Lithology Maker for TimeScale Creator

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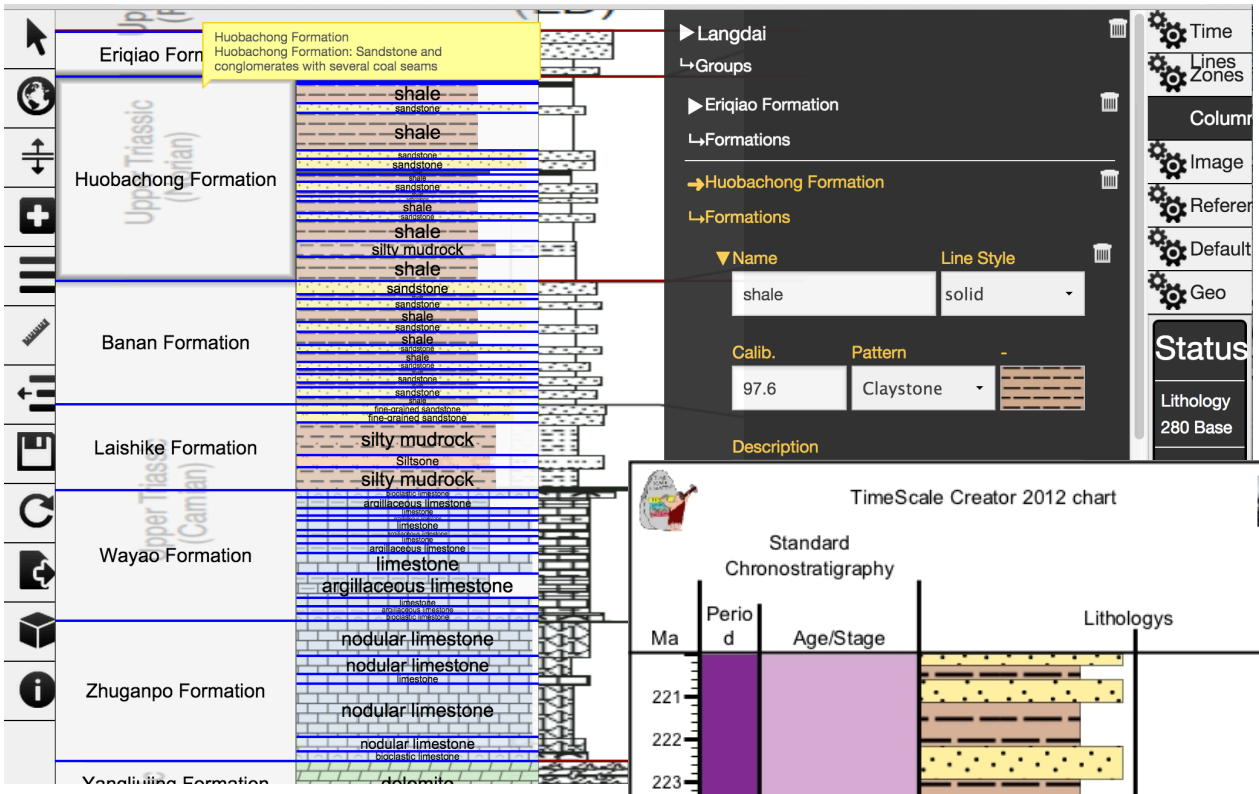
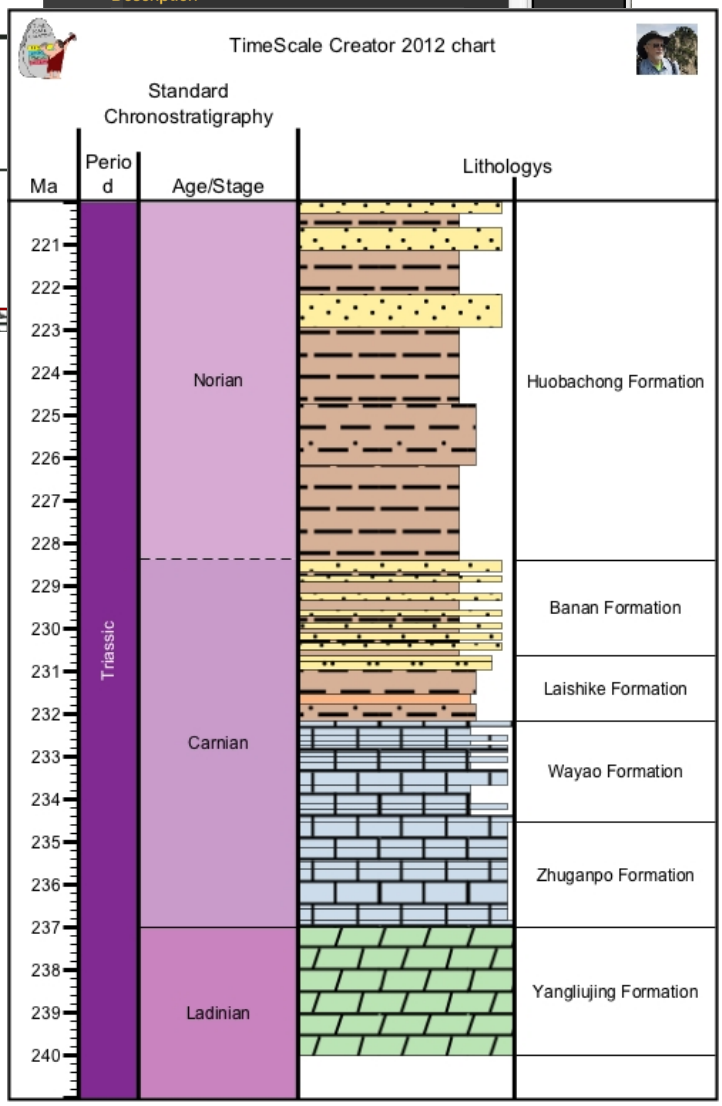
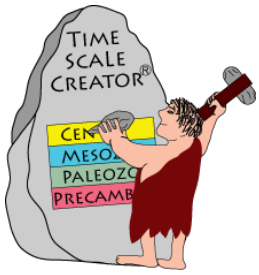
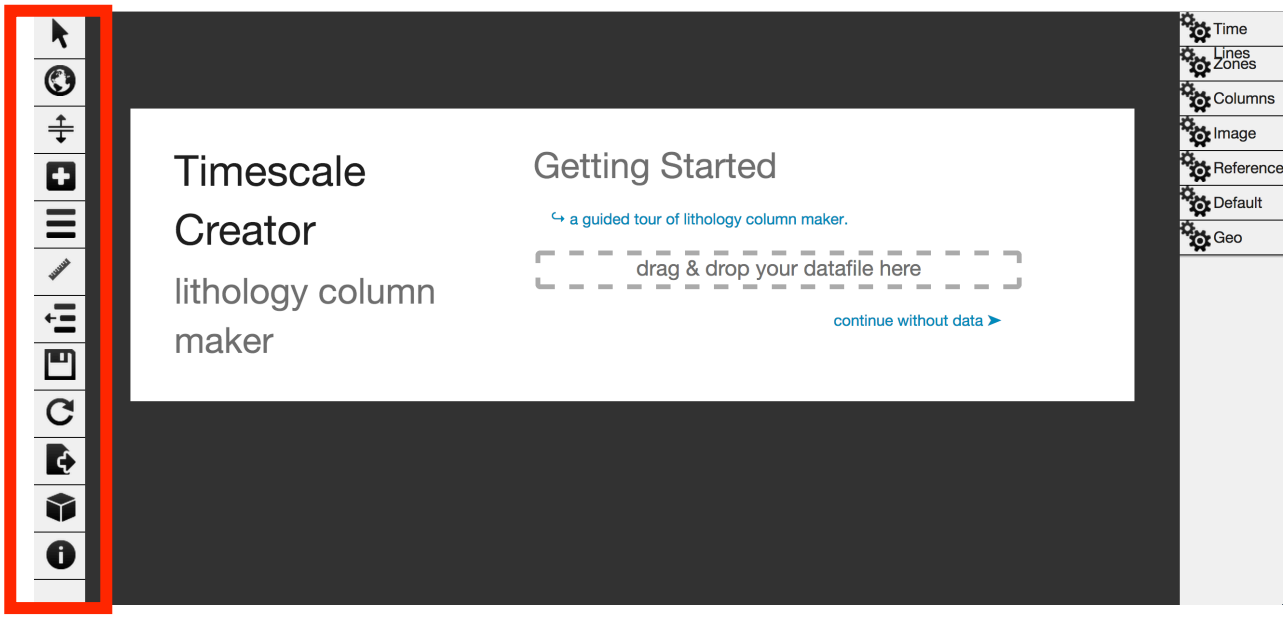






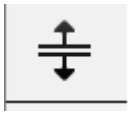
Lithology Maker Overview

Tools (left side of opening window)



Pointer Tool - Clicking the pointer tool will unselect any of the other tools that are active.

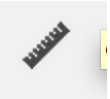
Map View - Displays a world map for your facies polygons.



Add Timeline - Select and **double clicks** on the canvas to add a timeline. The time line can be dragged with the mouse to its final position.

Add new column - Click and a new column is added to your canvas.

Lithology Tool - Select and double-click in the column area and then again a little apart from the first double-click. A box with a “Group” label will appear. Pull the blue lines to the correct location



Ruler Tool – Select and a ruler will be displayed on the left side of your canvas. Click the icon again and the ruler disappears.

Reference Column – Select and the reference column will be displayed. Click the icon again and the column disappears.

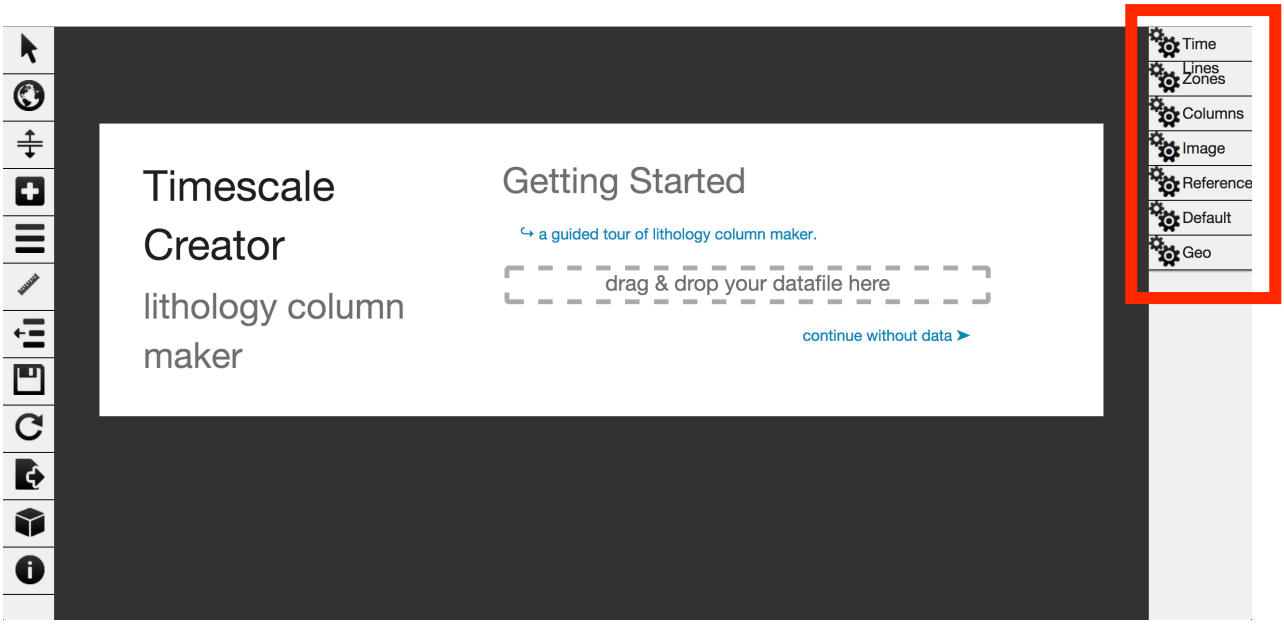
Export - Select and you will get a view containing the tab-separated Timescale Creator format. You can choose between **table** or **text** view.

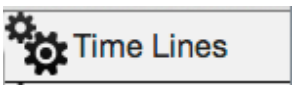
Zip Download – This allows you to download a zipped file which includes the json and txt file. You can load the zip file directly into TSCreator and it will display correctly.

Sandbox - This application creates a sandboxed HTML5 file system on the client’s machine. Selecting this will open the view displaying directories in the user’s file system. You can save the current project or load any of the previous projects quickly into the maker as the files are stored permanently. The files can also be downloaded to the user’s machine.

However, it is recommended that you download to your computer all the files you want to keep, once you have finished a project. Then clear out all your saved files from the sandbox, otherwise the Lithology maker might become unresponsive during a future project.

Input Panel (right side of opening window)





Add ages and label timelines. Hit return after the entries to record your changes.

Add zone names and descriptions

Add name, latitude, longitudes to lithology column

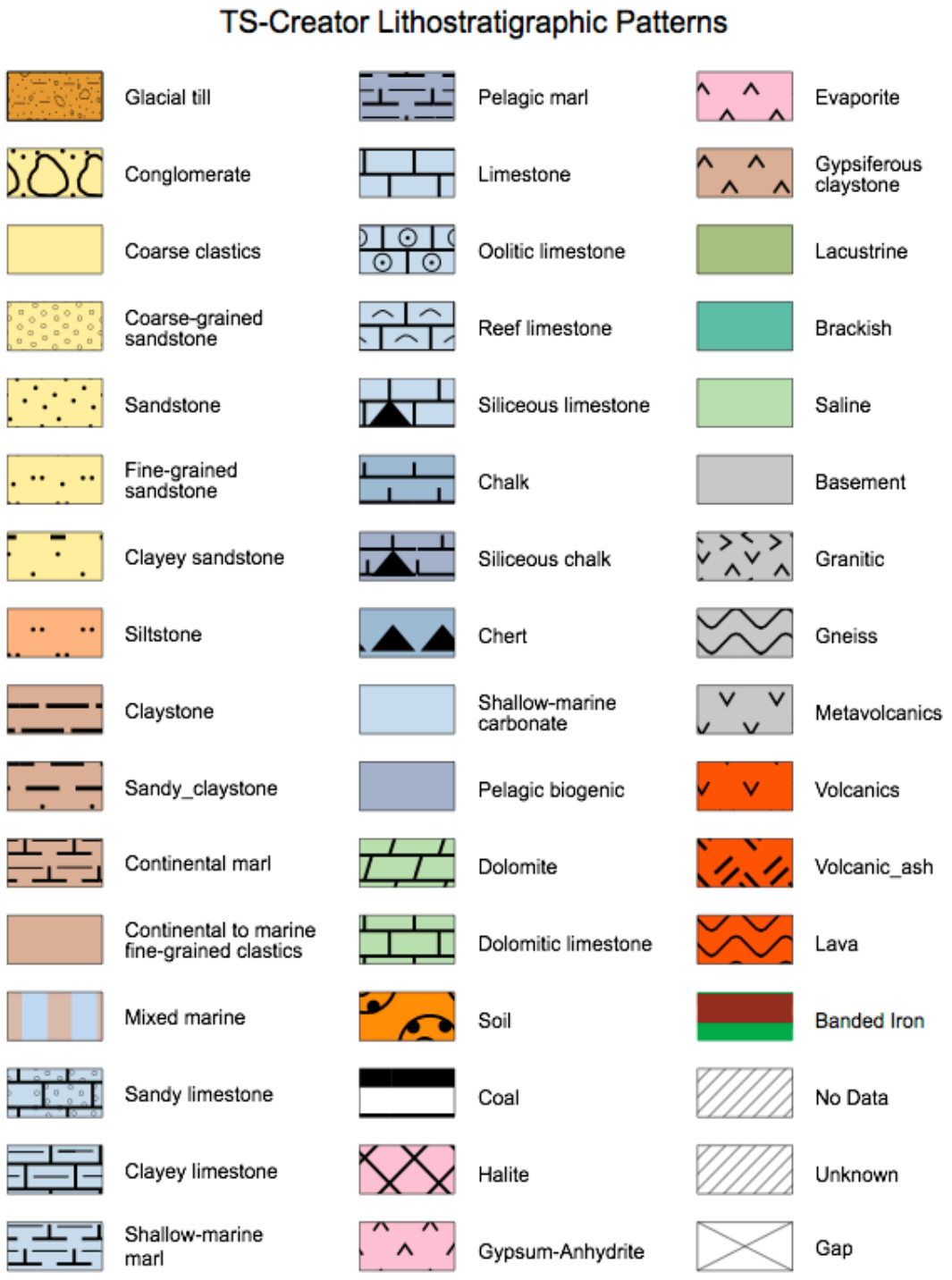
Drag and drop your image. Adjust size.

Choose reference time frame and what columns to use (periods, epochs, stages). You can also add a different previously generated reference column.

This is tab has no function yet.

Select your map and animation settings

Available Lithostratigraphic Patterns



Getting Started… A Step by Step Guide

Browser Requirements : Google Chrome

Step 1 - On opening the URL the app will ask for your permission to create a space (sandbox) on your system. By accepting, you will have the ability to store projects in this sandbox and load them when required.

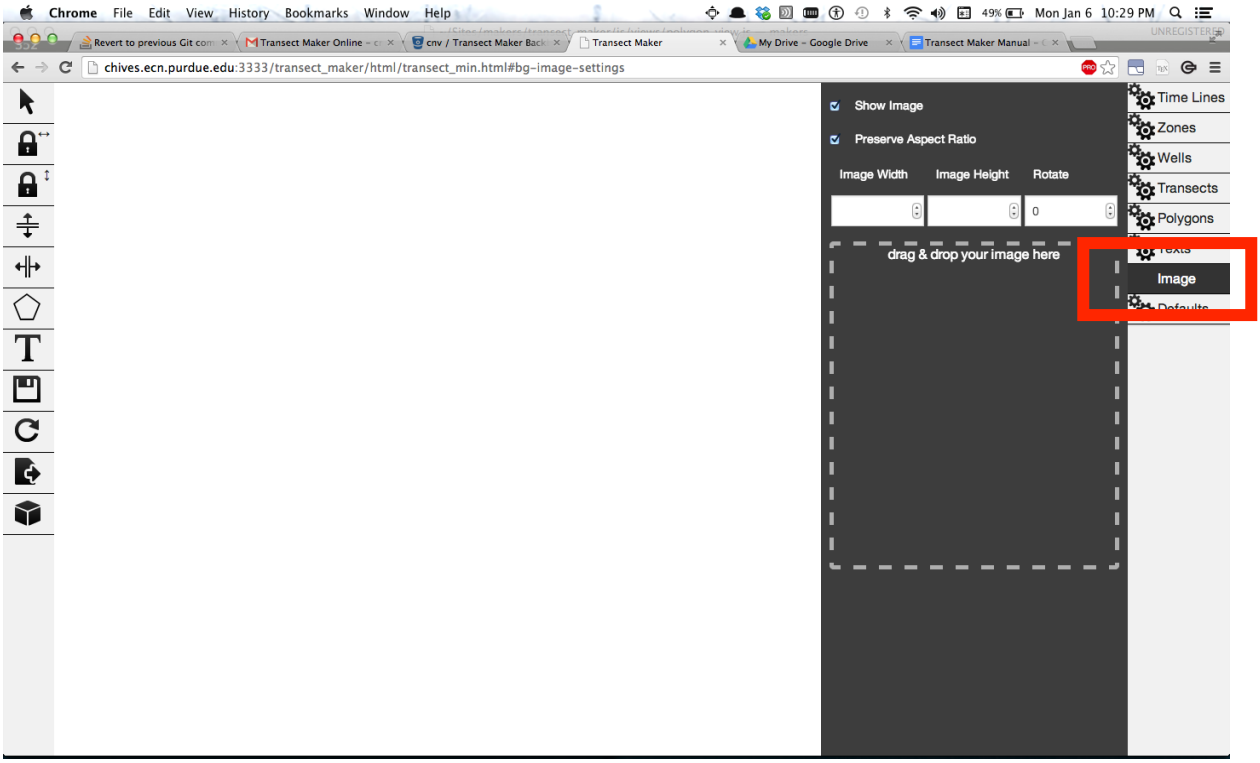
Step 2 - To start a new project just click “start new project” and an empty page will appear.

Hint: If you already have a **json** file from a previous project, you can just drag it into the “drag and drop” box. It will automatically load.

If you have a saved project in your sandbox, then just click the sandbox icon and load the **json** file from there.

Start new project

Click “start new project” on the intro view. This will take you to an empty page.
Add an image by selecting the Image Tab on the right hand setting panel and then drag and drop an image. Image can be of any format (**png/gif/jpeg**) except pdf. You can resize the image or rotate it according to your needs.



Resize your image before you put in timelines.

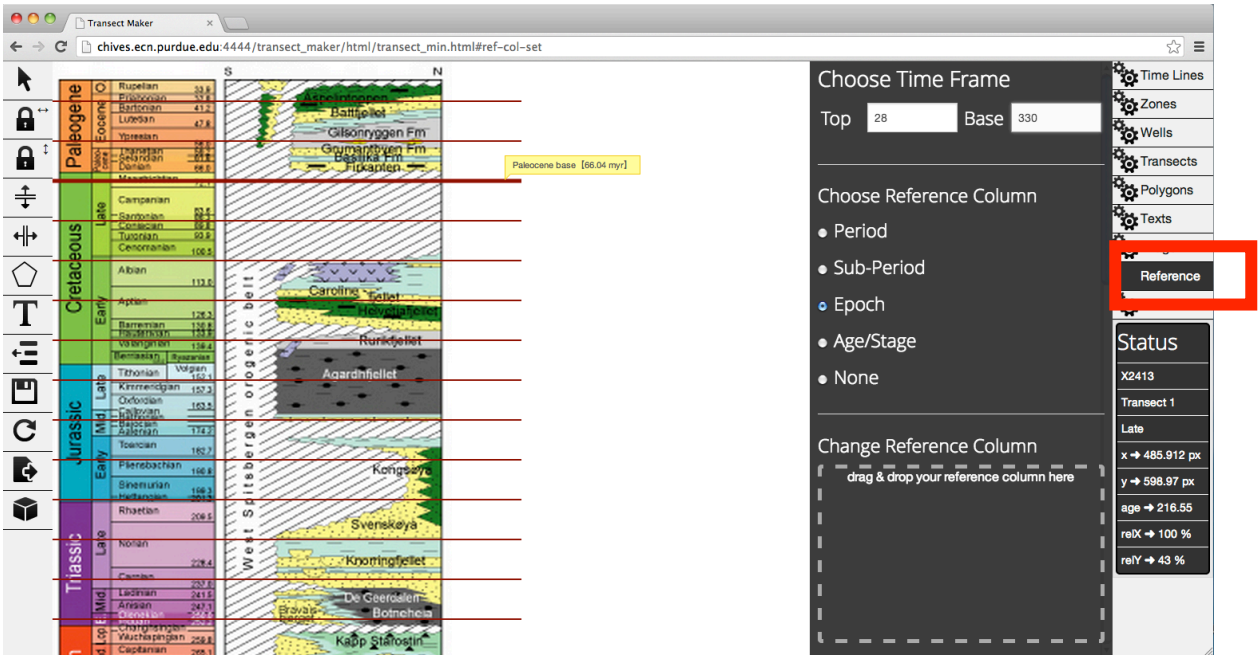
Later resizing does not keep the timelines in the same place.

Adding or Editing information to lithology elements (Timelines / Zones / Columns)

Before starting to draw lithology columns you have to create **timelines**. Each of the properties of the lithology maker elements can be edited in the panels on the right hand side. Start editing the field by clicking on the corresponding name. In order to close the input fields after the information is updated - **press enter or esc** key. This will update the info to the appropriate element. If you don’t press enter, your information will not record. To close the Tabs completely just click the tab again.

Add Timelines from the reference Time Scale (GTS2016):

Open Reference Tab on right hand side. This gives you a window where you can choose your time frame and what columns to use (periods, epochs, stages). You can also add a new previously generated reference column.

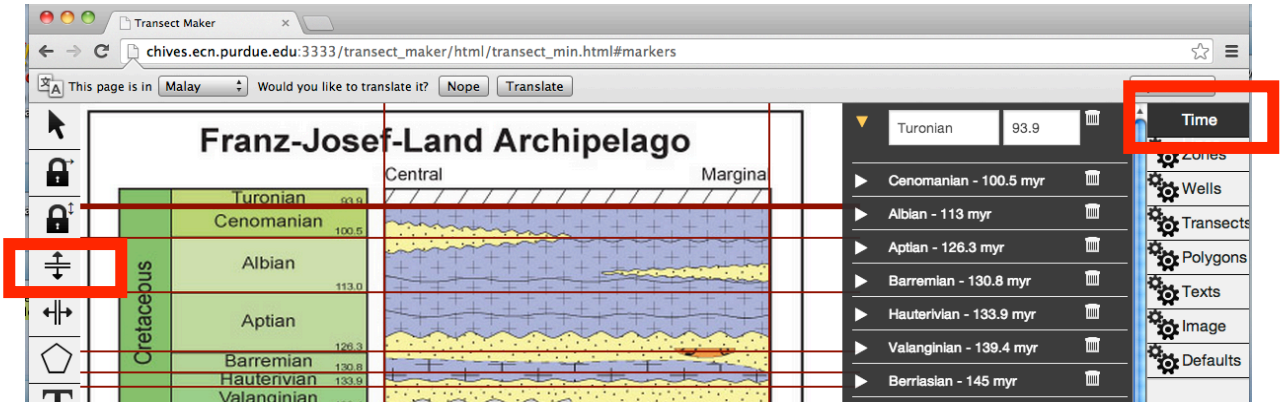


Once you hit **return** on the age selection, the timelines will appear evenly spaced on the screen. You can now drag them to the appropriate location (the timelines are labeled). When you have lots of timelines, they will be off the screen. Use the wheel on your mouse to scroll up and down through your image

If you select your timelines from the Reference Time Scale, then the Zone descriptions are already filled in. However, you can still edit or delete them under the Zones tab.

Add Timelines:

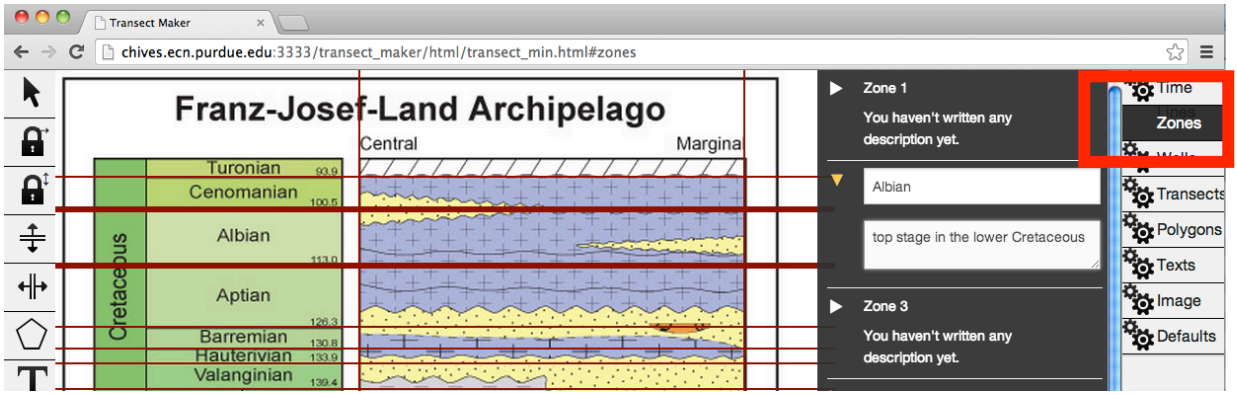
Open Time Tab on right hand side, this will give you the window where you add information for your timelines.
If you selected your timelines from the Reference Time Scale, then the appropriate names and ages for your timelines are already displayed. You can now add or delete other timelines or change the ages.



To add new timelines click **timeline** button on left tool bar  and double-click a zone or stage boundary on your image which you want to use as a timeline. On the right panel a new timeline is added, you can change the name and add the age in myr. Hit **enter** after each entry. Continue until all your timelines are done.

Add Zones:

Open Zones Tab on right hand side, here you can add information for your zones, which is the interval between two of your timelines. If you hover the cursor over the zone, the corresponding two timelines will appear bold. Type in zone name and **hit return** (important, otherwise the name will not record), add a zone description.

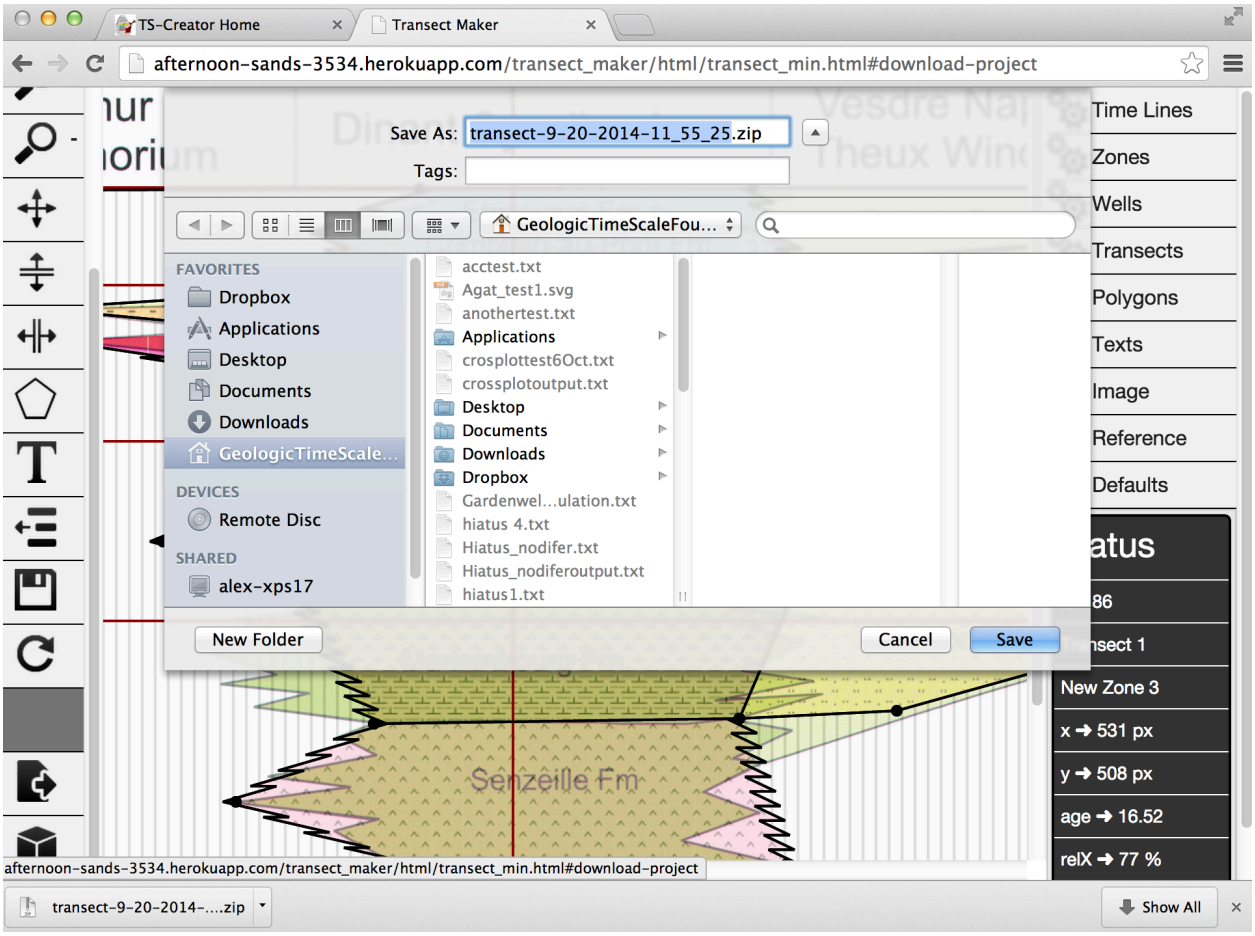


Save one copy, so you don't have to redo the timelines and zones, if you mess up the lithology columns.

Saving your file:

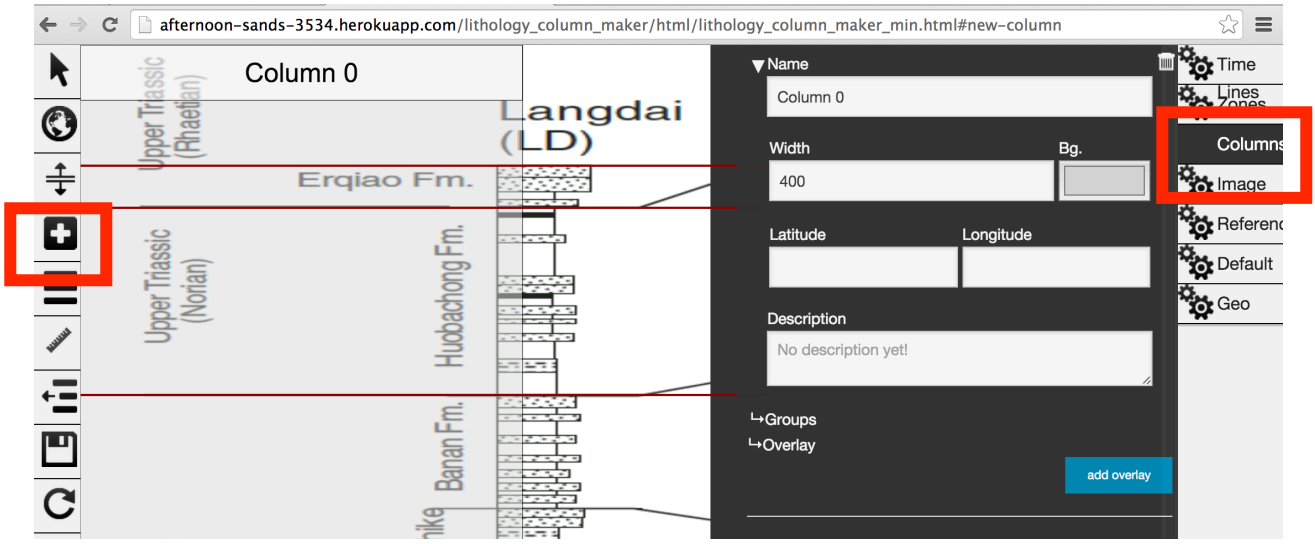
Save a zip file

Click **download project as zip** and depending on your Chrome settings a window will open and ask you for a file name, or directly save the zip to your computer. The zip file contains the json and the txt files. You can load the zip file directly into TS-Creator and it will load correctly.



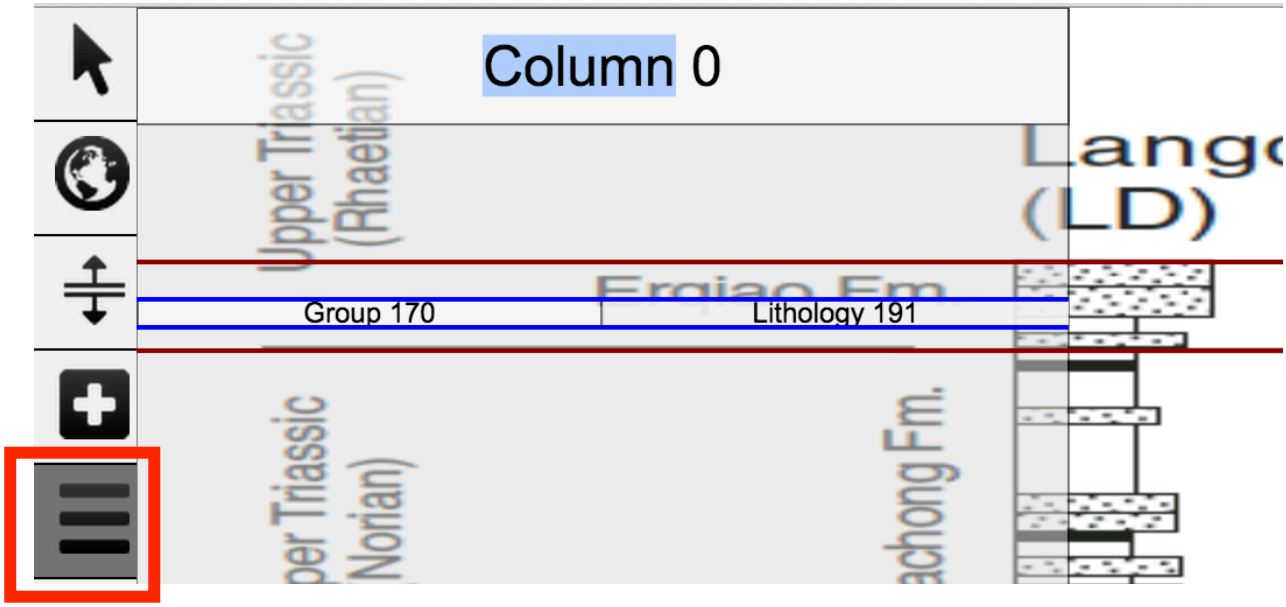
Add Lithology columns:

Click the **add column** button  and then open Columns Tab on right hand side, this will give you the window where you add information for your columns (outcrop name and latitude and longitude, width of column etc.).

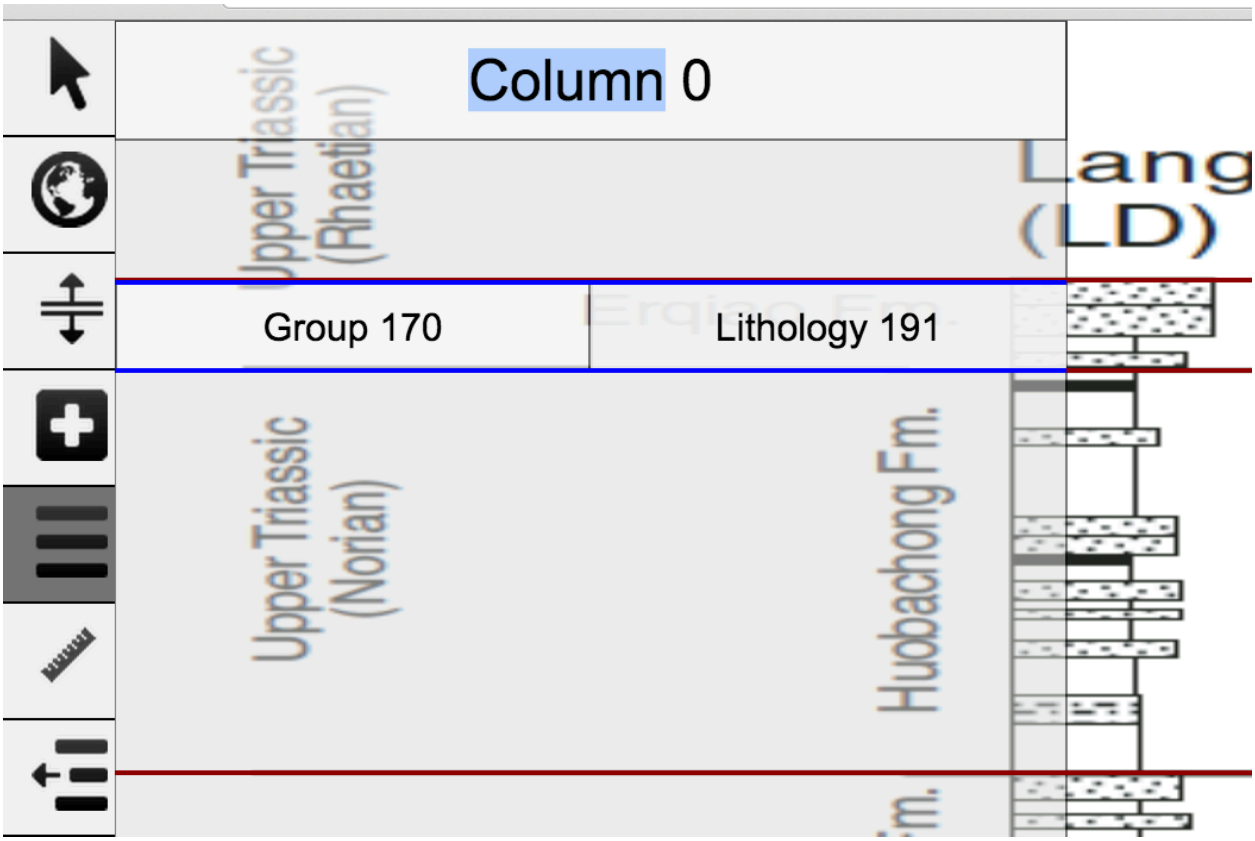


The latitude and longitude coordinates do not yet work

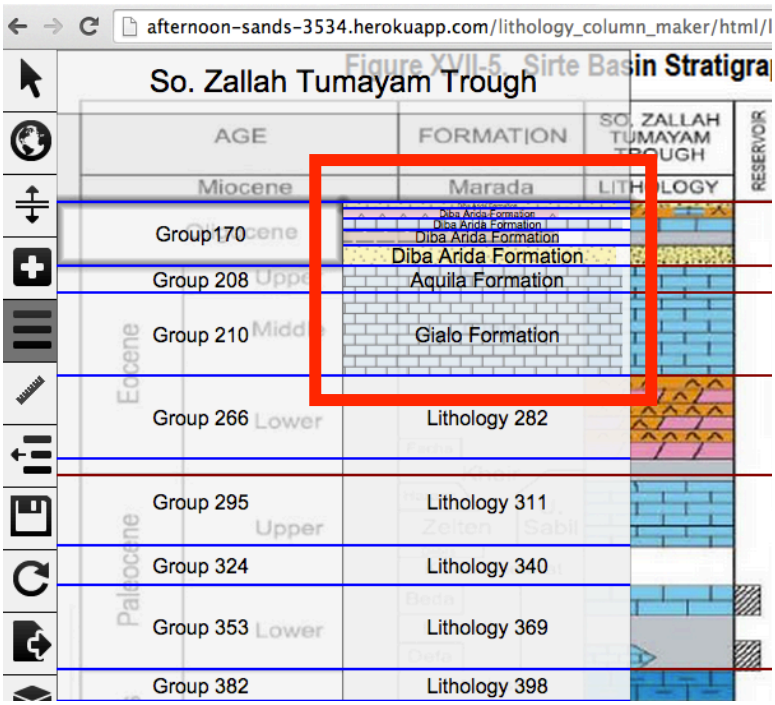
Select the **Lithology Tool**  and double-click in the column area and then again a little apart from the first double-click. A box with a “Group” and “Lithology” label will appear.



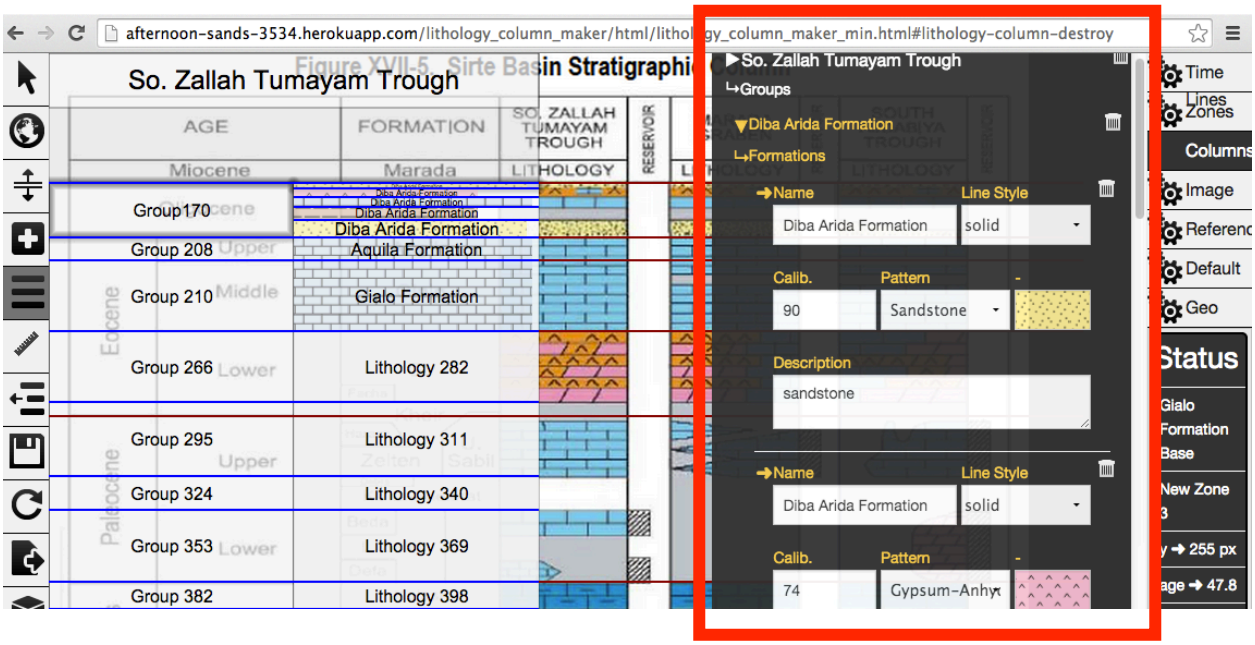
Drag the blue lines to the correct location for the “Group”.



With the **Lithology tool** selected, keep double-clicking in the “Lithology” section of your column for all your different lithologies.

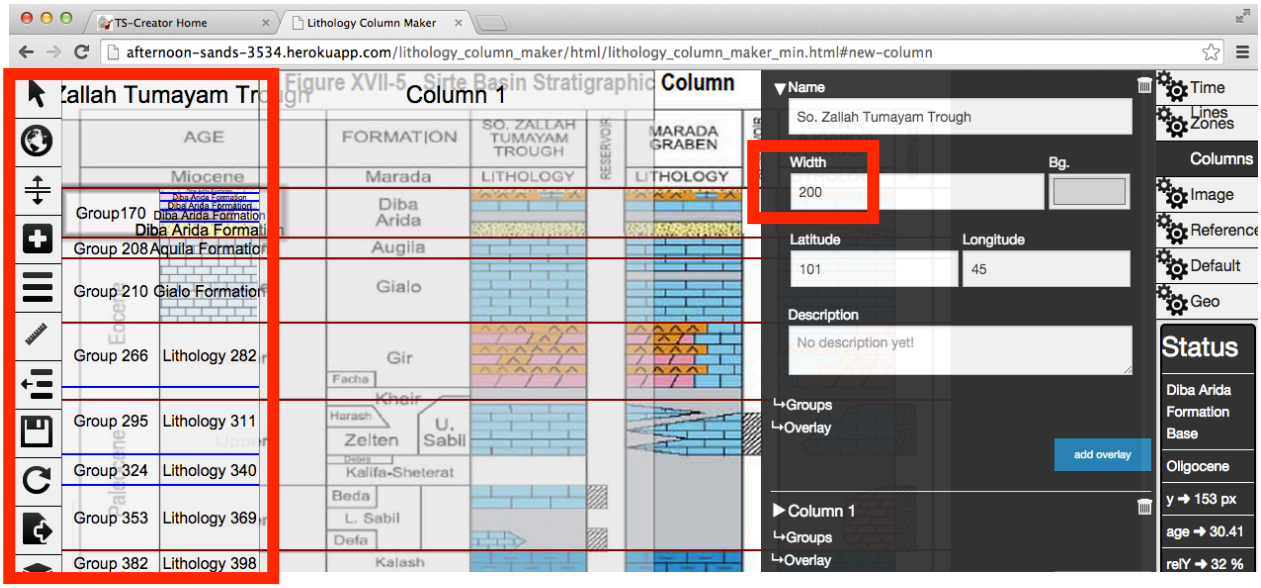


On the right hand side panel, open the **Group** label by clicking on the name, add group name and description, if desired. Next, open **Formation** Label and fill in your information. You need to choose a lithology pattern. Don't forget to press enter after each input, otherwise the new name is not recorded.



To add a second lithostratigraphic column just click the **Add Column** button again and a new column will appear. Repeat the steps as done in the first column.

Hint: You can adjust the width of your columns in the columns menu. Often it is easier to reduce the size of the first column, while working on the second one.

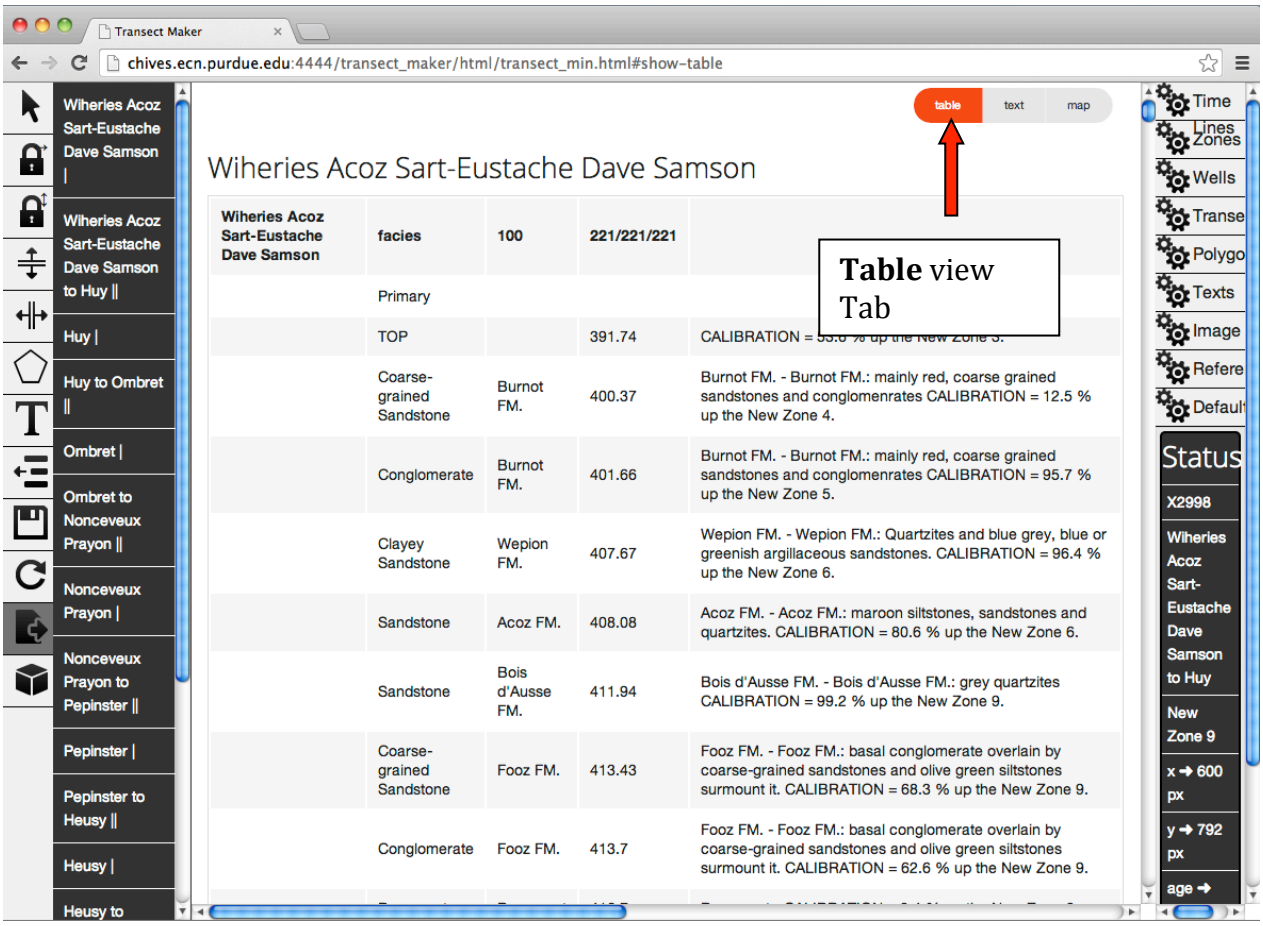


Export Data

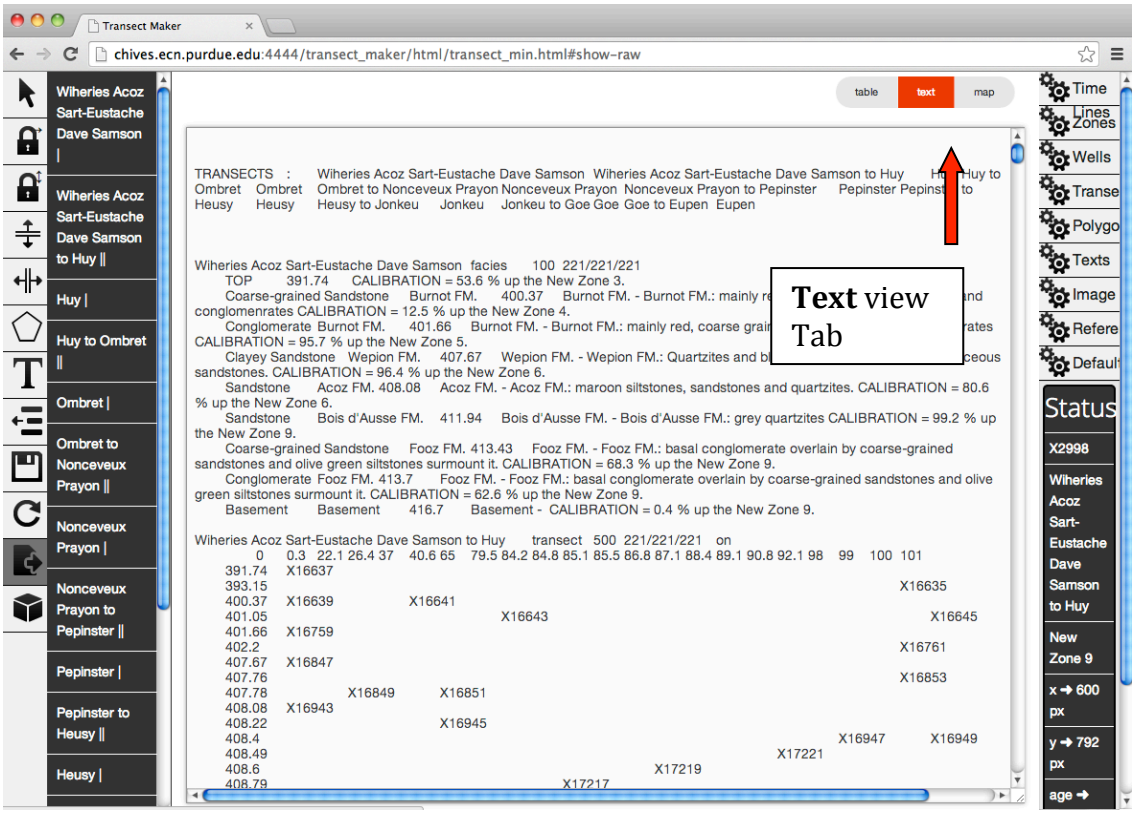
You can export the data in Timescale Creator format by using **quick export**  . The **Export Tab** will open up the view containing the tab-separated Timescale Creator format. You can choose to view the **table** to quickly verify the output and use the **text** view to copy the output into a text editor or Excel.

Make sure you closed the right hand side tabs by again clicking on the tab, otherwise you won't see the full screen and the button to switch from **table** to **text** view.

You can quickly swipe the whole text view and copy it into a text editor and save as .txt and then load the file into TSCreator.



Wiheries Acoz Sart-Eustache Dave Samson	facies	100	221/221/221	
	Primary			
	TOP		391.74	CALIBRATION = [illegible]
	Coarse-grained Sandstone	Burnot FM.	400.37	Burnot FM. - Burnot FM.: mainly red, coarse grained sandstones and conglomenrates CALIBRATION = 12.5 % up the New Zone 4.
	Conglomerate	Burnot FM.	401.66	Burnot FM. - Burnot FM.: mainly red, coarse grained sandstones and conglomenrates CALIBRATION = 95.7 % up the New Zone 5.
	Clayey Sandstone	Wepion FM.	407.67	Wepion FM. - Wepion FM.: Quartzites and blue grey, blue or greenish argillaceous sandstones. CALIBRATION = 96.4 % up the New Zone 6.
	Sandstone	Acoz FM.	408.08	Acoz FM. - Acoz FM.: maroon siltstones, sandstones and quartzites. CALIBRATION = 80.6 % up the New Zone 6.
	Sandstone	Bois d'Ausse FM.	411.94	Bois d'Ausse FM. - Bois d'Ausse FM.: grey quartzites CALIBRATION = 99.2 % up the New Zone 9.
	Coarse-grained Sandstone	Fooz FM.	413.43	Fooz FM. - Fooz FM.: basal conglomerate overlain by coarse-grained sandstones and olive green siltstones surmount it. CALIBRATION = 68.3 % up the New Zone 9.
	Conglomerate	Fooz FM.	413.7	Fooz FM. - Fooz FM.: basal conglomerate overlain by coarse-grained sandstones and olive green siltstones surmount it. CALIBRATION = 62.6 % up the New Zone 9.



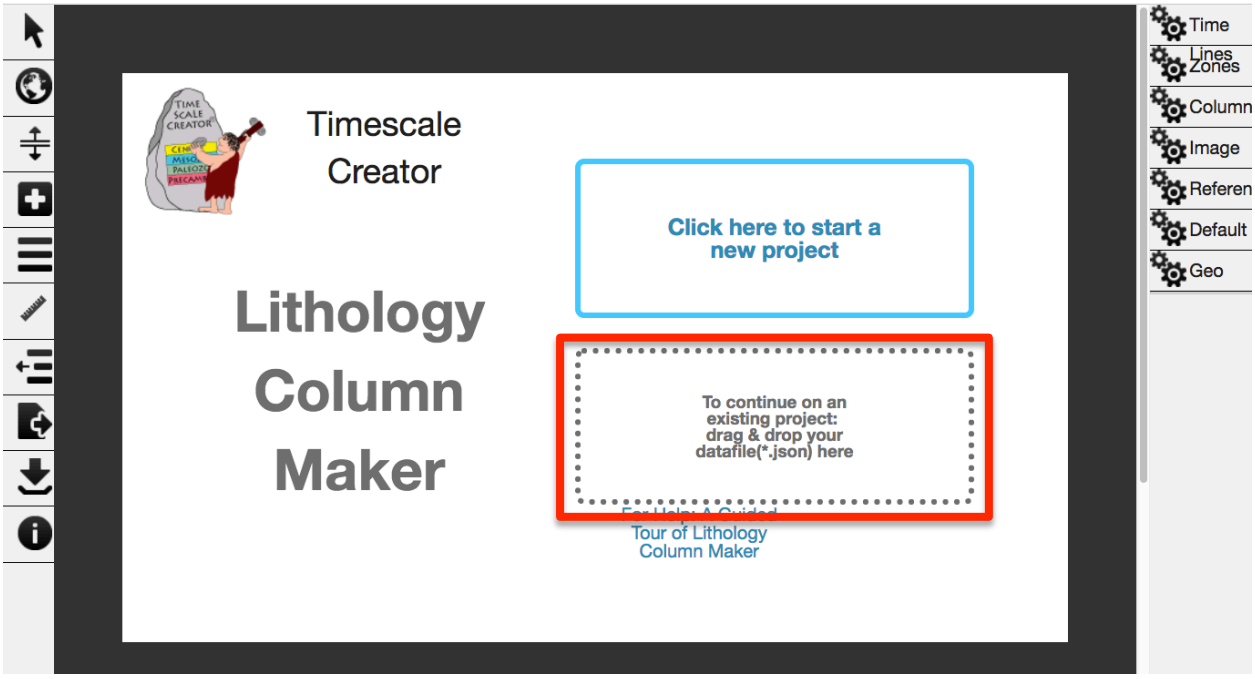
Saving your file:

Download Project as Zip

This downloads a zip file to your computer which contains a txt and a json file. The txt file can be loaded directly into the TSCreator.

Drag & Drop

After you download the file, you can share it with other users and they can load the data by “drag and drop” into the introductory screen.
The data file needs to be a json file that was previously generated by the lithology maker. If it is any other file format the data will not be loaded.



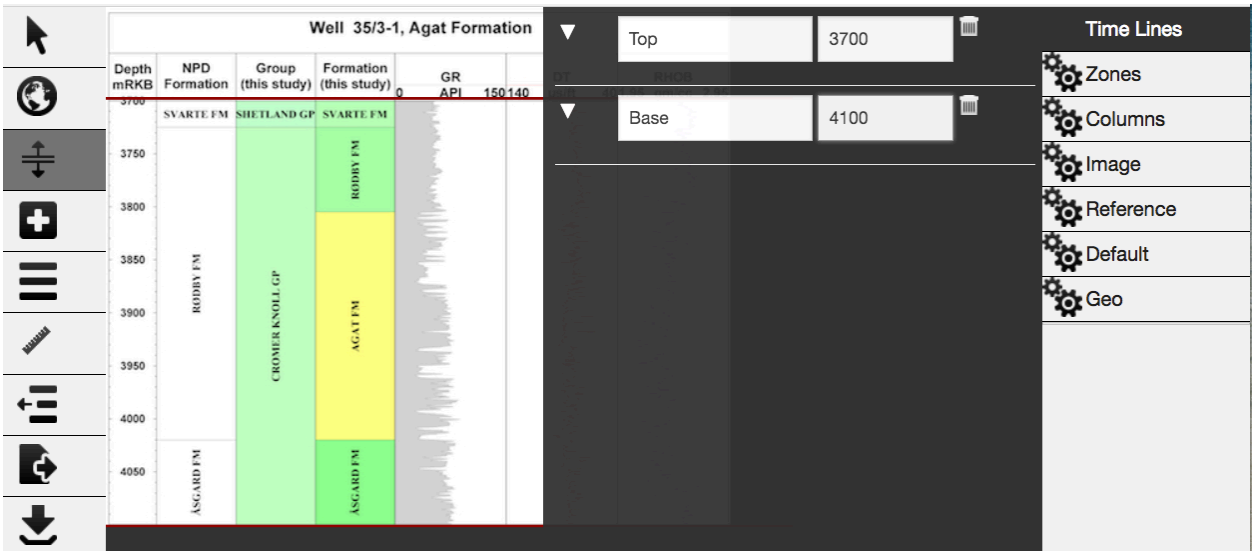
The finished **txt** file can now be loaded into the TSCreator Pro program.

How to use the Lithology Maker for Wells and Outcrops

Wells: (measured from the top down)

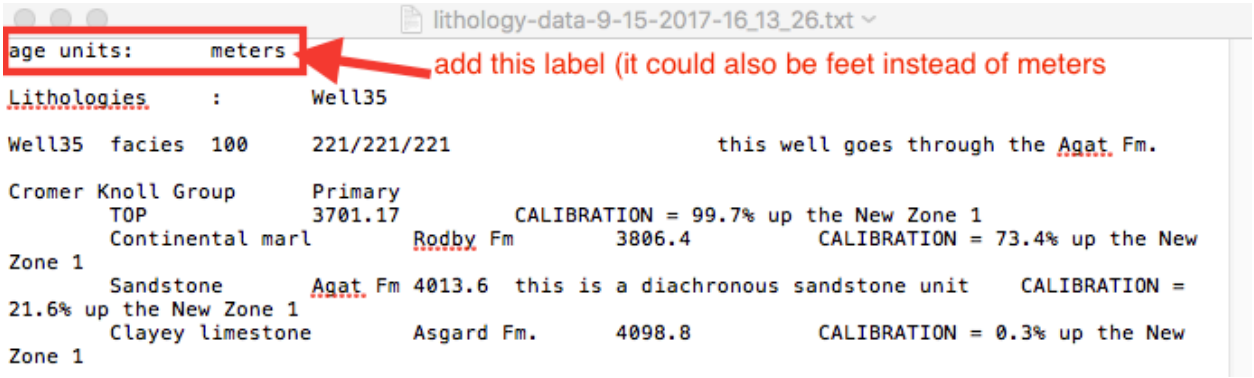
Just make 2 timelines, one at the base of your well and one at the top and add the appropriate depth in the "myr" space. The program doesn't care whether it is millions of years or meters, feet etc.

All the other steps stay the same.

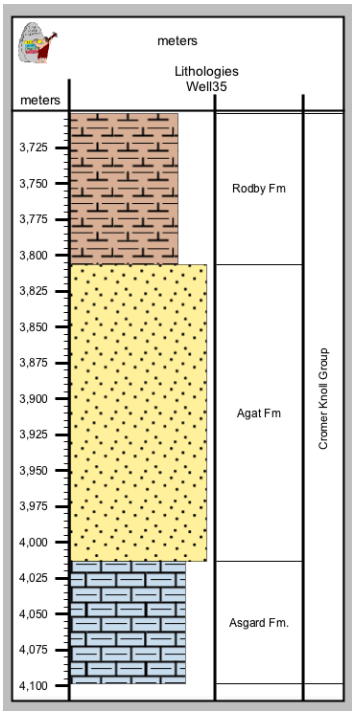


After downloading the zip file to your computer open it up and open the txt file. You have to specify whether your well is in meters or feet so that the TSC Program can recognize that the file needs to be displayed in a different scale.

Add:
age units:[TAB] meters
leave an empty line between the "age units" and the "Lithologies" (you can change the name Lithologies to a different name)



Load your txt file into the TSCreator Program and you should get the well displayed in meters.



Outcrops: (measured from the bottom up)

Just make 2 timelines, one at the base of your outcrop and one at the top and add the appropriate meter levels in the "myr" space. The program doesn't care whether it is millions of years or meters, feet etc. It also has no problems if the lower number is at the bottom and not at the top (see screenshot)

All the other steps stay the same.

After downloading the zip file to your computer open it up and open the txt file. You have to specify that you have an outcrop (this tells the program to display the meters going up) and also whether the outcrop is measured in meters or feet.

Add:
outcrop:[TAB] ON
age units:[TAB] meters

leave an empty line between the "age units" and the "Lithologies" (you can change the name Lithologies to a different name).

```
outcrop:        ON
age units:      meters

Swabia  :       outcrop Genkingen

outcrop Genkingen       facies  200     221/221/221
Lower Jurassic  Primary
        Brackish        Posidonienschiefer      8.32    really dark stuff       CALIBRATION = 41.6% up the New Zone 1
        Clayey sandstone        Holzmaden FM    0.04    also there      CALIBRATION = 0.2% up the New Zone 1
Middle Jurassic Primary         lots of oolites
        TOP             19.91   lots of iron oolites    CALIBRATION = 99.5% up the New Zone 1
        Oolitic limestone       Macrocephalenoolit      10.38   lots of iron oolites    CALIBRATION = 51.9% up the
New Zone 1
```

add these 2 lines to your outcrop file

Load your txt file into the TSCreator Program and you should get the outcrop displayed in meters going up.