BAM Support Webinar 25

Update on the revised Eastern NSW Plant Community
Type Classification and State Vegetation Type maps

Questions and Answers

Topic: Data access

Is access to the NSW State Vegetation Type Map (SVTM) information available to all or only to those with BAM accreditation?

The NSW SVTM data will be accessible to everyone. The Department of Planning and Environment's (the Department) approach to sharing data is to be open and transparent. There is a pre-release arrangement where data is provided on request under licence. As the project progresses the Department will make these data openly available, removing the requirement to request data or licences.

Can the SVTM mapping layers and systems be adopted into each council mapping system?

Yes, all the data will be available through web services once the formal release is live, which is scheduled for next year. The vegetation maps, the classification and other content including the Plant Community Type (PCT) ID tool will be available. The Department has capacity to work with Councils, or even vendors that service Councils, to make sure data is well integrated. The Department is keen for these data products to used. People can contact the BioNet Team email to help integrate data into Council's systems.

Can the pre-release data be viewed in the SEED portal?

Not yet, the Department is currently developing a test service that will be published in the SEED portal in 2022. On the SEED portal you can read the metadata and advice on how to access the pre-release data package.

Will it be possible to clip specific areas of the SVTM for download straight from SEED?

Once the Department delivers the data as a vector web map service next year, SEED has functionality to clip and save data as shapefile or CSV. It will have a performance limit on how much data can be clipped but this function should work well for small sites.

This video shows how you can clip and download BioNet flora plot locations as a shapefile from SEED including reference plots used in the new Eastern NSW PCTs.

When is the SVTM mapping going to be available in a vector state and can we access the SVTM in vector form as a download regardless of the file size?

Following the full release in 2022, vector (line) data will be available. The SVTM in its original format is vector. SVTM regional coverages for NSW Western and Central available on SEED contain vector data within the map services. For access to those coverages refer to the links on the SVTM Program page.

The Department's preference is to publish this map data through web services to allow access to live data and reduce data handling. Vector data will be served as a web feature which will allow the data to be integrated into your local GIS, business system or mobile application. The

Department expects this will service more than 80% of user needs. Vector data will be available in a downloadable form if required.

To facilitate data licence requests under licence, what is the name and reference details for the pre-release SVTM data set?

The pre-release SVTM dataset is called "SVTM_ENSW_Extant_PCT_v1_1_0". The SEED metadata statement for this map release is State Vegetation Type Map (v1.1.0). The link currently refers to the eastern map content and once the Department release the state-wide layer, this same metadata link will be used to communicate the next release.

Search in SEED using the key word "SVTM" to locate other maps and modelling products used in the program.

Topic: Data availability

Is there any data available for the Broken Hill Local Government Area (LGA)?

Yes, Broken Hill LGA and all western division was mapped in 2016. These data are available for download on SEED.

When will the Eastern NSW PCT mapping products be available?

The 'pre-release' data for the Eastern NSW PCT mapping was made available in September 2021 via the BioNet Team. Prior to receiving the data, you will be asked to sign a data licence. Formal and full release of all products for the entire coverage of New South Wales will be available through data services from next year. Data will be openly available (not require a licence or request).

What is the timeframe for PCT mapping products to be available for all national park reserves?

The formal release of the state-wide mapping which covers all tenures including national park reserves is scheduled for 2022. The TREES NEAR ME app demonstrated in the presentation gives a glimpse of that state-wide layer. Currently these SVTM layers are available as regional components. The Department is currently stitching and cleaning the regional layers together into one seamless layer.

When can we expect to get TREES NEAR ME NSW?

TREES NEAR ME NSW is scheduled for formal release next year, in sync with the classification and mapping.

Topic: Mapping and modelling methodology

What is the threshold between exotic pasture and native vegetation for mapping purposes?

The Department recognises that there are difficulties in distinguishing exotic pasture and native grasslands using remotely sensed variables. The Department apply measures of disturbance to guide the identification of likely native grassland extent.

What inputs and variables went into the machine learning process for the SVTM? How was the data validated?

The first step is looking for candidate ecological drivers for classes of PCTs. For example, with grassy open woodlands the Department will be looking at soil depth and topographic position as well as a range of other layers. Next, the Department tests the predictors by examining how influential a particular driver might be in relation to the PCT modelling. Finally, the class models are validated by repetitively testing the data, holding out and reinserting sample data and re-running models using a process called 'bootstrapping'.

Can you tell us more about the minimum disturbance index?

The 'disturbance index' is a multi-temporal product based on state wide imagery used for mapping natural native grasslands. The index reflects values that have been associated with levels of disturbance. The multiple dates of imagery enable corrections to be made for seasons and long-term weather patterns. Data is provided as continuous values and thresholds are set to best reflect the distribution of current grassland extents.

Is the SVTM the vegetation data layer that is relied upon for the Biodiversity Values Map (BVM)?

No, there is no direct link between the SVTM and the BVM, although the SVTM may be used for creating maps of other entities. For example, rainforests and wetlands that may subsequently be included in the BVM.

The accuracy of the modelling was around 70%. Is this low compared to other regional scale vegetation mapping modelling products?

The SVTM predominantly uses manual aerial photographic interpretation which is then supported by modelling. The modelling component has an average accuracy of about 65%. Some classes are higher, some are lower. The Department aims to ensure that the overall map accuracy is better than 70%, when comparing the map layer and the actual vegetation on the ground.

Is there a risk in using the bootstrapping process, in that the 10% of data discarded maybe valuable analytically, perhaps for sensitivity analysis?

No data is lost or unused. Bootstrapping is a technique to swap data in and out multiple times to test the overall accuracy of modelled data.

Topic: PCTs

Are the new PCTs in the BioNet Vegetation Classification system yet?

The Department is in a process of transitioning the new Eastern NSW PCTs into the BioNet Vegetation Classification system. The new Eastern NSW PCTs are in the backend of BioNet maintenance environment, awaiting formal release. You will see glimpses of the new

classification in the BioNet Atlas and BioNet Web Service as flora plots have been assigned to the new classification and threatened entities, including Threatened Ecological Communities (TECs) and threatened species, have been associated to the new Eastern NSW PCTs.

How will we know when the new Eastern NSW PCTs are in BioNet?

Release of the revised Eastern NSW PCTs in BioNet will be communicated widely through multiple channels including the Bionet Newsletter.

How many PCTs are there in total?

There are currently 1,394 PCTs approved in New South Wales. The total number of PCTs will change following the publication of the revised Eastern NSW PCT classification.

Would a regional analysis of highly cleared PCTs show anything different to a NSW map? E.g. replacing Council's previous vegetation of local significance.

Yes, a key purpose of the Department providing these data is so that you can readily undertake regional analysis of the vegetation using GIS.

Will dominant species for each stratum per map unit or equivalent be available, with height and crown cover in the new Eastern NSW PCT mapping?

No, the new Eastern NSW PCTs no longer record dominant species and stratum heights, although they are used in the descriptions accompanying each PCT. Instead, there is a comprehensive list of flora species recorded from reference plots with each assigned to a growth form group and given frequency (%) of occurrence and median cover class scores. Users will be able to apply quantitative thresholds to data to define species dominance to meet their own needs. The Department will develop a translation process compatible with its commitment to National Vegetation Information System reporting.

Is the non- definitive association with PCTs and TECs still problematic and will it continue to make it difficult for consent authorities when assessing development applications?

TECs listed under NSW and Commonwealth legislation are legally defined entities. The revised PCTs for eastern NSW have been comprehensively reviewed against all current TECs. The results record both simple and complex relationships to TECs and may depend on the scale of the TEC and the bioregions over which it applies. Commonwealth TECs frequently prescribe condition thresholds which must be satisfied to meet the definition of a TEC. These do not apply under NSW legislation.

Will all the old PCT designations be included in the metadata of the new mapping layer?

Yes, a lineage statement will be available for each previous PCT in BioNet to identify the relationship(s) between the old PCT and new PCTs. This will be made available at the time of publication in 2022.

Will the classes and formations be reviewed as a result of the updated PCTs?

No, at this stage there are no plans to revise Vegetation Class and Formation definitions used in the New South Wales vegetation hierarchy.

At what level of classification will vegetation benchmarks be produced? Will this be at class or PCT level?

Benchmarks are linked at a vegetation class by IBRA region level, so are independent of PCTs. This means that the Department can slot in new Eastern NSW PCTs without impacting benchmarks as the benchmarks will be essentially automatically assigned. There is a desire to move benchmarks down to the PCT level at some stage in the future but that will require further data.

Where can I find a document detailing the plant community types and describing how they were developed?

A series of technical documents will be available at the time of the publication of the revised Eastern NSW PCTs in BioNet. These documents will outline changes to the PCT classification data in BioNet and describe methods used to develop the new classification.

Topic: Use of Mapping

Should this mapping be given preference over any previous mapping in terms of determining what should be placed into an area?

Previous mapping is highly variable in its age, scale, methodology and approach to classification. The intention of the SVTM is to provide a standardised approach to mapping plant community types across all land tenures in NSW. Critical to the mapping program is a continuous improvement cycle that adopts new data and information in local areas to improve map accuracy and performance.

Topic: Data input

Is the SEED viewer feedback form the preferred way to get survey site data to Departmental staff?

No, the Department's preference is to submit flora survey data to BioNet Atlas through the existing systematic survey upload forms. These data will be used to check and improve the SVTM map and PCT Classification during the annual maintenance cycle.

The SEED viewer feedback process is our preferred means of general feedback for annotations on the SVTM once data has been formally released. Each piece of feedback is identified with a case number and tracked.

Will the Biodiversity Development Assessment Report's (BDAR) Biodiversity Assessment Method (BAM) plots be able to add to the mapping accuracy as we have a source of data being collected to a consistent standard and method?

Yes, BAM plots provide an extremely useful source of information that can improve classification, mapping, and benchmark data. The Department have already successfully integrated some BAM data into classification and mapping and is currently exploring ways to improve the capture of valuable field data into BioNet to enable this re-use.

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