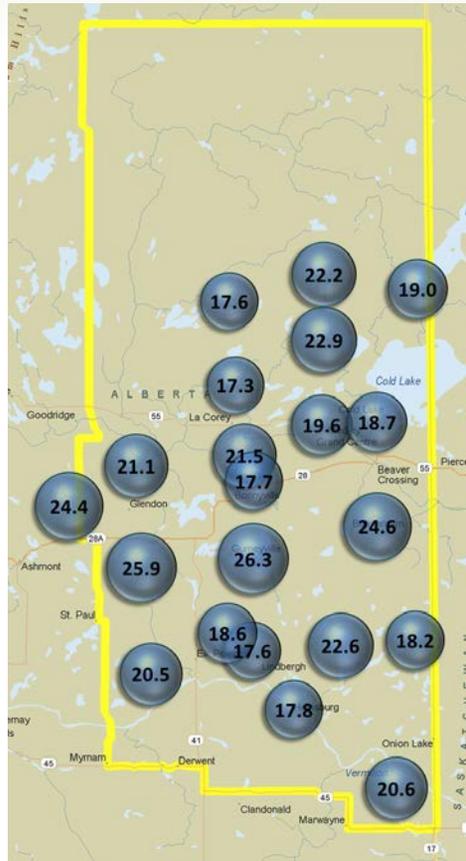


This series of bubble maps present monthly average concentrations in parts per billion (ppb) over a two-month period. Displaying data this way illustrates the spatial patterns of the parameters monitored in the LICA passive monitoring network.

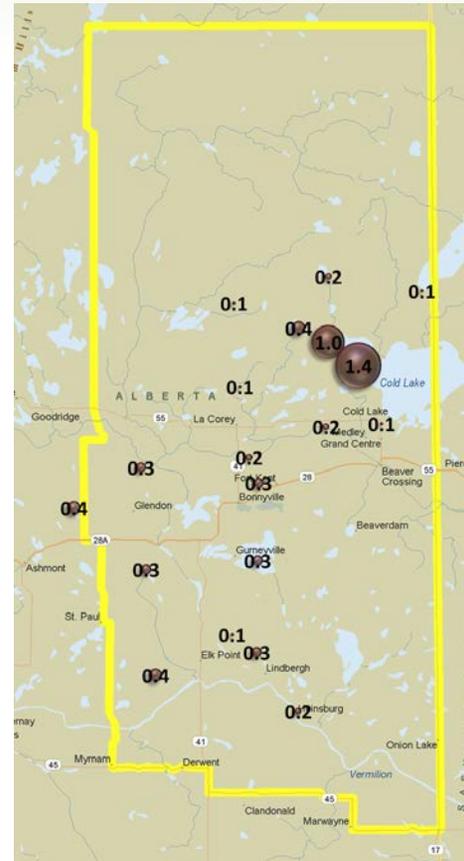
Nitrogen Dioxide



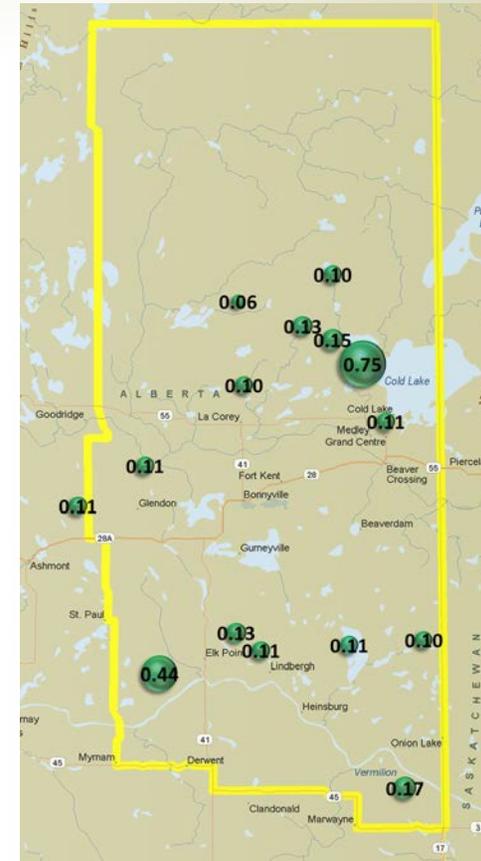
Ozone



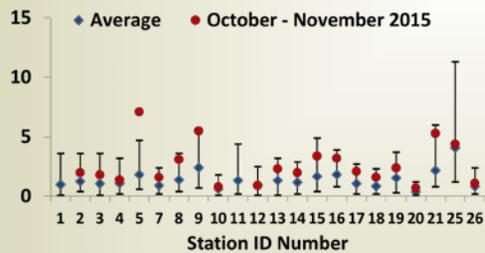
Sulphur Dioxide



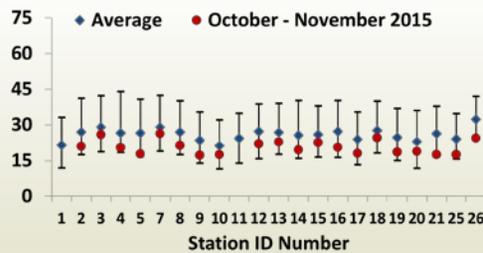
Hydrogen Sulphide



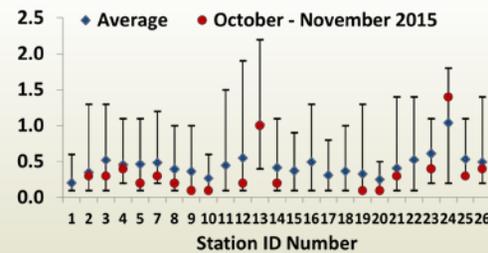
Minimum-Maximum-Average (ppb)
Monthly Nitrogen Dioxide: 2011 - 2014



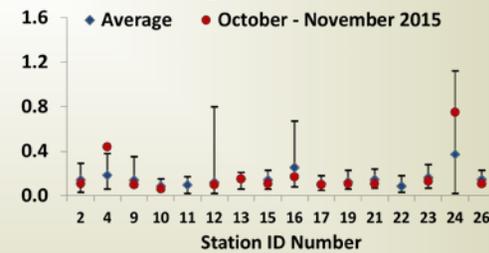
Minimum-Maximum-Average (ppb)
Monthly Ozone: 2011 - 2014



Minimum-Maximum-Average (ppb)
Monthly Sulphur Dioxide: 2011 - 2014

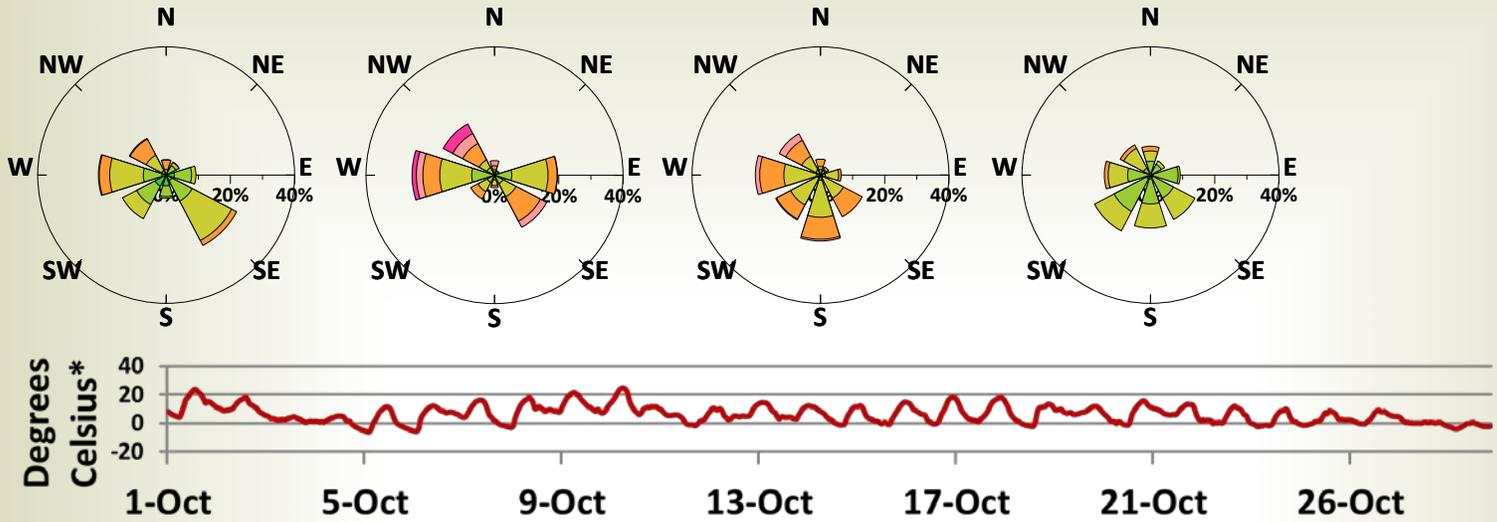


Minimum-Maximum-Average (ppb)
Monthly Hydrogen Sulphide: 2011 - 2014



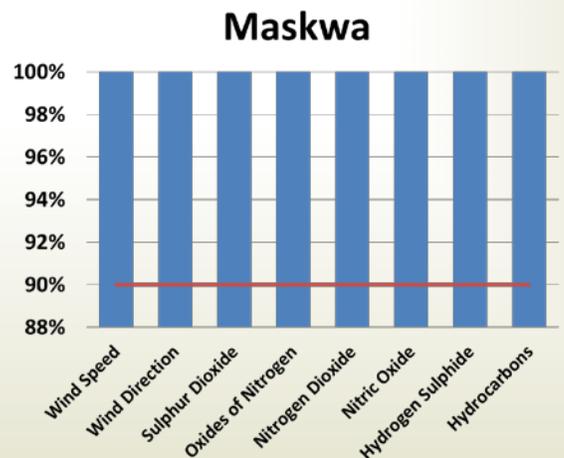
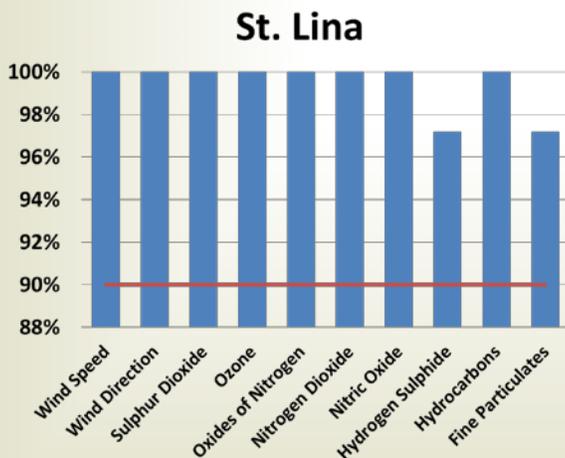
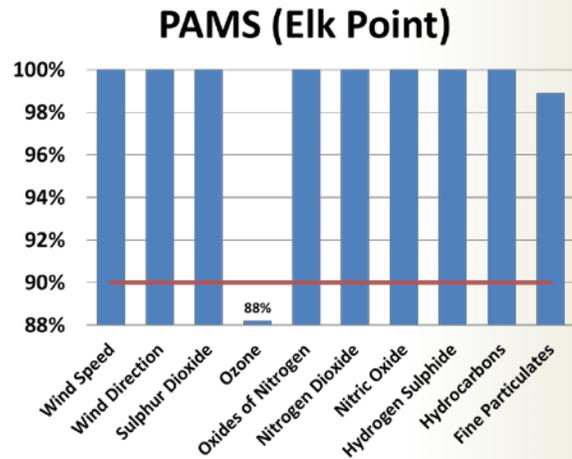
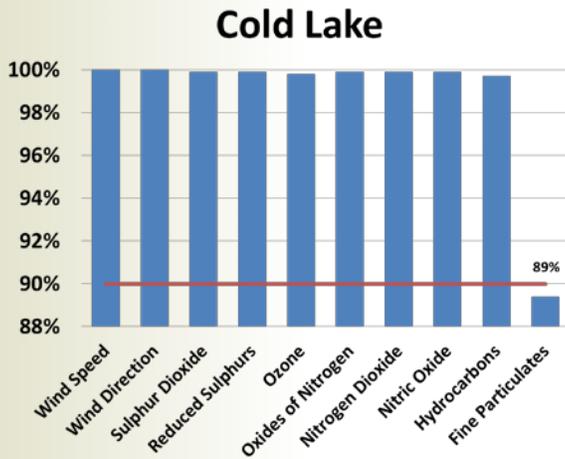
Wind Speed, Wind Direction, Temperature

October
2015



* Temperature in Cold Lake

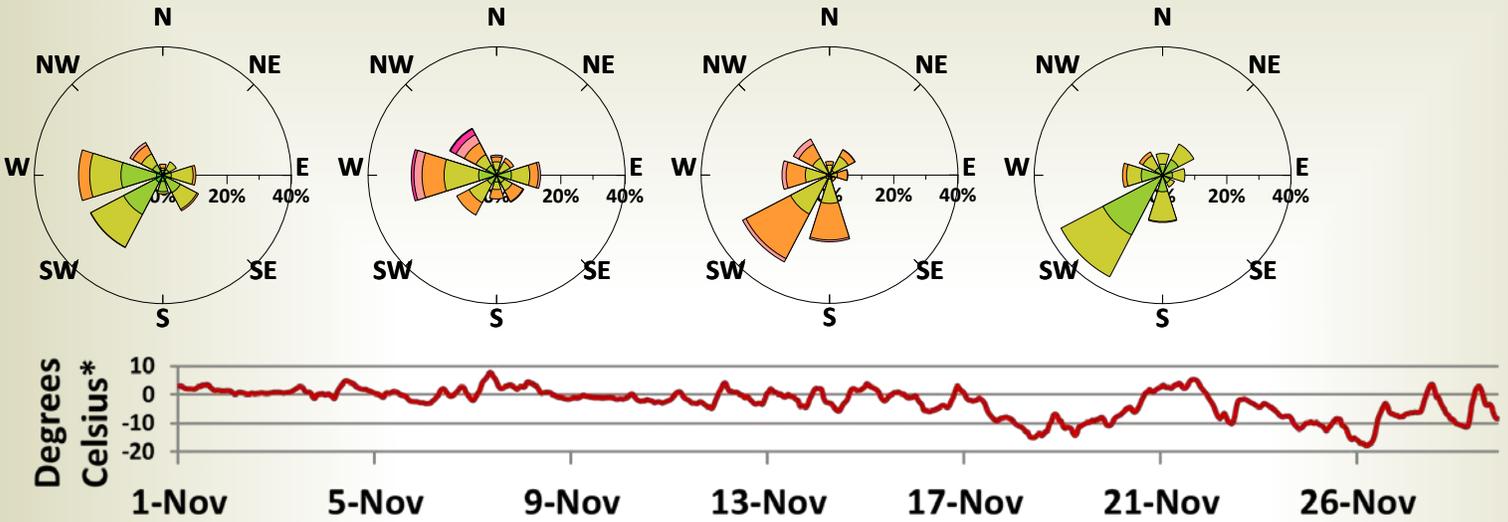
Operational Uptime



Notes on instrument uptime: The Alberta Air Monitoring Directive (1989) requires that real time instrumentation must be operational at least 90% of the time on a monthly basis (indicated by the red line on the above charts). Reference #306212: Cold Lake PM_{2.5} operational uptime 89.4%. Data were corrected using the AEP protocol which resulted in a number of hours of data being invalidated. Reference #306216: Elk Point Ozone operational uptime 88.2%. A valve inside the ozone analyzer seized and required repair resulting a period of time during which no data were being collected.

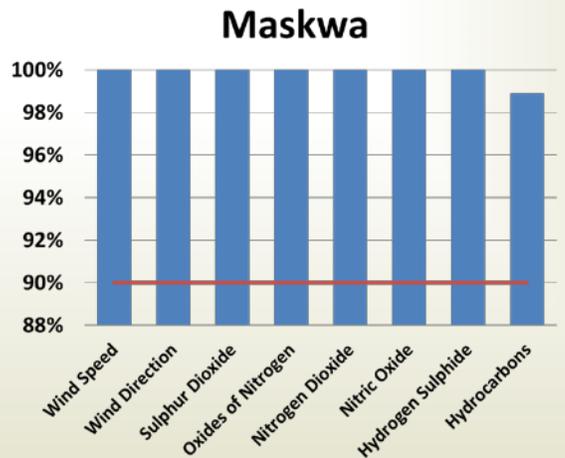
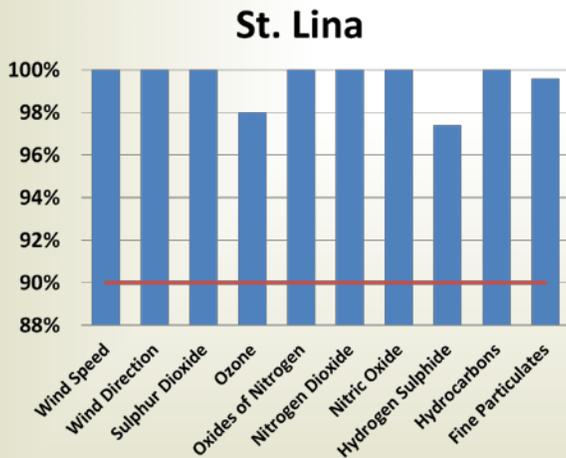
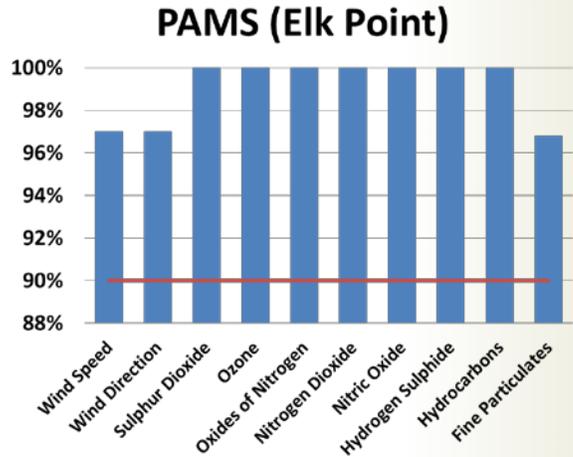
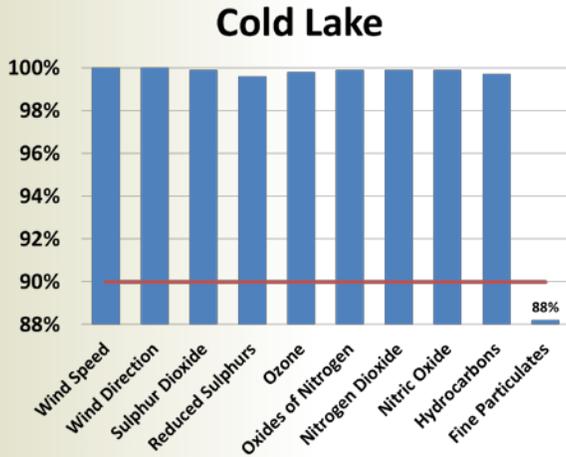
Wind Speed, Wind Direction, Temperature

November
2015



* Temperature in Cold Lake

Operational Uptime

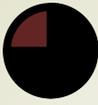


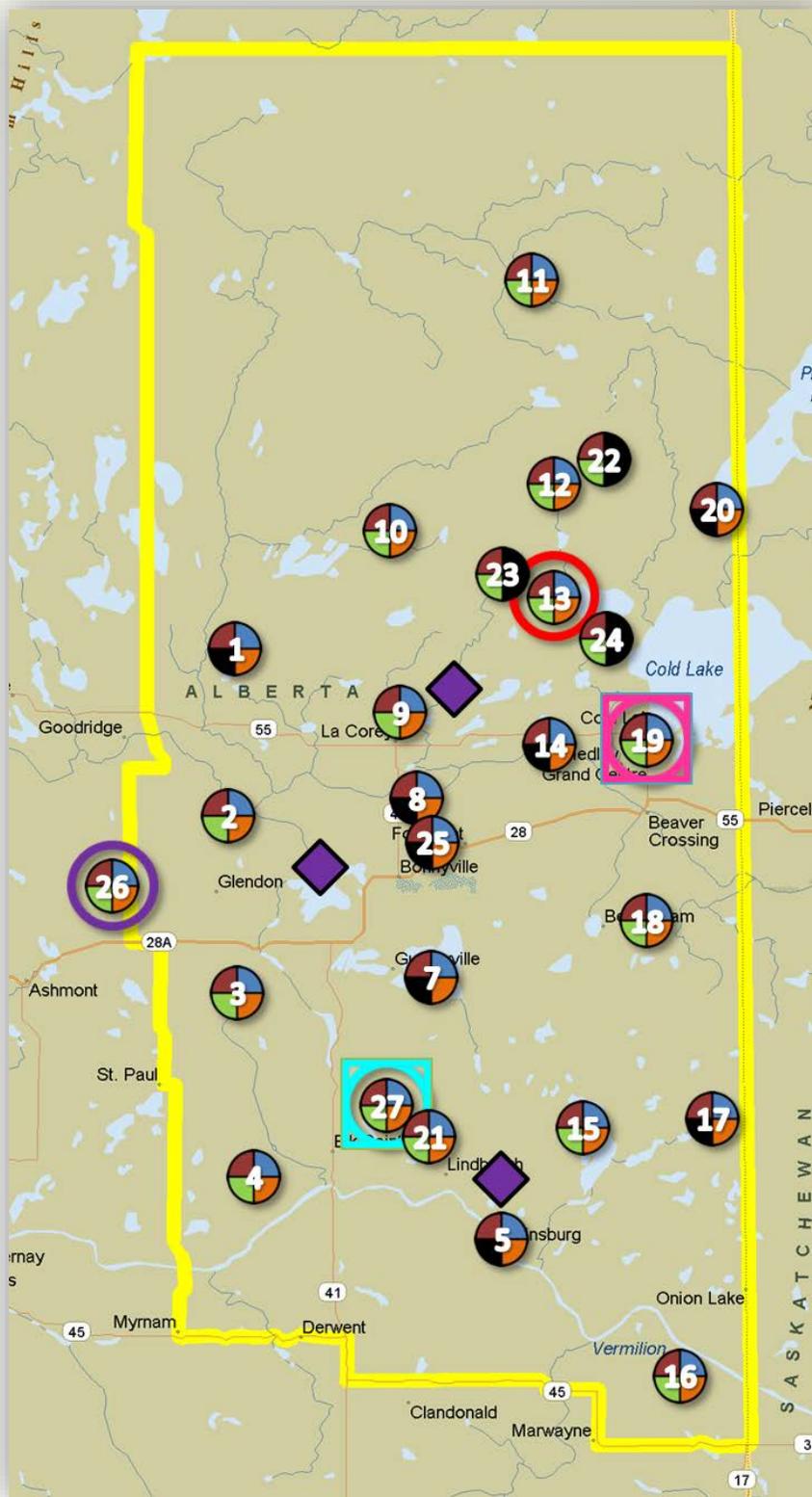
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Regional Monitoring Network Map

October -
November
2015



-  **Passive Monitor:**
Sulphur Dioxide
-  **Passive Monitor:**
Ozone
-  **Passive Monitor:**
Nitrogen Dioxide
-  **Passive Monitor:**
Hydrogen Sulphide
-  **Continuous Monitor:**
Sulphur Dioxide, Hydrogen Sulphide, Oxides of Nitrogen, Total Hydrocarbons, Meteorology
-  **Continuous Monitor:**
Sulphur Dioxide, Hydrogen Sulphide, Oxides of Nitrogen, Ozone, Methane/Non-Methane Hydrocarbons, Particulate Matter, Meteorology
-  **Continuous Monitor:**
Sulphur Dioxide, Hydrogen Sulphide, Oxides of Nitrogen, Ozone, Total Hydrocarbons, Particulate Matter, Meteorology
-  **Continuous Monitor:**
Sulphur Dioxide, Total Reduced Sulphurs, Oxides of Nitrogen, Ozone, Total Hydrocarbons, Particulate Matter, Meteorology
-  **Polycyclic Aromatic and Speciated Hydrocarbons:**
Routine 1-in-6 Day Samples
-  **Polycyclic Aromatic and Speciated Hydrocarbons:**
Routine 1-in-6 Day Samples
High Non-Methane Hydrocarbon Triggered Samples
-  **Soil Acidification Monitoring Plot:**
pH, Soil Texture, Electrical Conductivity, Soluble Ions, Cation Exchange Capacity – Buffered,/Unbuffered, Exchangeable Cations, Total Carbon, Total Nitrogen, Total Sulphur, Available Ammonium, Available Nitrates, Available Phosphorous



Station Identification

1 Sand River	9 La Corey	16 Clear Range	23 Mahihkan
2 Therien	10 Wolf Lake	17 Fishing Lake	24 Hilda Lake
3 Flat Lake	11 Foster Creek	18 Beaverdam	25 Town of Bonnyville
4 Lake Eliza	12 Primrose	19 Cold Lake South	26 St. Lina
5 Telegraph Creek	13 Maskwa	20 Medley-Martineau	27 Portable Station
7 Muriel-Kehewin	14 Ardmore	21 Fort George	
8 Dupre	15 Frog Lake	22 Burnt Lake	