

**Supplementary Information for France et al., " $\delta^{13}\text{C}$  methane source signatures from tropical wetland and rice field emissions"**

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Region	Category	Sample Period	LAT	LON	Brief Description
<b>Bolivia</b>	Seasonal Wetland	March 2017, May 2017, March 2019	14.6 S	64.89 W	Llanos de Moxos wetland edge. Example location given as multiple sample sites
	Wetland Savanna	July 2016	14.34 S	67.29 W	Reyes Wetland, Flooded Savanna
	Bulk wetland. Mix of permanent and seasonal wetland	March 2019	13.8 S	65.2 W	Llanos de Moxos. Large seasonally flooded savanna with forested permanent wetland extents. Approximate wetland centre given as location
	Regional Background	2014-2019	16.35 S	68.13 W	Chacaltaya Observatory, 5260 masl in the Bolivian Andes.
<b>Hong Kong</b>	Reed bed Wetland	April 2019	22.50 N	114.05 E	managed reedbeds, part of conservation area.
	Rice Fields	Spring 2017-19	22.26 N	113.99 E	Traditional organic rice cultivation area
<b>Botswana</b>	Seasonal wetland Delta	Aug 2017 (Feb 2019 SI)	19.53 S	23.17 E	Nxaraga, SW of the Okavango Delta, Moreli Wildlife Game Reserve, seasonal floodplain
	Permanent wetland	Dec 2016 Feb 2017	18.80 S	22.28 E	Ikoga, NW of the Okavango Delta, permanent wetland with papyrus
	Regional Background	Nov 2016 to Apr 2018	24.62 S	26.13 E	Modipane
<b>Zambia</b>	Bulk wetland. Mix of permanent and seasonal wetlands	Feb 2019	11.5 S	30.0 E	Bangweulu Lake and swamp. Water reeds, papyrus and hippo grass.
			14.4 S	27.8 E	Lukanga swamp wetlands, shallow depth permanent wetland with seasonal extent.
			15.7 S	24.4 E	Kafue river flats wetland. Shallow marshland surrounding the Kafue River.
	Flooded River Marshland	Jan 2019	15.3 S	28.3 E	Ngwerere River marshland near Lusaka. Reedbed wetlands.
<b>Uganda</b>	Bulk wetland. Mix of permanent and seasonal wetland	Jan 2019	1.5 N	33.2 E	Eastern Lake Kyoga. Permanent lake and wetland with seasonal wetland edge.
	Lake wetland edge	Jan 2019	0.04 N	32.47 E	Edge of Lake Victoria. Swamp-like lake conditions.
<b>Vietnam</b>	Post-Harvest Rice Fields	March 2019	10.70 N	106.67 E	Drying rice fields, no surface water.
<b>Zimbabwe</b>	Seasonal wetland	Feb 2017 & Oct 2020	17.80 S	31.01 E	Monovalle Vlei. Open grassland fringed by miambo woodland and reeds. Seasonal wetlands.

Table SI 1. Location detail summary for each site locality where measurements were made in this work.

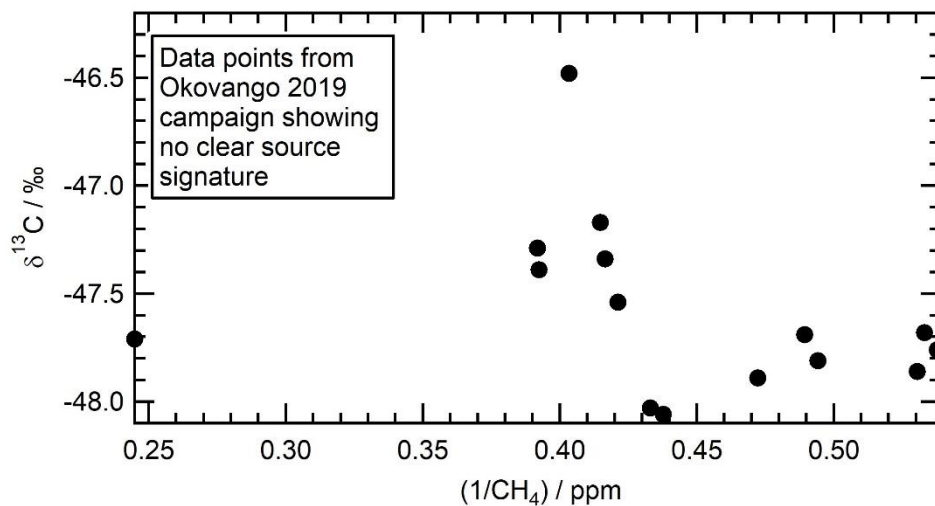


Figure SI 1. No trend in data collected from the two 2019 Okavango Delta campaigns. Enhanced  $\text{CH}_4$  concentrations measured had no clear single source  $\delta^{13}\text{C}_{\text{CH}_4}$  signature. Potentially this is due to mixtures of local sources and would require input from a heavier thermogenic source to suppress the wetland signature, such as biomass burning.

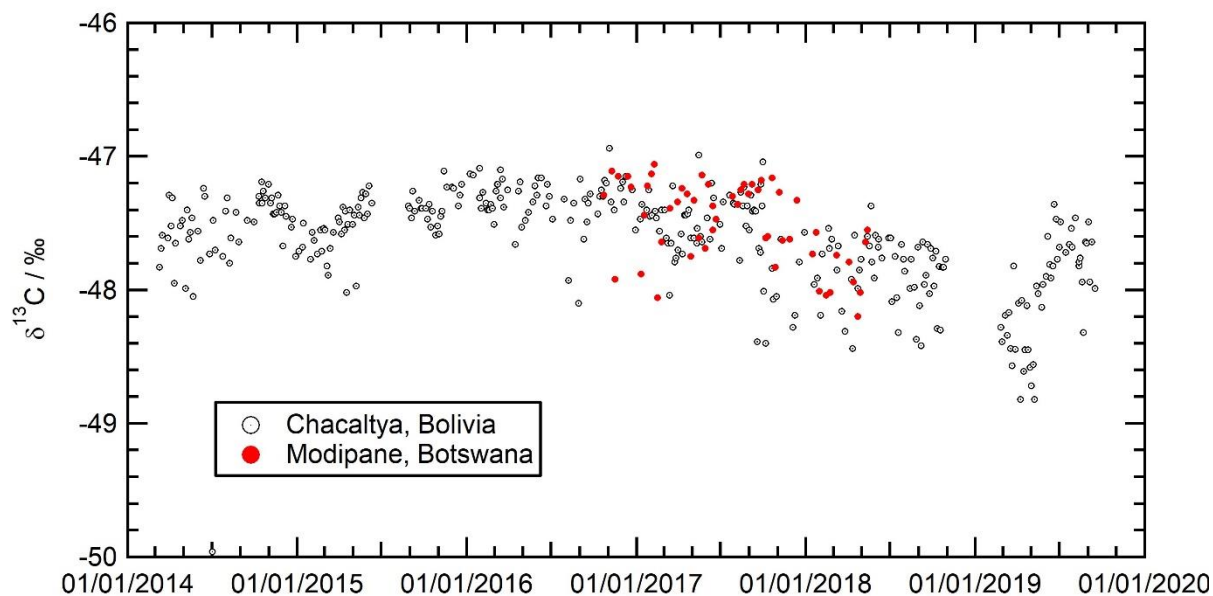


Figure SI 2. Long-Term  $\delta^{13}\text{C}_{\text{CH}_4}$  record from the Chacaltya Observatory, Bolivia and from Modipane, Botswana.