

# ICOS



**Ecosystem  
Thematic  
Centre**

BADM Data Structure

# BADM

- Stands for:
  - Biological
  - Ancillary
  - Disturbances
  - Metadata
- Collect all non-continuous data
- Standard across different networks

## BADM template

1	Variable	Description	Units	dataValue
2	SITE_ID	Six character site identifier. MANDATORY if site is already registered	CC-Xxx	
3	SITE_NAME	Site name	free text	
4	SUBMISSION_CONTACT_NAME	Name of person who submitted this template	free text	
5	SUBMISSION_CONTACT_EMAIL	E-mail address of the person who submitted this template	free text	
6	SUBMISSION_DATE	Date this submission was last edited/modified.	YYYYMMDD	
7	SA	Mean stand age	years	
8	SA_SPATIAL_VARIABILITY	Mean stand age spatial variability, estimated as standard deviation	years	
9	SA_SPATIAL_REP_NUMBER	Mean stand age spatial replicas used to determine spatial variability	integer number	
10	SA_MEAS_PRECISION	Mean stand age spatial measurement precision	%	
11	SA_MAX	Maximum stand age	years	
12	SA_MAX_SPATIAL_VARIABILITY	Maximum stand age spatial variability, estimated as standard deviation	years	
13	SA_MAX_SPATIAL_REP_NUMBER	Maximum stand age spatial replicas used to determine spatial variability	integer number	

VegCover LIST(Vocabulary) Explanations

# BADM structure

SA	Mean stand age	years
SA_SPATIAL_VARIABILITY	deviation	years
SA_SPATIAL_REP_NUMBER	spatial variability	number
SA_MEAS_PRECISION	Mean stand age spatial measurement precision	%
SA_MAX	Maximum stand age	years
SA_MAX_SPATIAL_VARIABILITY	standard deviation	years
SA_MAX_SPATIAL_REP_NUMBER	spatial variability	number
SA_MAX_MEAS_PRECISION	Maximum stand age spatial measurement precision	%
SA_APPROACH	Stand age measurement approach	free text
SA_DATE	Stand age measurement date	DD
SA_DATE_UNC	Uncertainty in the Stand age measurement date	days
SA_COMMENT	Stand age comments	free text

# BADM structure

SA	Mean stand age	years
SA_SPATIAL_VARIABILITY	deviation	years
SA_SPATIAL_REP_NUMBER	spatial variability	number
SA_MEAS_PRECISION	Mean stand age spatial measurement precision	%
SA_MAX	Maximum stand age	years
SA_MAX_SPATIAL_VARIABILITY	standard deviation	years
SA_MAX_SPATIAL_REP_NUMBER	spatial variability	number
SA_MAX_MEAS_PRECISION	Maximum stand age spatial measurement precision	%
SA_APPROACH	Stand age measurement approach	free text
SA_DATE	Stand age measurement date	DD
SA_DATE_UNC	Uncertainty in the Stand age measurement date	days
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# BADM example

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SA_SPATIAL_REP_NUMBER	Mean stand age spatial replicas used to determine spatial variability	integer number				
SA_MEAS_PRECISION	Mean stand age spatial measurement precision	%				
SA_APPROACH	Stand age measurement approach	free text				
SA_DATE	Stand age measurement date	YYYYMMDD	DATE 1			
SA_DATE_UNC	Uncertainty in the Stand age measurement date	days				
SA_COMMENT	Stand age comments	free text				
SPP_O	Overstorey species or plant functional type	Scientific name or PFT				
SPP_O_PERC	Overstorey species percent percent by mass or number	%				
SPP_U	Understorey species or plant functional type	Scientific name or PFT				
SPP_U_PERC	Understorey species percent percent by mass or number	%				
SPP_PERC_UNIT	Unit of the species percent of coverage	LIST(UNIT_SPP)				
SPP_PERC_DATE	Species percent of coverage measurement date	YYYYMMDD	DATE 1			
SPP_PERC_COMMENT	Species percent of coverage comments	free text				
LAI_O	Overstorey green Leaf Area Index	m <sup>2</sup> m <sup>-2</sup>				
LAI_O_SPATIAL_VARIABILITY	Overstorey green Leaf Area Index spatial variability, estimated as standard deviation	m <sup>2</sup> m <sup>-2</sup>				
LAI_U	Understorey green Leaf Area Index	m <sup>2</sup> m <sup>-2</sup>				
LAI_U_SPATIAL_VARIABILITY	Understorey green Leaf Area Index spatial variability, estimated as standard deviation	m <sup>2</sup> m <sup>-2</sup>				
LAI_TOT	Total green Leaf Area Index	m <sup>2</sup> m <sup>-2</sup>				
LAI_TOT_SPATIAL_VARIABILITY	Total green Leaf Area Index spatial variability, estimated as standard deviation	m <sup>2</sup> m <sup>-2</sup>				
LAI_CLUMP	Foliage element clumping index	decimal number				
LAI_METHOD	Leaf Area Index methodology	LIST(LAI)				
LAI_APPROACH	Leaf Area Index measurement approach	free text				
LAI_DATE	Leaf Area Index measurement date	YYYYMMDD	DATE 1			
LAI_DATE_UNC	Uncertainty in the Leaf Area Index measurement date	days				
LAI_COMMENT	Leaf Area Index comments	free text				

# BADM example

Variable	Description	Units	dataValue	dataValue	dataValue	dataValue
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SA_SPATIAL_VARIABILITY	Mean stand age spatial variability, estimated as standard deviation	years				
SA_SPATIAL_REP_NUMBER	Mean stand age spatial replicas used to determine spatial variability	integer number				
SA_MEAS_PRECISION	Mean stand age spatial measurement precision	%				
SA_APPROACH	Stand age measurement approach	free text				
SA_DATE	Stand age measurement date	YYYYMMDD	DATE 1	DATE 2		
SA_DATE_UNC	Uncertainty in the Stand age measurement date	days				
SA_COMMENT	Stand age comments	free text				
SPP_O	Overstory species or plant functional type	Scientific name or PFT				
SPP_O_PERC	Overstory species percent percent by mass or number	%				
SPP_U	Understory species or plant functional type	Scientific name or PFT				
SPP_U_PERC	Understory species percent percent by mass or number	%				
SPP_PERC_UNIT	Unit of the species percent of coverage	LIST(UNIT_SPP)				
SPP_PERC_DATE	Species percent of coverage measurement date	YYYYMMDD	DATE 1			
SPP_PERC_COMMENT	Species percent of coverage comments	free text				
LAI_O	Overstory green Leaf Area Index	m <sup>2</sup> m <sup>-2</sup>				
LAI_O_SPATIAL_VARIABILITY	Overstory green Leaf Area Index spatial variability, estimated as standard deviation	m <sup>2</sup> m <sup>-2</sup>				
LAI_U	Understory green Leaf Area Index	m <sup>2</sup> m <sup>-2</sup>				
LAI_U_SPATIAL_VARIABILITY	Understory green Leaf Area Index spatial variability, estimated as standard deviation	m <sup>2</sup> m <sup>-2</sup>				
LAI_TOT	Total green Leaf Area Index	m <sup>2</sup> m <sup>-2</sup>				
LAI_TOT_SPATIAL_VARIABILITY	Total green Leaf Area Index spatial variability, estimated as standard deviation	m <sup>2</sup> m <sup>-2</sup>				
LAI_CLUMP	Foliage element clumping index	decimal number				
LAI_METHOD	Leaf Area Index methodology	LIST(LAI)				
LAI_APPROACH	Leaf Area Index measurement approach	free text				
LAI_DATE	Leaf Area Index measurement date	YYYYMMDD	DATE 1	DATE 2		
LAI_DATE_UNC	Uncertainty in the Leaf Area Index measurement date	days				
LAI_COMMENT	Leaf Area Index comments	free text				

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SA_MEAS_PRECISION	Mean stand age spatial measurement precision	%				
SA_APPROACH	Stand age measurement approach	free text				
SA_DATE	Stand age measurement date	YYYYMMDD	DATE 1	DATE 2	DATE 3	
SA_DATE_UNC	Uncertainty in the Stand age measurement date	days				
SA_COMMENT	Stand age comments	free text				
SPP_O	Overstorey species or plant functional type	Scientific name or PFT				
SPP_O_PERC	Overstorey species percent percent by mass or number	%				
SPP_U	Understorey species or plant functional type	Scientific name or PFT				
SPP_U_PERC	Understorey species percent percent by mass or number	%				
SPP_PERC_UNIT	Unit of the species percent of coverage	LIST(UNIT_SPP)				
SPP_PERC_DATE	Species percent of coverage measurement date	YYYYMMDD	DATE 1		DATE 4	
SPP_PERC_COMMENT	Species percent of coverage comments	free text				
LAI_O	Overstorey green Leaf Area Index	m <sup>2</sup> m <sup>-2</sup>				
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LAI_CLUMP	Foliage element clumping index	decimal number				
LAI_METHOD	Leaf Area Index methodology	LIST(LAI)				
LAI_APPROACH	Leaf Area Index measurement approach	free text				
LAI_DATE	Leaf Area Index measurement date	YYYYMMDD	DATE 1	DATE 2	DATE 5	
LAI_DATE_UNC	Uncertainty in the Leaf Area Index measurement date	days				
LAI_COMMENT	Leaf Area Index comments	free text				



# BADM basic rules

- Nothing can be changed in the variable names and units
- Use the requested data type
  - Number
  - Free text
  - Date (YYYYMMDDHHMM) as accurate as possible
  - List: the options can be found in the Vocabulary tab

LAI_CLUMP	Foliage element clumping index	decimal number
LAI_METHOD	Leaf Area Index methodology	LIST(LAI)
LAI_APPROACH	Leaf Area Index measurement approach	free text
LAI_DATE	Leaf Area Index measurement date	YYYYMMDD
LAI_DATE_UNC	Uncertainty in the Leaf Area Index measurement date	days

# BADM List option

<b>vocabulary</b>	<b>shortname</b>	<b>description</b>
LAI	ACUPAR	
LAI	Direct	
LAI	Hemispherical photo	
LAI	LAI_2000	
LAI	Litterfall	
LAI	Other	
PHEN_EVENT	BudBreak	
PHEN_EVENT	Cotyledons	
PHEN_EVENT	Flowering	
PHEN_EVENT	Leaf senescence	
PHEN_EVENT	Maximum leaf expansion	
PHEN_EVENT	Total leaf-off	
PHEN_STATUS	Start	The event is visible on 5% of the expected cases (5% of plants, leaves etc.)
PHEN_STATUS	Peak	The event reached the maximum level and it is visible in 90% of the expected cases
PHEN_STATUS	End	The event is no longer occurring and all cases are visible (except natural outliers)
PHEN_STATUS	Other	
UNIT_SPP	% Coverage	Percentage reported by population surface coverage
UNIT_SPP	% Mass	Percentage reported by dry mass

# Questions?