

Supplement of Biogeosciences, 15, 6087–6104, 2018
<https://doi.org/10.5194/bg-15-6087-2018-supplement>
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Supplement of

Life cycle of bamboo in the southwestern Amazon and its relation to fire events

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Table 1. Dates of TM/Landsat-5 images used for validation of bamboo die-off predictions. The date of each image (YYYY-MM-DD) is presented for each path-row (World Reference System 2) in the columns.

Path-Row	006-065	003-066	002-067	003-067	005-067	003-068
Dates	1985-06-28	1985-07-09	1985-09-04	1985-08-26	1985-07-23	1985-07-09
	1986-08-02	1986-07-28	1986-08-06	1986-09-30	1986-07-26	1986-10-16
	1987-08-05	1987-08-16	1987-08-25	1987-08-16	1987-08-14	1987-08-16
	1988-08-07	1988-07-17	1988-08-11	1988-08-18	1988-07-15	1988-06-15
	1989-08-26	1989-07-20	1989-08-14	1989-09-22	1989-09-04	1989-08-21
	1990-04-23	1990-07-07	1990-09-18	1990-07-23	1990-06-19	1990-08-24
	1991-06-13	1991-07-26	1991-07-27	1991-07-26	1991-07-08	1991-07-10
	1992-10-05	1992-08-13	1992-07-21	1992-07-28	1992-08-27	1992-07-28
	1993-08-05	1993-09-01	1993-08-25	1993-06-13	1993-08-14	1993-06-13
	1994-07-23	1994-07-18	1994-07-27	1994-07-18	1994-06-30	1994-07-18
	1995-08-27	1995-08-22	1995-07-30	1995-08-22	1995-06-17	1995-07-05
	1996-07-12	1996-07-23	1996-08-01	1996-07-23	1996-07-05	1996-07-23
	1997-09-01	1997-07-10	1997-07-19	1997-07-10	1997-07-24	1997-08-27
	1998-07-18	1998-07-13	1998-09-24	1998-08-30	1998-09-13	1998-07-13
	1999-08-06	1999-08-01	1999-08-10	1999-08-17	1999-07-30	1999-08-17
	2000-10-11	2000-07-18	2000-07-27	2000-07-18	2000-09-02	2000-09-04

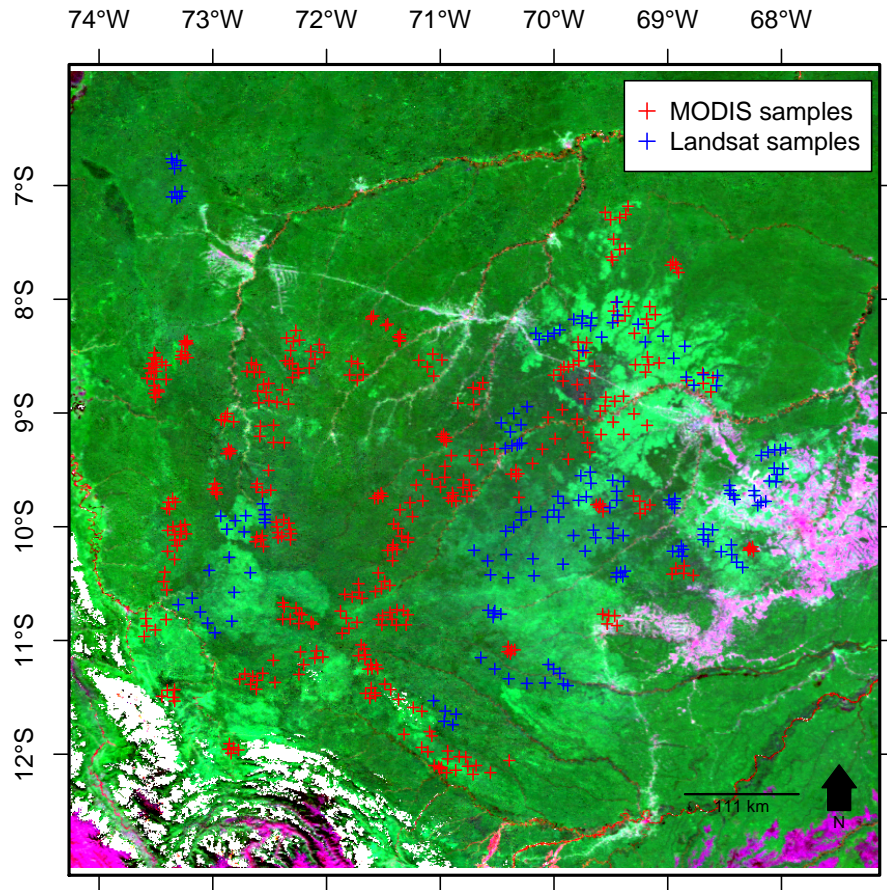


Figure 1. Spatial distribution of validation samples obtained from MODIS (2001–2017) imagery in red and Landsat (1985–2000) imagery in blue. The image at background is a false-color composite from MODIS (MAIAC) images of bands 1 (Red), 2 (NIR) and 6 (shortwave infrared), in RGB, respectively, in August 2015.

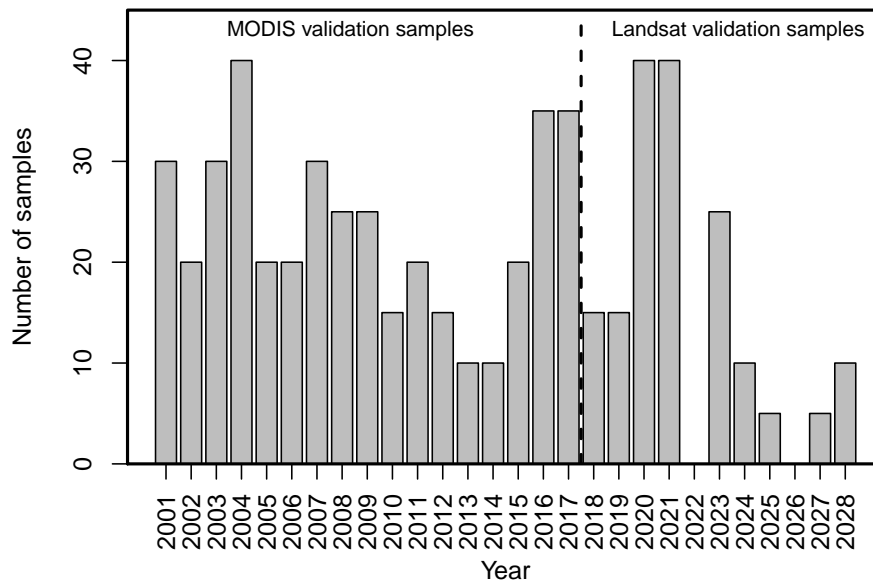


Figure 2. Temporal distribution of validation samples for bamboo die-off detection (2001–2017) from MODIS imagery; and for bamboo die-off prediction (2018–2028) from Landsat imagery.

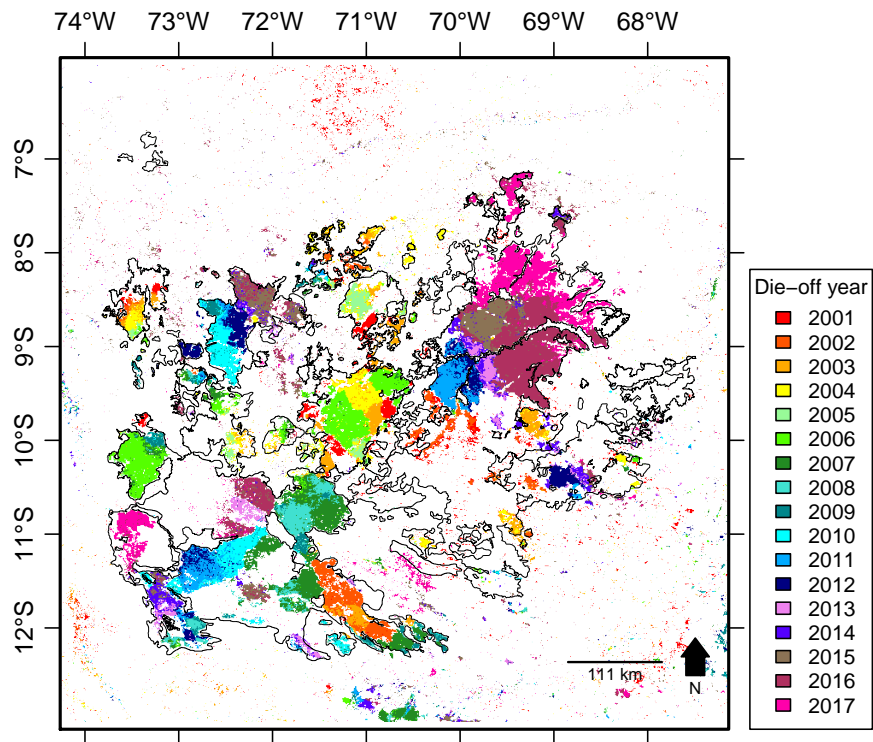


Figure 3. Bamboo die-off during 2001–2017 from the combined detections using MODIS (MAIAC) NIR-1 and NIR-2 and the bilinear model. The black lines indicate the perimeter of the bamboo-dominated areas delineated in a previous study (Carvalho et al., 2013).

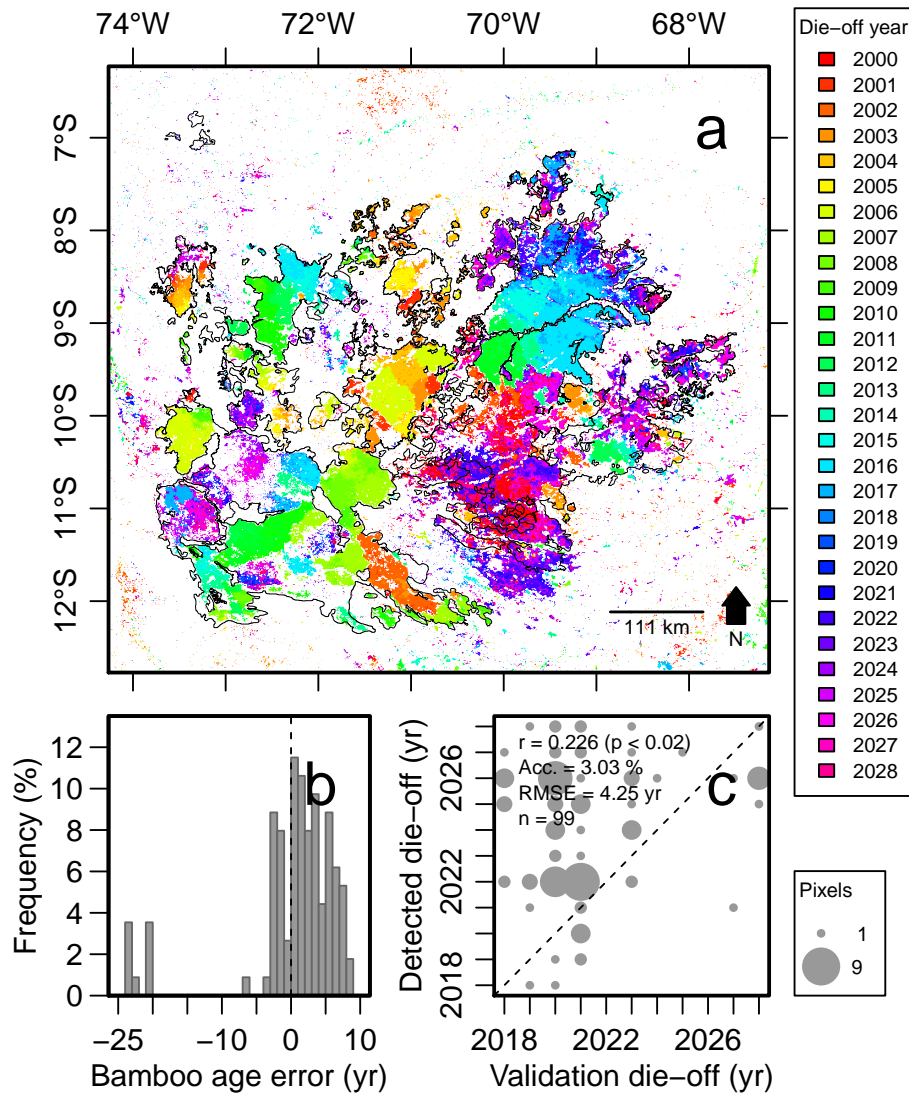


Figure 4. MODIS bamboo die-off prediction map from 2000 to 2028 using the empirical curves of the near infrared 2 (NIR-2) reflectance as a function of bamboo cohort age (a). Validation between predicted die-off (2017–2028) and visual interpreted die-off from previous life cycle in Landsat false-color composites (1985–2000) (c) and residuals distribution (b). The dashed line represents the 1:1 line in (c) and age residual = 0 in (b). Size of circles is related to the number of pixels that hit the same observed/estimate die-off year.