

Supplement of Biogeosciences, 15, 669–691, 2018
<https://doi.org/10.5194/bg-15-669-2018-supplement>
© Author(s) 2018. This work is distributed under
the Creative Commons Attribution 3.0 License.



Supplement of

Hydro-ecological controls on dissolved carbon dynamics in groundwater and export to streams in a temperate pine forest

Loris Deirmendjian et al.

Correspondence to: Loris Deirmendjian (lorisdeir@gmail.com)

The copyright of individual parts of the supplement might differ from the CC BY 3.0 License.

Supplementary Material

Period	Date	Groundwater			Surface water
		Piezometer Bilos	Piezometer 2	Piezometer 3	First-order streams
HF	29/01/2014				X
HF	12/02/2014	X			
HF	07/03/2014				X
HF	17/03/2014	X			
GS	24/04/2014				X
GS	16/05/2014	X			
GS	21/05/2014				X
GS	25/06/2014				X
GS	17/07/2014	X			X
GS	27/08/2014	X	X		X
LS	24/09/2014	X	X		X
LS	31/10/2014	X	X		X
EW	21/11/2014	X	X		X
EW	16/12/2014	X	X		X
EW	27/01/2015	X	X	X	X
HF	04/03/2015	X	X	X	X
GS	10/04/2015	X	X	X	X
GS	07/05/2015	X	X	X	X
GS	03/06/2015	X	X	X	X
GS	09/07/2015	X	X	X	X

Table S1: Sampling dates of groundwater and surface waters. X correspond to a sampling of pCO₂, total alkalinity and DOC. HF, GS, LS and EW represent respectively high flow (Jan. 2014-Mar. 2014 and Feb. 2015-Mar. 2015), growing

season (Apr. 2014-Aug. 2014 and Apr. 2015-Aug. 2015), late summer (Sep. 2014-Oct. 2014 and Sep. 2015-Oct.
5 2015) and early winter (Nov. 2014-Jan. 2015 and Nov. 2015-Dec. 2015) periods.

Period	Date	DIC _{stock} and DOC _{stock}		DIC _{export} and DOC _{export}			F _{degass}
		Piezometer Bilos	Piezometer Bilos	Piezometer 2	Piezometer 3	Streams	
HF	12/02/14 and 17/03/14	X	X			X ^a	
GS	17/03/14 and 16/05/14	X	X			X ^b	
GS	16/05/14 and 17/07/14	X	X			X ^c	
GS	17/07/14 and 27/08/14	X	X			X	
LS	27/08/14 and 24/09/14	X	X	X		X	
LS	24/09/14 and 31/10/14	X	X	X		X	
EW	31/10/14 and 21/11/14	X	X	X		X	
EW	21/11/14 and 16/12/14	X	X	X		X	
EW	16/12/14 and 27/01/15	X	X	X		X	
HF	27/01/15 and 04/03/15	X	X	X	X	X	
HF	04/03/15 and 10/04/15	X	X	X	X	X	
GS	10/04/15 and 07/05/15	X	X	X	X	X	
GS	07/05/15 and 03/06/15	X	X	X	X	X	
GS	03/06/15 and 09/07/15	X	X	X	X	X	

Table S2: Periods of calculation for carbon stocks, carbon exports and carbon degassing. X corresponds to a calculation.

^{a, b, c} for these periods the day of sampling of surface waters do not correspond exactly to the day of sampling of groundwater (Tab. S1). Carbon stocks in groundwater can be calculated only for Bilos plot since we do not have data about the total height of the permeable layer in the other plots. HF, GS, LS and EW represent respectively high flow (Jan. 2014-Mar. 2014 and Feb. 2015-Mar. 2015), growing season (Apr. 2014-Aug. 2014 and Apr. 2015-Aug. 2015), late summer (Sep. 2014-Oct. 2014 and Sep. 2015-Oct. 2015) and early winter (Nov. 2014-Jan. 2015 and Nov. 2015-Dec. 2015) periods.

