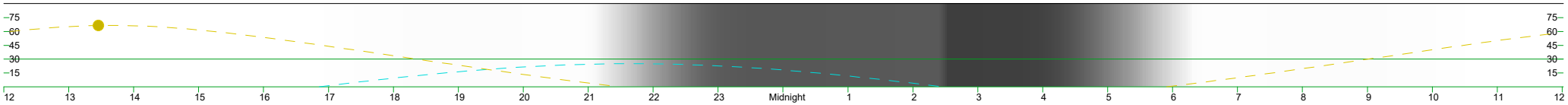
NDLS 2022 Observing List
Evening of 2022 Jul 9 at Geneva, Switzerland



Sunset 21:28, Twilight ends 00:02, Twilight begins 03:19, Sunrise 05:54, Moon rise 16:51, Moon set 02:26
Completely dark from 02:26 to 03:19. Waxing Gibbous Moon. All times local (GMT+2).

Listing All Classes visible above the perfect horizon and in twilight or moonlight after 21:02 and before 00:58.

Cls	Primary ID	Alternate ID	RA 2000	Dec 2000	Alt	Az	Distance	Rise	Transit	Set	Mag	Size	Begin	Optimum	End	Difficulty
MSS	Moon		15h18m02.9s	-19°15'51"	+24°27'	+178°48'	368039.0 km	16:51	21:44	02:26	-11.7	32.7'	19:10	21:39	00:08	obvious
DVar	Alcor	80 UMa	13h25m13.9s	+54°59'16"	+42°47'	+310°10'	81 ly	-	19:51	-	4.0		22:56	02:26	02:43	obvious
DVar	Polaris	Alpha UMi	02h31m52.3s	+89°15'51"	+45°49'	+000°45'	430 ly	-	09:22	-	2.0		23:04	02:28	04:29	obvious
BVar	Albireo	Beta 1 Cyg	19h30m43.3s	+27°57'35"	+68°37'	+143°21'	390 ly	17:38	01:55	10:13	3.1		23:18	02:26	04:31	obvious
Glob	M 3	NGC 5272	13h42m11.0s	+28°22'42"	+31°27'	+279°27'	42000 ly	11:44	20:08	04:27	6.3	18.0'	02:25	02:26	02:34	very challenging
Bin	Epsilon 1 Lyr	4 Lyr	18h44m20.4s	+39°40'14"	+83°13'	+162°33'	160 ly	15:02	01:09	11:16	4.7		02:25	02:26	04:27	obvious
Glob	M 5	NGC 5904	15h18m34.0s	+02°05'00"	+28°48'	+238°58'	29000 ly	15:34	21:44	03:55	5.7	23.0'	02:25	02:26	02:30	very challenging
Glob	M 15	NGC 7078	21h29m58.0s	+12°10'00"	+39°42'	+117°50'	42000 ly	21:00	03:54	10:49	6.3	18.0'	02:25	03:16	04:08	challenging
Open	ET Cluster	NGC 457	01h19m35.0s	+58°17'12"	+32°48'	+037°38'	7900 ly	-	07:44	-	5.1	20.0'	02:25	03:24	04:08	detectable
Glob	Keystone Cluster	M 13	16h41m41.0s	+36°27'36"	+66°58'	+254°55'	26000 ly	13:41	23:07	08:33	5.8	20.0'	02:25	02:26	03:51	difficult
Open	h Persei	NGC 869	02h19m00.0s	+57°07'42"	+26°05'	+032°38'	6800 ly	-	08:43	-	4.3	18.0'	02:26	03:27	04:11	detectable

Symbol Key:

Open	Open Cluster	Doub	Double or Multiple Star	Con	Constellation
Glob	Globular Cluster	Bin	Binary Star (with orbit)	MSS	Major Solar System Object
PNe	Planetary Nebula	Var	Variable Star	Com	Comet
Neb	Diffuse Nebula	DVar	Double & Variable	MP	Minor Planet
Gal	Galaxy	BVar	Binary & Variable		
GalCl	Galaxy Cluster				
Dark	Dark Nebula				
QSO	Quasar				

Observation status: Y = observed, N = not observed, R = re-observe
Quality of opportunity (Q): A = optimum, B = near optimum, F = far from optimum