

Prior Estimates of CH4 Emissions Inventories				
CALGEM Subcategory 0.1° x 0.1°	Total Flux Prior TgCH <sub>4</sub> /yr	Flux Prior CV TgCH <sub>4</sub> /yr	Flux Prior SCB TgCH <sub>4</sub> /yr	Fraction SoCAB
CG_indf	0.304	0.147	0.1568	52%
CG_dair	0.232	0.200	0.0316	14%
CG_ndai	0.314	0.311	0.0032	1%
CG_ngas	0.093	0.059	0.0335	36%
CG_petr	0.054	0.047	0.0070	13%
CG_wetl	0.038	0.037	0.0009	2%
CG_crop	0.026	0.026	0.0000	0%
CG_wwtr	0.063	0.008	0.0549	87%
Totals	1.123	0.835	0.288	26%
		CV	SoCAB	Fraction SoCAB
Effective Scaling NOAA B.C. (unitless scaling)		2.179	1.094	
Effective Scaling GEOS-Chem B.C. (unitless scaling)		2.029	1.116	
Posterior Total NOAA B.C.(TgCH <sub>4</sub> /yr)		1.818	0.315	15%
Posterior Total GEOS-Chem B.C. (TgCH <sub>4</sub> /yr)		1.693	0.321	16%
Total CA Budget (NOAA B.C.)		2.134 ± 0.398		TgCH <sub>4</sub> /yr
Total CA Budget (GEOS-Chem B.C.)		2.014 ± 0.343		TgCH <sub>4</sub> /yr

CALGEM CV Inversion					
Optimized Independently	Colinearity Factor	Scaling NOAA B.C.	Fluxes A TgCH <sub>4</sub> /yr	Scaling A GEOS-Chem B.C.	Fluxes A TgCH <sub>4</sub> /yr
A	1.86	1.55	0.228	1.12	0.164
B	1.34	2.33	0.468	2.36	0.473
B	1.34	2.33	0.727	2.36	0.735
C	3.45	2.83	0.168	2.28	0.135
C	3.45	2.83	0.133	2.28	0.107
X		1.00	0.037	1.00	0.037
D	1.90	1.56	0.040	1.04	0.027
E	1.45	2.38	0.019	1.98	0.016
Prior Total			0.835		0.835
INVERSION TOTAL			1.818		1.693

Scaling Factors		mean	sd	mean	sd
Landfills	A		1.552	0.230	1.118
Cows(D&ND)	B		2.335	0.081	2.362
NatGas&Pet	C		2.834	0.069	2.278
Crop(Rice)	D		1.563	0.053	1.042
Wastewater	E		2.381	0.130	1.980

Fluxes	Prior	Posterior - NOAA	CI = 2 sigma	Posterior GC	CI
Landfills	0.147	0.228	0.105	0.164	0.057
Cows(D&ND)	0.511	1.194	0.194	1.208	0.198
NatGas&Pet	0.106	0.301	0.041	0.242	0.035
Crop(Rice)	0.026	0.040	0.004	0.027	0.002
Wastewater	0.008	0.019	0.005	0.016	0.004
Total	0.798	1.782	0.350	1.656	0.297

CALGEM SoCAB Inversion					
Optimized Independently	Colinearity Factor	Scaling NOAA B.C.	Fluxes A TgCH <sub>4</sub> /yr	Scaling A GEOS-Chem B.C.	Fluxes A TgCH <sub>4</sub> /yr
A	1.52	0.76	0.120	0.80	0.126
B	1.24	1.53	0.049	1.59	0.050
B	1.24	1.53	0.005	1.59	0.005
A	1.52	0.76	0.026	0.80	0.027
A	1.52	0.76	0.005	0.80	0.006
X		1.00	0.001	1.00	0.001
X		1.00	0.000	1.00	0.000
C	1.50	2.01	0.110	1.95	0.107
Prior Total			0.288		0.288
INVERSION TOTAL			0.315		0.321

Scaling Factors		mean	sd	mean	sd
LndFI&NGas&Pet	A		0.762	0.042	0.801
Cows(D&ND)	B		1.533	0.127	1.589
Wastewater	C		2.008	0.101	1.950

Fluxes	Prior	Posterior - NOAA	CI = 2 sigma	Posterior GC	CI
LndFI&NGas&Pet	0.197	0.150	0.013	0.158	0.012
Cows(D&ND)	0.035	0.053	0.014	0.055	0.014
Wastewater	0.055	0.110	0.022	0.107	0.020
Total	0.287	0.314	0.048	0.321	0.046