



Credits - Research

If you recall in the preface, I mentioned that I'd be back with the credits. Here I'll list all the places where I accumulated video clips, pictures, text, and information across books, websites, papers, and broadcast media. All the stuff I used to put together "How far away is it".

But even more important, I'd like to spend a few minutes talking about the key books and websites that guided the development of the video book. These will be the places where you can do additional research into areas of astronomy touched on in this video book. After the credit roll, I'll give you my final thoughts.

[**Music:** *Beethoven - Symphony No.9, 'Choral' Final Movement - Here we conclude with Beethoven's "Ode to Joy" climax.*]

Hubble



The two primary websites I used for the Hubble images, data, and video clips are hubblesite.org and [spacetelescope.org](http://www.spacetelescope.org). The Hubble telescope is a joint NASA and European Space Agency (ESA) project.



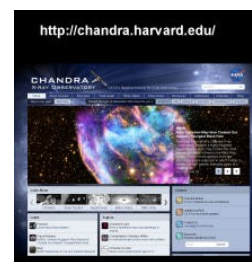
HubbleSite is the NASA website and SpaceTelescope is the ESA website. You can search for any object at either site by the name I included on the picture in the video book.

I only used a fraction of what is available here. There are thousands of spectacular photographs and each one comes with a wealth of information about the objects seen, methods used, and implications for our knowledge of the Universe. If you are at all interested in learning more about the Hubble Space Telescope's discoveries, these sites are the place to start.

Spitzer and Chandra



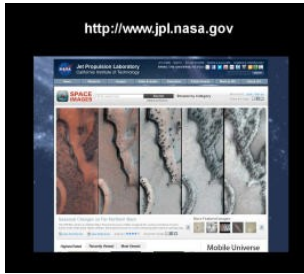
I used the [Caltech-Spitzer website](http://www.spitzer.caltech.edu) for the Spitzer Space Telescope infrared images and the [Harvard-Chandra](http://chandra.harvard.edu) website for all the Chandra X-Ray Space Observatory images.



These are wonderful sites for additional research on how new knowledge is being created through discoveries in the extended electromagnetic spectrum.



JPL-Caltech and Goddard



The [JPL-Caltech](http://www.jpl.nasa.gov) website has a wealth of information about the solar system. Our segment on the Solar System is populated with pictures from this site.

The [Goddard Space Flight Center](http://svs.gsfc.nasa.gov) runs a large number of our orbiting space satellites including the Sentinels of the Solar System. You can see the full video here. In addition, Goddard operates the new Fermi Gamma-Ray Space Telescope.



If your research takes you closer to home than these two websites are the place to start.

European Space Agency



The [ESA science website](http://sci.esa.int) and the [European Space Organization's Very Large Telescope](https://www.eso.org/public/teles-instr/vlt.html) websites are invaluable sources of information and deep space images. I used these sites for a number of fantastic photographs, primarily in the Milky Way segment.



Hubble Archive



Also, take a look at the [Hubble Archive](http://hla.stsci.edu/). It has the instructions for going straight to Hubble's raw images database. You can see just what the astronomer sees before the astrophotography techniques are applied. This is where I picked up the Planetary Nebula NGC 2818 photos.



How Far Away Is It – Credits

Next Generation

<http://www.stsci.edu/jwst/>



These next generation space telescopes have their websites up and running now. The next generation discoveries will be published here.

<http://www.herschel.caltech.edu>



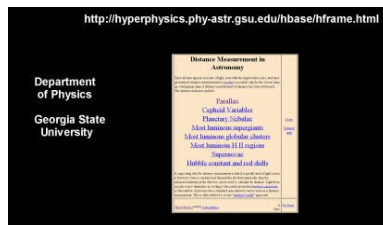
Sloan Digital Sky Survey - <http://www.sdss3.org/edu>

The [Sloan Digital Sky Survey](http://www.sdss3.org/edu) provides tools to explore over 80 million galaxies with guides to help users learn how to use these tools. There are projects appropriate for learners ranging from kids to college students interested in learning about the universe and instructor guides for teachers interested in using the projects with their students in the classroom.



Your participation in these projects actually helps scientists understand the Universe as people are much better than computers at sorting the millions of images of galaxies collected by SDSS. You could even be the first person ever to see one of these galaxies.

Georgia State University -<http://hyperphysics.phy-astr.gsu.edu/hbase/hframe.html>



For information on the cosmic distance ladder and Physics in general, there's no better place than [Georgia State University's](http://hyperphysics.phy-astr.gsu.edu/hbase/hframe.html) website.

Atlas of the Universe - <http://www.atlasoftheuniverse.com/>



The [Atlas of the Universe](http://www.atlasoftheuniverse.com/) was my top source for galaxy clusters and superclusters in the Virgo Supercluster and Local Superclusters segments.



David Darling's Encyclopedia - <http://www.daviddarling.info/encyclopedia.com/>

Astronomer [David Darling's Encyclopedia](#) of Science is also an excellent source of information.

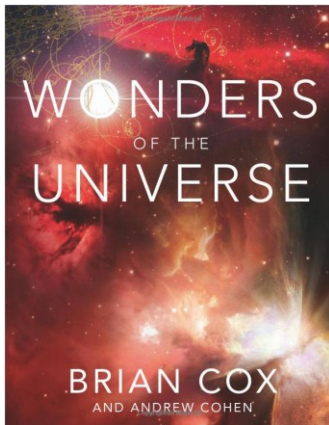


Astrophotographers

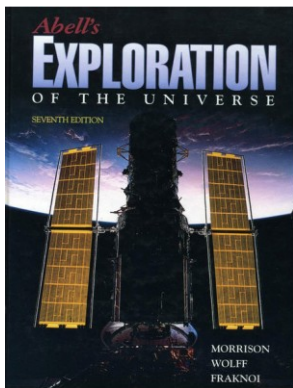
Then there are the wonderful astrophotographers: I used [Rogelio Benal Andreo's](#) award winning photographs; [Anthony Ayiomamitis'](#) fantastic astrophotography; [Robert Gendler's](#) wonderful work; and pictures from [Tony Darnell's](#) excellent website.

Books

I used two books extensively.



The first was Brian Cox and Andrew Cohen's book "Wonders of the Universe". It pointed me at all the interesting areas to focus on. I don't think I overlooked a single item in the book that was connected to the cosmic distance ladder. The book itself goes into a wide variety of astronomical subjects. I highly recommend reading this book and or seeing the BBC Series "Wonders of the Universe" narrated by Brian Cox himself. It is an excellent update for anyone who has seen the older "Cosmos" series done by Carl Sagan.



The second book was George Abell's second edition of "Exploration of the Universe" published in 1969. This was my lower division astronomy text book. I'm glad I saved it all these years. I used this book for all the foundational information about parallax, the solar system, stars, nebula, galaxies, etc. You may recognize the name Abell. George Abell was the astronomer who cataloged all the star clusters we examined in our sections on the



Virgo Supercluster and the Local Superclusters. His work on this book was so good, that others have taken up the task to keep it alive. Today you can get the 9th edition. If you want to get serious about astronomy, this is the book for you.

We'll end with a list of the Hubble photo's used, websites, video clips, books, papers, and music that were all a part of this video book "How Far Away Is It". Now here are the rest of the credits. Feel free to send comments to howfarawayisit@gmail.com

Thank you for watching.

[Hubble Photographs - http://hubblesite.org/](http://hubblesite.org/)

Andromeda Galaxy - M31	Barred Spiral Galaxy NGC 1300	Interacting Galaxy Arp 256
Galaxy NGC 300	Black Hole-Powered NGC 7742	Interacting Galaxy ESO 77-14
Stephan's Quintet	NGC 5584	Interacting Galaxy NGC 454
Galaxy NGC 4163	The Dusty Galaxy NGC 1316	Interacting Galaxy NGC 6240"
Galaxy NGC 4214	Spiral Galaxy NGC 4319	Interacting Galaxy NGC 6786
Active Galaxy Centaurus A"	NGC 3021	Dog Star, Sirius and Companion
Starburst Galaxy NGC 1569	NGC 1309	Star Fomalhaut (HD 216956)
NGC 2976	Spiral Galaxy NGC 4622	Helix Nebula
Grand Design Spiral Galaxy M81	Polar Ring Galaxy NGC 4650A	Dumbbell Nebula
Starburst Galaxy M82	Galaxy ESO 510-G13	HH 2
Circinus Galaxy	Galaxy NGC 6782	HH 34
NGC 253	Galaxy Cluster MACS J0025	HH 47
NGC 3077	NGC 1275	Orion Nebula
Star Birth in Galaxy M83	Black Hole ESO 243	Horsehead Nebula
Pinwheel Galaxy M101	Colliding NGC 1410 NGC 1409	Orion Constellation
Sombrero Galaxy M104	The Mice NGC 4676	Retina Nebula
Barred Spiral Galaxy NGC 1512	Spiral Galaxy NGC 4911	S106
Eagle Nebula	Arp 273	Dying Star HD 44179
Stellar Spire in the Eagle Nebula	Tadpole Galaxy	Cone Nebula
Whirlpool Galaxy M51	Interacting Galaxies Arp 147	Cygnus Loop Supernova Remnant
Spiral Galaxy M74	Abell S0740	Ant Nebula
NGC 5866	VV 340	NGC 6369
I Zwicky 18	Hoag's Object Galaxy	NGC 2440
Spiral Galaxy NGC 2841	2MASX J00482185	NGC 2371
Virgo Cluster Galaxy NGC 4660	COSMOS 3127341	Kohoutek 4-55
Galaxy NGC 3079	Galaxy Cluster Abell 520	Boomerang Nebula
Gaseous Bubble in Galaxy NGC 3079	Pandora's Cluster, Abell 2744	Crab Nebula
Spiral Galaxy NGC 3949	COSMOS 1705033	Planetary Nebula SuWt 2
Starburst Galaxy NGC 3310	Galaxy Cluster MACS 1206	IC 4593
Virgo Cluster M87	COSMOS 1161898	SN 1006
NGC 4013	COSMOS 2607238	SN 1006 Supernova Remnant
NGC 4710	Dust Pillars in the Carina Nebula	Carina Nebula
Dusty Spiral Galaxy NGC 4414	Gravitational Lens 0013+2249	Jet in Carina Nebula
Galaxy NGC 1427A	Gravitational Lens 0038+4133	Butterfly Nebula NGC 6302
Hanny's Voorwerp, IC 2497	Gravitational Lens 0211+1139	NGC 5315
Spiral Galaxy NGC 3982	Interacting Galaxy 2MASX J091...	Trifid Nebula
		NOAO Image of Trifid Nebula
		Bok globules in NGC 281
		Cassiopeia A

How Far Away Is It – Credits



NGC 2818	Venus Cloud Tops	IRAS 22491-1808
NGC 6791	BoRG 58	NGC 5189
47 Tucanae	ESO 576-69	Spiral Galaxy NGC 4639 w/ Cepheids
Necklace Nebula	Zw II 28	NGC 5307
Omega Centauri	SDSS J1004+4112	He 2-47
Omega Nebula	Giant Lensed Galaxy Arc	NGC 6543, Cat's Eye Nebula
NGC 3603	SN 2002dd	Rotten Egg Nebula
Star V838	Cygnus Loop Nebula	Planetary Nebula MyCn18
NGC 3324	Packman NGC 281	Ring Nebula (M57)
Galactic Center Region	Pistol Star	Bow Shock near Young Star
Small Magellanic Cloud	Arches Cluster	LL Ori
Double Bubble	Quintuplet Cluster	Veil Nebula
LH 95 in the Large Magellanic Cloud	Eta Carinae 1843 Event	NGC 1068 Black Hole SN
Supernova Remnant N 63A	Lagoon Nebula	NGC 4921 in Coma Cluster
Menagerie	Ultra Deep Field	NGC 4522
Tarantula Nebula - Hodge 301	Galaxy HUDF-JD2	M 66
30 Doradus	Bubble Nebula NGC 7635	NGC 7023 Iris Nebula
Supernova Remnant 0509	Eskimo Nebula (NGC 2392)	Abell 370
Star Cluster NGC 2074	Glowing Eye of Planetary Nebula NGC 6751	NGC 7049
NGC 602, N90	NGC 3314	Pismis 24 and NGC 6357
NGC 346	Globular Cluster M80 NGC 6093	Tycho Supernova, SN157
Galaxy Triplet Arp 274	Egg Nebula M16	Kepler's Supernova Remnant
M 66	Spiral Galaxy NGC 3370	NGC 4755 or the Jewel Box
Dwingeloo 1	Cepheid Variables in IC 4182	Apr 142
Neptune		

[Hubble Archive - http://hla.stsci.edu/](http://hla.stsci.edu/)

IC 1011 Abell2029	Carina (An ACS H-alpha Survey of the Carina Nebula)
Carina Nebula	CANDELS (Cosmic Assembly Near-IR Deep Extragalactic Legacy Survey)
ANGST (ACS nearby Galaxy Survey)	CLASH (Cluster Lensing and Supernova survey with Hubble)
COMA (ACS Treasury Survey of Coma Cluster of Galaxies)	PHAT (The Panchromatic Hubble Andromeda Treasury)
COSMOS (Cosmic Evolution Survey)	HIPPIES (Hubble Infrared Pure Parallel Imaging Extragalactic Survey)
GOODS (Great Observatories Origins Deep Survey)	HUD09 (Hubble Ultra Deep field 2009)
Hubble Heritage	Cepheid Variable Star V1
UDF (Ultra Deep Field)	Light Curve of Cepheid Variable Star V1
APPP (Archive Pure Parallels Program)	Star Field in M31 with V1 included
SGAL (Spiral Galaxies)	Hubble's 1923 photo of V1
Andromeda (Deep Optical Photometry of Six Fields in the Andromeda Galaxy)	

[JPL - CalTech - www.jpl.nasa.gov/spaceimages](http://www.jpl.nasa.gov/spaceimages)

Venus	Shoemaker-Levy 9 Impact	Caliban
Mercury"	Jupiter	Ariel
Jupiter and Three Galilean Satellites	Clumps in Saturn's Rings	Uranus
Saturn's Tumbling Moon	Titan's luminous crescent	Uranus and Ariel
Hyperion	Quartet of Saturn's moons	Solar System PDF
Saturn by Voyager 1	Lunar Far side	Jupiter Ring System
Europa	Ganymede	Europa Voyager 2 Closest Approach
Io In Front of Jupiter	Itokawa	Mariner 10's Venus
Shoemaker	Comet Halley	Pluto and Its Moons
Saturn's Northern Storm	Comet Siding Spring	Galileo Journal Translation
	Makemake	

How Far Away Is It – Credits



Io	Cygnus Loop Nebula	Solar flare - time laps
Oberon	Packman NGC 281	Mars and Elysium
Voyagers at the Termination Shock	RCW 86	Mars and Syrtis Major
Leonids Meteor Shower	Orion Molecular Cloud	Mars and Acidalia
Far Side of the Moon	Dark River to Antares	An Ancient Jovian Storm
Voyager 2 Looks at Saturn's Rings	Earth from Mars	Jupiter's Great Red Spot
COBE's View of the Milky Way	Earthrise - Apollo 8	Miranda as seen by Voyager 2
Way	Ozone Layer Hole over Antarctica	Star HD 189733
Heliosheath	Sunlight over Earth	Mira
HD 278942	Galileo Images the Moon	Voyager in the Bow Shock
	The Earth and Moon	

[Chandra X-Ray Space Observatory - http://chandra.harvard.edu/](http://chandra.harvard.edu/)

Star CH Cyg	Cosmos Field	NGC1068
SN 1006	NGC 6240	Sextans A
Abell 2029 - CI 1011	M81	NGC 1275
El Gordo	Abell 520	Galactic Center
Perseus Cluster	MACS J0025.4-1222	SN 1006
RCW 103 - SN	Abell 2744	Tycho's SNR
NGC 4649 Black Hole	Centaurus A, NGC 5128	SNR 0509-67.5
NGC 4696 Black Hole	NGC 4649	RCW 86

[Spitzer Space Telescope JPL/CalTech - http://www.spitzer.caltech.edu/](http://www.spitzer.caltech.edu/)

Lagoon nebula	Cosmos Field	NGC 281
SN 1006	XSC Equatorial Projection	Fomalhaut
Galaxy HUDF-JD2 - Near Infrared	Local Volume - Meet the Neighbors	HD 189733b
Galaxy HUDF-JD2 - Infrared	SN 1604	Milky Way
Sombrero Galaxy	Galactic Center	RCW 86
		Rho Ophiuchi

[ESO European Southern Observatory - http://www.eso.org/public](http://www.eso.org/public)

Cone nebula	R Coronae Australis	NGC 3369
SN 1987A	Orion Nebula - infrared	El Gordo
HIP 13044	NGC 2467	Cosmos Field
Cat's Paw Nebula (NGC 6334)	Milky Way	Abell 2744
NGC 6729	HE 1523-0901	SN 1604
J102915 - oldest star	Betelgeuse	SN 1987A
M 78 in Orion	HUDF-JD2	NGC 3603

[NASA Goddard Spaceflight Center - http://svs.gsfc.nasa.gov/](http://svs.gsfc.nasa.gov/)

Heliosphere Bubbles	TIMED - Earth Atmosphere	VOYAGER - Stagnation region
Hinode - Sunspots	SOHO - Filament304	Heliosphere to Alpha Centauri
RHESSI - Solar flares	STEREO - Coronal mass ejection (CME)	
TRACE - Coronal rain		

How Far Away Is It – Credits



NASA/Goddard Space Flight
Center Scientific Visualization
Studio

Earth from Apollo 17
NASA Cosmic Distance Scale
Transit of Venus

Incandescent Sun
SDO: Year One

[Anthony Ayiomamitis](http://www.perseus.gr/) - <http://www.perseus.gr/>

Vega
Capella
Altair
Antares
Mirach
Deneb
Castor
Polaris
Delta Cephei

Arcturus
T Lyr - Carbon Star in Lyrae
AW Cyg - Carbon Star in
Cygnus
Mu Ceph - Carbon Star in
Cepheus
Barnard's Star in Oph - Motion
Star
61 Cygni AB - Motion Star

Lalande 21185 in UMa -
Motion Star
Wolf 359 in Leo - Motion Star
Sigma Draconis - Motion Star
Hypervelocity Star HVS 4
Hypervelocity Star HVS 2

[David Darling Encyclopedia of
Science](http://www.daviddarling.info/encyclopedia.com/)

[www.daviddarling.info/encyclo
pedia.com/](http://www.daviddarling.info/encyclopedia.com/)
Proxima Centauri
Pollux
Spica (credit: Albert
Manzanares)
Alpha Centauri

Witch Head Nebula

[The Universe in Color](http://www.robgendlerastropics.com/)
www.robgendlerastropics.com/
Robert Gendler
Rosetta Nebula

[Lowell Observatory](http://www.lowellobservatory.edu/)
Irregular Galaxy Sextans A

[Virgo consortium](http://www.virgoconsortium.org/)
Millennium Simulation

[Sloan Digital Sky Survey / Sky
Server](http://www.sdss.org/dr3/en/tools/places/page5.asp)
[cas.sdss.org/dr3/en/tools/plac
es/page5.asp](http://cas.sdss.org/dr3/en/tools/places/page5.asp)
Peculiar Galaxy NGC 7603

[Andrew Colvin](http://www.andrewcolvin.com/)
Earth's place in the Universe
diagrams

[Australia Telescope](http://www.austlii.edu.au/au/other/dfat/australia Telescope)
[outreach.atnf.csiro.au/educatio
n/senior/astrophysics/spectra
_info.html](http://outreach.atnf.csiro.au/education/senior/astrophysics/spectra_info.html)

[Randy Halverson](http://www.dakotalapse.com/)
www.dakotalapse.com/
Milky Way timelaps

[Richard Crisp](http://www.richardcrisp.com/)
M33 the Triangulum Galaxy
Heart and Soul Nebulae

[Local Volume Legacy Survey](http://www.localvolumelegacy.org/)

[Atlas of the Universe](http://www.atlasoftheuniverse.com/superc.html)

[www.atlasoftheuniverse.com/s
uperc.html](http://www.atlasoftheuniverse.com/superc.html)
Hercules Supercluster
Perseus-Pisces Supercluster
Hydra-Centaurus Supercluster
Centaurus Supercluster
Coma Supercluster
Horologium Supercluster

[David's Astronomy Site](http://www.richweb.f9.co.uk/astro/in dex.htm)
[www.richweb.f9.co.uk/astro/in
dex.htm](http://www.richweb.f9.co.uk/astro/in dex.htm)
LL Lyrae

[Ken Lunn](http://www.klunn.com/)
[usuaris.tinet.org/klunn/solar-
system.html#h-sphere](http://usuaris.tinet.org/klunn/solar-system.html#h-sphere)
The Solar System

[Montana State University](http://www.physics.montana.edu/faculty/cornish/lagrange.html)
[www.physics.montana.edu/fac
ulty/cornish/lagrange.html](http://www.physics.montana.edu/faculty/cornish/lagrange.html)
Lagrange Points

[World Year of Physics 2005](http://www.physics2005.org/projects/eratosthenes/)
[www.physics2005.org/projects
/eratosthenes/](http://www.physics2005.org/projects/eratosthenes/)
Eratosthenes measures the
Earth

[University of California, Irvine](http://www.physics.ucirvine.edu/)
Physical star sizes

[Georgia State University](http://www.physics.gsu.edu/)

[SolStation.com](http://www.solstation.com/)
Milky Way

Donald J. Lindler
Sigma Space Corporation
Earth - Moon from Deep
Impact

[Michael Fowler UVa Physics
Department](http://www.michaelfowler.com/)
How High the Moon

[Serge Brunier](http://www.sergebrunier.com/)
Milky Way from atop the
Andes

[Wally Pacholka](http://www.wallypacholka.com/)
Milky Way from Devil's Tower
Wyoming

[Space.com](http://www.space.com/)
Milky Way over Chilean desert

[Deep Space Colors](http://www.deepspacecolors.com/)
Rogelio Bernal Andreo
Rho Ophiuchi



Video Clips

Hubble Night Sky - March 2012 Hubblesite.org/explore_astronomy/tonights_sky

Virgo Cluster M87 Hubblesite.org/newscenter/archive/releases/2008/30/video/a

M101 Hubblesite.org/newscenter/archive/releases/2006/10/video/a

M83 Hubblesite.org/newscenter/archive/releases/2009/29/video/a

M82 Hubblesite.org/newscenter/archive/releases/2006/14/video/a

M81 Hubblesite.org/newscenter/archive/releases/2008/02/video/a

Stephan's Quintet Hubblesite.org/newscenter/archive/releases/2001/22/video/c

Eagle Nebula Hubblesite.org/newscenter/archive/releases/2005/12/video/b

Whirlpool Galaxy Hubblesite.org/newscenter/archive/releases/2005/12/video/c

CLASH MACS 1206 Hubblesite.org/newscenter/archive/releases/2011/25/video/a

Stages in Galaxy Collisions Hubblesite.org/newscenter/archive/releases/2008/16/video/d

Dozens of Colliding Galaxies Hubblesite.org/newscenter/archive/releases/2008/16/video/c

Milky Way's Future Hubblesite.org/newscenter/archive/releases/2008/16/video/a

NGC 1275 Filaments Hubblesite.org/newscenter/archive/releases/2008/28/video/b

NGC 1275 Hubblesite.org/newscenter/archive/releases/2008/28/video/a

Arp 273 Hubblesite.org/newscenter/archive/releases/2011/11/video/c

Helix Nebula Hubblesite.org/newscenter/archive/releases/2003/11/video/c

Butterfly Nebula Hubblesite.org/newscenter/archive/releases/2009/25/video/h

Galaxy Triplet Arp 274 Hubblesite.org/newscenter/archive/releases/2009/14/video/b

Hubble_ Zoom MACS 1206 Hubblesite.org/newscenter/archive/releases/2011/25/video/a

Omega Centauri Hubblesite.org/newscenter/archive/releases/2010/28/video/b

Carina Nebula Hubblesite.org/newscenter/archive/releases/2010/29/video/a

Ant Nebula Menzel 3 Hubblesite.org/newscenter/archive/releases/2001/05/video/a

Horsehead Nebula Hubblesite.org/newscenter/archive/releases/2001/12/video/a

Cassiopeia A Hubblesite.org/newscenter/archive/releases/2006/30/video/a



Dumbbell Nebula Hubblesite.org/newscenter/archive/releases/2003/06/video/a

Orion Nebula Hubblesite.org/newscenter/archive/releases/2006/01/video/c

IC 4593 Hubblesite.org/newscenter/archive/releases/2007/33/video/a

Bok globules in NGC 281 Hubblesite.org/newscenter/archive/releases/2006/13/video/a

Supernova Remnant N 63A Hubblesite.org/newscenter/archive/releases/2005/15/video/a

NGC 346 Hubblesite.org/newscenter/archive/releases/2005/04/video/a

Star V838 Monocerotis Hubblesite.org/newscenter/archive/releases/2004/10/video/a

Trifid Nebula Hubblesite.org/newscenter/archive/releases/1999/42/video/a

WFC3 30 Doradus Hubblesite.org/newscenter/archive/releases/2009/32/video/b

Carina Nebula Hubblesite.org/newscenter/archive/releases/2010/13/video/d

Dark Pillars of Carina Hubblesite.org/newscenter/archive/releases/2010/29/video/a

Herbig-Haro object HH 1 Hubblesite.org/newscenter/archive/releases/2011/20/video/m

Herbig-Haro object HH 2 Hubblesite.org/newscenter/archive/releases/2011/20/video/j

Herbig-Haro object HH 34 Hubblesite.org/newscenter/archive/releases/2011/20/video/f

Herbig-Haro object HH 47 Hubblesite.org/newscenter/archive/releases/2011/20/video/b

S106 Hubblesite.org/newscenter/archive/releases/2011/38/video/b

NGC 6791 Hubblesite.org/newscenter/archive/releases/2008/25/video/a

NGC 3324 Hubblesite.org/newscenter/archive/releases/2008/34/video/b

Cepheid variable M1 V1 Hubblesite.org/newscenter/archive/releases/2011/15/video/a

Ring Nebula Hubblesite.org/newscenter/archive/releases/2013/13/video/b/

NGC 5189 Hubblesite.org/newscenter/archive/releases/2012/49/video/b/

Arp 142 Hubblesite.org/newscenter/archive/releases/2013/23/video/a/

R Coronae Australis www.ESO.org/public/videos/eso1027b/

GJ 1214 zoom www.ESO.org/public/videos/eso0950c/

NGC 6729 www.ESO.org/public/videos/eso1109a

J102915 - oldest star www.ESO.org/public/videos/eso1132a

SN 1987A www.ESO.org/public/videos/eso1032b

HIP 13044 www.ESO.org/public/videos/eso1045f

How Far Away Is It – Credits



Zoom in on Betelgeuse www.ESO.org/public/videos/eso0927a

Zooming in on NGC 3603 www.ESO.org/public/videos/eso1005a

Cat's Paw Nebula (NGC 6334) www.ESO.org/public/videos/eso1003a

Carl Sagan - Pale Blue Dot www.YouTube.com/watch?v=p86BPM1GV8M

City Lights from International Space Station

NASA Astronaut Don Pettit (2002-2008) www.YouTube.com/watch?v=U7WuSP663uU

The View from Space - Countries and Coastlines

International Space Station www.YouTube.com/watch?v=EPy11LgNtoQ

Plains Milky Way – Dekotalaps www.YouTube.com/watch?v=KySThq5CxLI

A timelapse view of the milkyway from Chile www.YouTube.com/watch?v=JEHm-XUHwNw

Millennium_flythru www.YouTube.com/watch?v=M1vPSwRzAZI

Millennium_sim www.YouTube.com/watch?v=spkqkg9IADo

IC 1011 - How the Universe Works www.YouTube.com/watch?v=3GJAZWB8HFE

Superclusters of Galaxies. The Great Sloan Wall [cosmic web]

www.YouTube.com/watch?NR=1&feature=endscreen&v=xu2-9omdXNc

Hubblecast 31_ NGC 2623 www.YouTube.com/watch?v=6d2PgcB4XZE

Hubblecast 34_ M 66 www.YouTube.com/watch?v=0Q7XzhQbj3I

Hubblecast 26_ NGC 4921 www.YouTube.com/watch?v=Cnvgq3ifOWs

The Hubble Ultra Deep Field in 3D www.YouTube.com/watch?v=oAVjF_7ensg

BBC's Seeing Andromeda - Wonders of the Universe_ Messengers

www.YouTube.com/watch?v=KkjuIoCorTE

Sentinels of the Heliosphere www.YouTube.com/watch?v=AqRQ_93kFKs

Plains Milky Way www.YouTube.com/watch?v=KySThq5CxLI

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Music

Johann Sebastian Bach
Cantata No.147 - Jesu, Joy of Man's Desiring
Air 'on the G String'
Zion hort die Wachter

Samuel Barber - Adagio for Strings

Ludwig van Beethoven
Symphony No.9 in D minor Op.125, 'Choral' _ III
Adagio molto e cantabile
Final Movement
Piano Sonata No 14 in C sharp minor - Moonlight



Georges Bizet - Entracte to Act III

Ridolfo Luigi Boccherini - Minuet

Alexander Borodin - Nocturne

James Horner - Braveheart Movie Music
End Credits
Main Title

Carl Maria von Weber - Der Freischütz Overture

Achille-Claude Debussy - Clair De Lune

Clément Philibert Léo Delibes - Flower Duet

Antonín Leopold Dvořák - String Serenade

Edward William Elgar - Enigma Variations Op.36

Gabriel Urbain Fauré - Pavane Op.50

Franz Liszt - Hungarian Rhapsody No. 2

Ramin Djawadi - HBO Series - Game of Thrones - Main Title

Edvard Grieg - Peer Gynt Incidental Music Op.23 - Morning

Louis Armstrong - What A Wonderful World

Pietro Antonio Stefano Mascagni - Intermezzo

Jules Émile Frédéric Massenet - Meditation

Felix Mendelssohn - Violin Concerto in E Minor Op.64

Wolfgang Amadeus Mozart
Clairinet Concerto in A
Concerto No_ 10 for 2 pianos & orchestra
Flute and Harp Concerto in C, K.299 - Andantino
Piano Concerto No.21 in C 'Elvira Madigan'
Piano Concerto No_ 20 in D minor
Sinfonia concertante for violin, viola & orchestra
The Magic Flute

Johann Pachelbel - Canon in D

Sergei Vasilievich Rachmaninoff
Piano Concerto No 2 in C minor
Rhapsody on a Theme of Paganini - Variation 18

Joaquin Rodrigo - Concierto de Aranjuez



Charles-Camille Saint-Saëns - The Carnival of the Animals - The Swan

Alfred Eric Leslie Satie - Gymnopédie No.1

Pyotr Ilyich Tchaikovsky - Capriccio Italien

Twinkle Twinkle Little Star

Vangelis

Conquest Of Paradise

Heaven And Hell 3rd Movement

Antonio Vivaldi -The Four Seasons - Winter Concerto in F Minor

Richard Wagner - Rienzi Overture

Simon Wilkinson - Exodus www.thebluemask.com

Ending

Well that's a wrap except for one last thing.

If you recall in the Preface, I mentioned that I was creating this video book to update those I care about on what we have learned about the Universe while I wasn't looking.

But on reflection, when I review all we've learned and all that we have yet to discover, my thoughts turn to my grandchildren and I'm reminded of the Louis Armstrong lyrics:

I see my grandchildren smile
I watch them grow
They'll learn much more than I'll ever know
And I think to myself
What a Wonderful World