

omafra_26076_E_2000-2005

Studying the interaction of crop management practices and weather and the subsequent effect on nitrous oxide emissions, 2000-2005 [Canada]: Nitrogen flux data

Codebook

NOTE: This codebook provides an explanation of variables and codes found in all of the files contained within the study “Studying the interaction of crop management practices and weather and the subsequent effect on nitrous oxide emissions, 2000-2005 [Canada]: Nitrogen flux data”. The codebook is organized by file name.

Agri-environmental Research Data Repository
University of Guelph
50 Stone Road East
Guelph, Ontario N1G 2W1
<http://dataverse.scholarsportal.info/dvn/dv/ugardr>

Variable	Variable Description				
Anemometer_Cup_Heights_2000-2004					
YEAR	Year data was measured				
PLOT	Number of experimental plot data was measured in				
DOY	Day of year, units=Julian Day				
TIME	Time of measurement, units=hour, minute (EST)				
CUP1	Height of Climatronic cup anemometer one, units=centimetres				
	<table> <tr> <th>Value</th><th>Label</th></tr> <tr> <td>9998</td><td>No Data</td></tr> </table>	Value	Label	9998	No Data
Value	Label				
9998	No Data				
CUP2	Height of Climatronic cup anemometer two, units=centimetres				
	<table> <tr> <th>Value</th><th>Label</th></tr> <tr> <td>9998</td><td>No Data</td></tr> </table>	Value	Label	9998	No Data
Value	Label				
9998	No Data				
CUP3	Height of Climatronic cup anemometer three, units=centimetres				
	<table> <tr> <th>Value</th><th>Label</th></tr> <tr> <td>9998</td><td>No Data</td></tr> </table>	Value	Label	9998	No Data
Value	Label				
9998	No Data				
CUP4	Height of Climatronic cup anemometer four, units=centimetres				
	<table> <tr> <th>Value</th><th>Label</th></tr> <tr> <td>9998</td><td>No Data</td></tr> </table>	Value	Label	9998	No Data
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Hourly_N2O_Flux_2000-2005

YEAR	Year data was measured				
DOY	Day of year, units=Julian Day				
MONTH	Month number				
DAY	Day of month				
TIME	Time of measurement, units=HHMM				
N2O_GRAD	N2O gradient, units=nanograms N2O-N per metre cubed				
	<table> <tr> <th>Value</th><th>Label</th></tr> <tr> <td>9999</td><td>No Data</td></tr> </table>	Value	Label	9999	No Data
Value	Label				
9999	No Data				
KUNCORR	Eddy diffusivity, uncorrected, units=metres squared per second				
	<table> <tr> <th>Value</th><th>Label</th></tr> <tr> <td>9999</td><td>No Data</td></tr> </table>	Value	Label	9999	No Data
Value	Label				
9999	No Data				
KSONIC	Eddy diffusivity, corrected with friction velocity via measurements from sonic anemometers, units=metres squared per second				
	<table> <tr> <th>Value</th><th>Label</th></tr> <tr> <td>9999</td><td>No Data</td></tr> </table>	Value	Label	9999	No Data
Value	Label				
9999	No Data				
KCUP	Eddy diffusivity, corrected with friction velocity using measurements from cup anemometers, units=metres squared per second				
	<table> <tr> <th>Value</th><th>Label</th></tr> <tr> <td>9999</td><td>No Data</td></tr> </table>	Value	Label	9999	No Data
Value	Label				
9999	No Data				
UIH_LIH	Difference between upper intake height and lower intake height, units=metres				
	<table> <tr> <th>Value</th><th>Label</th></tr> <tr> <td>9999</td><td>No Data</td></tr> </table>	Value	Label	9999	No Data
Value	Label				
9999	No Data				
N2O	N2O flux, units=nanograms N2O-N per metre squared per second				
	<table> <tr> <th>Value</th><th>Label</th></tr> <tr> <td>9999</td><td>No Data</td></tr> </table>	Value	Label	9999	No Data
Value	Label				
9999	No Data				
PLOT	Number of experimental plot data was measured in				

TGA	TGA filter vector
<i>Value</i>	<i>Label</i>
1	Readings from N2O_TGA seem correct for that time
2	Mean concentration for level 1 or level 2 less than 0.100 ppm
3	Mean concentration for level 1 or level 2 greater than 10 ppm
4	Standard deviation for level 1 or level 2 greater than 0.100 ppm
5	Average pressure for level 1 greater than 70 mb
6	Average pressure for level 2 greater than 70 mb
7	Average pressure for level 1 less than 30 mb
8	Average pressure for level 2 less than 30 mb
9	Absolute value of level 1 average pressure minus level 2 average pressure is greater than 2 mb
10	Number of sample less than 0.8* maximum number (maximum number is 169)
44	Standard deviation for level 1 or level 2 within 0.01 to 0.1 ppm
9999	No Data

CUP	Cups filter vector
<i>Value</i>	<i>Label</i>
1	Windspeed greater than or equal to 2.0 metres per second
5	Windspeed less than 2.0 metres per second
51	Windspeed less than 1.5 metres per second
52	Windspeed less than 1.0 metres per second
53	Windspeed less than 0.5 metres per second
54	No Description
55	Neither Cup 1 nor Cup 2 are working
9999	No Data

RATIO_F	Ratio of fetch to upper intake height minus displacement height
<i>Value</i>	<i>Label</i>
9999	No Data

RATIO_R	Ratio of lower intake height minus displacement height to roughness length
<i>Value</i>	<i>Label</i>
9999	No Data

FILT_N2O	Filtered N2O flux, units=nanograms N2O-N per metre squared per second
<i>Value</i>	<i>Label</i>
9999	No Data

FILT_VEC	Manual filter vector
<i>Value</i>	<i>Label</i>
9999	No Data

CORRFAC	Correction factor
<i>Value</i>	<i>Label</i>
9999	No Data

FIN_N2O	N2O flux, units=nanograms N2O-N per metre squared per second
<i>Value</i>	<i>Label</i>
9999	No Data

Interpolated_Daily_Average_N2O_Flux_2000-2004

YEAR	Year data was measured
PLOT	Number of experimental plot data was measured in
DOY	Day of year, units=Julian Day
COUNT	Number of observations
REAL_N2O	Actual average daily N2O flux measured, units=nanograms N2O per metre squared per second
<i>Value</i>	<i>Label</i>
9999	No Data

FILL_N2O	Interpolated average daily N2O flux, units=nanograms N2O per metre squared per second	
	<i>Value</i>	<i>Label</i>
	9999	No Data

Plot_Summary_AvgN2Oflux_2000-2005

PLOT	Number of experimental plot data was measured in	
YEAR	Year data was measured	
DOY	Day of year, units=Julian Day	
COUNT	Number of observations	
AVG_N2O	Average daily N2O flux, units=nanograms N2O per metre squared per second	
	<i>Value</i>	<i>Label</i>
	9999	No Data

Summary_Interpolated_Monthly_Average_N2O_Flux_2000-2005

YEAR	Year data was measured	
PLOT	Number of experimental plot data was measured in	
MONTH	Month of year by number	
OBS	Number of observations	
AVG_N2O	Hourly mean N2O flux for the month, units=nanograms N2O per metre squared per second	
	<i>Value</i>	<i>Label</i>
	9999	No Data
TOT_N2O	Total N2O emissions for the month, units=kilograms N2O per hectare per month	
	<i>Value</i>	<i>Label</i>
	9999	No Data
STD_DEV	Standard deviation of daily hourly mean N2O flux, units=nanograms N2O per metre squared per second	
	<i>Value</i>	<i>Label</i>
	9998	Not Calculated

Radiation_Systems_Data_2001-2005

YEAR	Year data was measured	
G_CT	Ground heat flux measured in conventional practice plot, units=Watts per metre squared	
	<i>Value</i>	<i>Label</i>
	99999999	No Data
G_NT	Ground heat flux measured in best management practice plot, units=Watts per metre squared	
	<i>Value</i>	<i>Label</i>
	99999999	No Data
R_CT	Net radiation measured in conventional practice plot, units=Watts per metre squared	
	<i>Value</i>	<i>Label</i>
	9999	No Data
R_NT	Net radiation measured in best management practice plot, units=Watts per metre squared	
	<i>Value</i>	<i>Label</i>
	9999	No Data

DS_CT	Change in heat storage measured in conventional practice plot	
	<i>Value</i>	<i>Label</i>
	9999	No Data
DS_NT	Change in heat storage measured in best management practice plot	
	<i>Value</i>	<i>Label</i>
	9999	No Data
TS_CT	Surface radiant temperature measured in conventional practice plot, units=degrees Celsius	
	<i>Value</i>	<i>Label</i>
	9999	No Data
TS_NT	Surface radiant temperature measured in best management practice plot, units=degrees Celsius	
	<i>Value</i>	<i>Label</i>
	9999	No Data

Sonic_Anemometer_Data_2001-2005

YEAR	Year data was measured	
EC	Identification of sonic anemometer used for measurements	
FC	Carbon dioxide flux, units=micromoles per metre squared per second	
	<i>Value</i>	<i>Label</i>
	9999	No Data
H	Sensible heat flux, units=Watts per metre squared	
	<i>Value</i>	<i>Label</i>
	9999	No Data
HV	Virtual sensible heat flux, units=Watts per metre squared	
	<i>Value</i>	<i>Label</i>
	9999	No Data
USTAR	Friction velocity, units=metres per second	
	<i>Value</i>	<i>Label</i>
	9999	No Data
FCFILT	Filtered carbon dioxide flux, units=micromoles per metre squared per second	
	<i>Value</i>	<i>Label</i>
	9999	No Data
HFILT	Filtered sensible heat flux, units=Watts per metre squared	
	<i>Value</i>	<i>Label</i>
	9999	No Data
HVFILT	Filtered virtual sensible heat flux, units=Watts per metre squared	
	<i>Value</i>	<i>Label</i>
	9999	No Data
USTARFIL	Filtered friction velocity, units=metres per second	
	<i>Value</i>	<i>Label</i>
	9999	No Data
ETAFILT	Filter for ETA angle	
	<i>Value</i>	<i>Label</i>
	1	Absolute value of ETA less than or equal to 45 degrees
	9	Absolute value of ETA greater than 45 degrees
	9999	No Data

OBUKL	Obukhov length	
	<i>Value</i>	<i>Label</i>
	9999	No Data

Sonic_Anomometer_Heights_2001-2004

YEAR	Year data was measured	
MONTH	Month of year	
DAY	Day of month	
DOY	Day of year, units=Julian Day	
TIME	Time of measurements, units=hour, minute (EST)	
P_EC1	Plot number in which Sonic anemometer one is installed	
	<i>Value</i>	<i>Label</i>
	9999	No Data
P_EC2	Plot number in which Sonic anemometer two is installed	
	<i>Value</i>	<i>Label</i>
	9999	No Data
H_EC1	Height of sonic anemometer one, units=metres	
	<i>Value</i>	<i>Label</i>
	9999	No Data
H_EC2	Height of sonic anemometer two, units=metres	
	<i>Value</i>	<i>Label</i>
	9999	No Data
NOTES	Observations for measurements	

Traceable_Gas_Analyzer_Intake_Heights

YEAR	Year data was measured	
PLOT	Number of experimental plot data was measured in	
DOY	Day of year, units=Julian Day	
TIME	Time measurement was taken, units=hour, minute (EST)	
LI	Lower intake height of trace gas analyzer, units=centimetres	
	<i>Value</i>	<i>Label</i>
	9999	No Data
UI	Upper intake height of trace gas analyzer (LI+40), units=centimetres	
	<i>Value</i>	<i>Label</i>
	9999	No Data

Traceable_Gas_Analyzer_Intake_location

YEAR	Year data was measured	
PLOT	Number of experimental plot data was measured in	
DOY	Day of year, units=Julian Day	
TIME	Time measurement was taken, units=hour, minute (EST)	
L_S	Distance in length direction from the intakes to the edge south of the intakes, units=metres	
L_N	Distance in length direction from the intakes to the edge north of the intakes, units=metres	

W_E	Distance in width direction from the intakes to the edge east of the intakes, units=metres
W_W	Distance in width direction from the intakes to the edge west of the intakes, units=metres