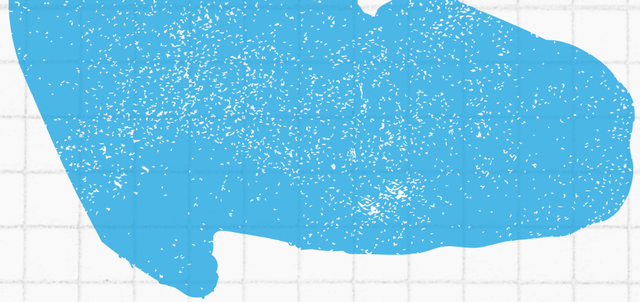
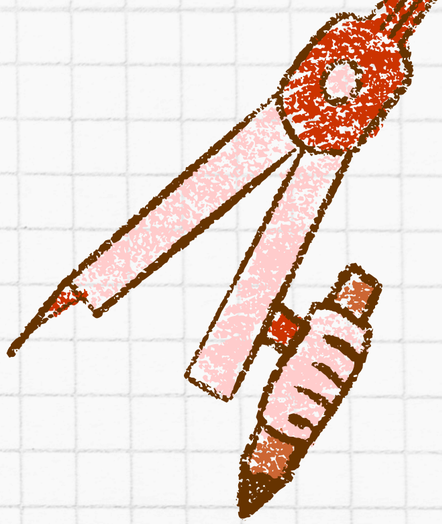
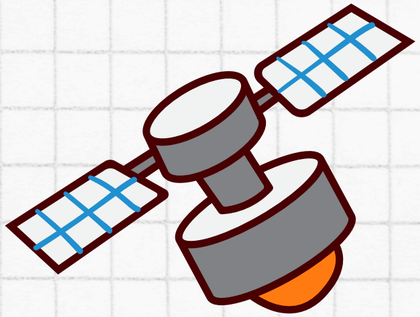




WELCOME TO THE FASCINATING WORLD OF MAPS AND CARTOGRAPHY

GEOSPATIAL SOLUTIONS
AUTOMATING GIS PROCESSES



WHAT IS A MAP?

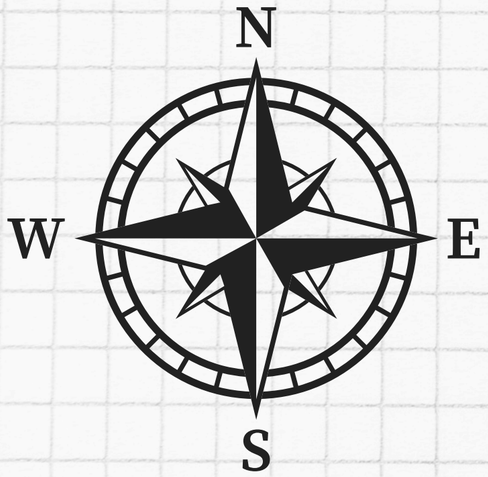
LEARNING TO INTERACT WITH THE WORLD

A map is a tool that shows the location of places and the distance between them using symbols, colors, and lines. It helps us navigate and explore, whether it's a big area like a country or a small one like a neighborhood.

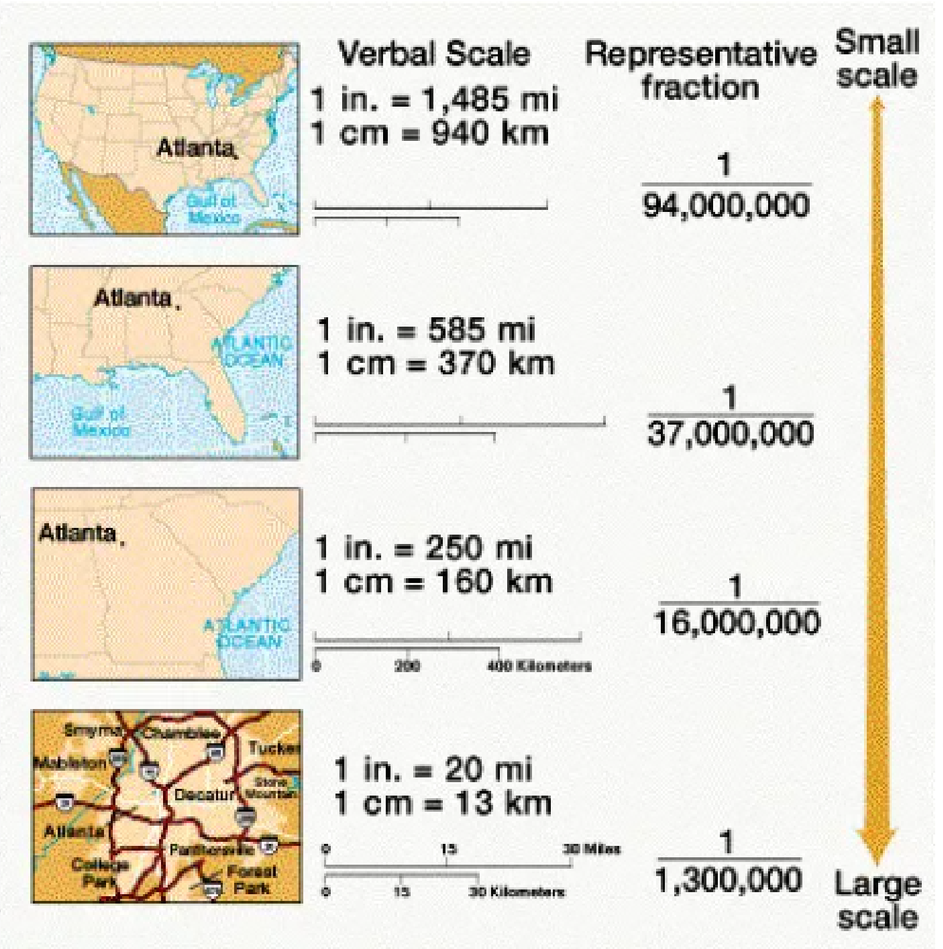
INTRODUCTION

- Maps are tools that help us answer WHERE questions
- They are important for exploring, trading, and making big scientific discoveries!

LEGEND

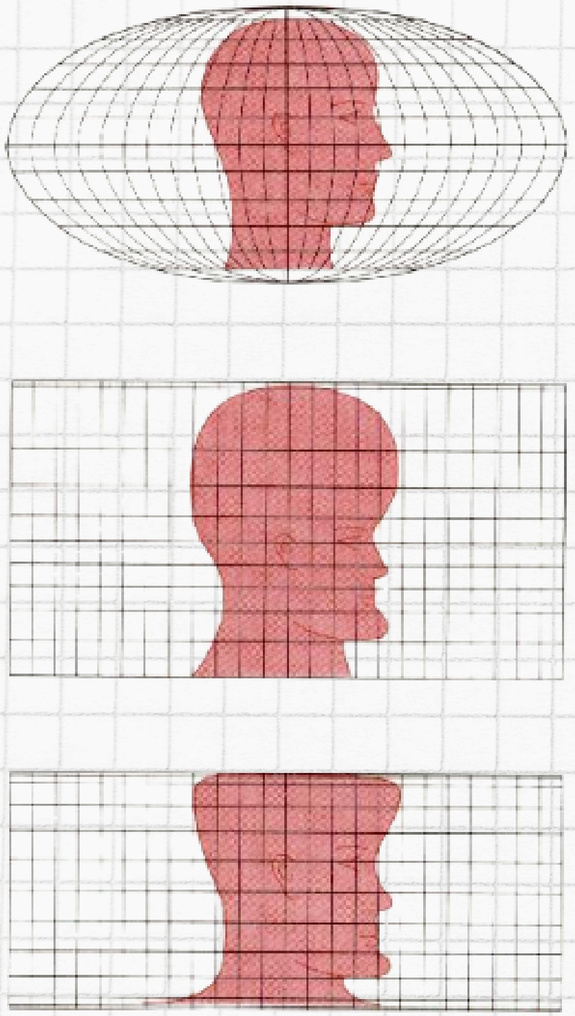


COMPASS ROSE



SCALE

MAP ELEMENTS



MAP PROJECTIONS

A map projection helps turn the round Earth into a flat map, but this process always causes some distortion. Distortion happens in shape, size, distance, or direction because you can't perfectly flatten a sphere.

Different map projections control distortion in different ways:

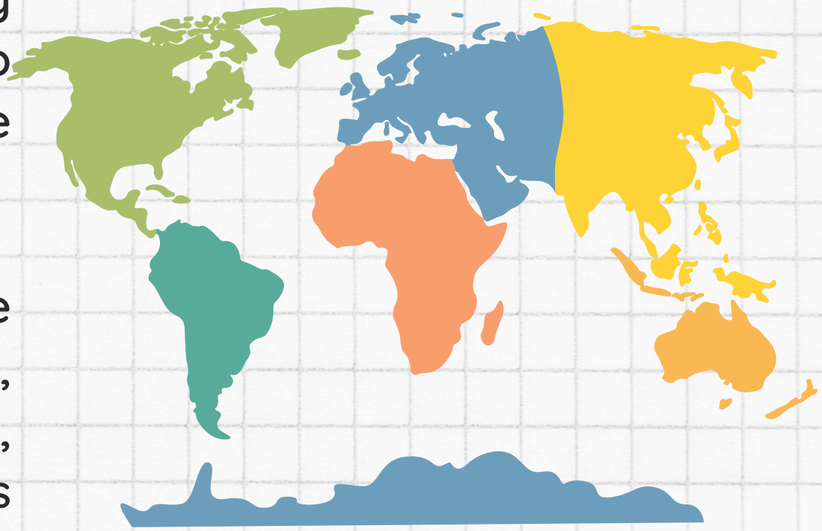
- Some keep shapes accurate (like the Mercator projection).
- Others focus on keeping sizes correct (like the Equal-Area projection).

Cartographers choose the right projection based on what the map needs to show!

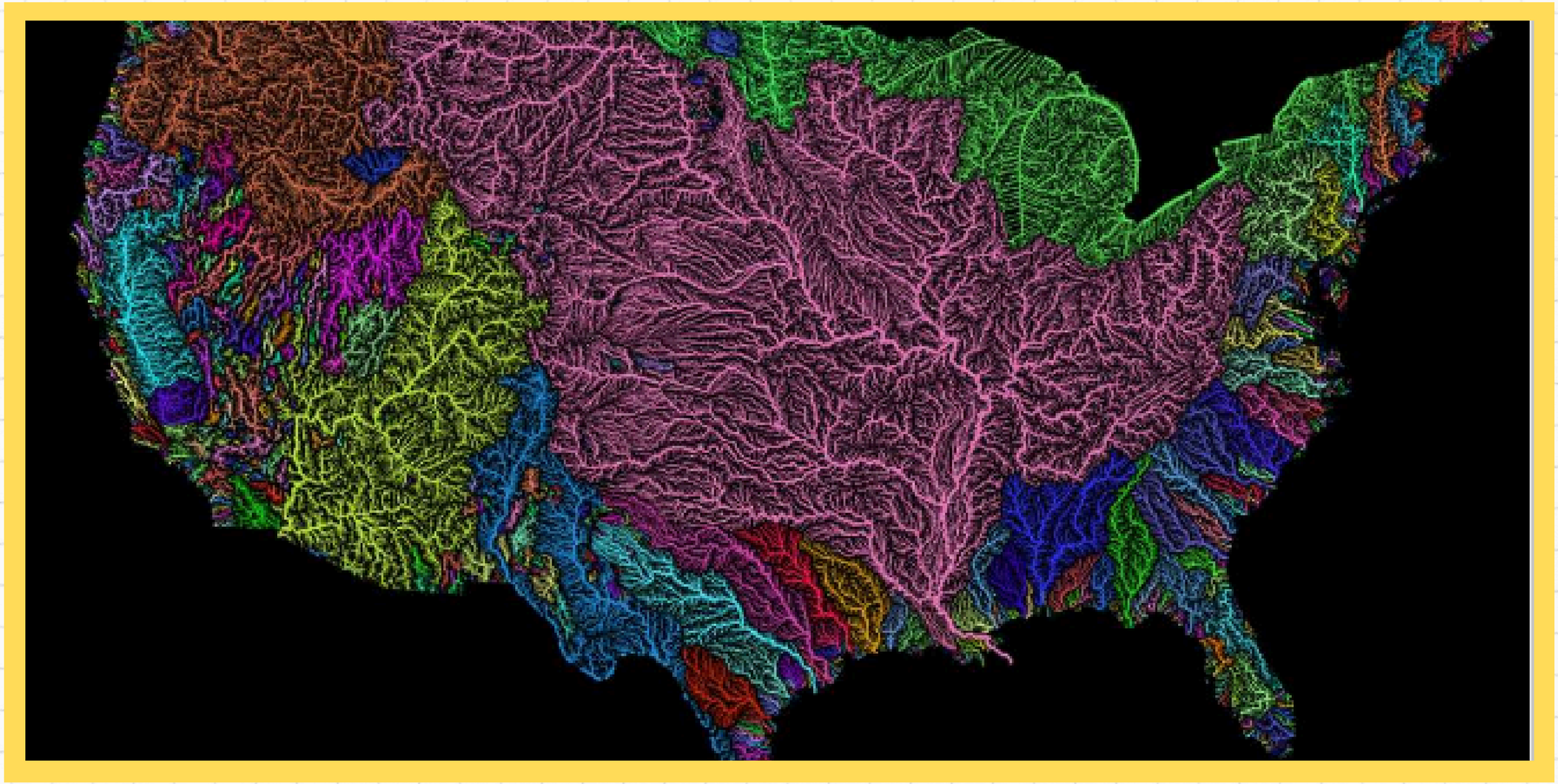
CARTOGRAPHY PRINCIPLES: ACCURACY, PERSPECTIVE, SYMBOLISM

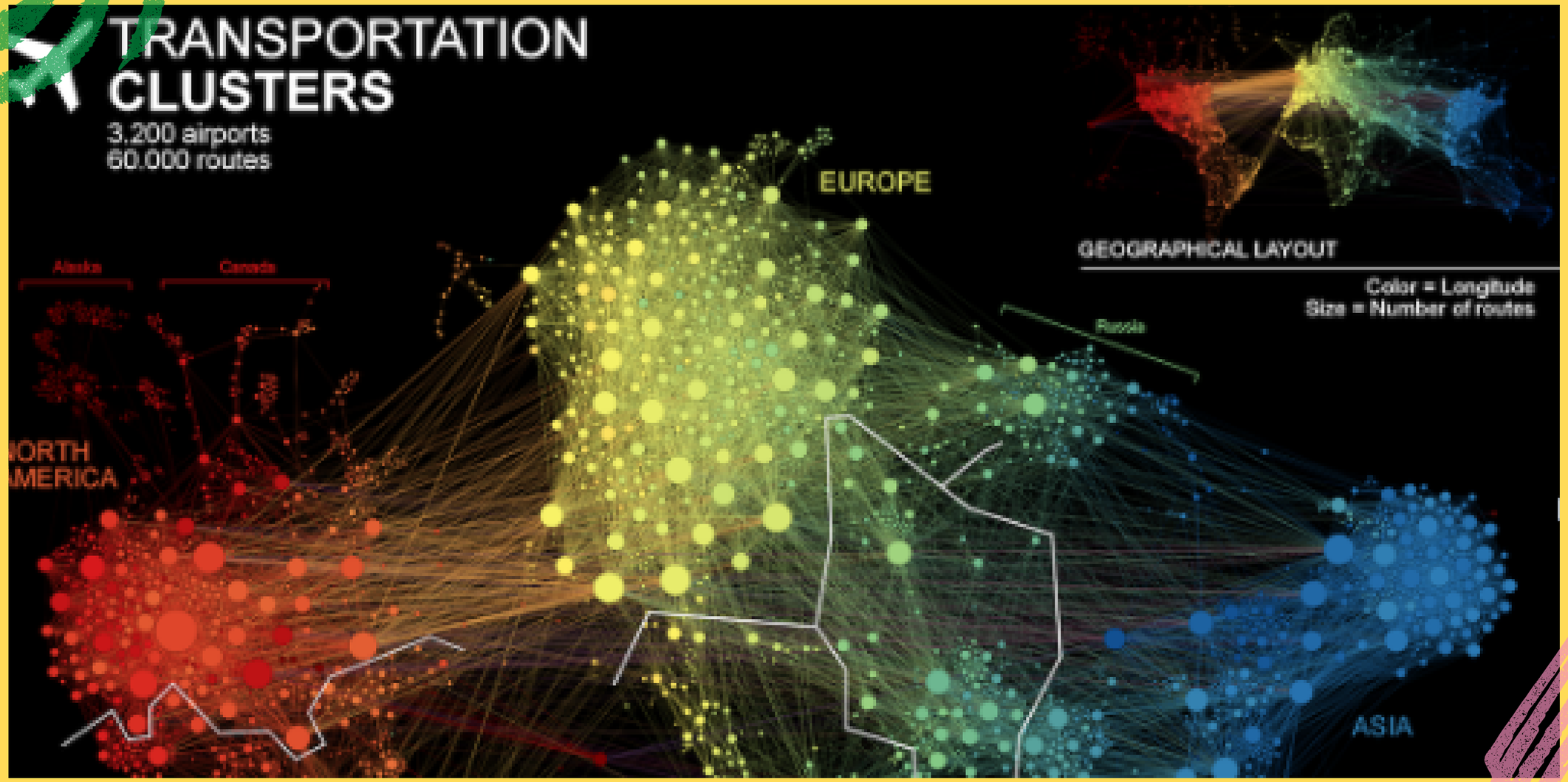
- Cartographers work hard to ensure maps are accurate by measuring, collecting data, and paying close attention to every detail. Modern tools like satellite images and GPS have made maps even more precise.

- Now, with the power of map animation, we can bring these maps to life! Map animation takes the principles of accuracy, perspective, and symbolism and turns them into dynamic, moving visuals. By animating maps, we can show how places change over time, highlight important features, or make it easier to understand complex data, giving us a whole new way to explore the world!



WHAT DOES THIS REPRESENT?




TRANSPORTATION CLUSTERS
3,200 airports
60,000 routes
EUROPE
GEOGRAPHICAL LAYOUT
Color = Longitude
Size = Number of routes
Alaska
Canada
Russia
NORTH AMERICA
ASIA

WHAT QUESTION DOES THIS MAP ANSWER?

MAP ELEMENTS

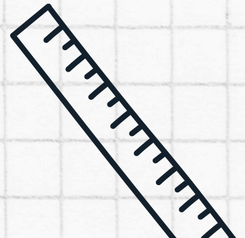
LEGEND (OR KEY): THE LEGEND EXPLAINS WHAT THE SYMBOLS, COLORS, AND LINES ON THE MAP MEAN. FOR EXAMPLE, A BLUE LINE MIGHT SHOW A RIVER, OR A BLACK DOT COULD SHOW A CITY.

COMPASS ROSE: THE COMPASS ROSE SHOWS DIRECTIONS, LIKE NORTH, SOUTH, EAST, AND WEST, SO YOU KNOW WHICH WAY YOU'RE LOOKING ON THE MAP.

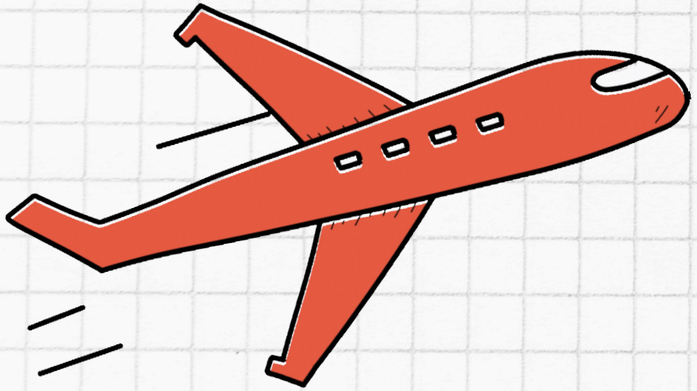
SCALE: THE SCALE SHOWS HOW DISTANCES ON THE MAP COMPARE TO REAL DISTANCES. IT HELPS YOU UNDERSTAND HOW FAR APART PLACES ARE.

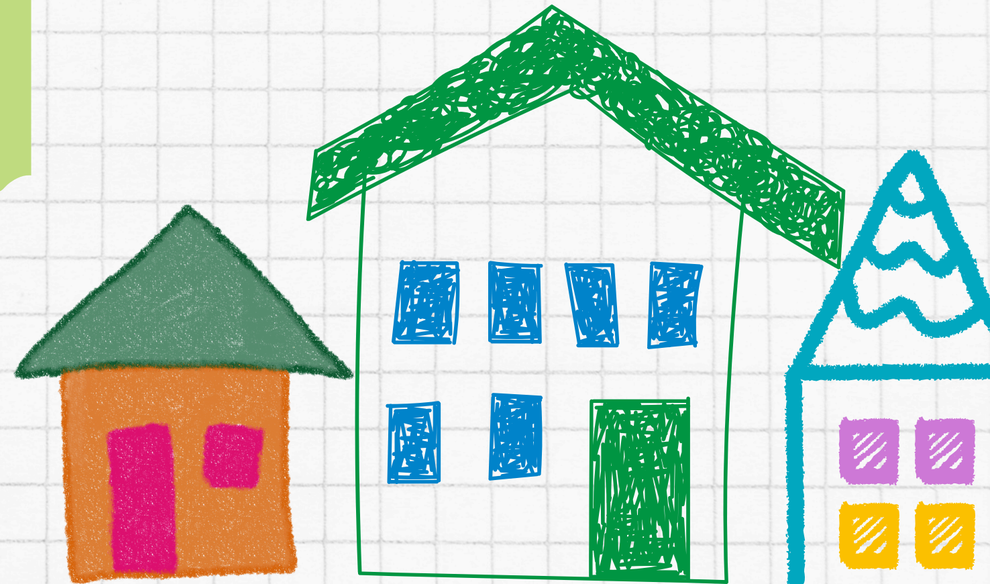
A COORDINATE SYSTEM IS LIKE A BIG GRID ON THE EARTH. IT HELPS US FIND EXACT LOCATIONS USING NUMBERS, LIKE AN ADDRESS FOR PLACES. THE GRID IS MADE UP OF LINES: LATITUDE AND LONGITUDE (NORTHING & EASTINGS)

A MAP PROJECTION IS A WAY TO SHOW THE ROUND EARTH ON A FLAT SURFACE, LIKE A MAP. SINCE THE EARTH IS A SPHERE, SOME PARTS HAVE TO BE STRETCHED OR CHANGED TO MAKE IT FIT. DIFFERENT PROJECTIONS ARE USED FOR DIFFERENT PURPOSES, LIKE SHOWING SHAPES, DISTANCES, OR SIZES.



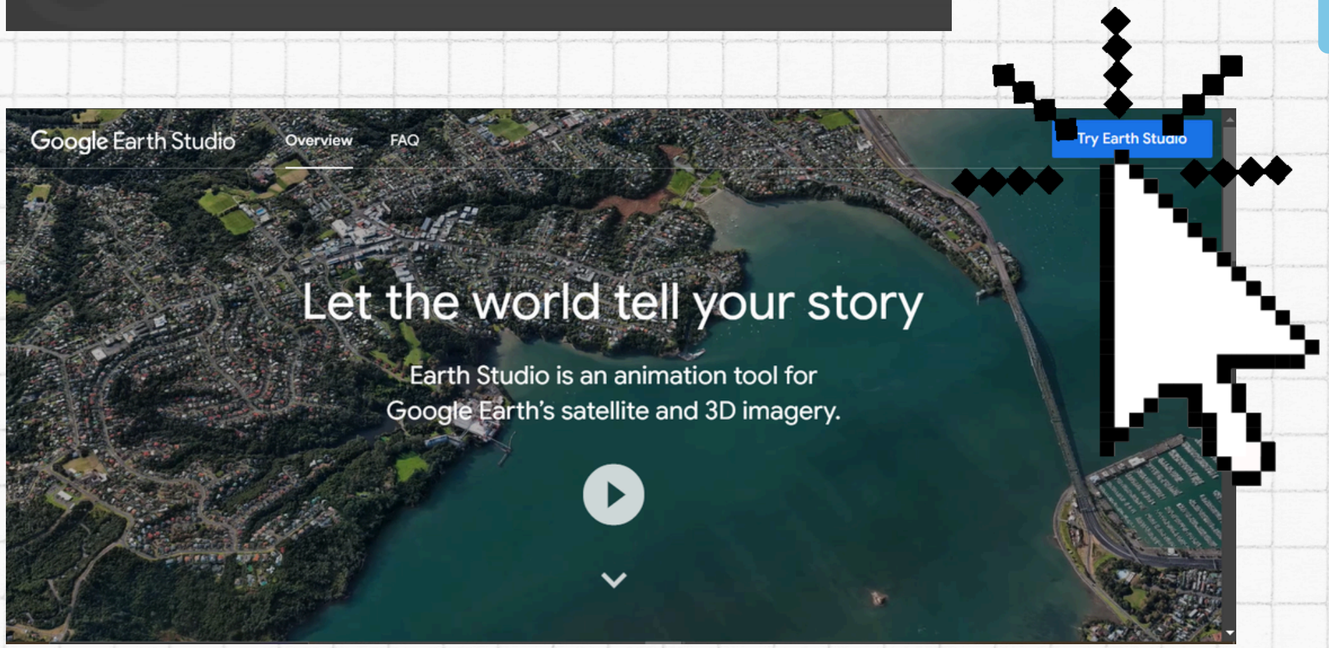
LET'S FLY TO ISRAEL!





ACCESSING GOOGLE EARTH STUDIO

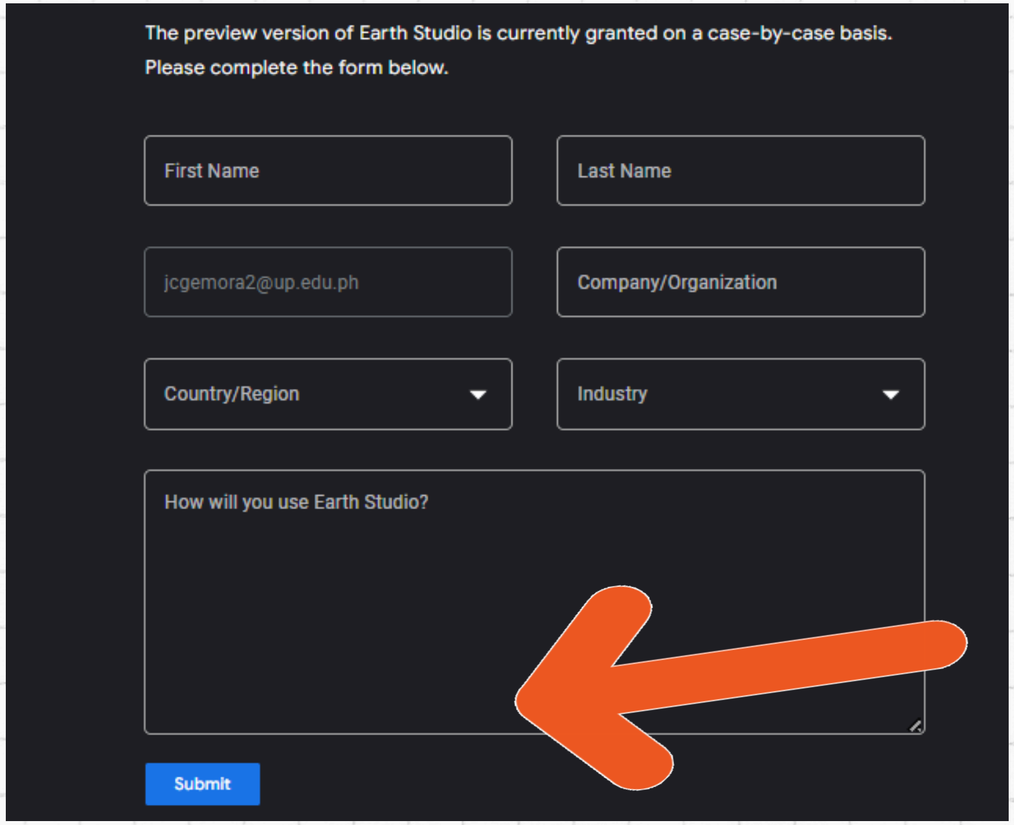
google.com/earth/studio/



STEP 2: CLICK "TRY EARTH STUDIO

STEP 1: OPEN A NEW BROWSER TAB AND GO TO GOOGLE EARTH STUDIO.

ACCESSING GOOGLE EARTH STUDIO



STEP 4: FILL IN YOUR DETAILS AND HIT "SUBMIT"

STEP 3: CLICK ON "SIGN IN" AND LOG IN WITH YOUR GOOGLE ACCOUNT.

ACCESSING GOOGLE EARTH STUDIO

Thanks for signing up to preview Earth Studio!

Your request has been approved!

To use Earth Studio, simply visit https://earth.google.com/studio. Please make sure Google Chrome is updated to the latest version prior to ...ol or you might run into some unexpected bugs.

For all uses of Google Earth imagery (e.g. in print, digital vi..., ... etc), please refer to our Geo Permissions page. Note that all use-cases of Earth Studio require onscreen imagery attribution - see our guidelines here.

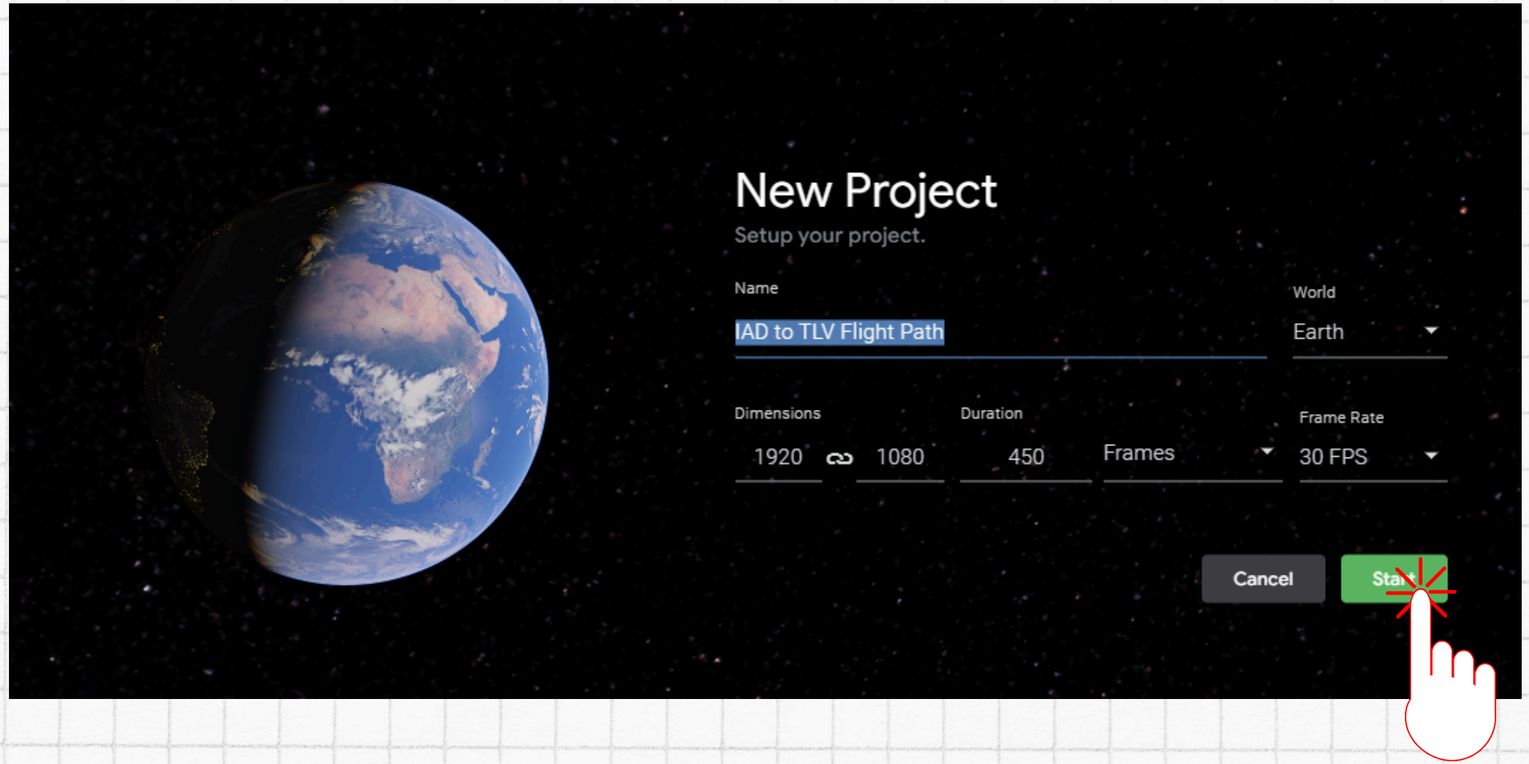
Be sure to check out our documentation for tutorials and more.

And join the Earth Studio user forum to share your projects, ideas, and feedback with us and other users.

Changed your mind? Click here to delete your request.

STEP 5: ONCE APPROVED, CLICK THE LINK

SETTING UP THE FLIGHT PATH



STEP 6: NAME YOUR PROJECT "IAD TO TLV FLIGHT PATH" AND CLICK "START"

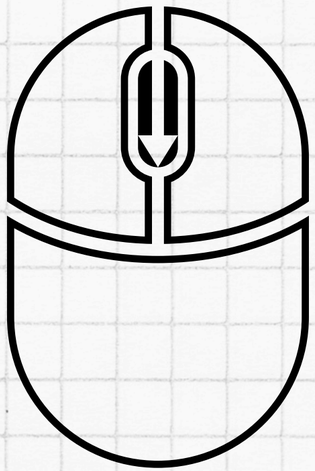
NOTE: KEEP ALL SETTINGS AT DEFAULT

SETTING UP THE FLIGHT PATH

MOUSE TOOLS

LEFT CLICK

LEFT CLICK AND DRAG TO PAN

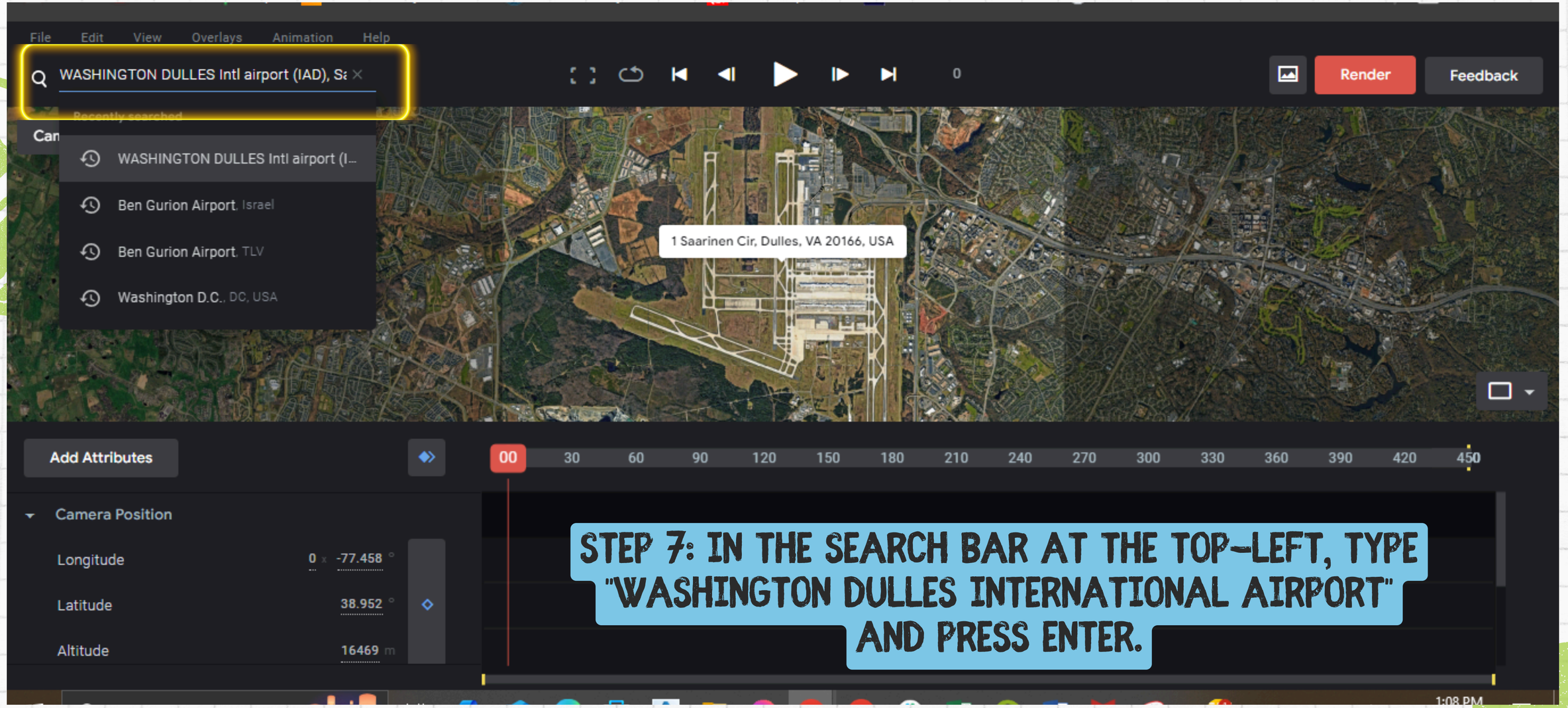


PRESS AND HOLD THE MIDDLE MOUSE BUTTON TO LOOK UP AND DOWN OR LEFT AND RIGHT

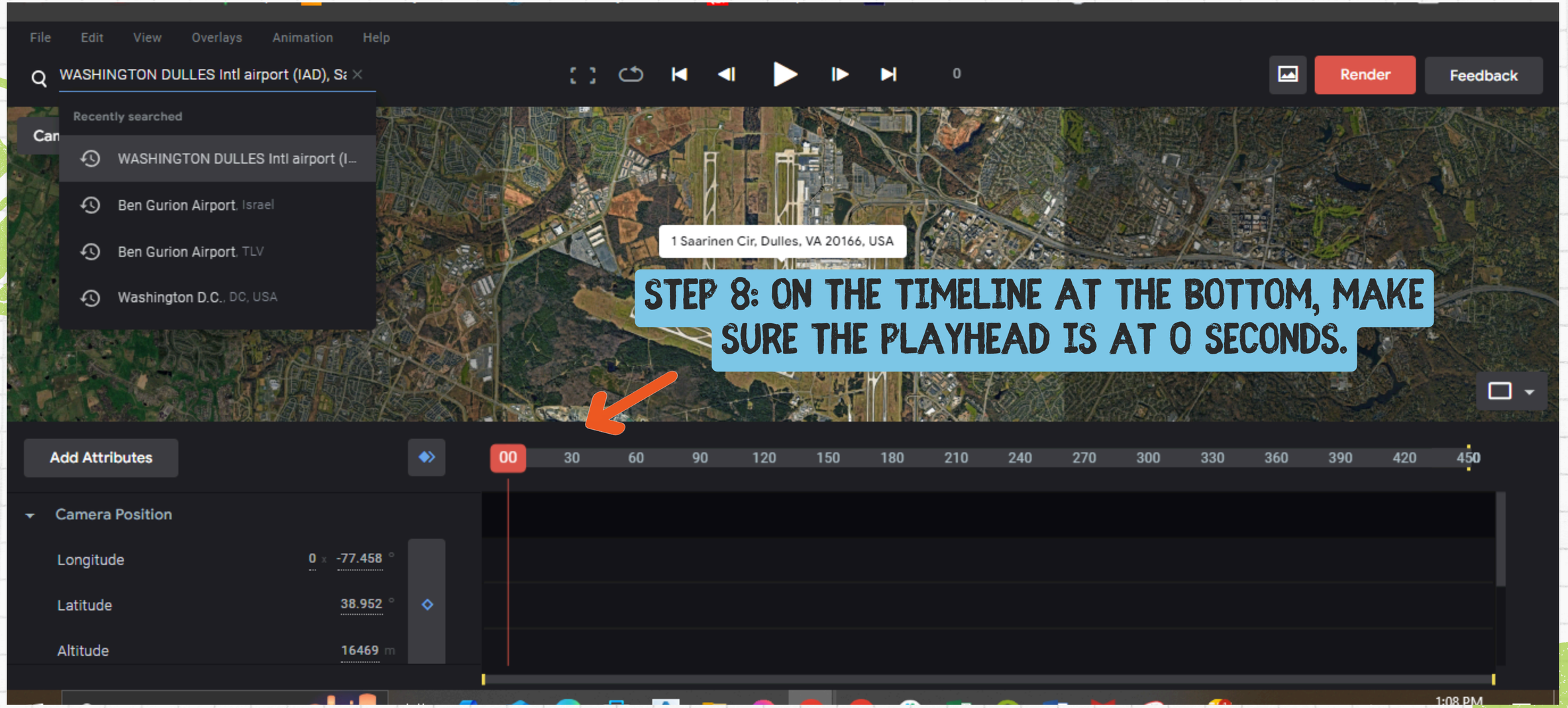
SCROLL

SCROLL TO ZOOM IN AND OUT

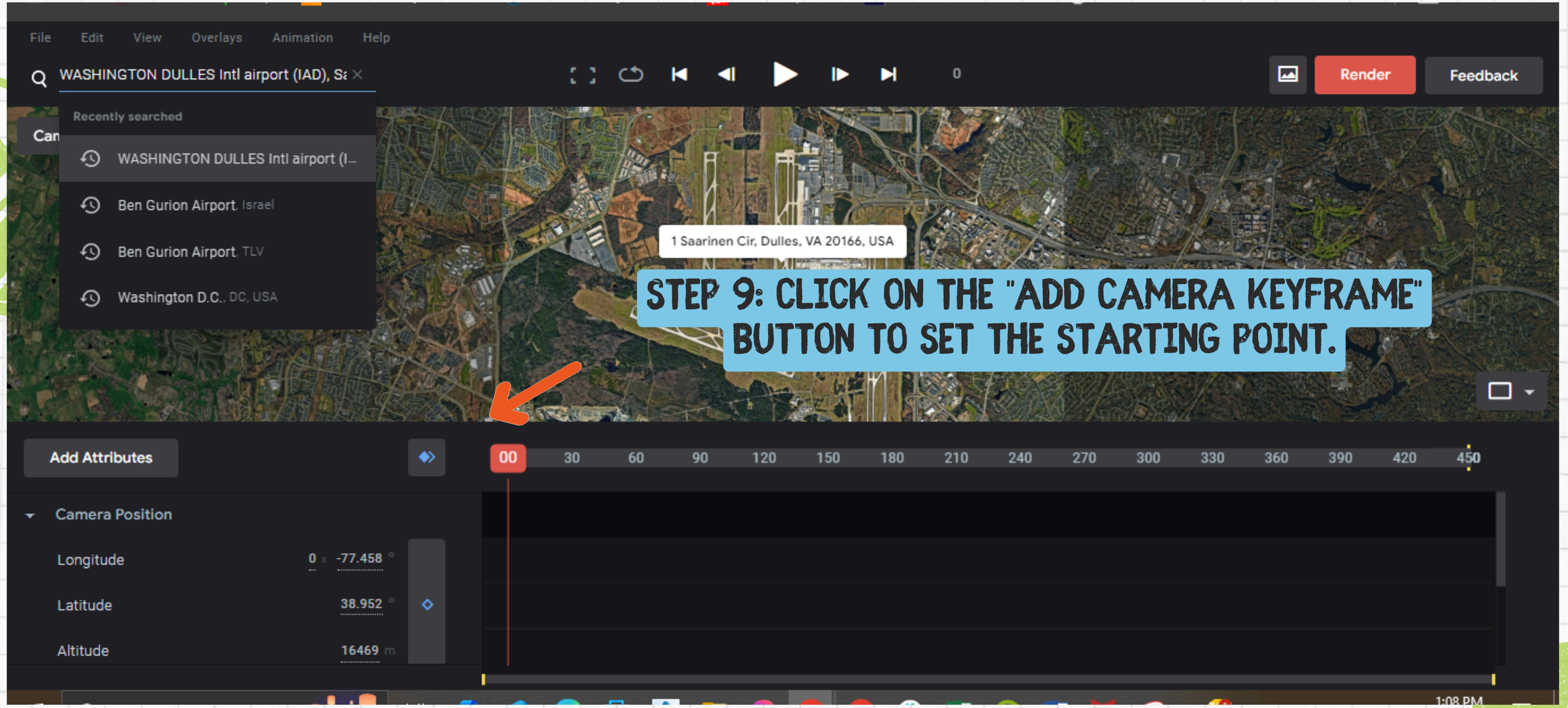
SETTING UP THE FLIGHT PATH



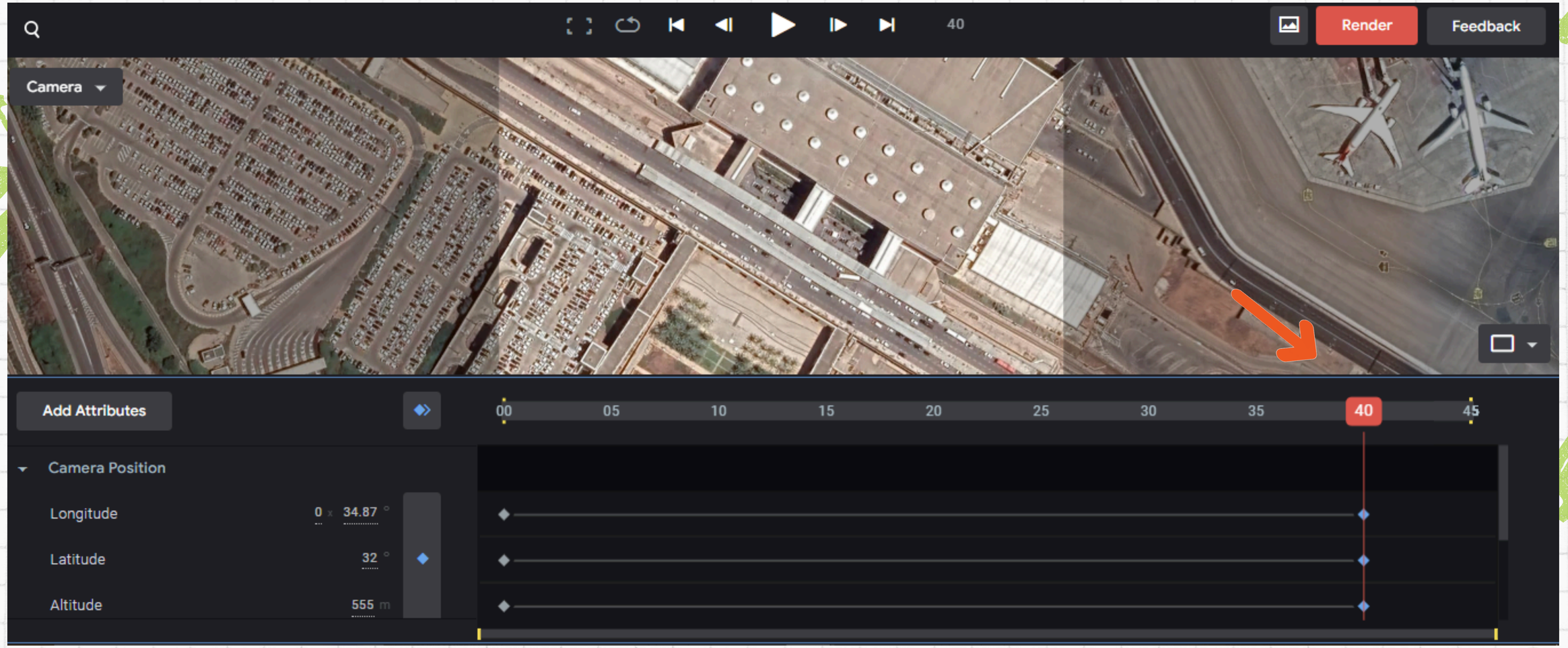
SETTING UP THE FLIGHT PATH



SETTING UP THE FLIGHT PATH

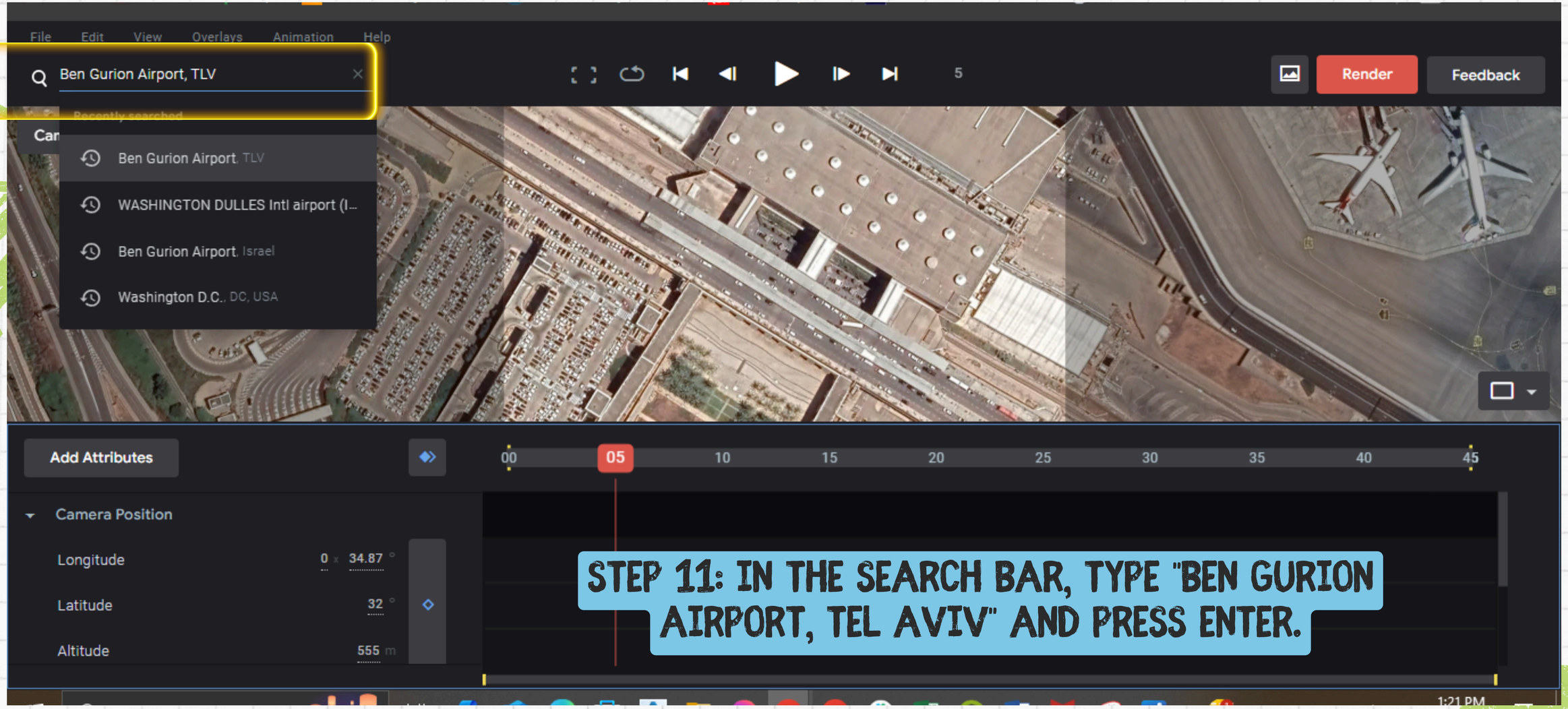


SETTING UP THE FLIGHT PATH

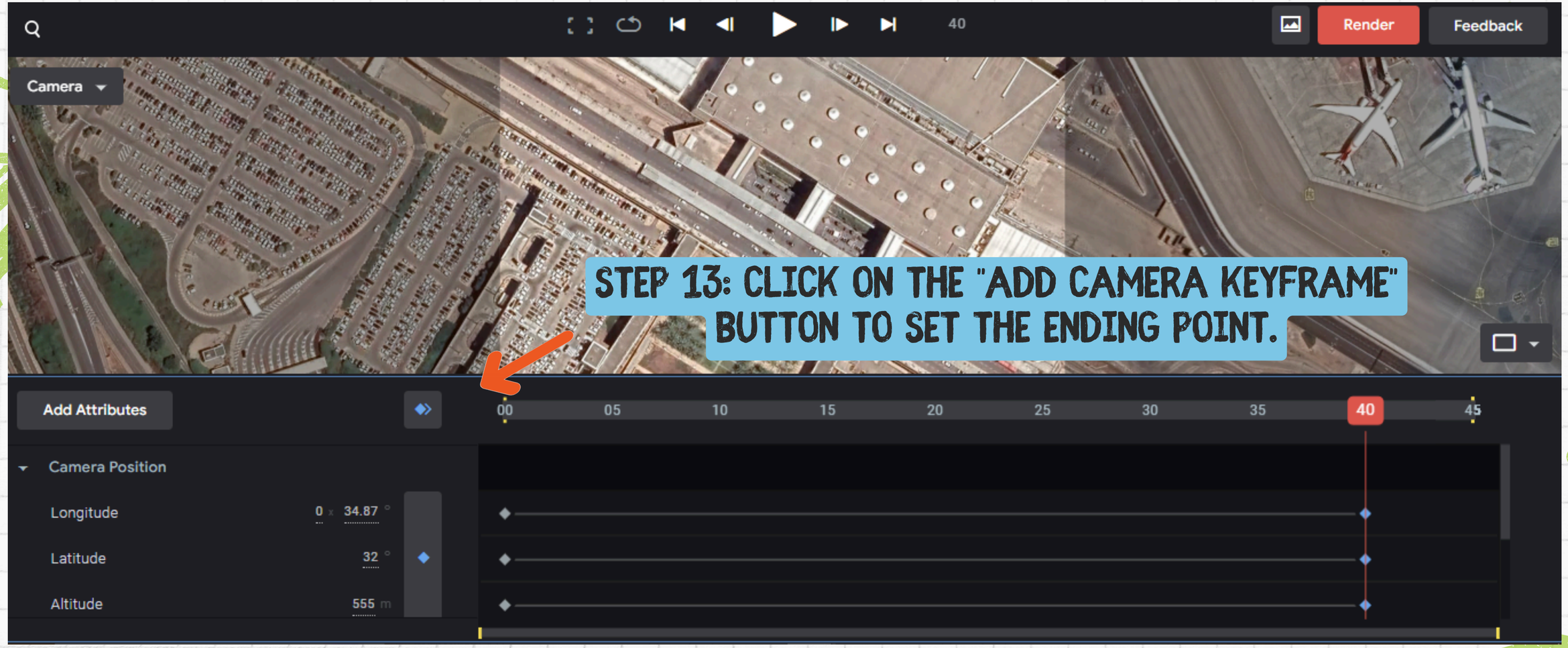


STEP 10: MOVE THE PLAYHEAD ON THE TIMELINE TO 40 SECONDS.

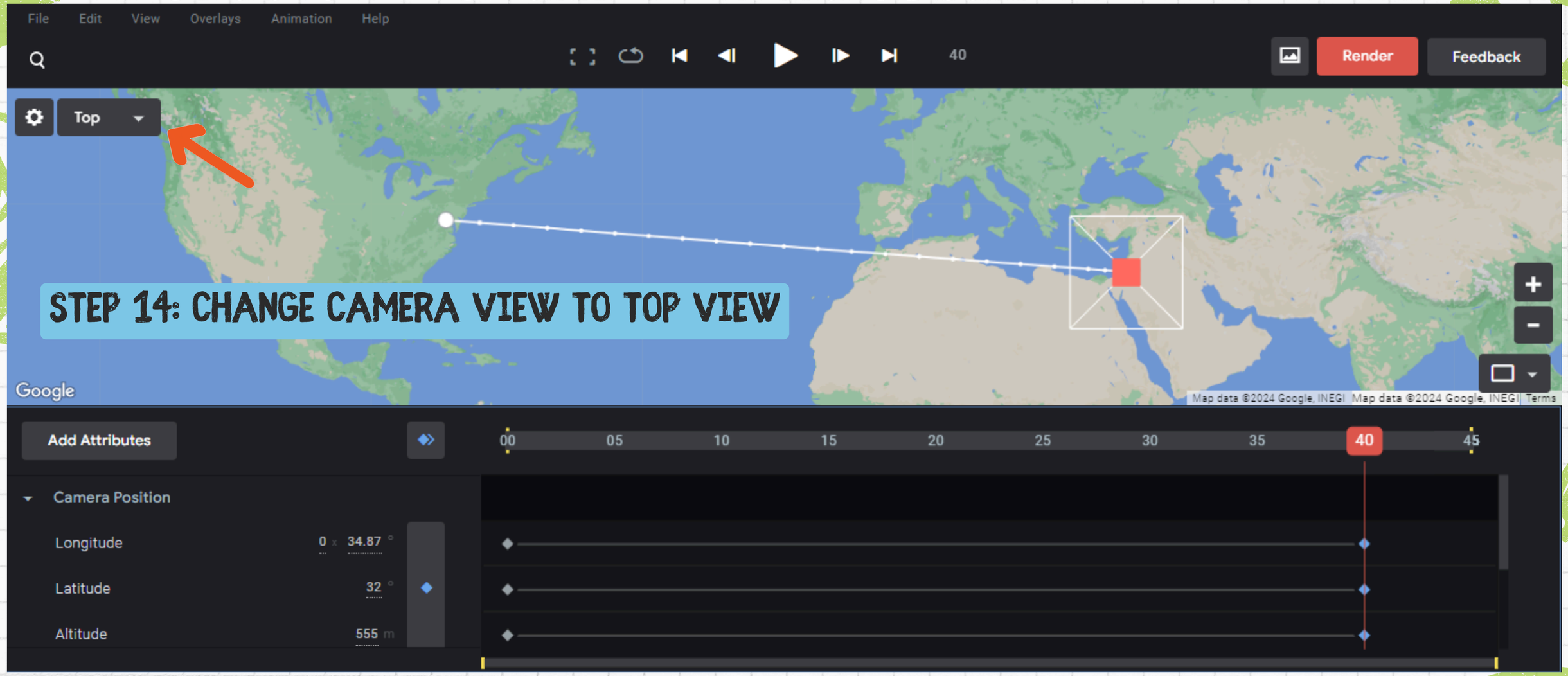
SETTING UP THE FLIGHT PATH



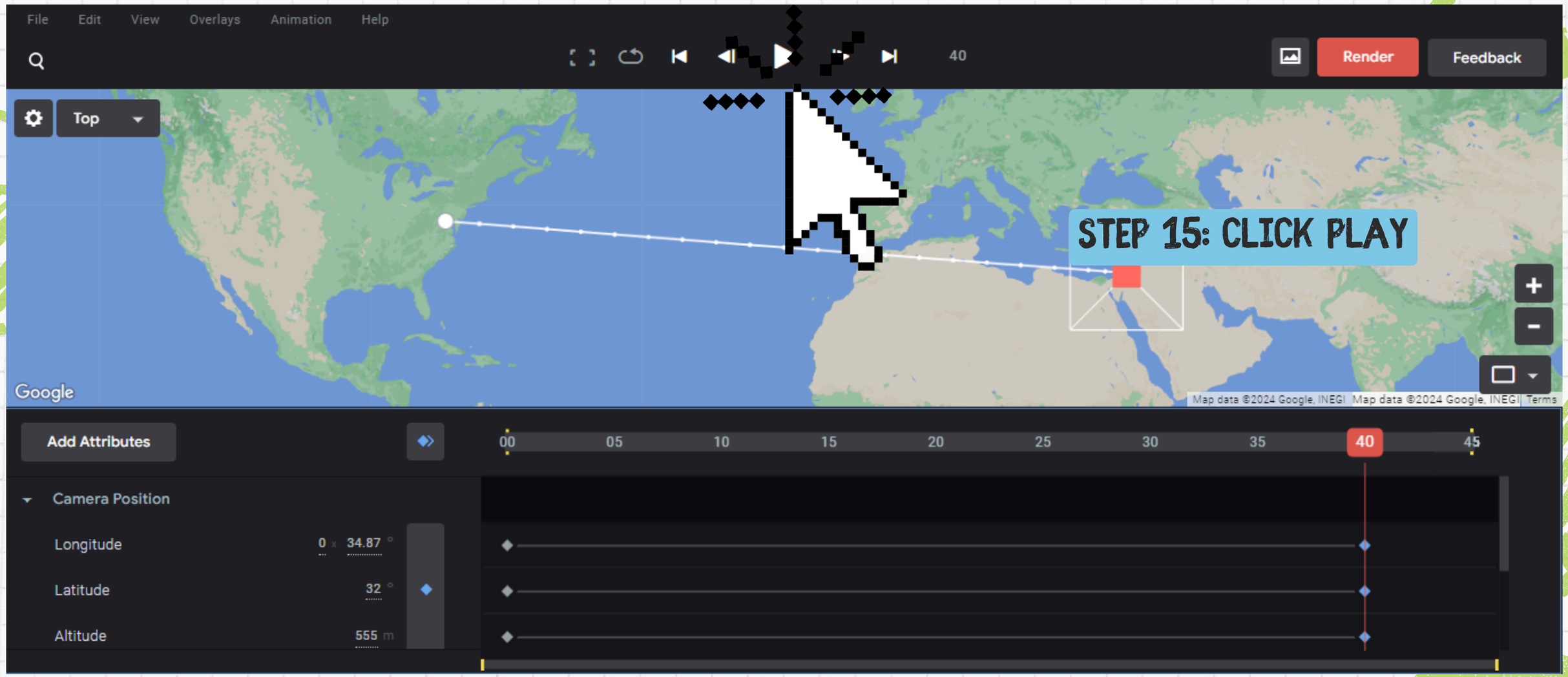
SETTING UP THE FLIGHT PATH



SETTING UP THE FLIGHT PATH

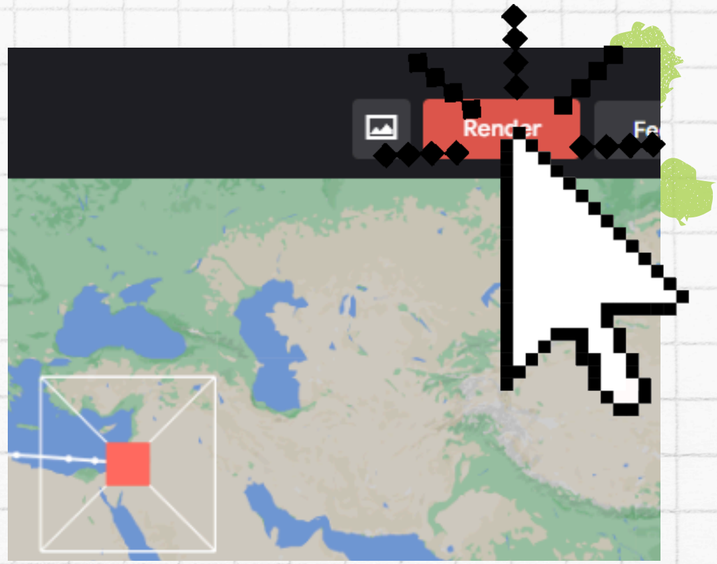


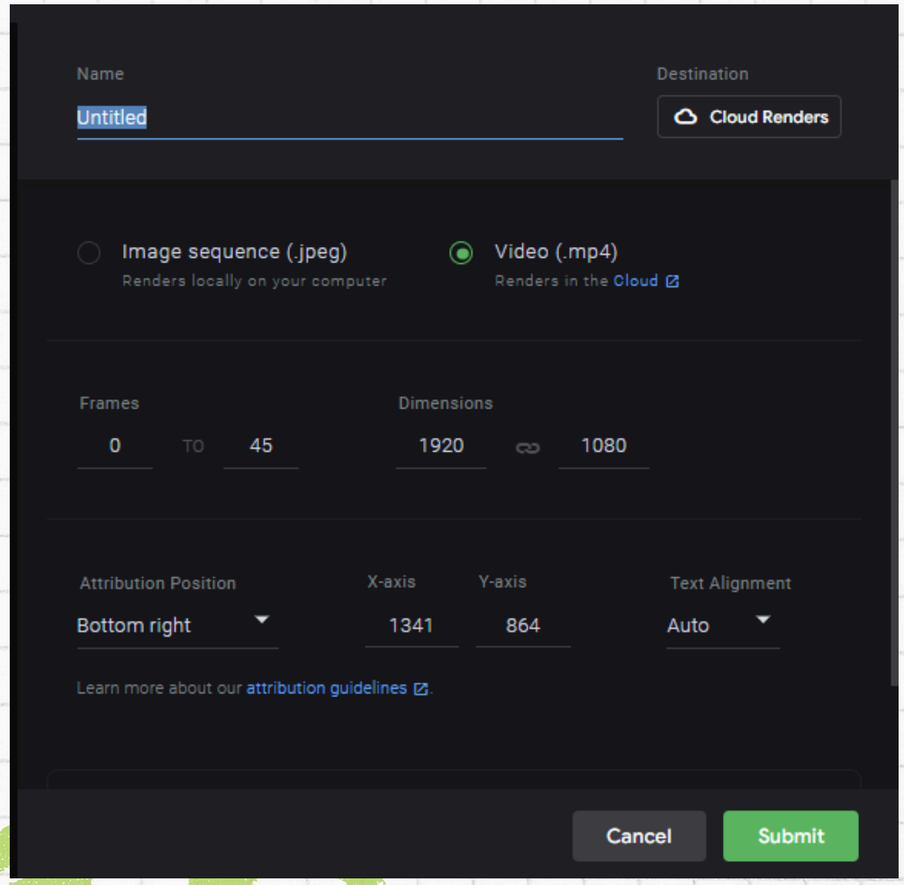
SETTING UP THE FLIGHT PATH



RENDERING THE ANIMATION

STEP 16: TO RENDER THE ANIMATION CLICK THE "RENDER BUTTON"





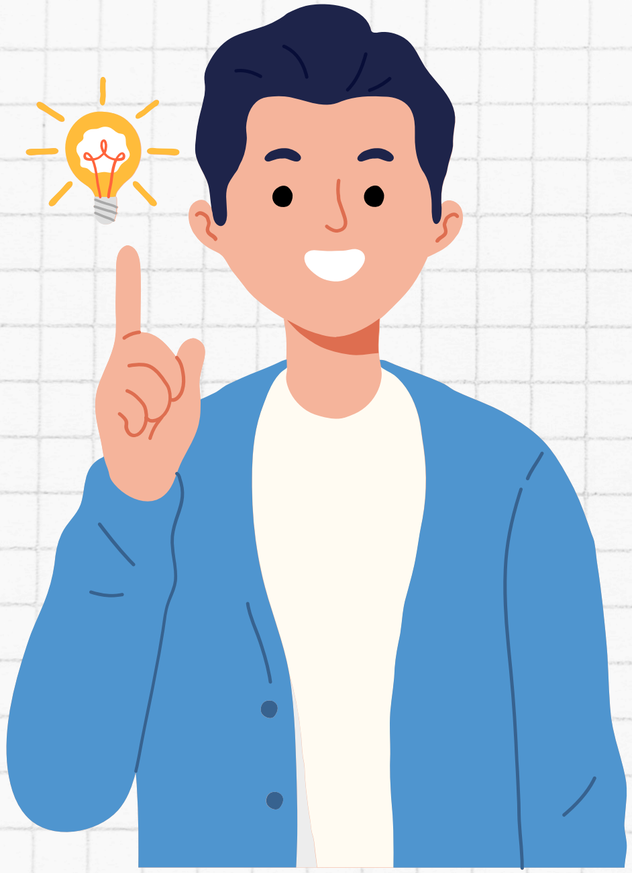
STEP 17: CHOOSE VIDEO AND NAME YOUR FILE

STEP 18: HIT SUMBIT AND WAIT FOR THE DOWNLOAD LINK

STEP 19: DOWNLOAD THE VIDEO FILE TO YOUR LAPTOP.

LEARNING, CREATIVITY, AND EXPLORATION

We can create even more beautiful map animations by focusing on one location, using different camera angles, adding more key points, and thinking outside the box with our creativity!



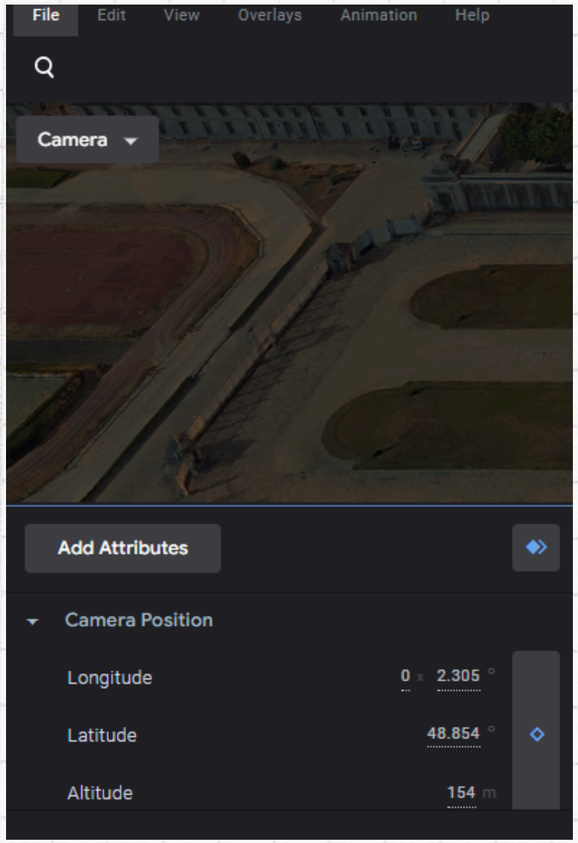
ADDITIONAL TOOLS

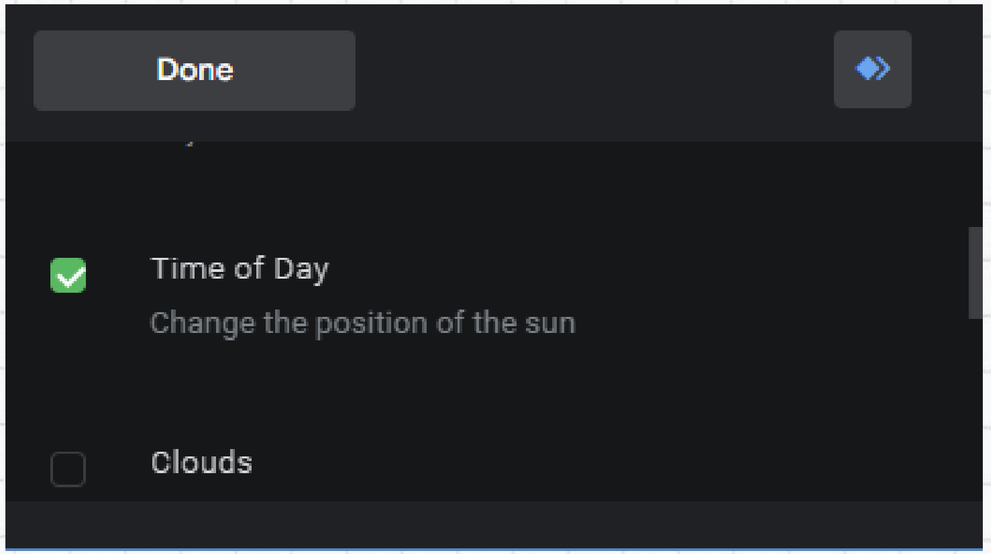
1 ADDING TIME ZONE

To add daytime tools in Google Earth Studio, you can adjust the Sunlight settings to simulate different times of day. This tool allows you to control the lighting based on the sun's position, creating effects for daytime, evening, and night. You can also set keyframes to animate the transition between day and night for a more dynamic and visually engaging animation.

ADDITIONAL TOOLS

2 ADDING TIME ZONE

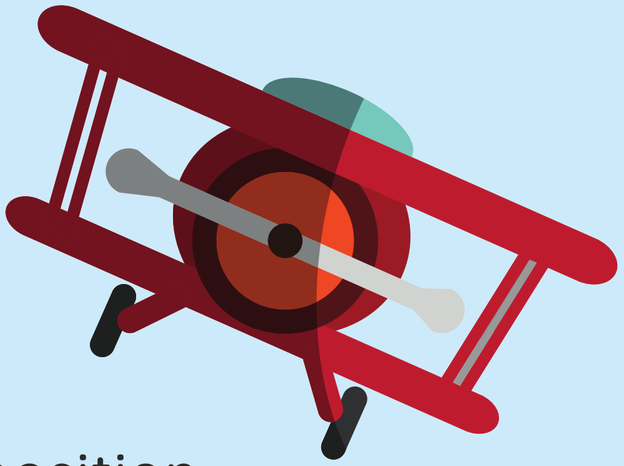




4 CHECK TIME OF DAY

3 CLICK ON ADD ATTRIBUTES

CREATE YOUR OWN ANIMATED MAP ADVENTURE!



5. Add Keyframes
   - Keyframes are points where your camera will change its position.
   - Click on the Timeline at the bottom and add keyframes at different times to create movement.
   - You can zoom in, rotate, or pan to different angles as the camera moves.
6. Use the Sunlight Tool
   - If you want to show different times of day, use the Sunlight tool to adjust the lighting and create a day-to-night effect.
   - Move the time slider to see how the sun's position changes.
7. Add a Path
   - To animate the camera moving, you can draw a path between keyframes. This lets your camera fly from one place to another smoothly.

THANK YOU VERY MUCH