

Interactive comment on “Impact of annual and seasonal precipitation and air temperature on gross primary production in Mediterranean ecosystems in Europe” by Svenja Bartsch et al.

Svenja Bartsch et al.

bertrand.guenet@lsce.ipsl.fr

Received and published: 7 February 2017

General Answer to the Reviewer: We thank the anonymous reviewers for reading and reviewing our manuscript. We agree with both reviewers that our site selection could benefit from improvement and that we mainly concentrated on the vegetation types, not respecting the applied management or treatment of each site. We also agree that more information has to be provided concerning the selected sites. Correspondingly, we corrected our site selection by excluding sites where the management is difficult to reconcile with our statistical analysis. As given in table 1 (Tab.1, see below) we ended up having 16 sites left (instead of the original 23), representing four different vegetation types (evergreen needleleaf trees; evergreen broadleaf trees; deciduous

C1

broadleaf trees & shrubs) and three countries (Spain; France & Italy). In addition we included missing information such as the total elevation; climate information (KGCC); the number of years of observations included per site, as well as publications that are relevant to the sites' description (this column will be completed) in table 1. Based on this updated site selection, we will re-run all statistical analysis on the data.

Reply to the comments of reviewer 2:

We gratefully acknowledge the insight on the detailed site information. As mentioned above, reviewer 2 rightly criticizes the site selection, and our results may be flawed when mainly concentrating on the vegetation type of each site and ignoring its management. Correspondingly, we cleaned our data set as presented in the updated version of table 1 (see above) and added missing and important site information.

Regarding the concern that we have grouped all sites according to their vegetation, we decided to use, next to the 'site', also the 'vegetation type' as a random factor within our statistical analyses. Doing so will allow us to take site-dependent and also vegetation-dependent effects into account. Thank you for bringing this point forward.

We could not find any figure where the symbol legend is missing. As given as an example below (Fig. 4), for every figure the symbol legend (giving the different vegetation types) are presented in the first panel.

Interactive comment on Biogeosciences Discuss., doi:10.5194/bg-2016-491, 2016.

C2

Tab.1: Site description (NEW SITE SELECTION). Further site information is available at: <https://fluxnet.ornl.gov/>.

Nr.	SITE ID	SITE NAME	COUNTRY	COORDINATES (Lat., Long.)	VEGETATION	ELEVATION	KGCC ^{*1}	YEARS ^{*2}	REFERENCES
1	ES-ES1	El Saler	Spain	39.3460, -0.3188	evergreen needleleaf trees	10 m	Csa	1999 - 2006	Sanz et al. (2004)
2	ES-LuS	Laguna Seca	Spain	37.0979, -2.9658	shrubs	2267 m	Csa	2007 - 2008	-
3	ES-LJu	Llano de los Juanes	Spain	36.9266, -2.7521	shrubs	1600 m	Csa	2005 - 2011	Serrano-Ortiz et al. (2007)
4	ES-In1	Lanjaron-Non intervention	Spain	36.9721, -3.4759	shrubs	2301 m	Csa	2009	-
5	FR-FBn	Font-Blanche	France	43.2408, 5.6792	evergreen needleleaf trees	436 m	Csa	2009 - 2011	-
6	FR-Pue	Puechabon	France	43.7414, 3.5958	evergreen broadleaf trees	270 m	Csa	2001 - 2011	Rambal et al. (2004)
7	IT-Bon	Bonis	Italy	39.4778, 16.5347	evergreen needleleaf trees	1170 m	Csa	2005 - 2009	-
8	IT-CA3	Castel d'Asso3	Italy	42.3772, 12.0222	deciduous broadleaf trees	197 m	Csa	2012	-
9	IT-CBz	Castelporziano	Italy	41.7052, 12.3761	evergreen broadleaf trees	68 m	Csa	1997, 2000 - 2008	Garbulsky et al. (2008)
10	IT-Lec	Lecceto	Italy	43.3036, 11.2698	evergreen broadleaf trees	314 m	Cfa	2005 - 2009	Chiesi et al. (2011)
11	IT-Non	Nonantola	Italy	44.6902, 11.0911	deciduous broadleaf trees	20 m	Cfa	2001 - 2003, 2006 - 2008	Reichstein et al. (2003)
12	IT-Pia	Island of Pianosa	Italy	42.5839, 10.0784	shrubs	18 m	Csa	2002 - 2006	-
13	IT-Ro1	Roccarespampani1	Italy	42.4081, 11.9300	deciduous broadleaf trees	235 m	Csa	2000 - 2008	Rey et al. (2002)
14	IT-Ro2	Roccarespampani2	Italy	42.3903, 11.9209	deciduous broadleaf trees	160 m	Csa	2002 - 2008, 2010 - 2012	Tedeschi et al. (2006)
15	IT-SRo	San Rossore	Italy	43.7279, 10.2844	evergreen needleleaf trees	6 m	Csa	1999 - 2010	Chiesi et al. (2005)
16	IT-Tol	Tolfa	Italy	42.1897, 11.9216	evergreen broadleaf trees	473 m	Csa	2005 - 2006	-

^{*1} KGCC = Climate abbreviations follow the Koeppen-Geiger-Climate-Classification: Cfa - warm temperate fully humid with hot summer, Csa - warm temperate with dry, hot summer. ^{*2} Note all years from which we used information (even we didn't use the year in total) are included in the table.

Fig. 1.

C3

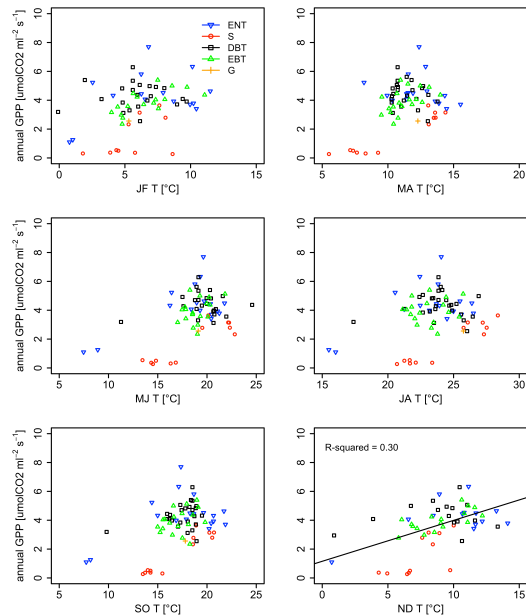


Fig. 2. Figure 4

C4