

INTERNAL analyses, evaluations and possible publications based on LI-Biodiversity ICP Forests data (incl. production of aggregate-descriptive datasets)

EP	short name	Resp persons	Title	STATUS	participation (name & potential contribution)	datasets NEEDS	Hypothesis being tested	Scientific/research questions	Regional\ European	End date	web Group icp-forests.net
BioGV	Δ-Drivers BIOPART	Roberto Canullo	Driving factors of beta-diversity in European forests.	manuscript for IT dataset; EU level under first analyses. Partial presentation at Biogeography Society.	A. Chiarucci, S. Landi, & D. Giorgini UNISI, C. Wellstein UNIBZ, G. Campetella & S. Chelli UNICAM, (U. Klinck ?), U. Grandin (SLU)	GPL, GVG, (Soil), (DBH), climatic, terrain...	Weight and assessing interactive effects of ecology and biogeography in determining the total diversity of European forests using a spatially representative sample. The general hypothesis to be tested is that the effects of present day ecological factors are less important than biogeographical factors in determining the total diversity of forests.	The diversity component accounted by the biogeographical region > than the diversity accounted by the lower scale components (plot, site, forest type). Distance decay rate across biogeographical regions > than distance decay rate within biogeographical regions (after correction for extent). Beta nestedness > within than across biogeographical regions (after correction for extent); on the other hand beta complementarity is lower within than across biogeographical regions (after correction for extent).	regional european	2014-15	http://icp-forests.net/group/drivers-biopart
BioGV	PHYLOPAT Phylogenetic pattern at biogeographical scale		Phylogenetic limiting similarity and competitive exclusion on plant diversity of European forests	Working group still planning, (taxonomic vs phylogenetic trees)	L. Mucina (UWA) phylogenetics; G. Campetella (UNICAM); C. Wellstein (Unibz)	GPL, GVG, (Soil), (DBH), climatic, terrain...	Competitive exclusion principle emphasizes the limited coexistence of similar species. There is a limit to the similarity in the niches of competing species (MacArthur & Levins 1967); species niches are constrained by their evolutionary histories. Hypothesis of limiting similarity at the phylogenetic level.	Are there evidence of European forest species assembly explained by phylogenetic limiting similarity mechanism? Ecological covariates (forest types, physical templates, forest management, distance to structures and infrastructures, disturbances) influencing such mechanisms. Some of them can explain possible phylogenetic under-dispersion (coexistence). Is there a relationship between high species richness and phylogenetic overdispersion?	european	2015-16	http://icp-forests.net/group/phylopat
BioGV	FORGUILD Plant Functional Groups and species diversity patterns		Can guild composition and evenness explain plant diversity patterns in European forest?	scheduling Overview of available datasets, planning.	G. Campetella (UNICAM), C. Wellstein (Unibz); A. Chiarucci & D. Giorgini (UNISI), S. Bartha (HAS), U. Grandin	GPL, GVG ...	Is evenness in Plant Functional groups (guild) distribution, associated with a higher species richness?	Variation in plant species and guild composition are expected to determine the overall functional traits in the ecosystem, therefore affecting ecosystem processes. According to niche dissimilarity hypothesis, we would expect high species richness in assemblage with many different/distant guilds. However, studies do not always show a simple relationship between plant species and functional diversity in nature.	european	2015	http://icp-forests.net/group/forguild
BioGV	FUTPA Functional Traits Pattern		Plant functional trait patterns in key EU forest types	trees-trait under construction	C. Wellstein (UNIBZ) F. Spada (UNIR1) S. Chelli & G. Campetella (UNICAM)	GPL, GVG, (Soil), (DBH), climatic, terrain...	The plant functional composition of forest phytocoenosis can be explained by soil parameters, present day climate and legacy of past climate.	Recent evidence suggest the existence of at least four trait-defined axes of plant strategies (leaf-height-seed-stem) (Hérault et al. 2011). Clonality and life strategies. Mixed forest types will be tested: EETC 4 Acidophyllous oak and oak-birch, 5 Mesophytic deciduous, 8 Thermophilous deciduous, 9 Broadleaved evergreen	regional types	2016	http://icp-forests.net/group/futpa
BioGV		Walter Seidling	Main drivers of ground vegetation at local and continental scale	ForestBIOTA evaluations available	Richard Fischer (?)	GPL DBH CAN THT DWD	drivers acting at different spatial scales are influencing floristic composition of ground vegetation	Stand and deadwood structures, stand history, management, etc. can be jointly investigated	hypo European scale??	2014	
BioGV		Majja Salemaa	Niche definition prediction		R Mäkipää, Jöksanen, H vanDobben, U Klinck (NW-FVA), J-L Dupouey (INRA), L Walthert soil (WSL LI LII data)		species with narrow niche as bioindicators	investigated through species-specific response curves along climatic and resource gradients thanks to LI datasets and upscaled at LI	european		
BioGV		J-L Dupouey	soil and species	idea				Does soil/climate constraints explain species presence?			
BioGV	NICHES	Han van Dobben	calibration of niche models on EU scale (incl. non-forest vegetation)		Karl.Mellert@lwf.bayern.de Jörg Ewald	GVG + Soil LI + general climate and depo at EU level	species occurrence can be predicted from abiotic model (VSD+) combined with niche model	Expand VSD+ approach to include validated vegetation module; run deposition scenario analyses	European, incl. non-forest	2015	http://icp-forests.net/group/niche-model-calibration
BioGV		Karl Mellert	Ecological characterisation of marginal (xeric limits) sites for tree species using BioDiv data	incl. MARGIN Ongoing, data consistency	Jörg Ewald	GPL, DBH, THT, GVG, CAN, Soil, Crown	1) Current SDMs based on coarse resolution climate data require refinement 2) local topography & soil conditions modulate tree sp. response to climate 3) Ground vegetation provides proxies for site properties 4) Refined site variables allow to identify false absences	A. Identification of warm and dry climatic limits of tree species by niche models based on (1) refined climate, soil and relief predictors and (2) effect-oriented proxies based on understory composition and PFTs B. Correlation probability of occurrence with sp. performance, vitality, and mortality	European	2015	
BioGV		Han van Dobben	Indicator values , functional traits(groups)		UNICAM (Canullo Wellstein Chelli) J-L Dupouey						
BioGV Growth	DWpools	Janusz Czerepko	Deadwood estimation through forest ecosystems in Europe	L1BD (some insights L2, NFI, etc.) evaluations PL and A	Radosław Gawryś, Karol Sokolowski, Adam Cieśla (Polish Forest Institute), Steffen Herrmann (WSL), Marcus Neumann (BFW), R. Canullo & coll. (UNICAM)	DWD, GPL, DBH	What drives dw pools and C stocks? Reference patterns - classes; relations with climate gradient, plant richness, productivity?	DW should be evaluated separately, such data are unique and harmonized at large scale	regional and European		
?	WP-KS-KW	Henning Meesenburg	Forest Productivity, Carbon Sequestration, Climate Change	Active	Bruno de Vos, Nathalie Cools, Roberto Canullo, Panagiotis Michopoulos, Hannu Iivessniemi, Antti-Jussi Lindroos, Tobias Mette, Paul Schmidt-Walter, Christian Steinicke, Henning Meesenburg	GPL DBH CAN THT (+ Biosoil Soil)	Forest productivity is driven by several climatic and site (soil) specific variables	Which indicators (variables) are related to productivity of major European tree species? Are similar indicators relevant for forest productivity at the European and German scale?	European	2017	http://icp-forests.net/group/forest-productivity-carbon-sequestration-climate-c
FutMon\ COST	UPSPEX	Gherardo Chirici	Upscaling & Spatially explicit estimation of biophysical variables with remote sensing	Scheduled, data consistency	D. Travaglini (UNIFI), F. Attorre (UNIR1), R. Canullo, G. Campetella (UNICAM), AM Bastrup-Birk (EEA)	All LI, LI , and LI Biodiversity	Application of nearest neighbors techniques for predicting forest variables from satellite imagery and ground data acquired in LI. Population unit predictions are calculated as combinations of observations for the population units in a sample that are most similar, or nearest, in a space of ancillary variables to the unit requiring a prediction.	Maps depicting the spatial distribution of vegetation characteristics with estimation of the uncertainty of predictions at different spatial level (pixel, small area estimation, large area estimation).	European	2016	http://icp-forests.net/group/upspepx
BioGV	SmallScale	Walter Seidling, Majja Salemaa	Small-scale variation of Floristic Diversity of Ground Vegetation in Forests under different Environmental Conditions	evaluations: Finnish + ForestBIOTA Poster Workshop Belgrade, 2013	Anne Thimonier (CH), Roberto Canullo	LI national datasets selection	Null-hypotheses: z-values and intercepts may not depend on forest type, climatic or edaphic climatic conditions, or anthropogeneous influences	Species-area relationships may vary according to different ecologically relevant drivers	European "transect"	2014	
		OPEN	naturalness (multi-indicator), changes, linkage to Nature2000, special cases from LI network				transversal item along evaluation process	possible synthesis in evaluation			
		OPEN	improving comparing LI performance respect to LI (biodiv, other...) accuracy, representativeness				transversal item				
			climate changes				open transversal item	Climate change projections incl. elevation gradient and climatic drivers			
		Jean-Luc Dupouey ?	"Country effect"	Han van Dobben (in prep., LI data)	Han van Dobben, Roberto Canullo, Walter Seidling		Methods or Socio-economic models at territorial scale LI?	bias in (li) n sp increase, (li) long-term plot data (observer & methodological), find better methods for interpretation of long term large extent data	european		
		OPEN	Vegetation response to nitrification		Uwe Klinck (NW-FVA LI data should fit?), ICP-IM, Canullo			Vegetation as response variable respect to N (a weak but statistically proved effect)			
		Janusz Czerepko?	The influence of DW diversity on bryophytes and vascular plants		Radosław Gawryś, Karol Sokolowski, Adam Cieśla (Polish Forest Institute), R. Canullo (UNICAM)	GPL, GVG, Soil, DBH, DWD		DW diversity by volume\ type\ decomposition influences bryophytes and vascular plants presence and composition	European		
		Roberto Canullo	Habitat types in/out Nature 2000 network, species of the annex, aliens, etc.	small exercise for IT and PL	Han van Dobben, Stefano Chelli (UNICAM)						

