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In 2003, the Ecoinformatics Working Group and the Council of the International Association for Vegetation Science endorsed the development of a standard exchange schema for vegetation plot data. In 2007, a first workshop was held to formulate a common set of goals, concepts, and terminology for plot-based vegetation data. At a second workshop in 2008, this ontology was developed into an XML schema representation designed to be maximally compatible with existing standards and databases. In late 2011, a special issue of JVS focused on ecoinformatics included the introduction of Veg-X, the draft international exchange standard for plot-based vegetation data (Wiser, S.K., N. Spencer, M. De Cáceras, M. Kleikamp, R.K. Peet. 2011. Veg-X – An exchange standard for plot-based vegetation data. *Journal of Vegetation Science* 22: 598-609). Veg-X accommodates observations of vegetation at both individual plant (e.g. stems) and aggregated observation levels (e.g. cover values). It ensures that observations are fixed to physical sample plots at specific points in space and time, and makes a distinction between the entity of interest (e.g. an individual plant) and the observational act (e.g. a measurement). The standard supports repeated measurements of both individual organisms and plots, allows observations of entities to be grouped following predefined or user-defined criteria, and ensures that the connection between the entity observed and taxonomic concept associated with that observation are maintained. Establishment of exchange standards followed by development of ecoinformatics tools built around those standards should allow scientists to efficiently combine plot data over extensive spatial and temporal gradients in order to perform analyses and make predictions of vegetation change and dynamics at local and global scales.

This year a major international collaborative effort implemented Veg-X. The Botanical Information and Ecology Network (BIEN, based at the US National Center for Ecological Analysis and Synthesis in Santa Barbara, California) is a network of ecologists, botanists, conservation scientists and other researchers interested in global patterns of plant diversity, function and distribution (http://bien.nceas.ucsb.edu/bien/). The central goal is to understand the determinants of the past and present plant distributions, abundances, and co-occurrences. This knowledge is essential for predicting how species, vegetation and agricultural crops will respond to future climate changes. The BIEN team is working to assemble a demonstration project that includes most of the premier plant biodiversity data for the Americas including both individual species occurrence records (e.g. specimen data) and co-occurrence records (i.e. plot data). At present their database includes around 15,000,000 plant occurrence records. BIEN is using VegX mostly as an intermediate data schema to facilitate mapping plot and specimen data to a common schema before importing it into VegBIEN. The large size of the datasets used by the BIEN project has led to improvements in VegX to increase efficiency of data exchange and use. Finally, BIEN has used VegX to expand our VegBank-based database schema to include additional plots elements. These developments move both BIEN and VegX closer to the ultimate goal of uniting an ever-growing pool of plant distributional data with information on plant co-occurrence, ecology, traits and phylogeny. ONE product of the BIEN initiative of particular value to the ecoinformatics community is TNRS, the Taxonomic Name Resolution Service (http://tnrs.iplantcollaborative.org/), which promises to be of particular value in integrating datasets of mixed provenance and that follow mixed taxonomic authorities.

Jürgen Dengler, Florian Jansen, Falko Glöckler and nine other Working Group members have developed and described GIVD, the Global Index of Vegetation-Plot Databases (http://www.givd.info). GIVD is an index of digital plot databases and currently contains metadata on in excess of 182 databases containing more than 2.87 million plots. The vegetation-plot data registered in GIVD constitute a major resource for biodiversity research, both through the large number of species occurrence records and the storage of species co-occurrence information at a small scale, combined with structural data and plot-based environmental data. The database and associated data are described in detail in Dengler et al. 2011 and Jansen et al. 2012 (The Global Index of Vegetation-Plot Databases: a new resource for vegetation science. *Journal of Vegetation Science* 22:582-597; News from the Global Index of Vegetation-Plot Databases (GIVD): the metadata platform, available data, and their properties. *Biodiversity & Ecology* 4: *in press*). Additionally, nearly all databases registered

in GIVD will be represented in a standardized manner in Database Reports to be published in a Special Volume of *Biodiversity & Ecology* to be published in July 2012.

Miquel De Cáceres, in collaboration with the IAVS ecoinformatics Working Group, has taken the lead in initiating and coordinating an IAVS website devoted to vegetation classification methods (https://sites.google.com/site/vegclassmethods/). Persons interested in contributing to this website are encouraged to contact Miquel.