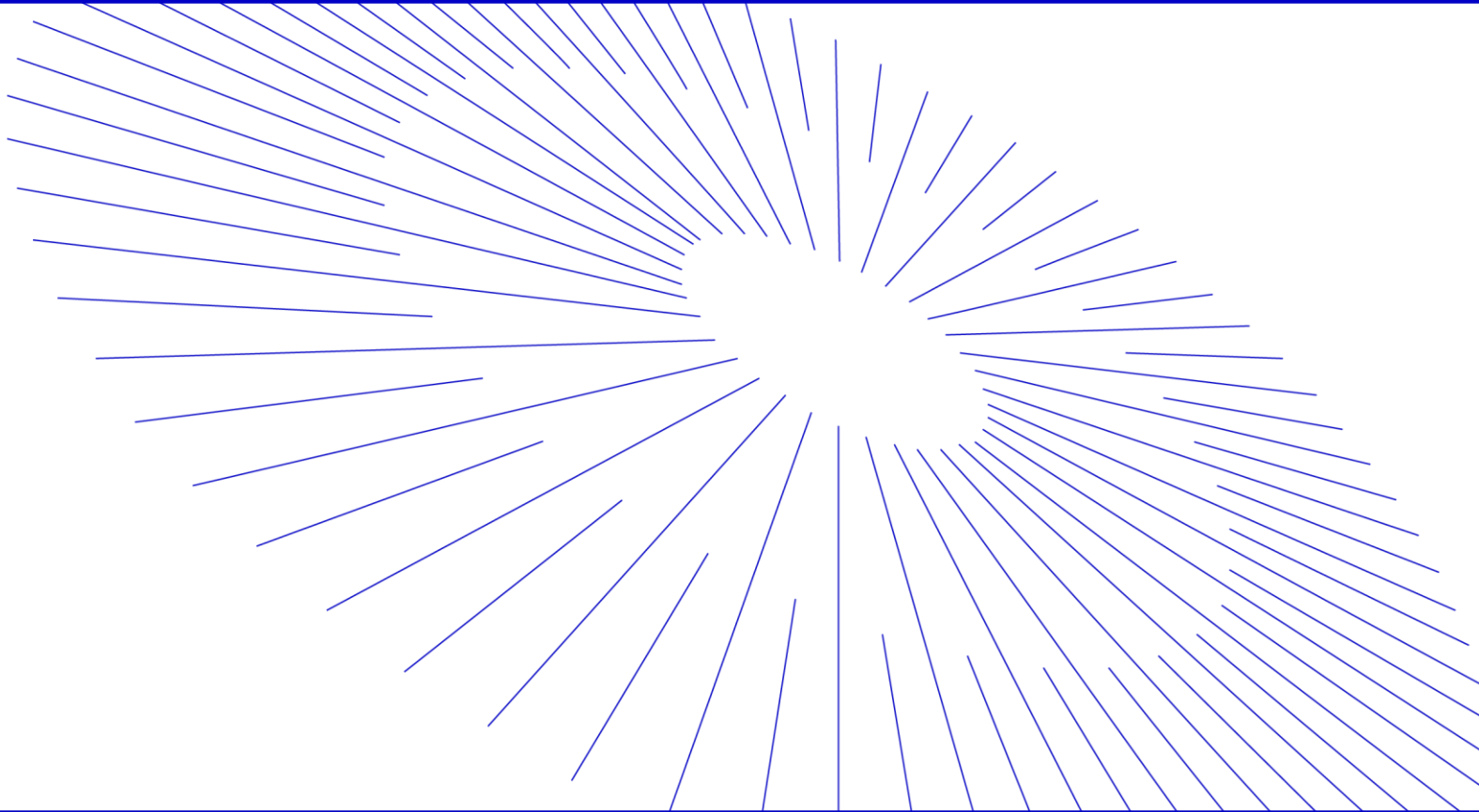


Smart Construction Groupware Release information 21.01.2025



EARTHBRAIN

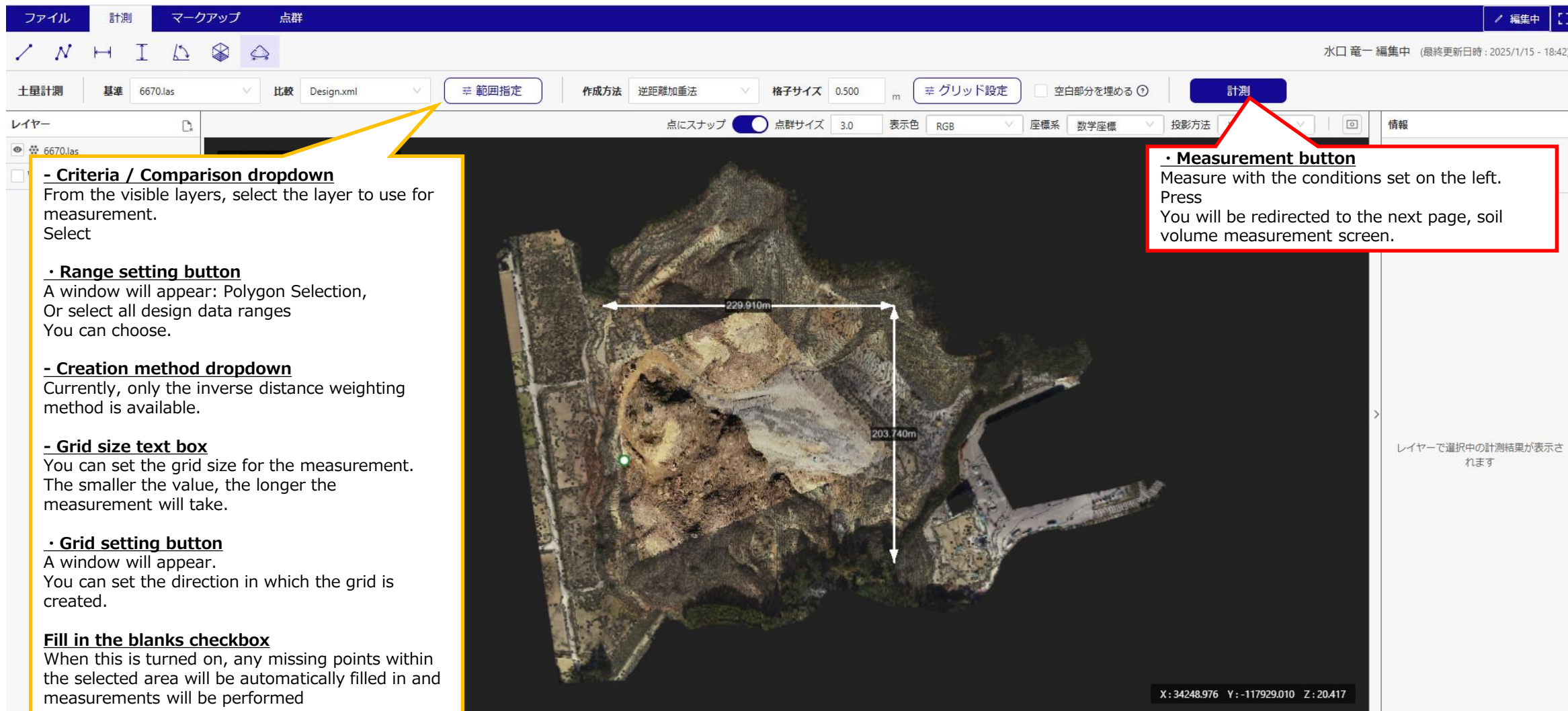
- Smart Construction Groupware update will be released on the following dates and with the following contents.

Release schedule: JST; Tuesday, January 21st (planned) 13:00 ~ 16:00

No.	Function	Overview	Detail
1	Soil volume measurement	<p>[New features added] A new function has been added that allows you to overlay two sets of data and measure the difference in soil volume (fill/cut) and related information.</p>	<p>Please refer to the explanation on the next page. * Please note that a separate " Smart Construction Groupware Point Cloud Editing Function ID License" is required</p>
2	Area and volume measurement	<p>[New features added] A function has been added to measure the area of a selected range, the volume difference from a reference plane, etc.</p>	<p>Please refer to the explanation on the next page. * Please note that a separate " Smart Construction Groupware Point Cloud Editing Function ID License" is required</p>
3	Snapping	<p>[New features added] A new function has been added that allows the mouse cursor to stick (snap) to points in point clouds or vertices in design data while using each function.</p>	<p>Please refer to the explanation on the next page.</p>

No.1

A new function has been added that allows you to overlay two sets of data and measure the difference in soil volume (fill/cut) and related information. Measurements can be performed between point cloud data, or between point cloud data and design data.



The screenshot displays the software's measurement interface. At the top, there are menu tabs: 'ファイル' (File), '計測' (Measurement), 'マークアップ' (Markup), and '点群' (Point Cloud). Below the menus is a toolbar with various icons. The main toolbar contains several settings: '土屋計測' (House Measurement), '基準' (Reference) set to '6670.las', '比較' (Comparison) set to 'Design.xml', a '範囲指定' (Range Specification) button, '作成方法' (Creation Method) set to '逆距離加重法' (Inverse Distance Weighting), '格子サイズ' (Grid Size) set to '0.500 m', a 'グリッド設定' (Grid Setting) button, and a '空白部分を埋める' (Fill in the blanks) checkbox. A prominent blue '計測' (Measurement) button is on the right. Below the toolbar, there are options for '点にスナップ' (Snap to points), '点群サイズ' (Point cloud size) set to '3.0', '表示色' (Display color) set to 'RGB', '座標系' (Coordinate system) set to '数学座標' (Mathematical coordinates), and '投影方法' (Projection method). The main view shows a 3D terrain model with a white rectangular measurement area overlaid. Two white dimension lines indicate the width and height of the area: 229.910m and 203.740m. A green point is visible on the terrain. At the bottom right, coordinates are shown: 'X: 34248.976 Y: -117929.010 Z: 20.417'. On the right side, there is a '情報' (Information) panel with the text 'レイヤーで選択中の計測結果が表示されます' (Measurement results for the selected layer will be displayed).

- Criteria / Comparison dropdown
From the visible layers, select the layer to use for measurement.
Select

• Range setting button
A window will appear: Polygon Selection,
Or select all design data ranges
You can choose.

- Creation method dropdown
Currently, only the inverse distance weighting method is available.

- Grid size text box
You can set the grid size for the measurement.
The smaller the value, the longer the measurement will take.

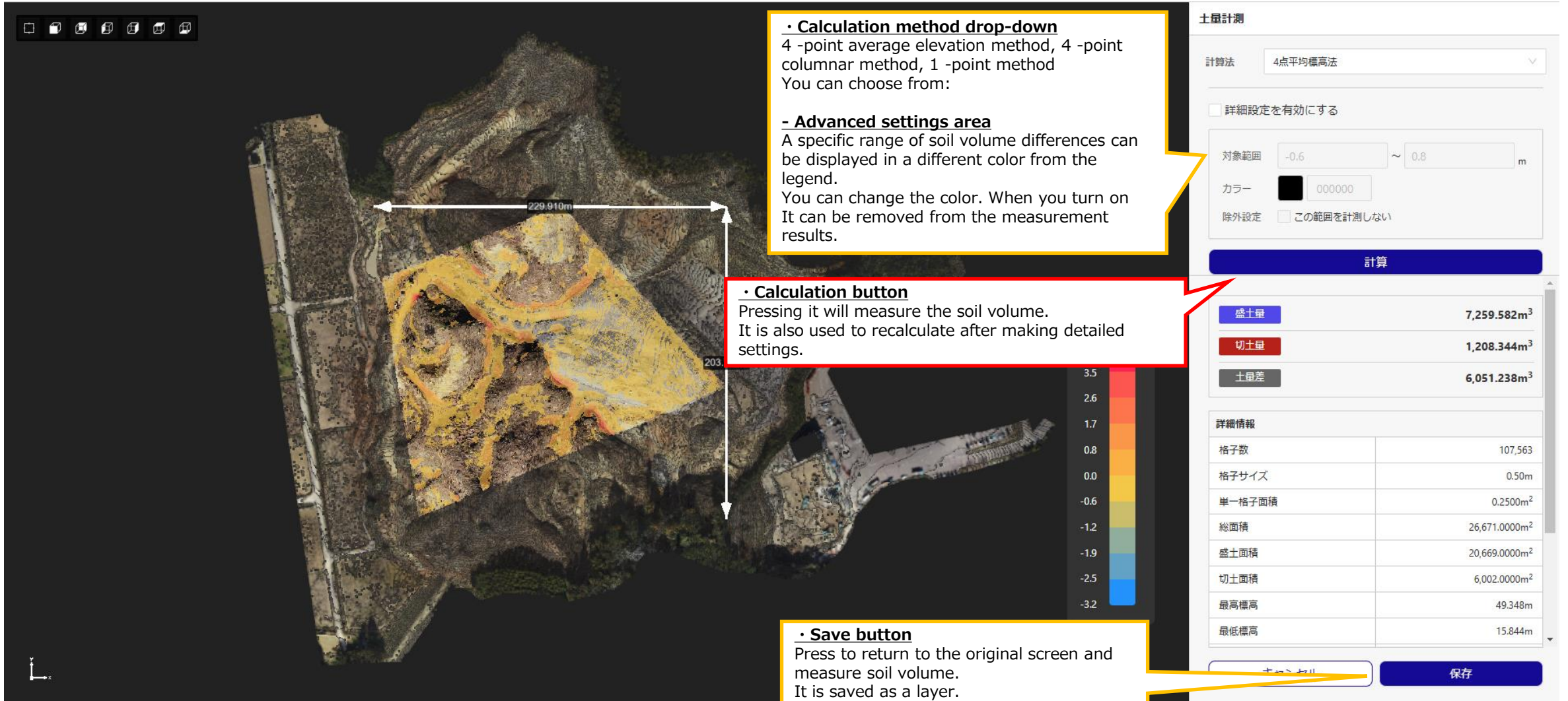
• Grid setting button
A window will appear.
You can set the direction in which the grid is created.

Fill in the blanks checkbox
When this is turned on, any missing points within the selected area will be automatically filled in and measurements will be performed

• Measurement button
Measure with the conditions set on the left.
Press
You will be redirected to the next page, soil volume measurement screen.

No.1

A new function has been added that allows you to overlay two sets of data and measure the difference in soil volume (fill/cut) and related information. Measurements can be performed between point cloud data, or between point cloud data and design data.



・ Calculation method drop-down
 4 -point average elevation method, 4 -point columnar method, 1 -point method
 You can choose from:

- Advanced settings area
 A specific range of soil volume differences can be displayed in a different color from the legend.
 You can change the color. When you turn on It can be removed from the measurement results.

・ Calculation button
 Pressing it will measure the soil volume.
 It is also used to recalculate after making detailed settings.

・ Save button
 Press to return to the original screen and measure soil volume.
 It is saved as a layer.

土量計測

計算法 4点平均標高法

詳細設定を有効にする

対象範囲 ~ m

カラー

除外設定 この範囲を計測しない

計算

盛土量	7,259.582m ³
切土量	1,208.344m ³
土量差	6,051.238m ³

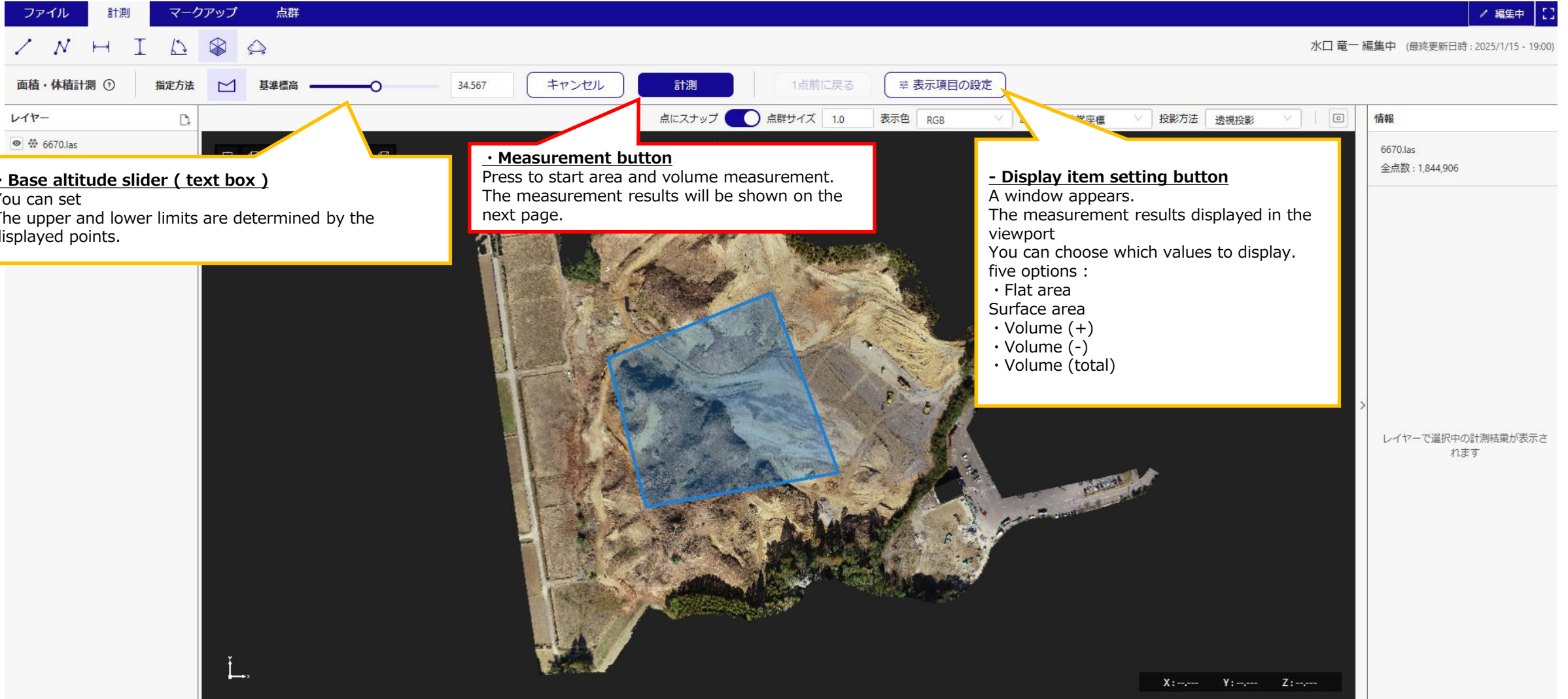
詳細情報

格子数	107,563
格子サイズ	0.50m
単一格子面積	0.2500m ²
総面積	26,671.0000m ²
盛土面積	20,669.0000m ²
切土面積	6,002.0000m ²
最高標高	49.348m
最低標高	15.844m

キャンセル **保存**

No.2

A function has been added to measure the area of a selected range, the volume difference between that range and a reference plane, etc. After selecting the measurement range as a polygon, set a specific reference elevation and measure the difference between that height plane and the point cloud.



The screenshot shows the software interface with a point cloud visualization of a terrain. A blue polygon is drawn on the point cloud to indicate a measurement range. The interface includes a top menu bar with 'ファイル', '計測', 'マークアップ', and '点群'. Below the menu is a toolbar with various icons. A central panel contains a '計測' (Measure) button and a '表示項目の設定' (Display Item Setting) button. A '基準標高' (Reference Elevation) slider is set to 34.567. The right sidebar shows information for the file '6670.las', including the total number of points: 1,844,906.

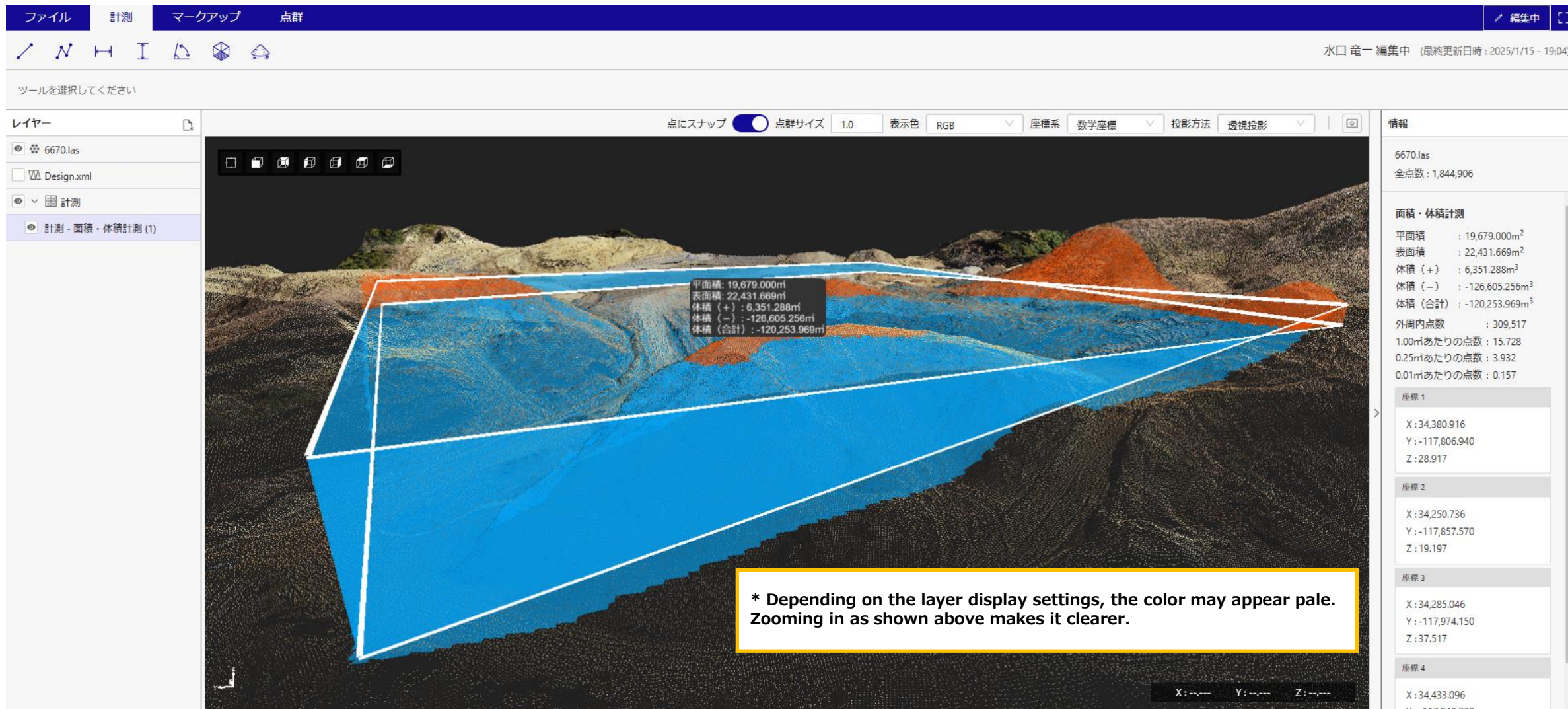
・ Base altitude slider (text box)
 You can set
 The upper and lower limits are determined by the displayed points.

・ Measurement button
 Press to start area and volume measurement.
 The measurement results will be shown on the next page.

- Display item setting button
 A window appears.
 The measurement results displayed in the viewport
 You can choose which values to display.
 five options :
 ・ Flat area
 Surface area
 ・ Volume (+)
 ・ Volume (-)
 ・ Volume (total)

No.2

A function has been added to measure the area of a selected range, the volume difference between that range and a reference plane, etc. After selecting the measurement range as a polygon, set a specific reference elevation and measure the difference between that height plane and the point cloud.



The screenshot displays the EARTH BRAIN software interface. The main window shows a 3D point cloud of a terrain with a blue polygon overlaid for measurement. A data popup is visible over the polygon, providing the following statistics:

平面積:	19,679.000m ²
表面積:	22,431.669m ²
体積 (+):	6,351.288m ³
体積 (-):	-126,605.256m ³
体積 (合計):	-120,253.969m ³

The right-hand information panel (情報) displays the following data for the selected range:

面積・体積計測	
平面積	: 19,679.000m ²
表面積	: 22,431.669m ²
体積 (+)	: 6,351.288m ³
体積 (-)	: -126,605.256m ³
体積 (合計)	: -120,253.969m ³
外周内点数	: 309,517
1.00mあたりの点数	: 15.728
0.25mあたりの点数	: 3.932
0.01mあたりの点数	: 0.157

Below the main window, a yellow box contains the following note:

*** Depending on the layer display settings, the color may appear pale. Zooming in as shown above makes it clearer.**

No.3

A new function has been added that allows the mouse cursor to stick (snap) to points in point clouds or vertices in design data while using each function. It can be turned ON/OFF using the toggle at the top of the viewport.



