

# Celestia 1.3.1

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Shenendehowa Central  
Schools

## How Do I Get Celestia 1.3.1?

Celestia is a free program that lets students explore the Universe using a 3-D model. Add-ons allow the teacher to add content that will be pertinent to a particular lesson..

Celestia can be downloaded for Windows, Mac and Linux from <http://www.shatters.net/celestia/download.html>

A complete manual is also available from that website for download. Most add-ons for Celestia are housed on other websites with links provided in the manual.

## Addons

An addon is a small set of files created by a 3<sup>rd</sup> party to add functionality to Celestia. There are literally hundreds of addons for Celestia; add Nebulas, Spacecraft, Galaxies and more...

Download various addons from:

<http://mikecelestia.bravehost.com/downloadlist.htm>

<http://www.lns.cornell.edu/~seb/celestia/index.html>

To install the addon create the following folders and copy the appropriate files into each.

In your c:\programfiles\celestia\extra create a folder for the add on (ex:ncg2273). In that folder create a **models** folder and a **textures** folder. In the **textures** folder create a **hires** folder, **lores** folder and **medres** folder.

Files from the addon with the **.3ds** ending go in the **Models** folder.

Files from the addon with the **.png** ending should go in the **textures/medres** folder.

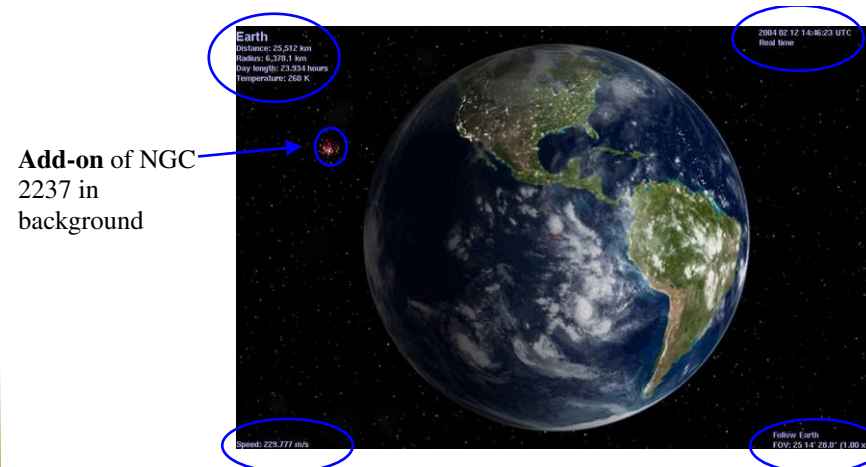
Files with the **.stc** or **.ssc** file should go in the **main folder created for that addon**.

Once you have configured one computer with the addons that you would like you can simply burn the **extras** directory from that computer to a CDrom and copy it into the c:\programfiles\celestia folder of additional computers to replace the existing extras folders.

## Main Screen Display

**Current Selection Statistics** – Shows Radius, Surface Temp, Satellites, Distance from Camera view, etc.

**Simulation Date and Time** – Most of the time it will show the current time (UTC). You can change the date and time to demonstrate a particular event.



**Current Speed** – This is the rate at which you are moving towards, away or in orbit of an object

**Field of View (FOV)** – this shows the current FOV magnification applied to the screen. Increasing the FOV will allow you to see more degrees of sky.

**Follow** – This will track the currently selected object through space and move with it.

## Lesson Plans

To find pre-made educational activities for Celestia go to

<http://www.fsgregs.org/celestia/>

Most educational activities require addons to be installed to properly work.

Alternate earth surfaces can be found at

<http://www.nefkom.net/z-bau/celestia/>

The lesson plans include Life and Death of a Star, Terraforming Mars, and Tour of the Solar System.

## Cel://URLs

Celestia is equipped with bookmarks. These can be set to include location, time, FOV, etc. To create a Cel press Ctrl+C. That copies the URL to your clipboard and you can place it in a document, on a web page, etc.

You can also capture any image you see in Celestia to be used later on. Click Ctrl+D then F10 to save the current view in Celestia.

You can even use Celestia to create custom movies of events that you orchestrate.

## Navigation Commands

<b>H</b>	Select the sun (Home)
<b>C</b>	Center on selected object
<b>G</b>	Goto selected object
<b>Ctrl +G</b>	Goto surface of the object
<b>F</b>	Follow selected object
<b>ENTER</b>	Select object by typing it's name and hit enter again
<b>Y</b>	Orbit object at a rate synced to its rotation
<b>. ,</b>	Increase/Decrease Field of View (FOV)
<b>:</b>	Lock on selected object
<b>"</b>	Chase selected object
<b>T</b>	Track selected object (keep centered)
<b>HOME</b>	Move closer to object
<b>END</b>	Move farther from object
<b>*</b>	Look back
<b>Left/Right</b>	Roll view clockwise/counter clockwise
<b>Up / Down</b>	Change view Pitch
<b>SHIFT + arrow key</b>	Orbit around the object automatically
<b>1-9</b>	Select planets around nearby sun
<b>Esc</b>	Cancel hold on object, cancel command or script
<b>Backspace</b>	Cancel current Selection

## Time Functions

<b>Space</b>	stop time
<b>L</b>	Time 10x faster
<b>K</b>	Time 10x slower
<b>J</b>	Reverse time
<b>\</b>	Return to Real Time
<b>Shift + ?</b>	Display light-travel delay between observer and selected object
<b>Shift + !</b>	Set time to the current clock time
<b>-</b>	Subtract light-travel delay from current simulation time

## Multiview Functions

<b>Ctrl+R</b>	Split view vertically
<b>Ctrl+U</b>	Split view horizontally
<b>TAB</b>	Cycle active view
<b>DEL</b>	Delete active view
<b>Ctrl+D</b>	Delete all views except active one

## Spaceship Commands

<b>S or F1</b>	Stop
<b>F2</b>	Set velocity to 1 km/s
<b>F3</b>	Set velocity to 1,000 km/s
<b>F4</b>	Set velocity to speed of light ☐
<b>F5</b>	Set velocity to 10x the speed of light.
<b>F6</b>	Set velocity to 1 AU/s
<b>F7</b>	Set velocity to 1 ly/s
<b>A</b>	Increase velocity
<b>Z</b>	Decrease velocity
<b>Q</b>	Reverse direction
<b>X</b>	Set movement direction toward center of screen

## Joystick Functions

<b>X axis</b>	Yaw
<b>Y axis</b>	Pitch
<b>L trigger</b>	Roll left
<b>R trigger</b>	Roll right
<b>Button 1</b>	slower
<b>Button 2</b>	faster

## Mouse Functions

<b>Left click on</b>	Select object
<b>Right Drag</b>	Orbit the selected object in any direction
<b>Left Drag</b>	Orient scene in any direction
<b>Rotate Wheel</b>	Adjust distance to selection
<b>Right+Left Drag</b>	Adjust distance to selection
<b>Ctrl+Left Drag</b>	Adjust distance to selection
<b>Shift+Left Drag</b>	Change FOV (e.g. telescopic view)
<b>Wheel Click</b>	Toggle FOV between 45 and previous
<b>Dbl Left Click</b>	Center selection
<b>Right Click</b>	Bring up context/select menu

## Other Commands

<b>D</b>	Run Demo	<b>F11 &amp; F12</b>	Start and stop Movie
<b>F10</b>	Capture image to file	<b>Ctrl+C</b>	Copy URL to clipboard

## Render Functions

<b>r</b>	Decrease texture resolution
<b>Shift+R</b>	Increase texture resolution
<b>P</b>	Toggle (turns on or off) planet labels
<b>M</b>	Toggle moon labels
<b>E</b>	Toggle galaxy labels
<b>B</b>	Toggle star labels
<b>W</b>	Toggle asteroid and comet labels
<b>N</b>	Toggle spacecraft labels
<b>=</b>	Toggle constellation labels
<b>&amp;</b>	Toggle Location labels
<b>V</b>	Toggle info text
<b>U</b>	Toggle galaxy rendering
<b>O</b>	Toggle planet orbits
<b>I</b>	Toggle clouds
<b>;</b>	Toggle Celestial grid
<b>/</b>	Toggle constellation diagrams
<b>Ctrl+Shift+A</b>	Toggle atmospheres
<b>Ctrl+B</b>	Toggle constellation boundaries
<b>Ctrl+E</b>	Toggle eclipse shadows
<b>Ctrl+L</b>	Toggle nightside lights
<b>Ctrl+S</b>	Toggle stars as points, discs or fuzzy points
<b>Ctrl+T</b>	Toggle comet tails
<b>Ctrl+V</b>	Toggle vertex shading options on or off
<b>Ctrl+W</b>	Toggle wireframe mode
<b>Ctrl+X</b>	Toggle antialias lines mode
<b>Ctrl+Y</b>	Toggle autoMag = auto adaptation of star visibility to field of view
<b>[</b>	If autoMag OFF: Decrease magnitude If autoMag ON: Decrease magnitude at 45 deg FOV
<b>]</b>	If autoMag OFF: Increase magnitude If autoMag ON: Increase magnitude at 45 deg FOV
<b>{</b>	Decrease ambient light
<b>}</b>	Increase ambient light
<b>Alt +ENTER</b>	Toggle full screen Display mode

## Number pad

<b>4</b>	Yaw left
<b>6</b>	Yaw right
<b>8</b>	Pitch down
<b>2</b>	Pitch up
<b>7</b>	Roll left
<b>9</b>	Roll right
<b>5</b>	Stop rotation