Parameter	MESH File	GRU Numl	GRU Name	CLASS Can	Base Code	Parameter	Parameter Units	CLASS Can	Fixed/Initi	Lower Bou	Upper Bou	Ostrich Na	Ostrich Pre	Calibrated	Rationale	Source
Basin Wid	CLASS.ini		Basin Wide		CLASS	TITLE	title of the study		Souris River							
Basin Wid	CLASS.ini		Basin Wide		CLASS	NAME	name of the person(s) setting up		Bruce Davison based on one of M.A. Mekonnnen's Assiniboine setups							
Basin Wid	CLASS.ini		Basin Wide		CLASS	STUDY	the study description		Souris at Wawanesa (focus on Moose Mountain Creek)							
Basin Wid	CLASS.ini		Basin Wide		CLASS	DEGLAT	latitude of	deg	47.583							
Basin Wid	CLASS.ini		Basin Wide		CLASS	DEGLON	longitude (	deg	-104.892							
Basin Wid	CLASS.ini		Basin Wide		CLASS	ZRFH	reference	m	40							
Basin Wid	CLASS.ini		Basin Wide		CLASS	ZRFM	reference	m	40							
Basin Wid	CLASS.ini		Basin Wide		CLASS	ZBLD	height intc	m	50							
Basin Wid	CLASS.ini		Basin Wide		CLASS	GC	ground cover flag		-1							
Basin Wid	CLASS.ini		Basin Wide		CLASS	ILW	dummy variable set to 1		1							
Basin Wid	CLASS.ini		Basin Wide		CLASS	NAX	number of grid cells in the basin		678							
Basin Wid	CLASS.ini		Basin Wide		CLASS	NM	number of GRUs in the CLASS file		5							
Basin Wid	CLASS.ini		Basin Wide		CLASS	IHOUR	hour of first record of data in me		18							
Basin Wid	CLASS.ini		Basin Wide		CLASS	IMINS	time-step of first record of data i		0							
Basin Wid	CLASS.ini		Basin Wide		CLASS	IJDAY	day of first record of data in met		365							
Basin Wid	CLASS.ini		Basin Wide		CLASS	IYEAR	year of first record of data in me		1978							
GRU 1 - Ba	CLASS.ini	1	Barren	5	CLASS	FCAN	annual max fraction c	Barren	0						If all of FCAN are set to zero, CLASS automatically sets values of LNZ0, ALIC and ALVC. Will have to look at the code to see the values of these parameters. Barren is such a small percentage of the overall basin, only a little effort went into the parameterization.	
GRU 1 - Ba	CLASS.ini	1	Barren	5	CLASS	LNZ0	natural log of vegetat	Barren	0						hard coded in CLASS when FCAN = 0	
GRU 1 - Ba	CLASS.ini	1	Barren	5	CLASS	ALVC	average visible vegeta	Barren	0						hard coded in CLASS when FCAN = 0	
GRU 1 - Ba	CLASS.ini	1	Barren	5	CLASS	ALIC	average IR vegetation	Barren	0						hard coded in CLASS when FCAN = 0	
GRU 1 - Ba	CLASS.ini	1	Barren	5	CLASS	RSMN	min vegeta	s/m	Barren	0					no vegetation	
GRU 1 - Ba	CLASS.ini	1	Barren	5	CLASS	VPDA	vapor pressure coeffi	Barren	0						no vegetation	
GRU 1 - Ba	CLASS.ini	1	Barren	5	CLASS	PSGA	soil moisture suction	Barren	0						no vegetation	
GRU 1 - Ba	CLASS.ini	1	Barren	5	CLASS	LAMX	annual max leaf-area	Barren	0						no vegetation	
GRU 1 - Ba	CLASS.ini	1	Barren	5	CLASS	LAMN	annual min leaf-area i	Barren	0						no vegetation	
GRU 1 - Ba	CLASS.ini	1	Barren	5	CLASS	CMAS	annual ma	kg/m^2	Barren	0					no vegetation	
GRU 1 - Ba	CLASS.ini	1	Barren	5	CLASS	ROOT	annual ma	m	Barren	0					no vegetation	
GRU 1 - Ba	CLASS.ini	1	Barren	5	CLASS	QA50	reference	W/m^2	Barren	0					no vegetation	
GRU 1 - Ba	CLASS.ini	1	Barren	5	CLASS	VPDB	vapor pressure coeffi	Barren	0						no vegetation	
GRU 1 - Ba	CLASS.ini	1	Barren	5	CLASS	PSGB	soil moisture suction	Barren	0						no vegetation	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	DRN	drainage index	Barren	1						Assume full drainage from the soil column based on location of basin.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	SDEP	soil columı	m	Barren	4.3					Bedrock in this region is deep below the surface.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	FARE	active fraction of grid	Barren	1						Not used in the model.	
GRU 1 - Ba	CLASS.ini	1	Barren		WATROF	DD	drainage d	km/km^2	Barren	2					Assume lower end of scale (1 to 100).	https://wiki.usask.ca/display/MESH/Documentation?preview=/223019286/223248391/interflow_params_20090819.doc
GRU 1 - Ba	CLASS.ini	1	Barren		WATROF	XSLP	average slı	rise/run	Barren	0.1					Assume barren areas have steeper slopes.	https://wiki.usask.ca/display/MESH/Documentation?preview=/223019286/223248391/interflow_params_20090819.doc
GRU 1 - Ba	CLASS.ini	1	Barren		WATROF	XDRAINH	fractional change in h	Barren	1.00E-06						Assume a considerable drop in lateral hydraulic conductivity with depth.	https://wiki.usask.ca/display/MESH/Documentation?preview=/223019286/223248391/interflow_params_20090819.doc
GRU 1 - Ba	CLASS.ini	1	Barren		WATROF	MANN	Manning's	s/m^(1/3)	Barren	0.03					Value for a relatively smooth surface.	http://www.fsl.orst.edu/geowater/FX3/help/8_Hydraulic_Reference/Mannings_n_Tables.htm
GRU 1 - Ba	CLASS.ini	1	Barren		WATROF	KSAT	saturated ı	m/s	Barren	0.01					Assume 1 cm/s as a relatively high value for barren land.	https://wiki.usask.ca/display/MESH/Documentation?preview=/223019286/223248391/interflow_params_20090819.doc
GRU 1 - Ba	CLASS.ini	1	Barren			MID	sets the mosaic tile ID	Barren	1						Must be greater than zero.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	SAND1	percent sa	%	Barren	50					Small percentage in the basin, not too important, set to 50.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	CLAY1	percent cla	%	Barren	20					Small percentage in the basin, not too important, set to 20.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	ORGM1	percent or	%	Barren	0					Small percentage in the basin, not too important, set to 0.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	SAND2	percent sa	%	Barren	50					Small percentage in the basin, not too important, set to 50.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	CLAY2	percent cla	%	Barren	20					Small percentage in the basin, not too important, set to 20.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	ORGM2	percent or	%	Barren	0					Small percentage in the basin, not too important, set to 0.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	SAND3	percent sa	%	Barren	50					Small percentage in the basin, not too important, set to 50.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	CLAY3	percent cla	%	Barren	20					Small percentage in the basin, not too important, set to 20.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	ORGM3	percent or	%	Barren	0					Small percentage in the basin, not too important, set to 0.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	TBAR1	Initial Cone	deg C	Barren	0					Likely lower than zero, but spin-up will take care of this.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	TBAR2	Initial Cone	deg C	Barren	0					Likely lower than zero, but spin-up will take care of this.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	TBAR3	Initial Cone	deg C	Barren	0					Likely lower than zero, but spin-up will take care of this.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	TCAN	Initial Cone	deg C	Barren	0					Likely lower than zero, but spin-up will take care of this.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	TSNO	Initial Cone	deg C	Barren	0					Likely lower than zero, but spin-up will take care of this.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	TPND	Initial Cone	deg C	Barren	0					Likely lower than zero, but spin-up will take care of this.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	THLQ1	Initial Cone	m^3/m^3	Barren	0.04					Set to minimum CLASS value to ensure water balance outputs correctly.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	THLQ2	Initial Cone	m^3/m^3	Barren	0.04					Set to minimum CLASS value to ensure water balance outputs correctly.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	THLQ3	Initial Cone	m^3/m^3	Barren	0.04					Set to minimum CLASS value to ensure water balance outputs correctly.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	THIC1	Initial Cone	m^3/m^3	Barren	0.16					Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	THIC2	Initial Cone	m^3/m^3	Barren	0.16					Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	THIC3	Initial Cone	m^3/m^3	Barren	0.16					Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.	
GRU 1 - Ba	CLASS.ini	1	Barren		CLASS	ZPND	Initial Cone	m	Barren	0					Assume no water in LSS "ponds"	

GRU 1 - Ba	CLASS.ini	1	Barren	CLASS	RCAN	Initial Con	kg/m^2	Barren	0					Assume no water initial condition. Let model spin-up alter.	
GRU 1 - Ba	CLASS.ini	1	Barren	CLASS	SNCAN	Initial Con	kg/m^2	Barren	0					Assume no snow on canopy initial condition. Let model spin-up alter.	
GRU 1 - Ba	CLASS.ini	1	Barren	CLASS	SNO	Initial Con	kg/m^2	Barren	0					Assume no water snow on ground condition. Let model spin-up alter.	
GRU 1 - Ba	CLASS.ini	1	Barren	CLASS	ALBS	Initial Condition - Sno		Barren	0					Set to zero if no snow is initialized on the ground.	
GRU 1 - Ba	CLASS.ini	1	Barren	CLASS	RHOS	Initial Con	kg/m^3	Barren	0					Set to zero if no snow is initialized on the ground.	
GRU 1 - Ba	CLASS.ini	1	Barren	CLASS	GRO	Initial Condition - gro		Barren	0					Set to zero before leaf out (Jan 1)	
GRU 2 - Cc	CLASS.ini	2	Contributi	3	CLASS	FCAN	annual max fraction c		Crops	1					Set to 1 for CLASS Canopy Type of Crop	
GRU 2 - Cc	CLASS.ini	2	Contributi	3	CLASS	LNZ0	natural log of vegetat		Crops	-2.53	-2.53	-1.05	LNCC	2	-2.37	Arable to Irrigated crop range from CLASS 3.6 documentation, pg 170	
GRU 2 - Cc	CLASS.ini	2	Contributi	3	CLASS	ALVC	average visible vegeta		Crops	0.06						Irrigated crop default from CLASS 3.6 documentation, pg 170	
GRU 2 - Cc	CLASS.ini	2	Contributi	3	CLASS	ALIC	average IR vegetation		Crops	0.36						Irrigated crop default from CLASS 3.6 documentation, pg 170	
GRU 2 - Cc	CLASS.ini	2	Contributi	3	CLASS	RSMN	min vegeta	s/m	Crops	85	65	105	RSMNCC	2	97.98	+/- 20 for Crop from CLASS 3.6 documentation, pg 11	
GRU 2 - Cc	CLASS.ini	2	Contributi	3	CLASS	VPDA	vapor pressure coeffi		Crops	0.5						Crop default from CLASS 3.6 documentation, pg 11	
GRU 2 - Cc	CLASS.ini	2	Contributi	3	CLASS	PSGA	soil moisture suction		Crops	100						Crop default from CLASS 3.6 documentation, pg 11	
GRU 2 - Cc	CLASS.ini	2	Contributi	3	CLASS	LAMX	annual max leaf-area		Crops	4						Irrigated crop default from CLASS 3.6 documentation, pg 170	
GRU 2 - Cc	CLASS.ini	2	Contributi	3	CLASS	LAMN	annual min leaf-area i		Crops	0						Irrigated crop default from CLASS 3.6 documentation, pg 170	
GRU 2 - Cc	CLASS.ini	2	Contributi	3	CLASS	CMAS	annual ma	kg/m^2	Crops	2						Irrigated crop default from CLASS 3.6 documentation, pg 171	
GRU 2 - Cc	CLASS.ini	2	Contributi	3	CLASS	ROOT	annual ma	m	Crops	2						Irrigated crop default from CLASS 3.6 documentation, pg 172 (assume full access to 3rd, deep soil layer)	
GRU 2 - Cc	CLASS.ini	2	Contributi	3	CLASS	QA50	reference	W/m^2	Crops	30						Crop default from CLASS 3.6 documentation, pg 11	
GRU 2 - Cc	CLASS.ini	2	Contributi	3	CLASS	VPDB	vapor pressure coeffi		Crops	1						Crop default from CLASS 3.6 documentation, pg 11	
GRU 2 - Cc	CLASS.ini	2	Contributi	3	CLASS	PSGB	soil moisture suction		Crops	5						Crop default from CLASS 3.6 documentation, pg 11	
GRU 2 - Cc	CLASS.ini	2	Contributing Crop		CLASS	DRN	drainage index		Crops	1						Assume full drainage from the soil column based on location of basin.	
GRU 2 - Cc	CLASS.ini	2	Contributing Crop		CLASS	SDEP	soil columı	m	Crops	4.3						Bedrock in this region is deep below the surface.	
GRU 2 - Cc	CLASS.ini	2	Contributing Crop		CLASS	FARE	active fraction of grid		Crops	1						Not used in the model.	
GRU 2 - Cc	CLASS.ini	2	Contributing Crop		WATROF	DD	drainage d	km/km^2	Crops	5	2	8	DDC1	2	3.1	Assume greater drainage density for contributing cropland, but still low because it is the prairies. Calibrate.	https://wiki.usask.ca/display/MESH/Documentation?preview=/223019286/223248391/interflow_params_20090819.doc
GRU 2 - Cc	CLASS.ini	2	Contributing Crop		WATROF	XSLP	average sl	rise/run	Crops	0.1	0.0001	0.2	XSLPC1	4	0.0518	Assume greater slope for contributing cropland, but still low because it is the prairies. Calibrate.	https://wiki.usask.ca/display/MESH/Documentation?preview=/223019286/223248391/interflow_params_20090819.doc
GRU 2 - Cc	CLASS.ini	2	Contributing Crop		WATROF	XDRAINH	fractional change in h		Crops	1.00E-04	1.00E-01	1.00E-07	XDRAC1	7	6.00E-02	Assume a drop in lateral hydraulic conductivity with depth. Calibrate due to importance of GRU, parameter and lack of certainty.	https://wiki.usask.ca/display/MESH/Documentation?preview=/223019286/223248391/interflow_params_20090819.doc
GRU 2 - Cc	CLASS.ini	2	Contributing Crop		WATROF	MANN	Manning's	s/m^(1/3)	Crops	0.03	0.02	0.05	MANNC1	3	0.045	Based on 3b Cultivated areas in source table.	http://www.fsl.orst.edu/geowater/FX3/help/8_Hydraulic_Reference/Mannings_n_Tables.htm
GRU 2 - Cc	CLASS.ini	2	Contributing Crop		WATROF	KSAT	saturated	m/s	Crops	0.001	0.000001	0.2	KSATC1	4	0.1882	Not really sure what is reasonable. Select a wide range based on MESH wiki documentation.	https://wiki.usask.ca/display/MESH/Documentation?preview=/223019286/223248391/interflow_params_20090819.doc
GRU 2 - Cc	CLASS.ini	2	Contributing Crop			MID	sets the mosaic tile ID		Crops	2						Must be greater than zero.	
GRU 2 - Cc	CLASS.ini	2	Contributing Crop		CLASS	SAND1	percent sa	%	Crops	50	40	70	SAND1C1	2	40.9	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC	
GRU 2 - Cc	CLASS.ini	2	Contributing Crop		CLASS	CLAY1	percent cl	%	Crops	20	10	30	CLAY1C1	2	24.47	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC	
GRU 2 - Cc	CLASS.ini	2	Contributing Crop		CLASS	ORGM1	percent or	%	Crops	0						Not very influential, so don't worry about calibrating. Set to zero.	
GRU 2 - Cc	CLASS.ini	2	Contributing Crop		CLASS	SAND2	percent sa	%	Crops	50	40	70	SAND2C1	2	54.16	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC	

GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	CLAY2	percent cl	%	Crops	20	10	30	CLAY2C1	2	15.44	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	ORGM2	percent or	%	Crops	0						Not very influential, so don't worry about calibrating. Set to zero.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	SAND3	percent sa	%	Crops	50	40	70	SAND3C1	2	58.26	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	CLAY3	percent cl	%	Crops	20	10	30	CLAY3C1	2	16.04	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	ORGM3	percent or	%	Crops	0						Not very influential, so don't worry about calibrating. Set to zero.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	TBAR1	Initial Con	deg C	Crops	0						Likely lower than zero, but spin-up will take care of this.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	TBAR2	Initial Con	deg C	Crops	0						Likely lower than zero, but spin-up will take care of this.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	TBAR3	Initial Con	deg C	Crops	0						Likely lower than zero, but spin-up will take care of this.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	TCAN	Initial Con	deg C	Crops	0						Likely lower than zero, but spin-up will take care of this.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	TSNO	Initial Con	deg C	Crops	0						Likely lower than zero, but spin-up will take care of this.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	TPND	Initial Con	deg C	Crops	0						Likely lower than zero, but spin-up will take care of this.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	THLQ1	Initial Con	m^3/m^3	Crops	0.04						Set to minimum CLASS value to ensure water balance outputs correctly.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	THLQ2	Initial Con	m^3/m^3	Crops	0.04						Set to minimum CLASS value to ensure water balance outputs correctly.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	THLQ3	Initial Con	m^3/m^3	Crops	0.04						Set to minimum CLASS value to ensure water balance outputs correctly.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	THIC1	Initial Con	m^3/m^3	Crops	0.16						Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	THIC2	Initial Con	m^3/m^3	Crops	0.16						Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	THIC3	Initial Con	m^3/m^3	Crops	0.16						Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	ZPND	Initial Con	m	Crops	0						Assume not water in LSS "ponds"
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	RCAN	Initial Con	kg/m^2	Crops	0						Assume no water initial condition. Let model spin-up alter.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	SNCAN	Initial Con	kg/m^2	Crops	0						Assume no water initial condition. Let model spin-up alter.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	SNO	Initial Con	kg/m^2	Crops	0						Assume no water initial condition. Let model spin-up alter.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	ALBS	Initial Condition - Sno		Crops	0						Set to zero if no snow is initialized on the ground.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	RHOS	Initial Con	kg/m^3	Crops	0						Set to zero if no snow is initialized on the ground.
GRU 2 - Cc	CLASS.ini	2	Contributing Crop	CLASS	GRO	Initial Condition - gro		Crops	0						Set to zero before leaf out (Jan 1)
GRU 3 - Nc	CLASS.ini	3	Non-Contr	3	CLASS	FCAN	annual max fraction c	Crops	1						Set to 1 for CLASS Canopy Type of Crop
GRU 3 - Nc	CLASS.ini	3	Non-Contr	3	CLASS	LNZ0	natural log of vegetat	Crops	-2.53	-2.53	-1.05	LNNCC	2	-1.92	Arable to Irrigated crop range from CLASS 3.6 documentation, pg 170
GRU 3 - Nc	CLASS.ini	3	Non-Contr	3	CLASS	ALVC	average visible veget	Crops	0.06						Irrigated crop default from CLASS 3.6 documentation, pg 170
GRU 3 - Nc	CLASS.ini	3	Non-Contr	3	CLASS	ALIC	average IR vegetation	Crops	0.36						Irrigated crop default from CLASS 3.6 documentation, pg 170
GRU 3 - Nc	CLASS.ini	3	Non-Contr	3	CLASS	RSMN	min veget	s/m	Crops	85	65	105	RSMNNCC	2	91.6	+/- 20 for Crop from CLASS 3.6 documentation, pg 11
GRU 3 - Nc	CLASS.ini	3	Non-Contr	3	CLASS	VPDA	vapor pressure coeffi	Crops	0.5						Crop default from CLASS 3.6 documentation, pg 11
GRU 3 - Nc	CLASS.ini	3	Non-Contr	3	CLASS	PSGA	soil moisture suction	Crops	100						Crop default from CLASS 3.6 documentation, pg 11
GRU 3 - Nc	CLASS.ini	3	Non-Contr	3	CLASS	LAMX	annual max leaf-area	Crops	4						Irrigated crop default from CLASS 3.6 documentation, pg 170
GRU 3 - Nc	CLASS.ini	3	Non-Contr	3	CLASS	LAMN	annual min leaf-area i	Crops	0						Irrigated crop default from CLASS 3.6 documentation, pg 170
GRU 3 - Nc	CLASS.ini	3	Non-Contr	3	CLASS	CMAS	annual ma	kg/m^2	Crops	2					Irrigated crop default from CLASS 3.6 documentation, pg 171
GRU 3 - Nc	CLASS.ini	3	Non-Contr	3	CLASS	ROOT	annual ma	m	Crops	2					Irrigated crop default from CLASS 3.6 documentation, pg 172 (assume full access to 3rd, deep soil layer)
GRU 3 - Nc	CLASS.ini	3	Non-Contr	3	CLASS	QA50	reference	W/m^2	Crops	30					Crop default from CLASS 3.6 documentation, pg 11
GRU 3 - Nc	CLASS.ini	3	Non-Contr	3	CLASS	VPDB	vapor pressure coeffi		Crops	1					Crop default from CLASS 3.6 documentation, pg 11
GRU 3 - Nc	CLASS.ini	3	Non-Contr	3	CLASS	PSGB	soil moisture suction		Crops	5					Crop default from CLASS 3.6 documentation, pg 11
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	DRN	drainage index		Crops	1						Assume full drainage from the soil column based on location of basin.

GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	SDEP	soil columı m	Crops	4.3					Bedrock in this region is deep below the surface.	
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	FARE	active fraction of grid	Crops	1					Not used in the model.	
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	WATROF	DD	drainage d km/km^2	Crops	2	1	4	DDC2	2	2.9	Assume smaller drainage density for non-contributing cropland than for contributing cropland. Calibrate.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	WATROF	XSLP	average slope of GRU	Crops	0.1	0.0001	0.2	XSLPC2	4	0.1017	Assume smaller slope for non-contributing cropland than contributing cropland. Calibrate.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	WATROF	XDRAINH	fractional change in h	Crops	1.00E-04	1.00E-01	1.00E-07	XDRAC2	7	1.60E-03	Assume a drop in lateral hydraulic conductivity with depth. Calibrate due to importance of GRU, parameter and lack of certainty.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	WATROF	MANN	Manning's s/m^(1/3)	Crops	0.03	0.02	0.05	MANNC2	3	0.044	Based on 3b Cultivated areas in source table.	http://www.fsl.orst.edu/geowater/FX3/help/8_Hydraulic_Reference/Mannings_n_Tables.htm
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	WATROF	KSAT	saturated ı m/s	Crops	0.001	0.000001	0.2	KSATC2	4	0.046	Not really sure what is reasonable. Select a wide range based on MESH wiki documentation.	https://wiki.usask.ca/display/MESH/Documentation?preview=/223019286/223248391/interflow_params_20090819.doc
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Crop	MID	sets the mosaic tile ID	Crops	3							Must be greater than zero.	
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	SAND1	percent sa %	Crops	50	40	70	SAND1C2	2	43.85	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC	
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	CLAY1	percent cl: %	Crops	20	10	30	CLAY1C2	2	28.91	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC	
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	ORGM1	percent or %	Crops	0						Not very influential, so don't worry about calibrating. Set to zero.	
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	SAND2	percent sa %	Crops	50	40	70	SAND2C2	2	65.13	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC	
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	CLAY2	percent cl: %	Crops	20	10	30	CLAY2C2	2	10.32	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC	
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	ORGM2	percent or %	Crops	0						Not very influential, so don't worry about calibrating. Set to zero.	
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	SAND3	percent sa %	Crops	50	40	70	SAND3C2	2	58.49	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC	
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	CLAY3	percent cl: %	Crops	20	10	30	CLAY3C2	2	24.85	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC	
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	ORGM3	percent or %	Crops	0						Not very influential, so don't worry about calibrating. Set to zero.	
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	TBAR1	Initial Conc deg C	Crops	0						Likely lower than zero, but spin-up will take care of this.	
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	TBAR2	Initial Conc deg C	Crops	0						Likely lower than zero, but spin-up will take care of this.	
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	TBAR3	Initial Conc deg C	Crops	0						Likely lower than zero, but spin-up will take care of this.	

GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	TCAN	Initial Conc	deg C	Crops	0	Likely lower than zero, but spin-up will take care of this.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	TSNO	Initial Conc	deg C	Crops	0	Likely lower than zero, but spin-up will take care of this.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	TPND	Initial Conc	deg C	Crops	0	Likely lower than zero, but spin-up will take care of this.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	THLQ1	Initial Conc	m^3/m^3	Crops	0.04	Set to minimum CLASS value to ensure water balance outputs correctly.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	THLQ2	Initial Conc	m^3/m^3	Crops	0.04	Set to minimum CLASS value to ensure water balance outputs correctly.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	THLQ3	Initial Conc	m^3/m^3	Crops	0.04	Set to minimum CLASS value to ensure water balance outputs correctly.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	THIC1	Initial Conc	m^3/m^3	Crops	0.16	Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	THIC2	Initial Conc	m^3/m^3	Crops	0.16	Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	THIC3	Initial Conc	m^3/m^3	Crops	0.16	Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	ZPND	Initial Conc	m	Crops	0	Assume not water in LSS "ponds"
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	RCAN	Initial Conc	kg/m^2	Crops	0	Assume no water initial condition. Let model spin-up alter.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	SNCAN	Initial Conc	kg/m^2	Crops	0	Assume no water initial condition. Let model spin-up alter.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	SNO	Initial Conc	kg/m^2	Crops	0	Assume no water initial condition. Let model spin-up alter.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	ALBS	Initial Condition - Sno		Crops	0	Set to zero if no snow is initialized on the ground.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	RHOS	Initial Conc	kg/m^3	Crops	0	Set to zero if no snow is initialized on the ground.
GRU 3 - Nc	CLASS.ini	3	Non-Contributing Cro	CLASS	GRO	Initial Condition - gro		Crops	0	Set to zero before leaf out (Jan 1)
GRU 4 - Br	CLASS.ini	4	Broadleaf	2	CLASS	FCAN	annual max fraction c	Broadleaf	1	Set to 100% broadleaf.
GRU 4 - Br	CLASS.ini	4	Broadleaf	2	CLASS	LNZ0	natural log of vegetat	Broadleaf	0.7	Deciduous broadleaf forest default from CLASS 3.6 documentation, pg 170
GRU 4 - Br	CLASS.ini	4	Broadleaf	2	CLASS	ALVC	average visible veget	Broadleaf	0.05	Deciduous broadleaf forest default from CLASS 3.6 documentation, pg 170
GRU 4 - Br	CLASS.ini	4	Broadleaf	2	CLASS	ALIC	average IR vegetation	Broadleaf	0.29	Deciduous broadleaf forest default from CLASS 3.6 documentation, pg 170
GRU 4 - Br	CLASS.ini	4	Broadleaf	2	CLASS	RSMN	min veget	s/m	Broadleaf	125	Broadleaf default from CLASS 3.6 documentation, pg 11
GRU 4 - Br	CLASS.ini	4	Broadleaf	2	CLASS	VPDA	vapor pressure coeffi	Broadleaf	0.5	Broadleaf default from CLASS 3.6 documentation, pg 11
GRU 4 - Br	CLASS.ini	4	Broadleaf	2	CLASS	PSGA	soil moisture suction	Broadleaf	100	Broadleaf default from CLASS 3.6 documentation, pg 11
GRU 4 - Br	CLASS.ini	4	Broadleaf	2	CLASS	LAMX	annual max leaf-area	Broadleaf	6	Deciduous broadleaf forest default from CLASS 3.6 documentation, pg 170
GRU 4 - Br	CLASS.ini	4	Broadleaf	2	CLASS	LAMN	annual min leaf-area i	Broadleaf	0.5	Deciduous broadleaf forest default from CLASS 3.6 documentation, pg 170
GRU 4 - Br	CLASS.ini	4	Broadleaf	2	CLASS	CMAS	annual ma	kg/m^2	Broadleaf	20	Deciduous broadleaf forest default from CLASS 3.6 documentation, pg 170
GRU 4 - Br	CLASS.ini	4	Broadleaf	2	CLASS	ROOT	annual ma	m	Broadleaf	2	Deciduous broadleaf forest default from CLASS 3.6 documentation, pg 170
GRU 4 - Br	CLASS.ini	4	Broadleaf	2	CLASS	QA50	reference	W/m^2	Broadleaf	40	Broadleaf default from CLASS 3.6 documentation, pg 11
GRU 4 - Br	CLASS.ini	4	Broadleaf	2	CLASS	VPDB	vapor pressure coeffi	Broadleaf	0.6	Broadleaf default from CLASS 3.6 documentation, pg 11
GRU 4 - Br	CLASS.ini	4	Broadleaf	2	CLASS	PSGB	soil moisture suction	Broadleaf	5	Broadleaf default from CLASS 3.6 documentation, pg 11
GRU 4 - Br	CLASS.ini	4	Broadleaf		CLASS	DRN	drainage index	Broadleaf	1	Assume full drainage from the soil column based on location of basin.
GRU 4 - Br	CLASS.ini	4	Broadleaf		CLASS	SDEP	soil colum	m	Broadleaf	4.3	Bedrock in this region is deep below the surface.
GRU 4 - Br	CLASS.ini	4	Broadleaf		CLASS	FARE	active fraction of grid	Broadleaf	1	Not used in the model.
GRU 4 - Br	CLASS.ini	4	Broadleaf		WATROF	DD	drainage d	km/km^2	Broadleaf	20	Assume greater drainage density for broadleaf forest.	https://wiki.usask.ca/display/MESH/Documentation?preview=/223019286/223248391/interflow_params_20090819.doc
GRU 4 - Br	CLASS.ini	4	Broadleaf		WATROF	XSLP	average slope of GRU	Broadleaf	0.002	Assume greater slope for broadleaf forest, but not very important for the gauge being calibrated.	https://wiki.usask.ca/display/MESH/Documentation?preview=/223019286/223248391/interflow_params_20090819.doc
GRU 4 - Br	CLASS.ini	4	Broadleaf		WATROF	XDRAINH	fractional change in h	Broadleaf	1.00E-03	Assume a drop in lateral hydraulic conductivity with depth.	https://wiki.usask.ca/display/MESH/Documentation?preview=/223019286/223248391/interflow_params_20090819.doc
GRU 4 - Br	CLASS.ini	4	Broadleaf		WATROF	MANN	Manning's	s/m^(1/3)	Broadleaf	0.15	Based on 3c Dense Trees in source table.	http://www.fsl.orst.edu/geowater/FX3/help/8_Hydraulic_Reference/Mannings_n_Tables.htm
GRU 4 - Br	CLASS.ini	4	Broadleaf		WATROF	KSAT	saturated	m/s	Broadleaf	0.01	Assume decayed roots giving room for higher saturated surface soil conductivity.	https://wiki.usask.ca/display/MESH/Documentation?preview=/223019286/223248391/interflow_params_20090819.doc
GRU 4 - Br	CLASS.ini	4	Broadleaf			MID	sets the mosaic tile ID	Broadleaf	4	Must be greater than zero.	
GRU 4 - Br	CLASS.ini	4	Broadleaf		CLASS	SAND1	percent sa	%	Broadleaf	50	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQIBRAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC	
GRU 4 - Br	CLASS.ini	4	Broadleaf		CLASS	CLAY1	percent cl	%	Broadleaf	20	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQIBRAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC	

GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	ORGM1	percent or	%	Broadleaf	0	Not very influential, so don't worry about calibrating. Set to zero.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	SAND2	percent sa	%	Broadleaf	50	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	CLAY2	percent cl	%	Broadleaf	20	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	ORGM2	percent or	%	Broadleaf	0	Not very influential, so don't worry about calibrating. Set to zero.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	SAND3	percent sa	%	Broadleaf	50	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	CLAY3	percent cl	%	Broadleaf	20	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	ORGM3	percent or	%	Broadleaf	0	Not very influential, so don't worry about calibrating. Set to zero.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	TBAR1	Initial Con	deg C	Broadleaf	0	Likely lower than zero, but spin-up will take care of this.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	TBAR2	Initial Con	deg C	Broadleaf	0	Likely lower than zero, but spin-up will take care of this.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	TBAR3	Initial Con	deg C	Broadleaf	0	Likely lower than zero, but spin-up will take care of this.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	TCAN	Initial Con	deg C	Broadleaf	0	Likely lower than zero, but spin-up will take care of this.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	TSNO	Initial Con	deg C	Broadleaf	0	Likely lower than zero, but spin-up will take care of this.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	TPND	Initial Con	deg C	Broadleaf	0	Likely lower than zero, but spin-up will take care of this.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	THLQ1	Initial Con	m^3/m^3	Broadleaf	0.04	Set to minimum CLASS value to ensure water balance outputs correctly.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	THLQ2	Initial Con	m^3/m^3	Broadleaf	0.04	Set to minimum CLASS value to ensure water balance outputs correctly.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	THLQ3	Initial Con	m^3/m^3	Broadleaf	0.04	Set to minimum CLASS value to ensure water balance outputs correctly.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	THIC1	Initial Con	m^3/m^3	Broadleaf	0.16	Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	THIC2	Initial Con	m^3/m^3	Broadleaf	0.16	Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	THIC3	Initial Con	m^3/m^3	Broadleaf	0.16	Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	ZPND	Initial Con	m	Broadleaf	0	Assume not water in LSS "ponds"
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	RCAN	Initial Con	kg/m^2	Broadleaf	0	Assume no water initial condition. Let model spin-up alter.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	SNCAN	Initial Con	kg/m^2	Broadleaf	0	Assume no water initial condition. Let model spin-up alter.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	SNO	Initial Con	kg/m^2	Broadleaf	0	Assume no water initial condition. Let model spin-up alter.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	ALBS	Initial Condition - Sno		Broadleaf	0	Set to zero if no snow is initialized on the ground.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	RHOS	Initial Con	kg/m^3	Broadleaf	0	Set to zero if no snow is initialized on the ground.
GRU 4 - Br	CLASS.ini	4	Broadleaf	CLASS	GRO	Initial Condition - gro		Broadleaf	0	Set to zero before leaf out (Jan 1)
GRU 5 - W	CLASS.ini	5	Water	5	CLASS	FCAN	annual max fraction o		Urban	1	Should consider making this a wetland class, but call a parking lot full of water for now. It's a small percentage of the basin anyway, so not very influential.
GRU 5 - W	CLASS.ini	5	Water	5	CLASS	LNZ0	natural log of vegetat		Urban	-4	Set to something low, but the model will crash if it's too low.
GRU 5 - W	CLASS.ini	5	Water	5	CLASS	ALVC	average visible vegeta		Urban	0.1	Set as middle of existing range of options in CLASS documentation.
GRU 5 - W	CLASS.ini	5	Water	5	CLASS	ALIC	average IR vegetation		Urban	0.2	Set as middle of existing range of options in CLASS documentation.
GRU 5 - W	CLASS.ini	5	Water	5	CLASS	RSMN	min vegeta	s/m	Urban		no vegetation
GRU 5 - W	CLASS.ini	5	Water	5	CLASS	VPDA	vapor pressure coeffi		Urban		no vegetation
GRU 5 - W	CLASS.ini	5	Water	5	CLASS	PSGA	soil moisture suction		Urban		no vegetation
GRU 5 - W	CLASS.ini	5	Water	5	CLASS	LAMX	annual max leaf-area		Urban		no vegetation
GRU 5 - W	CLASS.ini	5	Water	5	CLASS	LAMN	annual min leaf-area i		Urban		no vegetation
GRU 5 - W	CLASS.ini	5	Water	5	CLASS	CMAS	annual ma	kg/m^2	Urban		no vegetation
GRU 5 - W	CLASS.ini	5	Water	5	CLASS	ROOT	annual ma	m	Urban		no vegetation

GRU 5 - W	CLASS.ini	5	Water	5	CLASS	QA50	reference W/m^2	Urban		no vegetation
GRU 5 - W	CLASS.ini	5	Water	5	CLASS	VPDB	vapor pressure coeffi	Urban		no vegetation
GRU 5 - W	CLASS.ini	5	Water	5	CLASS	PSGB	soil moisture suction	Urban		no vegetation
GRU 5 - W	CLASS.ini	5	Water		CLASS	DRN	drainage index	Urban	1	Assume full drainage from the soil column based on location of basin.
GRU 5 - W	CLASS.ini	5	Water		CLASS	SDEP	soil columı m	Urban	4.3	Bedrock in this region is deep below the surface.
GRU 5 - W	CLASS.ini	5	Water		CLASS	FARE	active fraction of grid	Urban	1	Not used in the model.
GRU 5 - W	CLASS.ini	5	Water		WATROF	DD	drainage d km/km^2	Urban	20	Assume greater drainage density for water. (Doesn't really make sense)
GRU 5 - W	CLASS.ini	5	Water		WATROF	XSLP	average slope of GRU	Urban	0.002	Assume greater slope for broadleaf forest, but not very important for the gauge being calibrated.
GRU 5 - W	CLASS.ini	5	Water		WATROF	XDRAINH	fractional change in h	Urban	1.00E-03	Assume a drop in lateral hydraulic conductivity with depth.
GRU 5 - W	CLASS.ini	5	Water		WATROF	MANN	Manning's s/m^(1/3)	Urban	0.01	Assume very smooth.
GRU 5 - W	CLASS.ini	5	Water		WATROF	KSAT	saturated ı m/s	Urban	0.01	Assume good flow.
GRU 5 - W	CLASS.ini	5	Water			MID	sets the mosaic tile ID	Urban	5	Must be greater than zero.
GRU 5 - W	CLASS.ini	5	Water		CLASS	SAND1	percent sa %	Urban	50	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC
GRU 5 - W	CLASS.ini	5	Water		CLASS	CLAY1	percent cl: %	Urban	20	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC
GRU 5 - W	CLASS.ini	5	Water		CLASS	ORGM1	percent or %	Urban	0	Not very influential, so don't worry about calibrating. Set to zero.
GRU 5 - W	CLASS.ini	5	Water		CLASS	SAND2	percent sa %	Urban	50	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC
GRU 5 - W	CLASS.ini	5	Water		CLASS	CLAY2	percent cl: %	Urban	20	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC
GRU 5 - W	CLASS.ini	5	Water		CLASS	ORGM2	percent or %	Urban	0	Not very influential, so don't worry about calibrating. Set to zero.
GRU 5 - W	CLASS.ini	5	Water		CLASS	SAND3	percent sa %	Urban	50	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC
GRU 5 - W	CLASS.ini	5	Water		CLASS	CLAY3	percent cl: %	Urban	20	Based on bottom of page 34 of 1926 University of Saskatchewan Soil Survey report (Soil Survey Report no. 5) and soil texture triangle https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjRkJznwPbuAhVeF1kFHVfPARsQFjAFegQICxAD&url=https%3A%2F%2Fsis.agr.gc.ca%2Fcansis%2Fpublications%2Fsurveys%2Fsk%2Fsk5%2Fsk5_report.pdf&usg=AOvVaw35hJdZQoaR1GdtP0c-1QuC
GRU 5 - W	CLASS.ini	5	Water		CLASS	ORGM3	percent or %	Urban	0	Not very influential, so don't worry about calibrating. Set to zero.
GRU 5 - W	CLASS.ini	5	Water		CLASS	TBAR1	Initial Conc deg C	Urban	0	Likely lower than zero, but spin-up will take care of this.
GRU 5 - W	CLASS.ini	5	Water		CLASS	TBAR2	Initial Conc deg C	Urban	0	Likely lower than zero, but spin-up will take care of this.
GRU 5 - W	CLASS.ini	5	Water		CLASS	TBAR3	Initial Conc deg C	Urban	0	Likely lower than zero, but spin-up will take care of this.
GRU 5 - W	CLASS.ini	5	Water		CLASS	TCAN	Initial Conc deg C	Urban	0	Likely lower than zero, but spin-up will take care of this.
GRU 5 - W	CLASS.ini	5	Water		CLASS	TSNO	Initial Conc deg C	Urban	0	Likely lower than zero, but spin-up will take care of this.

GRU 5 - W	CLASS.ini	5	Water	CLASS	TPND	Initial Cond	deg C	Urban	0					Likely lower than zero, but spin-up will take care of this.
GRU 5 - W	CLASS.ini	5	Water	CLASS	THLQ1	Initial Cond	m^3/m^3	Urban	0.04					Set to minimum CLASS value to ensure water balance outputs correctly.
GRU 5 - W	CLASS.ini	5	Water	CLASS	THLQ2	Initial Cond	m^3/m^3	Urban	0.04					Set to minimum CLASS value to ensure water balance outputs correctly.
GRU 5 - W	CLASS.ini	5	Water	CLASS	THLQ3	Initial Cond	m^3/m^3	Urban	0.04					Set to minimum CLASS value to ensure water balance outputs correctly.
GRU 5 - W	CLASS.ini	5	Water	CLASS	THIC1	Initial Cond	m^3/m^3	Urban	0.16					Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.
GRU 5 - W	CLASS.ini	5	Water	CLASS	THIC2	Initial Cond	m^3/m^3	Urban	0.16					Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.
GRU 5 - W	CLASS.ini	5	Water	CLASS	THIC3	Initial Cond	m^3/m^3	Urban	0.16					Likely some ice in the soil on Jan 1. Let spin-up deal with changing this.
GRU 5 - W	CLASS.ini	5	Water	CLASS	ZPND	Initial Cond	m	Urban	0					Assume not water in LSS "ponds"
GRU 5 - W	CLASS.ini	5	Water	CLASS	RCAN	Initial Cond	kg/m^2	Urban	0					Assume no water initial condition. Let model spin-up alter.
GRU 5 - W	CLASS.ini	5	Water	CLASS	SNCAN	Initial Cond	kg/m^2	Urban	0					Assume no water initial condition. Let model spin-up alter.
GRU 5 - W	CLASS.ini	5	Water	CLASS	SNO	Initial Cond	kg/m^2	Urban	0					Assume no water initial condition. Let model spin-up alter.
GRU 5 - W	CLASS.ini	5	Water	CLASS	ALBS	Initial Condition - Sno		Urban	0					Set to zero if no snow is initialized on the ground.
GRU 5 - W	CLASS.ini	5	Water	CLASS	RHOS	Initial Cond	kg/m^3	Urban	0					Set to zero if no snow is initialized on the ground.
GRU 5 - W	CLASS.ini	5	Water	CLASS	GRO	Initial Condition - gro		Urban	0					Set to zero before leaf out (Jan 1)
Channel R	Hydrology.ini		Channel Routing	WATROUT	R2N - 1	river chann	s/m^(1/3)		0.04	0.01	0.2	RTER2N1	2	0.01 Assume a very broad range.
Channel R	Hydrology.ini		Channel Routing	WATROUT	R2N - 2	river chann	s/m^(1/3)		0.04	0.01	0.2	RTER2N2	2	0.1 Assume a very broad range.
Channel R	Hydrology.ini		Channel Routing	WATROUT	R2N - 3	river chann	s/m^(1/3)		0.04	0.01	0.2	RTER2N3	2	0.08 Assume a very broad range.
Channel R	Hydrology.ini		Channel Routing	WATROUT	R2N - 4	river chann	s/m^(1/3)		0.04	0.01	0.2	RTER2N4	2	0.15 Assume a very broad range.
Channel R	Hydrology.ini		Channel Routing	WATROUT	R2N - 5	river chann	s/m^(1/3)		0.04	0.01	0.2	RTER2N5	2	0.03 Assume a very broad range.
Channel R	Hydrology.ini		Channel Routing	WATROUT	R1N - 1	river chann	s/m^(1/3)		0.05	0.02	0.3	RTER1N1	2	0.13 Assume a very broad range.
Channel R	Hydrology.ini		Channel Routing	WATROUT	R1N - 2	river chann	s/m^(1/3)		0.05	0.02	0.3	RTER1N2	2	0.04 Assume a very broad range.
Channel R	Hydrology.ini		Channel Routing	WATROUT	R1N - 3	river chann	s/m^(1/3)		0.05	0.02	0.3	RTER1N3	2	0.21 Assume a very broad range.
Channel R	Hydrology.ini		Channel Routing	WATROUT	R1N - 4	river chann	s/m^(1/3)		0.05	0.02	0.3	RTER1N4	2	0.17 Assume a very broad range.
Channel R	Hydrology.ini		Channel Routing	WATROUT	R1N - 5	river chann	s/m^(1/3)		0.05	0.02	0.3	RTER1N5	2	0.26 Assume a very broad range.
Basin Wid	Hydrology.ini		Basin Wide	Frozen Soi	SOIL_POR	max porosity of the soil			0.5					Manually estimated based on algorithm testing.
Basin Wid	Hydrology.ini		Basin Wide	Frozen Soi	SOIL_DEP	max permi	m		1					Manually estimated based on algorithm testing.
Basin Wid	Hydrology.ini		Basin Wide	Frozen Soi	S0	max saturz	m^3/m^3		0.5					Manually estimated based on algorithm testing.
Basin Wid	Hydrology.ini		Basin Wide	Frozen Soi	T_ICE_LEN	min temp	deg C		-3					Manually estimated based on algorithm testing.
Basin Wid	Hydrology.ini		Basin Wide	Frozen Soi	t0_ACC	opportunit	hr		0					Set to zero to allow the model estimate this value.
GRU 1 - Ba	Hydrology	1	Barren	CLASS	ZSNL	min depth	m		0.5	0.05	1	ZSNLB	2	0.28 Assume a broad range. Can't go too low for model stability. Old default was 0.1 (10cm), set range of 5cm to 1m.
GRU 1 - Ba	Hydrology	1	Barren	CLASS	ZPLS	max storag	m		0.1	0.01	0.2	ZPLSB	2	0.12 Assume a broad range 1 - 20 cm.
GRU 1 - Ba	Hydrology	1	Barren	CLASS	ZPLG	max storag	m		0.1	0.01	0.2	ZPLGB	2	0.09 Assume a broad range 1 - 20 cm.
GRU 1 - Ba	Hydrology	1	Barren	FILL and SI	cmax_fas	max storag	m		1	0.1	5	CMAXB	2	2.9 Assume a broad range 10 cm - 5m for this first calibration.
GRU 1 - Ba	Hydrology	1	Barren	FILL and SI	cmin_fas	min storag	m		0					Non-zero values with fill-and-spill cause MESH to crash
GRU 1 - Ba	Hydrology	1	Barren	FILL and SI	b_fas	shape factor for fill and spill algo			8	6	10	BFASB	2	8.6 Assume very connected with a high b value.
GRU 1 - Ba	Hydrology	1	Barren	FILL and SI	potholepo	initial dept	m		1					Set to 1m and allow the model to spin-up.
GRU 1 - Ba	Hydrology	1	Barren	FILL and SI	potholepo	fractional a	fraction		0.1	0	0.5	PPAB	2	0.44 Set to a wide range assuming a max of 50% of the area could be potholes.
GRU 1 - Ba	Hydrology	1	Barren	FILL and SI	fillspillflag	set to 1 to enable fill and spill cal			1					Set to 1 to enable fill and spill calculations
GRU 1 - Ba	Hydrology	1	Barren	PBSM	fetch	fetch dista	m		300					Use value that is used for all land cover types in Fang and Pomeroy (2007)
GRU 1 - Ba	Hydrology	1	Barren	PBSM	Ht	vegetation	m		0.01					Set to a small number.
GRU 1 - Ba	Hydrology	1	Barren	PBSM	N_S	vegetation	number/m^2		300					Set to 300
GRU 1 - Ba	Hydrology	1	Barren	PBSM	A_S	vegetation	m		0					Set to zero
GRU 1 - Ba	Hydrology	1	Barren	PBSM	Distrib	Inter-GRU snow redistribution fa			0					Assume this is a fully wind-swept GRU
GRU 1 - Ba	Hydrology	1	Barren	Frozen Soi	FRZC	coefficient of equation for infiltra			2.1					Manually estimated based on algorithm testing.
GRU 2 - Cc	Hydrology	2	Contributing Crop	CLASS	ZSNL	min depth	m		0.5	0.05	1	ZSNLCC	2	0.83 Assume a broad range. Can't go too low for model stability. Old default was 0.1 (10cm), set range of 5cm to 1m.
GRU 2 - Cc	Hydrology	2	Contributing Crop	CLASS	ZPLS	max storag	m		0.1	0.01	0.2	ZPLSCC	2	0.12 Assume a broad range 1 - 20 cm.
GRU 2 - Cc	Hydrology	2	Contributing Crop	CLASS	ZPLG	max storag	m		0.1	0.01	0.2	ZPLGCC	2	0.01 Assume a broad range 1 - 20 cm.
GRU 2 - Cc	Hydrology	2	Contributing Crop	FILL and SI	cmax_fas	max storag	m		1	0.1	5	CMAXCC	2	4.11 Assume a broad range 10 cm - 5m for this first calibration.
GRU 2 - Cc	Hydrology	2	Contributing Crop	FILL and SI	cmin_fas	min storag	m		0					Non-zero values with fill-and-spill cause MESH to crash
GRU 2 - Cc	Hydrology	2	Contributing Crop	FILL and SI	b_fas	shape factor for fill and spill algo			5	2	8	BFASCC	2	3.27 Higher B is required for contributing areas
GRU 2 - Cc	Hydrology	2	Contributing Crop	FILL and SI	potholepo	initial depth of ponds for the fill a			0.1					Set to 10 cm and allow the model to spin-up.
GRU 2 - Cc	Hydrology	2	Contributing Crop	FILL and SI	potholepo	fractional area of GRU that conta			0.1	0	0.5	PPACC	4	0.436 Set to a wide range assuming a max of 50% of the area could be potholes.
GRU 2 - Cc	Hydrology	2	Contributing Crop	FILL and SI	fillspillflag	set to 1 to enable fill and spill cal			1					Set to 1 to enable fill and spill calculations
GRU 2 - Cc	Hydrology	2	Contributing Crop	PBSM	fetch	fetch dista	m		300					Use value that is used for all land cover types in Fang and Pomeroy (2007)
GRU 2 - Cc	Hydrology	2	Contributing Crop	PBSM	Ht	vegetation	m		0.1					Assume stubble height of 10cm.
GRU 2 - Cc	Hydrology	2	Contributing Crop	PBSM	N_S	vegetation	number/m^2		300					Set to 300
GRU 2 - Cc	Hydrology	2	Contributing Crop	PBSM	A_S	vegetation	m		0.003					Assume thin stubble
GRU 2 - Cc	Hydrology	2	Contributing Crop	PBSM	Distrib	Inter-GRU snow redistribution fa			0					Assume this is a fully wind-swept GRU
GRU 2 - Cc	Hydrology	2	Contributing Crop	Frozen Soi	FRZC	coefficient of equation for infiltra			2.1					Manually estimated based on algorithm testing.
GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	CLASS	ZSNL	min depth	m		0.5	0.05	1	ZSNLNCC	2	0.49 Assume a broad range. Can't go too low for model stability. Old default was 0.1 (10cm), set range of 5cm to 1m.
GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	CLASS	ZPLS	max storag	m		0.1	0.01	0.2	ZPLSNCC	2	0.19 Assume a broad range 1 - 20 cm.
GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	CLASS	ZPLG	max storag	m		0.1	0.01	0.2	ZPLGNCC	2	0.19 Assume a broad range 1 - 20 cm.

GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	FILL and SI	cmax_fas	max storag	m	1	0.1	5	CMAXNCC	2	4.56	Assume a broad range 10 cm - 5m for this first calibration.
GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	FILL and SI	cmin_fas	min storag	m	0						Non-zero values with fill-and-spill cause MESH to crash
GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	FILL and SI	b_fas	shape factor for fill and spill algo		1	0.1	5	BFASNCC	2	4.31	Lower B is required for non-contributing areas
GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	FILL and SI	potholepo	initial depth of ponds for the fill a		0.1				2		Set to 10 cm and allow the model to spin-up.
GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	FILL and SI	potholepo	fractional a fraction		0.1	0	0.5	PPANCC	4	0.2332	Set to a wide range assuming a max of 50% of the area could be potholes.
GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	FILL and SI	fillspillflag	set to 1 to enable fill and spill cal		1						Set to 1 to enable fill and spill calculations
GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	PBSM	fetch	fetch dista	m	300						Use value that is used for all land cover types in Fang and Pomeroy (2007)
GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	PBSM	Ht	vegetation	m	0.1						Assume stubble height of 10cm.
GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	PBSM	N_S	vegetation number/m^2		300						Set to 300
GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	PBSM	A_S	vegetation	m	0.003						Assume thin stubble
GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	PBSM	Distrib	Inter-GRU snow redistribution fa		0						Assume this is a fully wind-swept GRU
GRU 3 - Nc	Hydrology	3	Non-Contributing Cro	Frozen Soi	FRZC	coefficient of equation for infiltra		2.1						Manually estimated based on algorithm testing.
GRU 4 - Br	Hydrology	4	Broadleaf	CLASS	ZSNL	min depth	m	0.5	0.05	1	ZSNLBL	2	0.85	Assume a broad range. Can't go too low for model stability. Old default was 0.1 (10cm), set range of 5cm to 1m.
GRU 4 - Br	Hydrology	4	Broadleaf	CLASS	ZPLS	max storag	m	0.1	0.01	0.2	ZPLSBL	2	0.11	Assume a broad range 1 - 20 cm.
GRU 4 - Br	Hydrology	4	Broadleaf	CLASS	ZPLG	max storag	m	0.1	0.01	0.2	PZLGBL	2	0.13	Assume a broad range 1 - 20 cm.
GRU 4 - Br	Hydrology	4	Broadleaf	FILL and SI	cmax_fas	max storag	m	1	0.1	5	CMAXBL	2	3.44	Assume a broad range 10 cm - 5m for this first calibration.
GRU 4 - Br	Hydrology	4	Broadleaf	FILL and SI	cmin_fas	min storag	m	0						Non-zero values with fill-and-spill cause MESH to crash
GRU 4 - Br	Hydrology	4	Broadleaf	FILL and SI	b_fas	shape factor for fill and spill algo		5						Set to mid range of B values. Not as influential as crop.
GRU 4 - Br	Hydrology	4	Broadleaf	FILL and SI	potholepo	initial depth of ponds for the fill a		0.1						Set to 10 cm and allow the model to spin-up.
GRU 4 - Br	Hydrology	4	Broadleaf	FILL and SI	potholepo	fractional a fraction		0.1	0	0.5	PPABL	4	0.4859	Set to a wide range assuming a max of 50% of the area could be potholes.
GRU 4 - Br	Hydrology	4	Broadleaf	FILL and SI	fillspillflag	set to 1 to enable fill and spill cal		1						Set to 1 to enable fill and spill calculations
GRU 4 - Br	Hydrology	4	Broadleaf	PBSM	fetch	fetch dista	m	300						Use value that is used for all land cover types in Fang and Pomeroy (2007)
GRU 4 - Br	Hydrology	4	Broadleaf	PBSM	Ht	vegetation	m	10						Assume trees of 10m height.
GRU 4 - Br	Hydrology	4	Broadleaf	PBSM	N_S	vegetation number/m^2		1						Assume 1 tree per square metre.
GRU 4 - Br	Hydrology	4	Broadleaf	PBSM	A_S	vegetation	m	300						Set to 300
GRU 4 - Br	Hydrology	4	Broadleaf	PBSM	Distrib	Inter-GRU snow redistribution fa		1						Assume some of the snow blows to the forest
GRU 4 - Br	Hydrology	4	Broadleaf	Frozen Soi	FRZC	coefficient of equation for infiltra		2.1						Manually estimated based on algorithm testing.
GRU 5 - W	Hydrology	5	Water	CLASS	ZSNL	min depth	m	0.5	0.05	1	ZSNLW	2	0.65	Assume a broad range. Can't go too low for model stability. Old default was 0.1 (10cm), set range of 5cm to 1m.
GRU 5 - W	Hydrology	5	Water	CLASS	ZPLS	max storag	m	0.1	0.01	0.2	ZPLSW	2	0.13	Assume a broad range 1 - 20 cm.
GRU 5 - W	Hydrology	5	Water	CLASS	ZPLG	max storag	m	0.1	0.01	0.2	ZPLGW	2	0.19	Assume a broad range 1 - 20 cm.
GRU 5 - W	Hydrology	5	Water	FILL and SI	cmax_fas	max storag	m	1	0.1	5	CMAXW	2	4.94	Assume a broad range 10 cm - 5m for this first calibration.
GRU 5 - W	Hydrology	5	Water	FILL and SI	cmin_fas	min storag	m	0						Non-zero values with fill-and-spill cause MESH to crash
GRU 5 - W	Hydrology	5	Water	FILL and SI	b_fas	shape factor for fill and spill algo		8						Set to high B value. Not as influential as crop.
GRU 5 - W	Hydrology	5	Water	FILL and SI	potholepo	initial depth of ponds for the fill a		0.1						Set to 10 cm and allow the model to spin-up.
GRU 5 - W	Hydrology	5	Water	FILL and SI	potholepo	fractional a fraction		0.1	0	0.5	PPAW	4	0.4125	Set to a wide range assuming a max of 50% of the area could be potholes.
GRU 5 - W	Hydrology	5	Water	FILL and SI	fillspillflag	set to 1 to enable fill and spill cal		1						Set to 1 to enable fill and spill calculations
GRU 5 - W	Hydrology	5	Water	PBSM	fetch	fetch dista	m	300						Use value that is used for all land cover types in Fang and Pomeroy (2007)
GRU 5 - W	Hydrology	5	Water	PBSM	Ht	vegetation	m	1						Assume 1m height for water/wetland vegetation.
GRU 5 - W	Hydrology	5	Water	PBSM	N_S	vegetation number/m^2		300						Assume high density of thin plants
GRU 5 - W	Hydrology	5	Water	PBSM	A_S	vegetation	m	0.003						Assume thin plants.
GRU 5 - W	Hydrology	5	Water	PBSM	Distrib	Inter-GRU snow redistribution fa		10						Assume most of the snow blows to the water/wetlands.
GRU 5 - W	Hydrology	5	Water	Frozen Soi	FRZC	coefficient of equation for infiltra		2.1						Manually estimated based on algorithm testing.

roughness length	ln(roughness length)
0.08	-2.53
0.35	-1.05