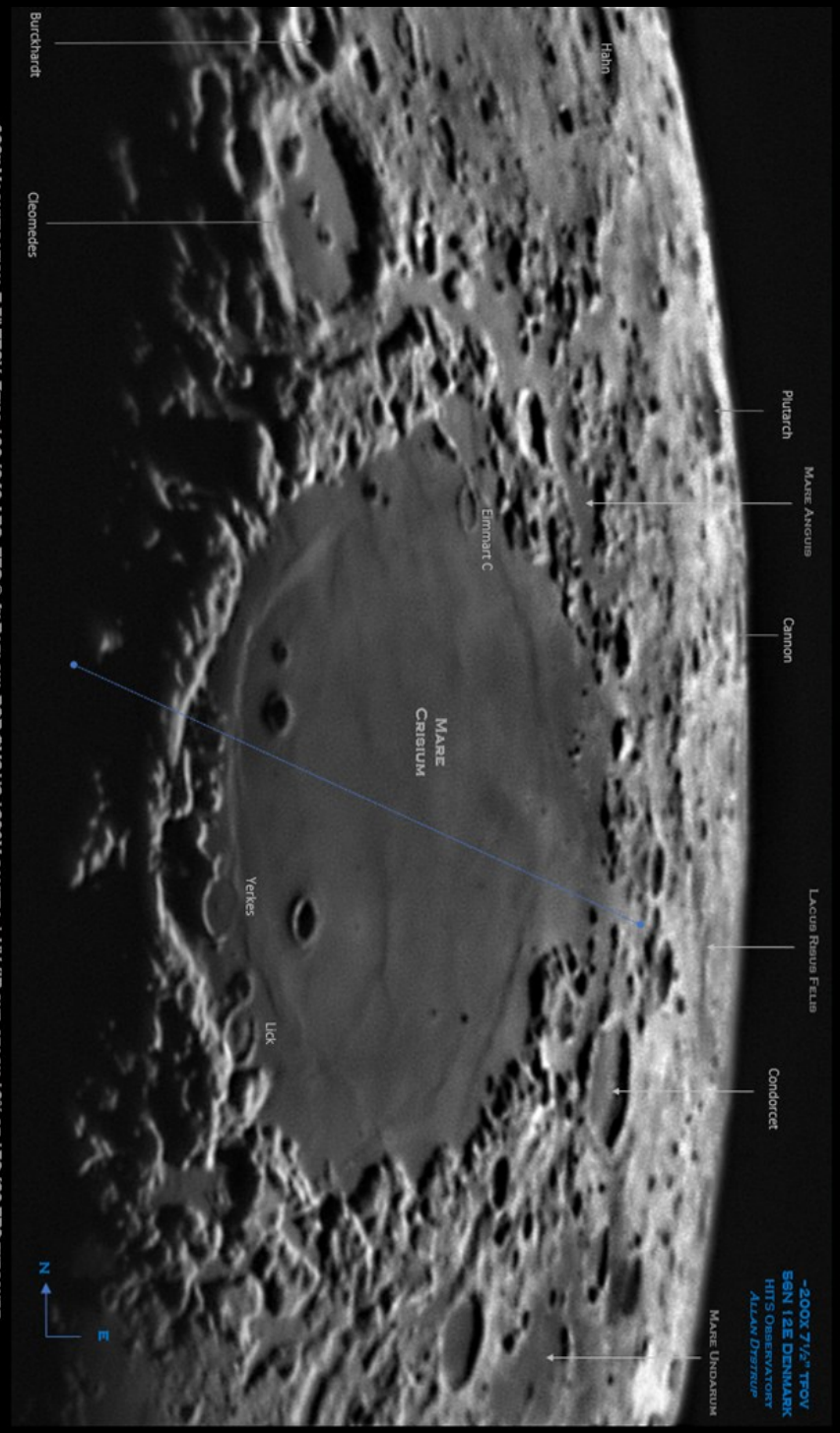
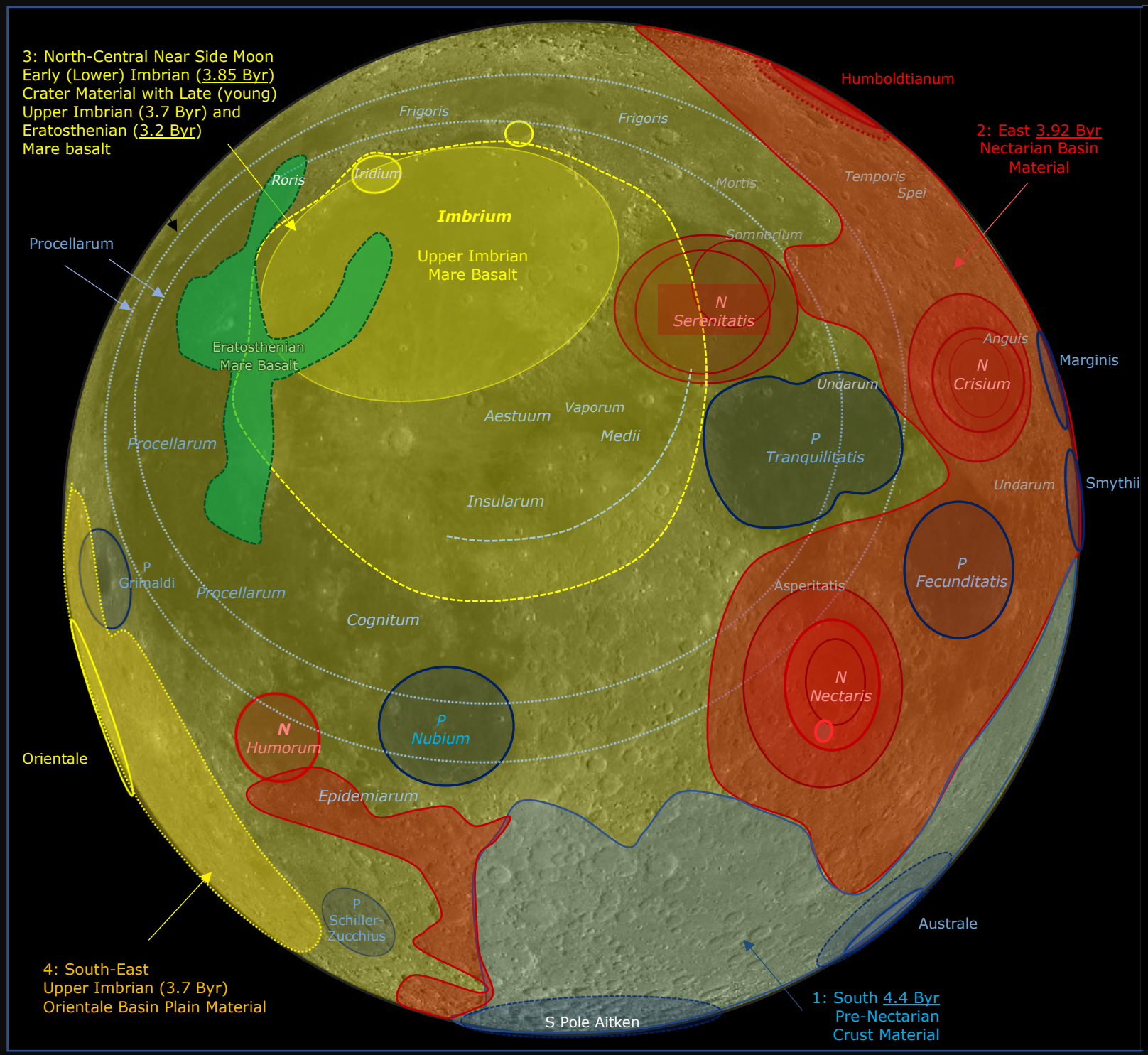
CLASSIC LUNAR ASTRONOMY

30x Magnification, 3.2° TFOV
Zeiss 100/640 APQ refractor
21mm ETH, iPhone XS
NightCap v 9.7 App

MOON18dy (91%)
Waning Moon, Alt:12° @W
56N 12E, 2020-01-13, 07:30 UT+1
Temp.: 4°C, Hum.: 82%, DewPt.: 2°C
LP: SQM 16.5 (NELM 4.3), Nautical dawn
Transparency: 4/7 high cirrus, Seeing: 6-7/10

ALLAN DYSTRUP





A quick schematic overview of the present-day moon near-side SURFACE geology.

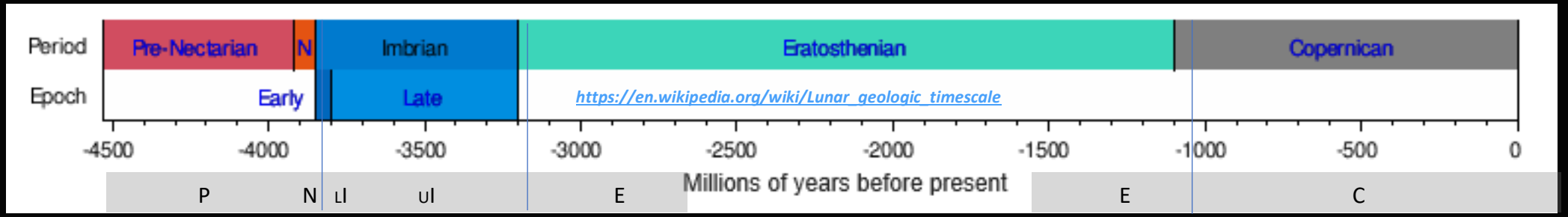
Starting from the south pole, we first encounter **the ancient [1:P] pre-Nectarian highlands (4.4 Byr)** consisting of old cratered lunar crust, bounded on all sides by ejecta from surrounding impact basins *(Orientale, Humorum, Nubium, Nectaris).* The highlands itself show many impact craters, but no deep basins, lava fills or traces of vulcanism.

Moving counter clockwise up along the eastern side of the crescent moon, the surface is here dominated by **[2:N] Nectarian basin material (3.92 Byr)** covering the pre-Nectarian impact excavations, apart from the large Fecunditatis basin. Much of the surface material in this lunar region has been provided by ejecta from the Nectarian epoch Crisium and Nectaris basins.

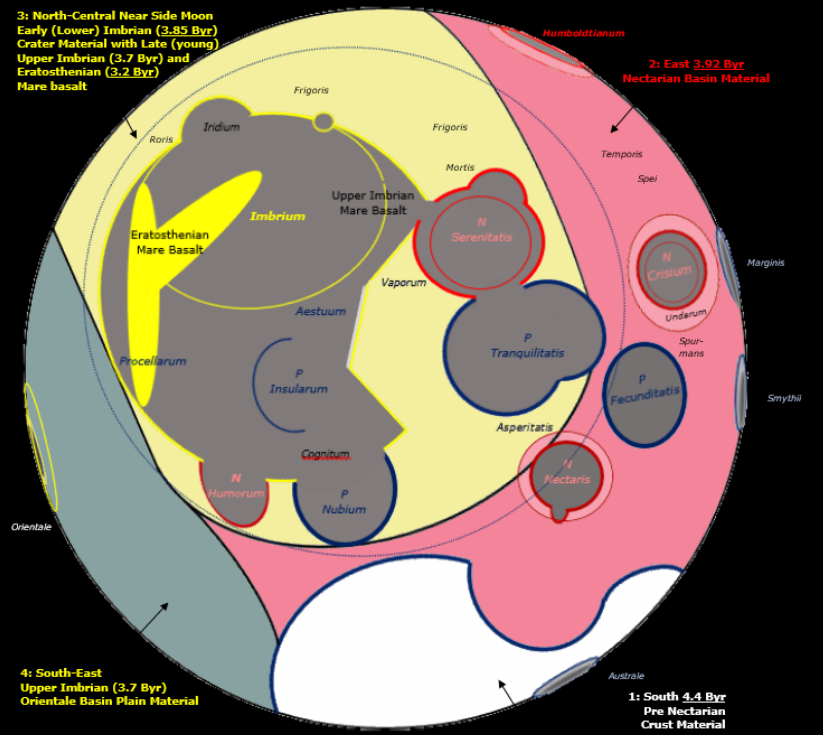
Continuing past the North Pole, we arrive at the large north-central part of the near-side moon, which is covered by **ejecta from the [3:LI] Imbrian Basin that marks the start of the lower (early) Imbrian epoch (3.85 Byr).**

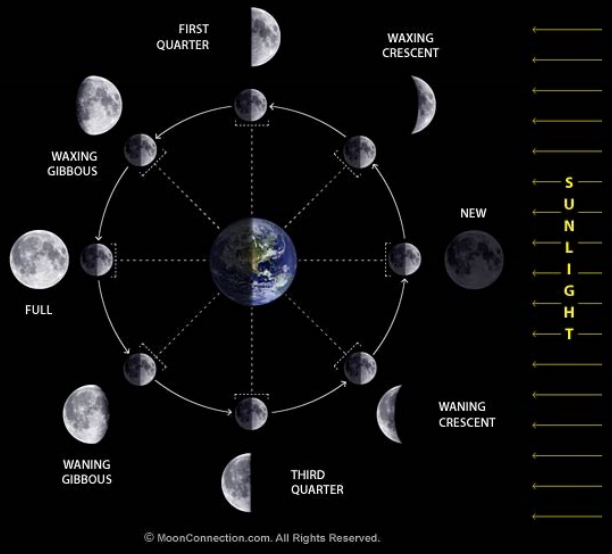
Finally, the south-east area is dominated by **ejecta from the [4:UI] Orientale basin impact (3.7 Byr),** which marks the start of the upper (late) Imbrian epoch.

The large impact basins on the lunar near-side were all lava filled later in this upper Imbrian epoch, with a smaller lava flooding taking place in the east Procellarum-Imbrium basin early in the [5:E] Eratosthenian epoch (3.2 Byr).



GEOLOGIC PERIOD	~AGE BYR	FORMATION
1:P: PRE-NECTARIAN	4.4 -	**Mare basins**: PROCELLARUM, NUBIUM, TRANQUILITATIS, FECUNDITATIS , MARGINIS, SMYTHII, AUSTRALIS, S.POLE AITKEN, SCHILLER-ZUCCHIUS, GRIMSALDI
2:N: NECTARIAN	3.92-	**Mare Basins**: SERENITATIS ,CRISIUM, NECTARIS, HUMORUM, HUMBOLDTIANUM,
3-4:I: IMBRIAN (upper/late)	3.85 -	Mare Basins: 3: Lower Imbrium: IMBRIUM, 4: Upper Imbrium: ORIENTALE
		Mare basalt fill: All above mentioned Basins.
5:E: ERATOSTHENIAN	3.2 -	**Major Craters**: Geminus, Langrenus, Plutarch, Pythagoras, Aristoteles, Hercules, Theophilus Werner, Fabricius, Moretus
C: COPERNICAN	1.1 -	**Major Craters**: Taruntius , Tycho, Copernicus, Eudoxus, Carpenter, Philolaus, Anaxagoras, Hayn





Day 0 / 30

New Moon