

LiDAR Data – BCTS Kamloops

Acquisition Summary:

Refer to the following excel spreadsheet for an up to date inventory of LiDAR coverage for the Kamloops Business Area by Field Team and Year:

\\acheron.dmz\ftp\TKA\external\!publish\GENUS\TKA_LiDAR_Acquisition_Inventory.xlsx

For a map showing the areas that have been flown/are planned to be flown:

\\acheron.dmz\ftp\TKA\external\!publish\GENUS\TKA_LiDAR_Inventory_Map_400K.pdf

2014 Data was collected at 2-4 pts/m2.

2015 -2017 Data was or will be collected at a min 8-10 pts/m2

In 2016 LiDAR data was to be acquired for the following operating areas within the Kamloops, Merritt, Lillooet, and 100 Mile House TSAs. Due to poor weather conditions **only the highlighted areas were collected**. The remainder are slated to be flown in 2017. EFI products have been created for all of the highlighted areas except the ones indicated as **(*partial)**. The EFI products for those areas will be delivered once the entire area has been flown.

Clearwater Charts:	Kamloops Charts:	Merritt\Lillooet Charts:	100 Mile House Charts:
Clemina	Demers	Jameson	Boas Creek
Dominon/Albreda	Eakin Creek	Manning Creek	Canim Lake
Fisher Creek	Fadear Mountain	Midday	Gotchen
Foghorn	McGillivray Lake (within Louis Creek WS only)	Pasayten River (remainder)	Jim Creek (*partial)
Gollen	Mow Creek	Railroad	Lang Lake (*partial)
Mahood East	Nehalliston(*partial)	Wallace	Moose Valley 1
McKenzie		Whipsaw	Spanish (*partial)
Mud Lake		McGillivray (Lillooet)	
North Thompson		Murray (Lillooet)	
Oliver			
Upper Clearwater 1&2			

Viewing the LiDAR data in ArcView:

A number of Terrain, Hydrologic, and Enhanced Forest Inventory (EFI) products have been created from the LiDAR data collected. For the most part, all of the derived products for all operating areas for all years collected have been combined into one mosaic dataset for viewing in ArcView. Where certain products were only created for certain years or the products from one year to the next differed in format, then a separate mosaic dataset was created by acquisition year.

Layer files have been created with symbology pre-set for each of the layers. The layer files can be found:

F:\tka_root\Layer_files\LiDAR

The layer file name will indicate which data is only available for certain years/areas.

You can add any of the layer files to any ArcView project (mxd), or use the following template below that has all the layers pre-loaded as well as some additional layers for reference:

BCTS Staff: *F:\tka_root\General_User_Workspace\LiDAR Projects\LiDAR_Template_2016.mxd*

Or *F:\tka_root\General_User_Workspace\LiDAR Projects\LiDAR_Template_2016_Blobbing.mxd*

Contractors: *F:\tka_root\Contractor_Workspace\LiDAR_Template_2016.mxd*

The templates are Read-Only so you cannot save changes. When you are finished just close the project without saving or 'Save As' to save a copy in your own workspace.

Tips on Viewing layers:

You probably won't want to turn on Contours_1m unless you are zoomed into 1:10,000 or higher. This layer has labels for indexed contours but will only be displayed when zoomed in to 1:3000 or higher.

Many of the layers have transparency settings so you can turn on the DEM or DSM Hillshade underneath. This is the recommended method for viewing most of the LiDAR layers as it will show the relief.

You can only really view one product at a time (besides the Hillshade). Ensure you have all LiDAR layers turned off before you turn another one on so you can be sure which layer is being displayed.

LiDAR Product Descriptions and Info:

Basic Products:

Digital Elevation Model – DEM (Bare Earth)
Digital Surface Model – DSM (Surface)
HillshadeDEM – bare earth with relief
HillshadeDSM – surface with relief
Canopy Height Model – CHM (Surface minus Bare Earth or DSM – DEM)
Contours_1m
Contours_5m (a subset of Contours_1m)

Terrain Products:

Aspect_20m
Slope_1m
Curvature_20m (2014 only)
DEM_Mosaic_1m (2014 only) – same as basic DEM above avail for all areas
DEM_Mosaic_20m (2014 only)
Hillshade_1m (2014 only) – same as basic HillshadeDEM above avail for all areas
Plan_Curve_20m (2014 only)
Profile_Curve_20m (2014 only)
Slope_20m (2014 only)
Slope_Poly_10_inc (2014 only)
Slope_Poly_Eng (2014 only)

For a detailed explanation of these products refer to:

F:\tka_root\Local_data\LiDAR\Kamloops_2014\Strategic Value Added Deliverables\LiDAR Product Description Document.pdf

Hydrologic Products:

Accum_1m
Stream_Polyline
HWI (2014 only)

For a detailed explanation of these products refer to:

F:\tka_root\Local_data\LiDAR\Kamloops_2014\Strategic Value Added Deliverables\LiDAR Product Description Document.pdf

Enhanced Forest Inventory (EFI) Products (Vendor-created):

Crown_Closure
Diameter (2014 areas only)
Height_max

Height_P95
Rel_Stand_Complexity
Volume
Volume_Class_Polygon
Volume_P95_Class
Stem_Counts (2015&2016 only)
LiDAR_EFI_VRI_Summary_Points (2015 only)

For a detailed explanation of these products refer to:

F:\tka_root\Local_data\LiDAR\Kamloops_2014\Forsite_Deliverables\Lidar_Inventory_Products_ThompsonOkanagan2014_FINAL_report_2015-02-19.pdf

and

F:\TKA_root\Local_Data\LiDAR\Documentation\Forsite%20LiDAR%20EFI%20Deliverables%202015.docx

Enhanced Forest Inventory (EFI) Products (FAIB-created):

Forest Analysis and Inventory Branch conducted research using TKA's 2014 LiDAR data and produced a set of EFI products that have been calibrated/verified from over 200 ground sample plots. This data is similar to the Vendor-created EFI data above but should be better as it has been calibrated from actual ground plots. These layers have been added to the LiDAR MXD Templates and saved in the layer file library.

Documentation on these layers and how they were created can be found here:

F:\tka_root\Local_data\LiDAR\FAIB_EFI_2015\LEFI_Project_summary_apr28_2016_v1.docx

Geo LiDAR Map Templates:

A new set of templates has been created in the Operational Mapping folder in the Plot Manager in Geo.

Block Recce LiDAR Map – L
Block Recce LiDAR Map – P

They function the same as the regular Block Recce templates – Zoom to Block, but the scale has been unlocked the scale so you can run it at something other than 1:10,000(default) if you choose. Keep in mind you may need to tweak the scale bar if you change the scale.

I have added the following LiDAR layers from the Layer Manager to the templates:

TKA LiDAR Contours 5m - this defaults to min scale of 1:10000, but probably only useful at 1:5000 in most terrain

TKA LiDAR Stream Network

TKA LiDAR Slope 1m - shows slopes greater than 35%

TKA LiDAR Aspect 20m

TKA LiDAR Hillslope Wetness Index (HWI)

TKA LiDAR DEM Hillshade Mosaic

All LiDAR layers default to turned off in the Table of Contents, but when they are turned on the legend will automatically update for you. Not all of these layers can be displayed together, so this will allow users to turn on what they need and export to PDF. When you turn on the Stream or Contour layers you will likely want to turn off the regular Contour and Stream layers.

The slope, aspect and HWI are layers 50% transparent so you can turn the hillshade on underneath if you desire.....I personally think that looks best but experiment and see what you think.

I have exported a few examples of the types of maps you can produce using these templates here:

<\\acheron.dmz\ftp\TKA\external\!publish\GENUS\Sample LiDAR Map Products>