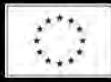


Projekt Brána do vesmíru

Hvězdárna Valašské Meziříčí, p. o.
Krajská hvezdáreň v Žiline



PROGRAM
ČESKO-SLOVENSKÉJ
SPOLUPRÁCE
SLOVENSKÁ REPUBLIKA
ČESKÁ REPUBLIKA

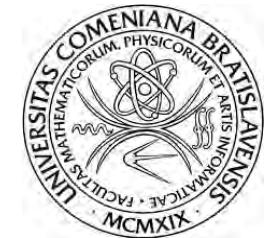


EUROPSKÁ ÚNIA
EUROPSKÝ FOND
REGIONÁLNEHO ROZVOJA
SPOLOČNE BEZ HRAÑIC



Astronómia na Mauna Kea

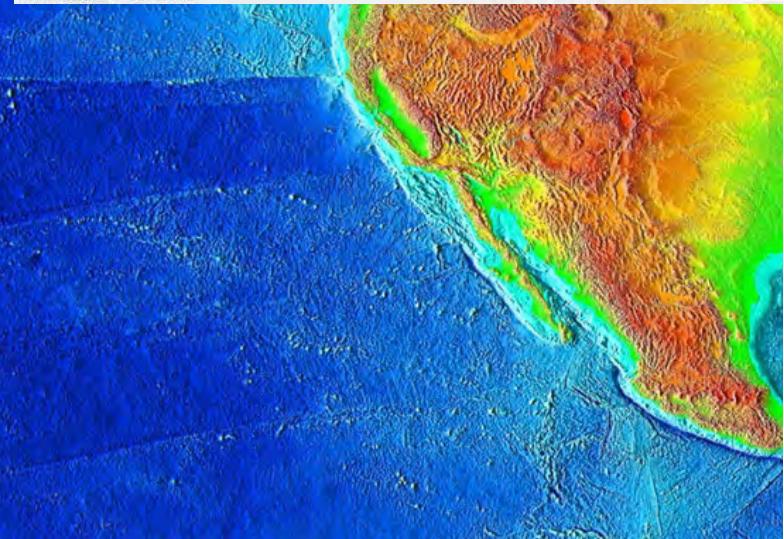
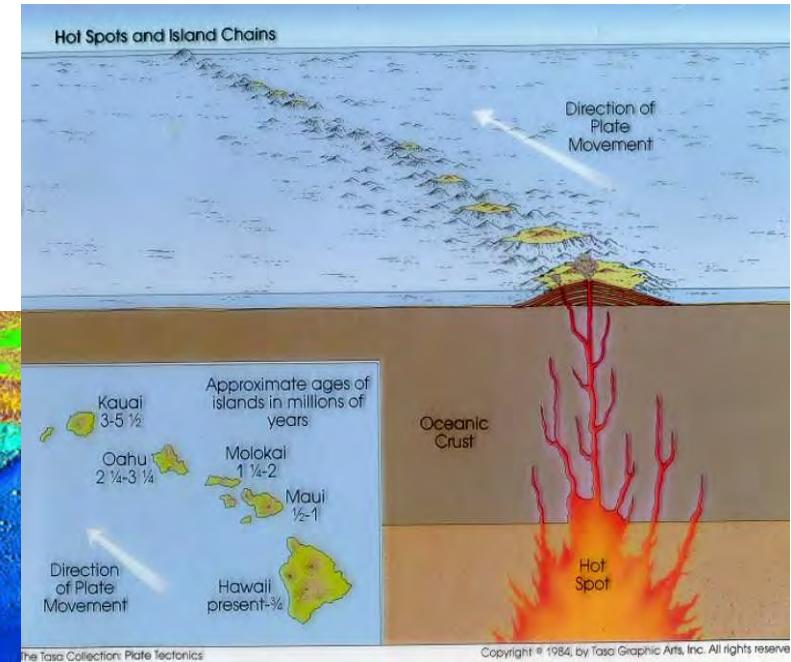
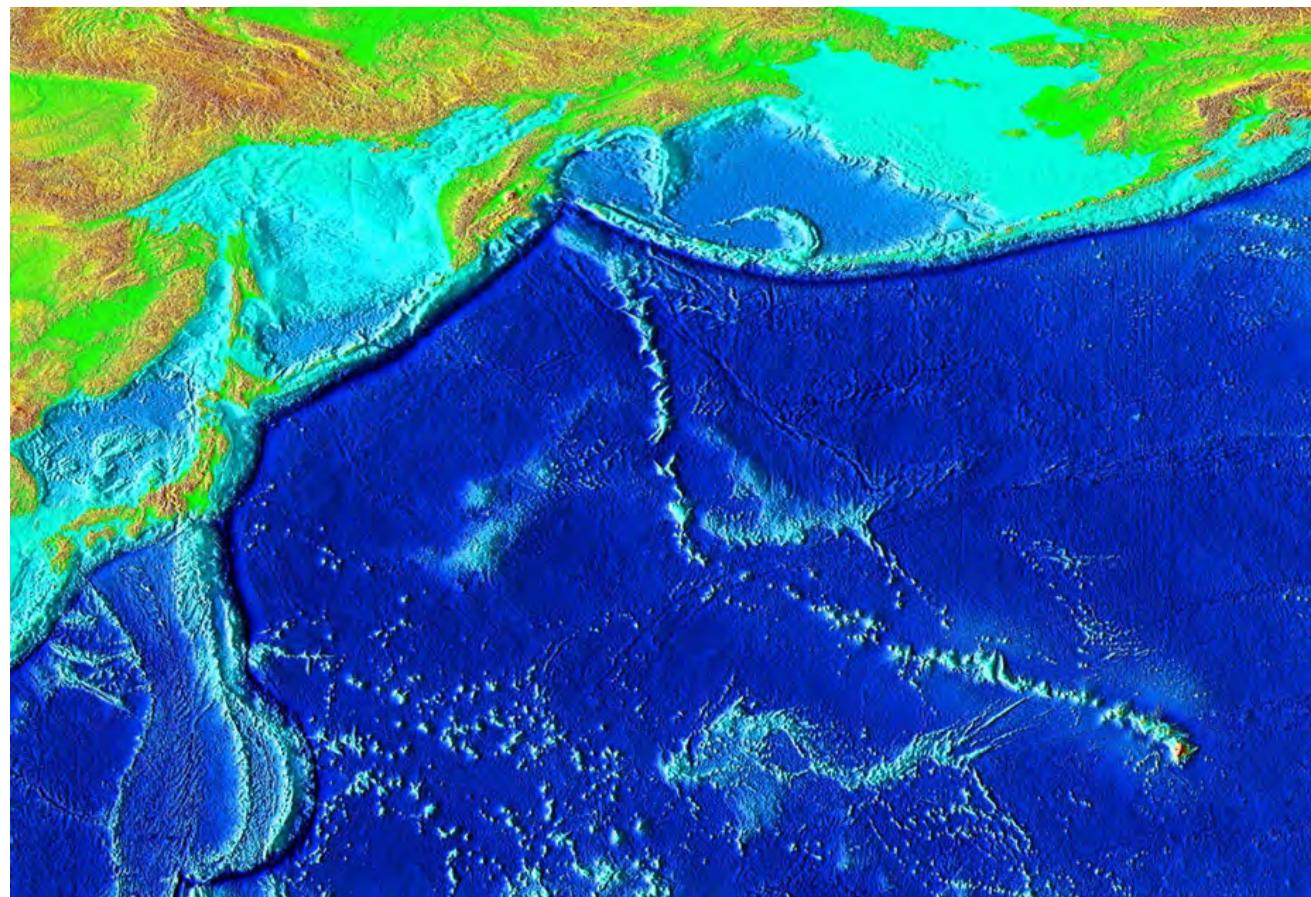
alebo ako sa astronóm dostať zo Slovenska na Havaj.



RNDr. Peter Vereš, PhD.
University of Hawaii / Univerzita Komenského

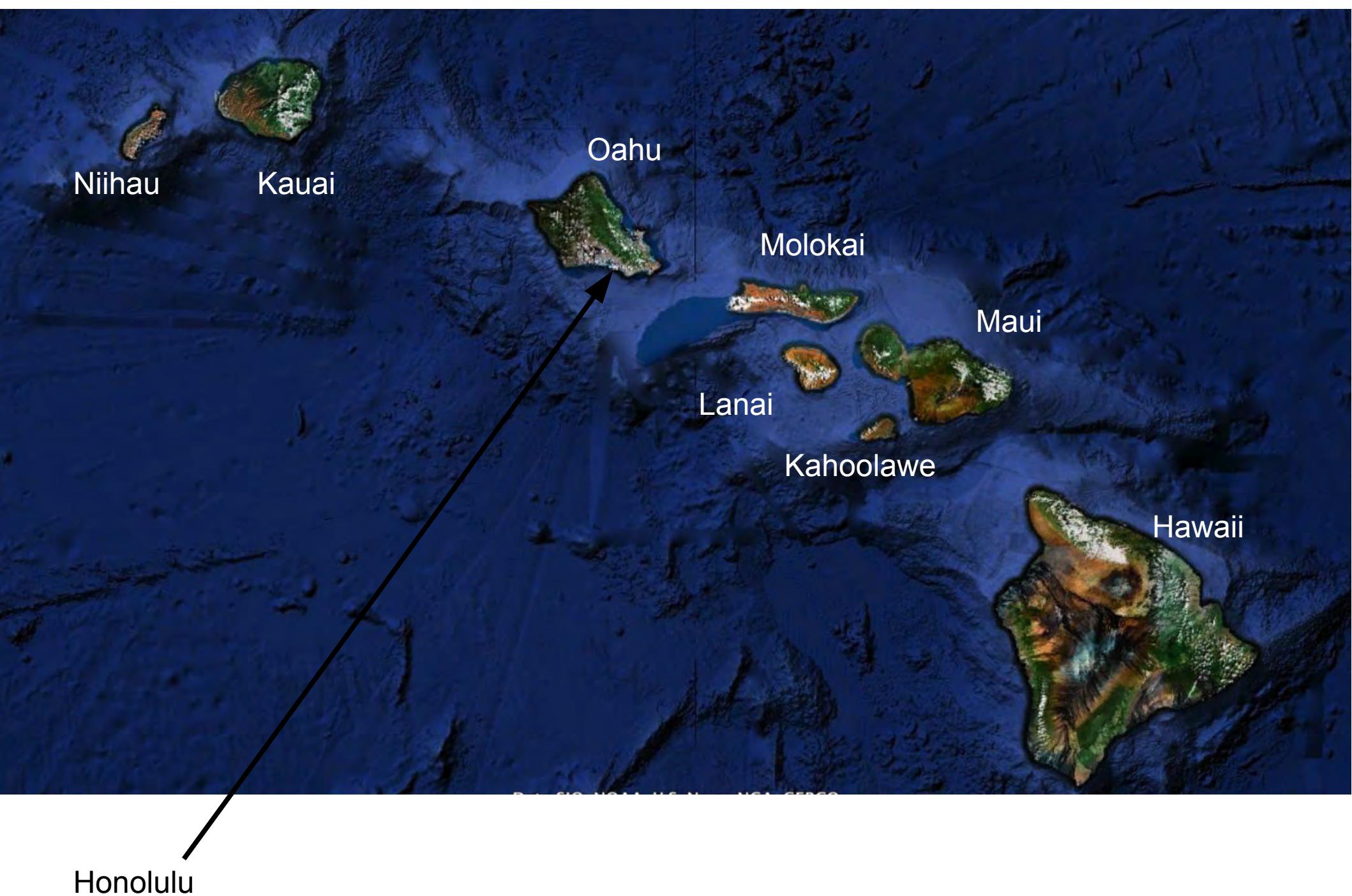


Hawaiian–Emperor seamount chain

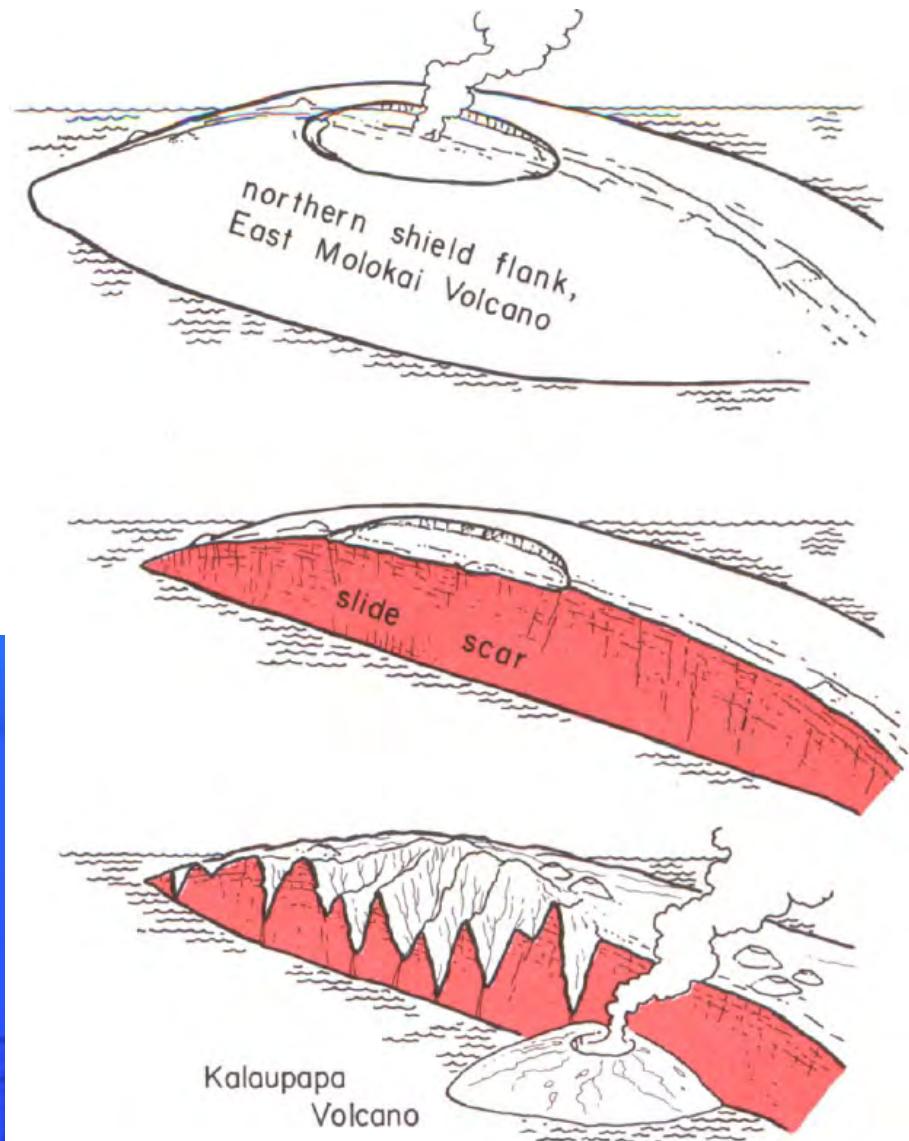
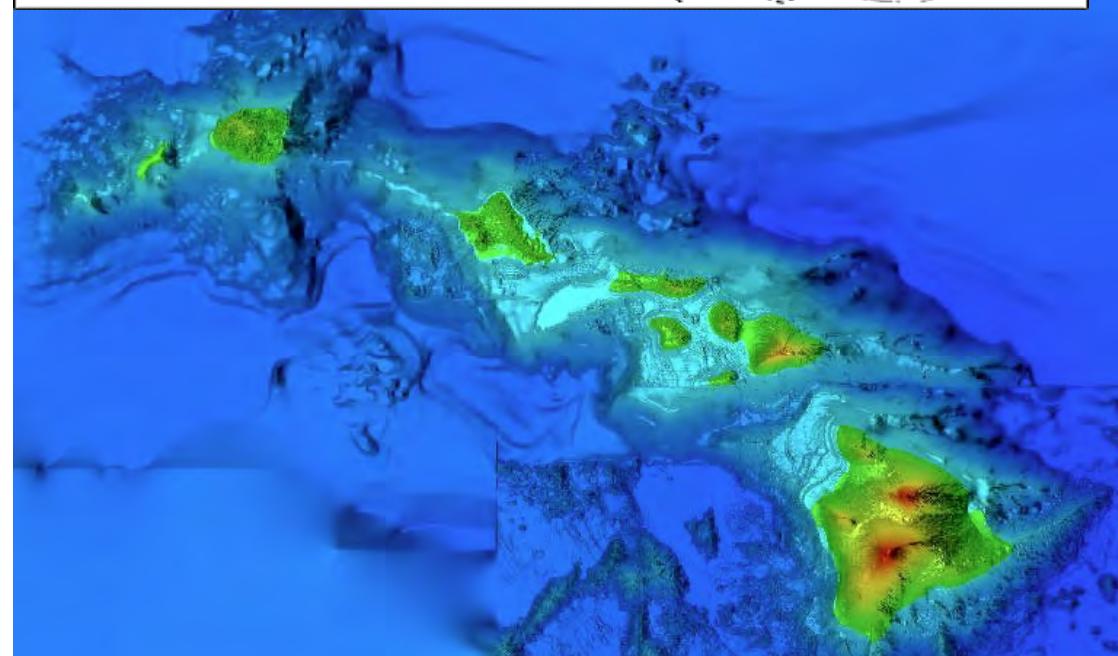
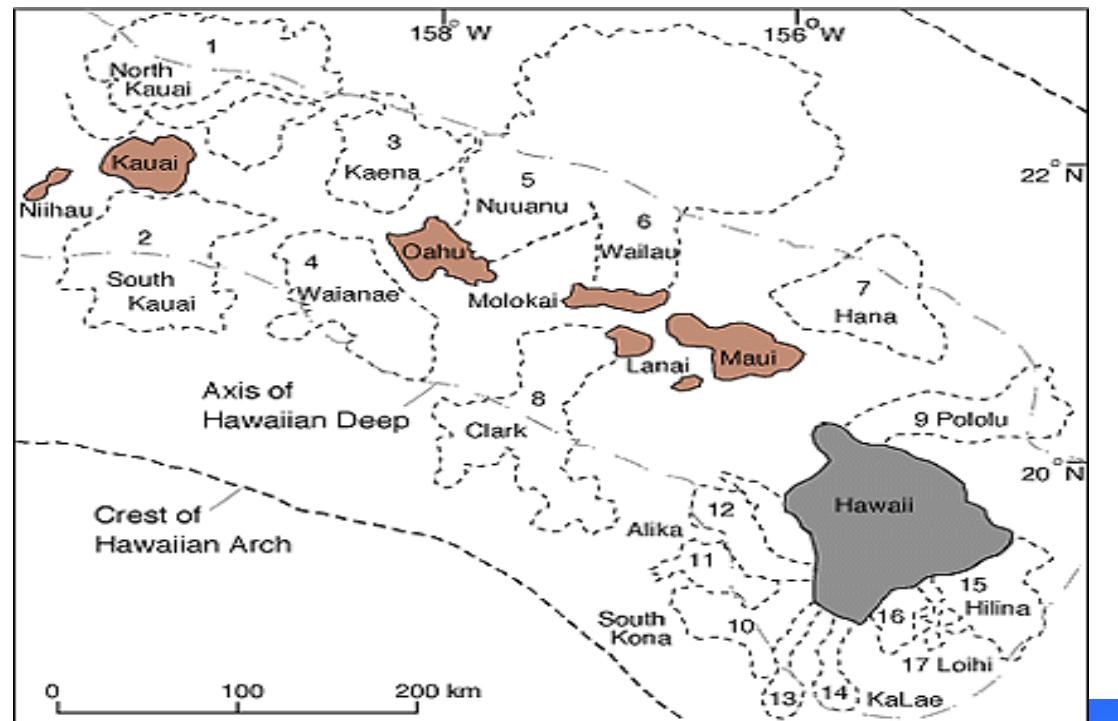




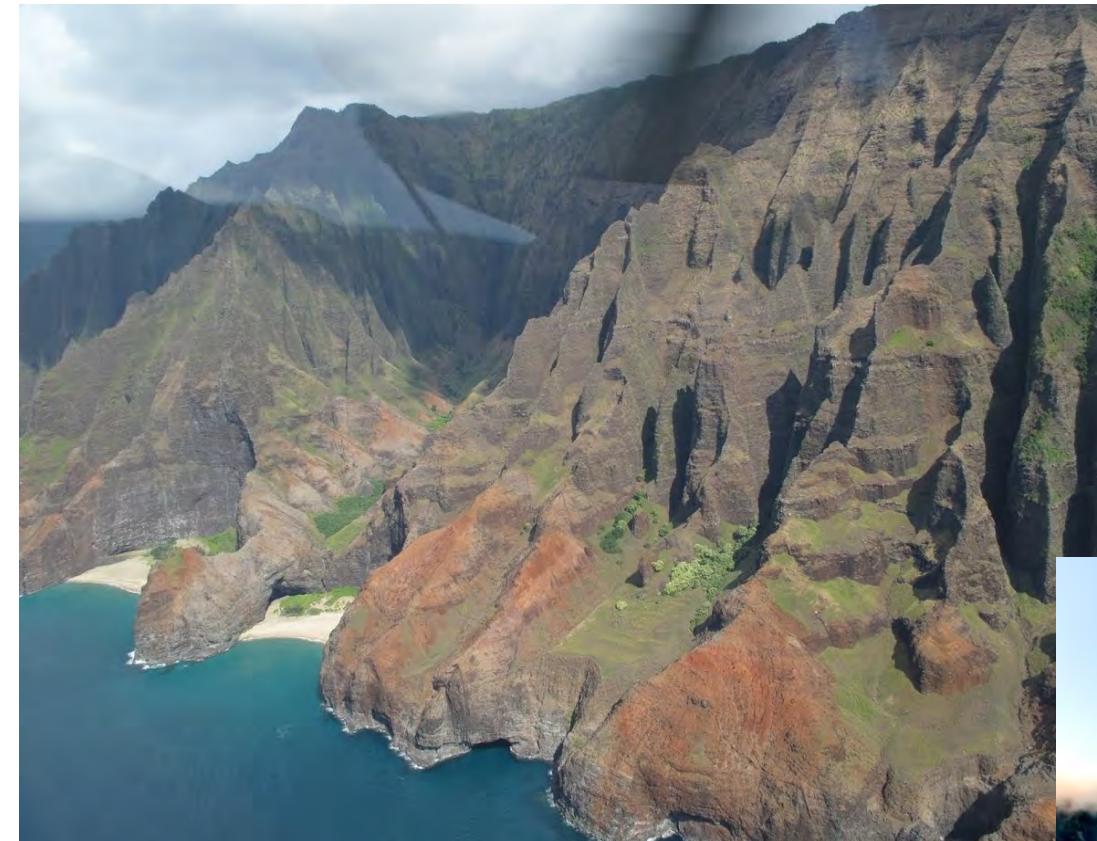
311 km (Bratislava - Košice)



Zosuvy ostrovov



Zosuvy ostrovov



Kauai

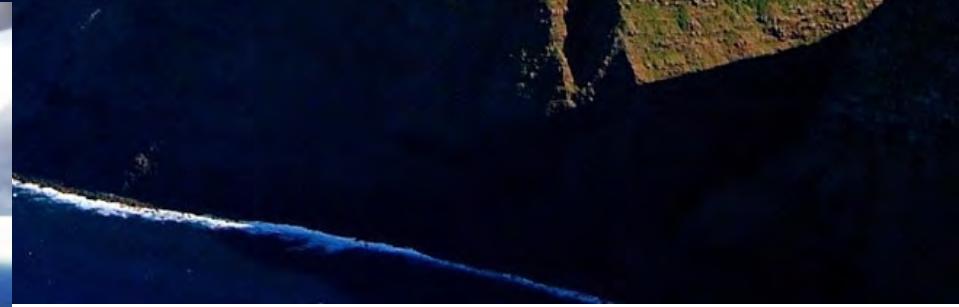




Nuuanu Pali (Oahu)

Nuuanu Pali (Oahu)





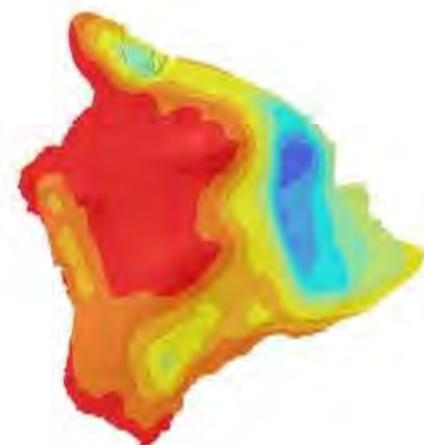
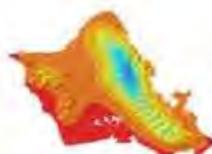
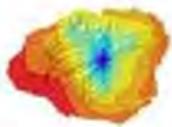
Molokai

Mikroklíma

Mean Annual Rainfall State of Hawai‘i

2011 Rainfall Atlas of Hawai‘i

Department of Geography, University of Hawai‘i at Mānoa



Annual Rainfall (mm)

204 - 750
751 - 1,350
1,351 - 2,000
2,001 - 2,750
2,751 - 3,550
3,551 - 4,400
4,401 - 5,400
5,401 - 6,400
6,401 - 7,850
7,851 - 10,271



N

0 25 50 100 150 Kilometers

Oahu



Honolulu





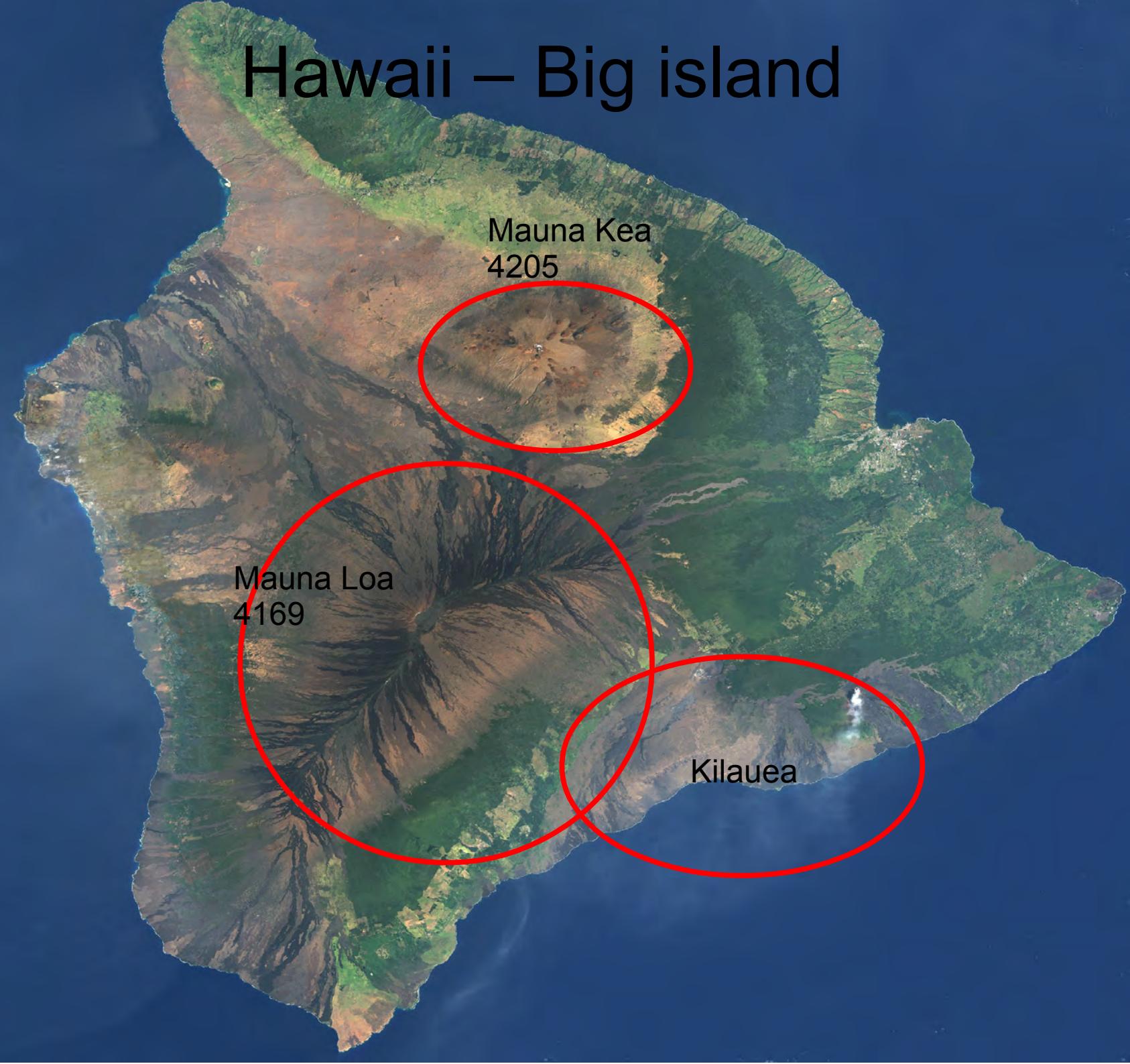


Maui



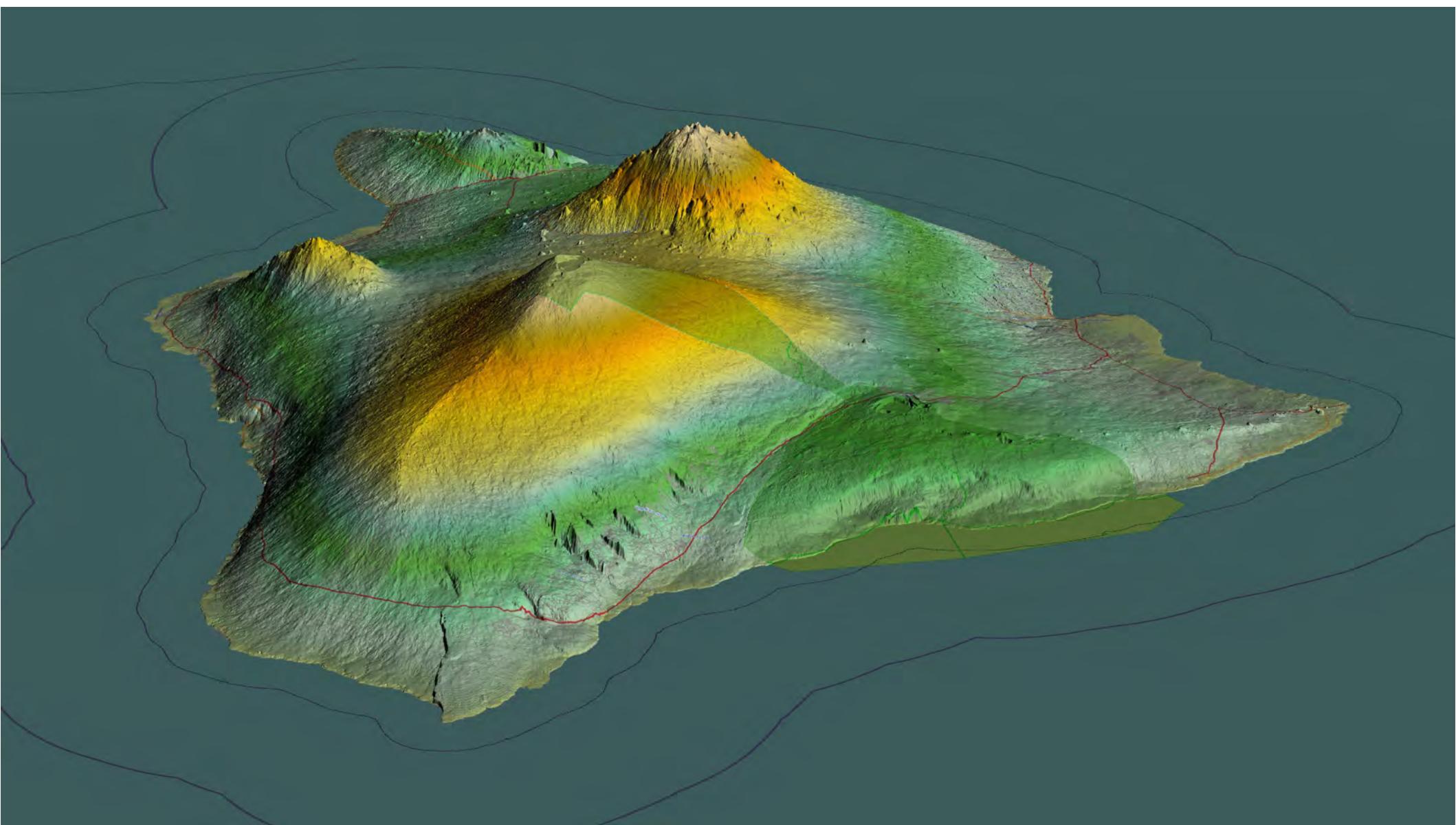


Hawaii – Big island

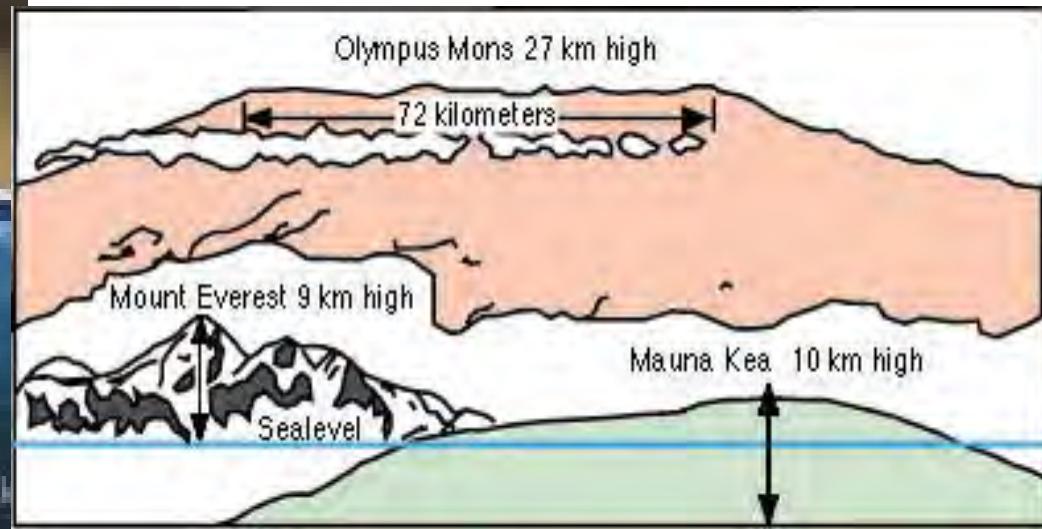
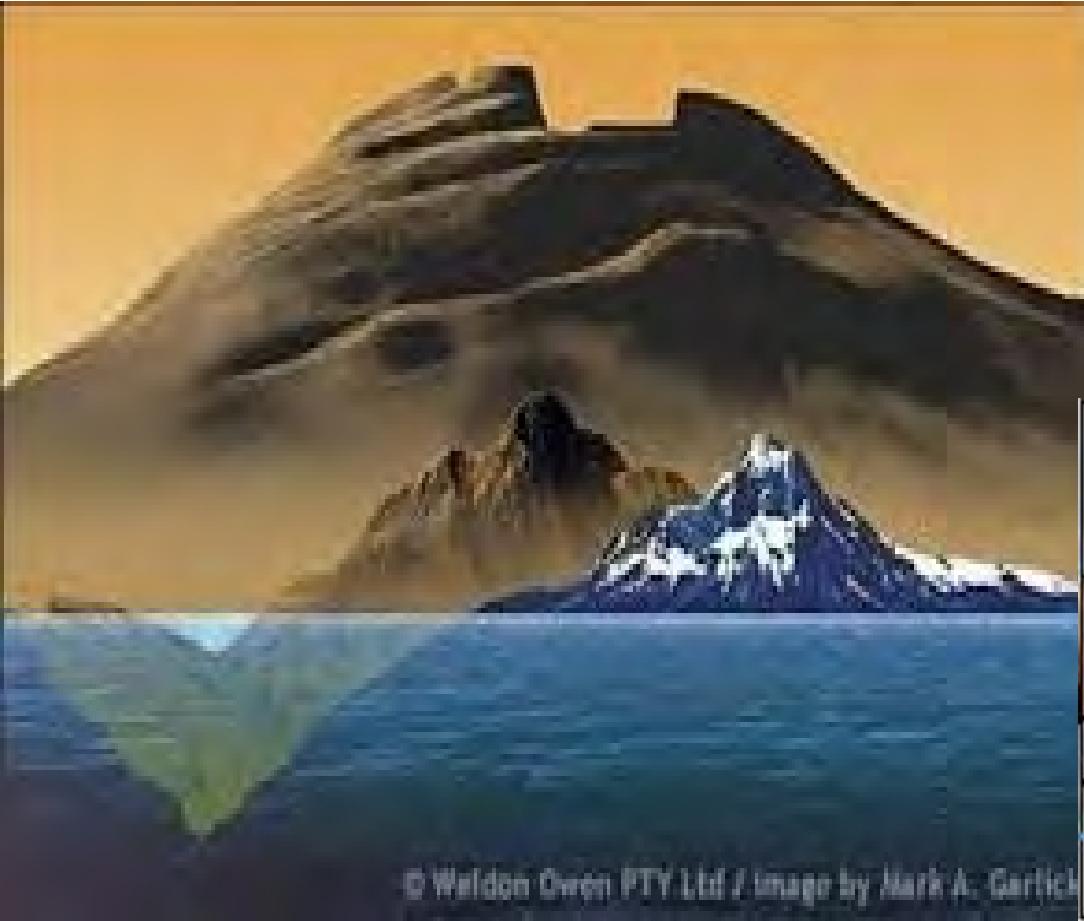




Hawaii – Big island



- Najvyššia hora na svete (Mauna Kea)



Kauai – Garden Island





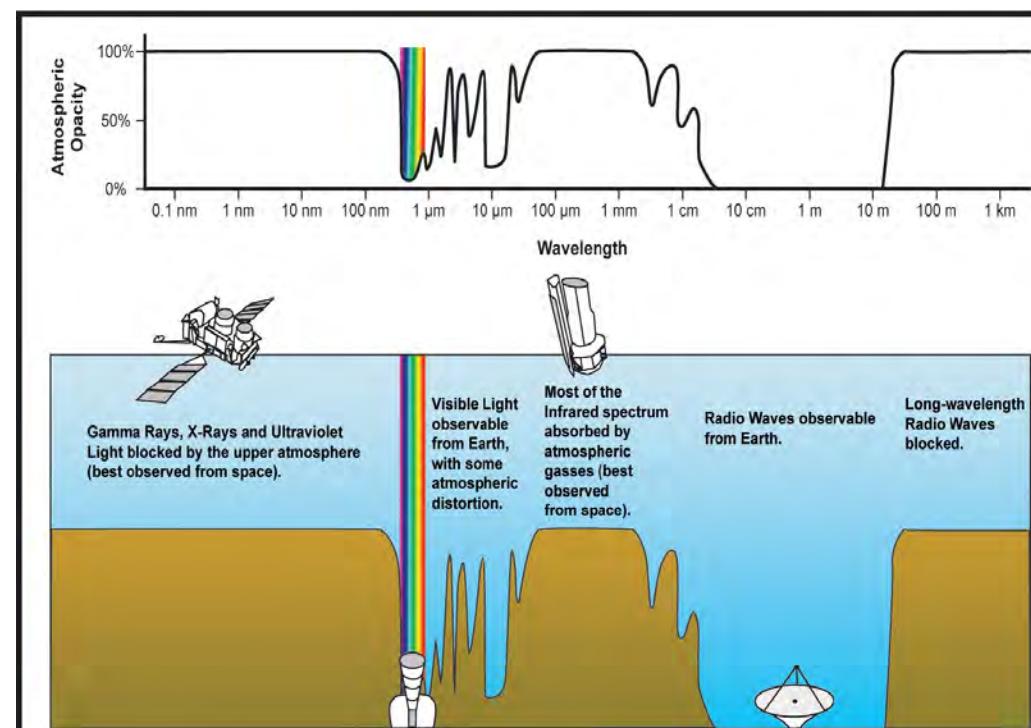
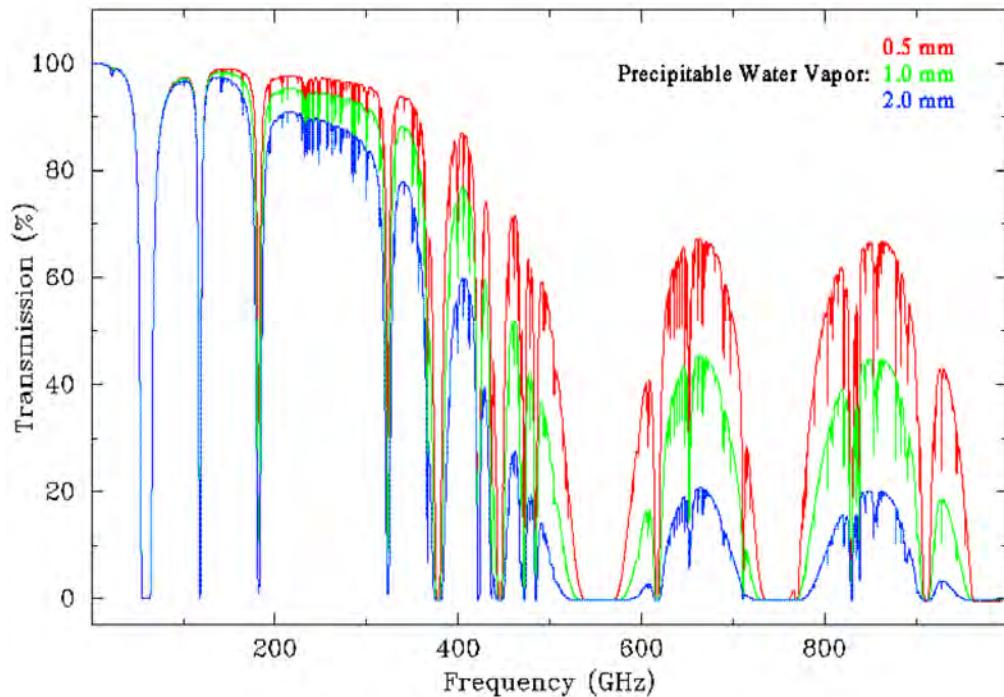
Astronómia na Havaji

- University of Hawaii
Institute for Astronomy
www.ifa.hawaii.edu (IfA)
 - Manoa, Hilo, Maui
- Univerzita má 50,000 študentov
- Jeden z “naj” astro ústavov na svete



Prečo práve Havaj?

- Vyššie ako 40% atmosféry (2/3 atm. Tlaku)
- Veľmi sucho (infrared, submilimeter)
- Bez oblakov (80% jasno), inverzia
- Tmavá obloha, seeing



Mauna Kea Observatories



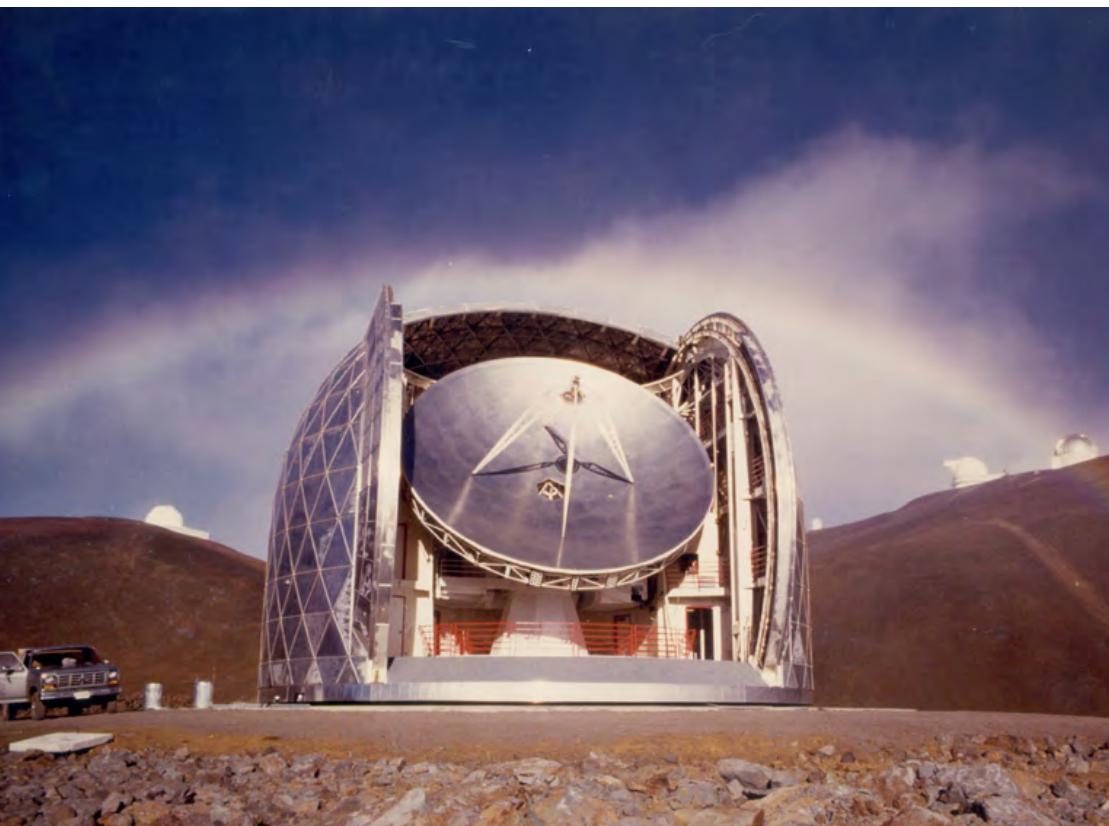
Hale Pohaku



Submillimeter array

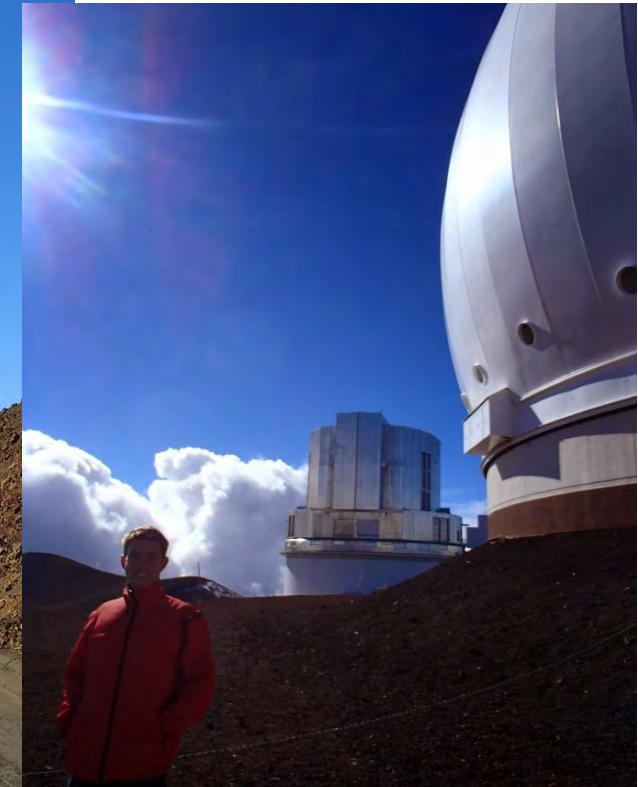


CSO



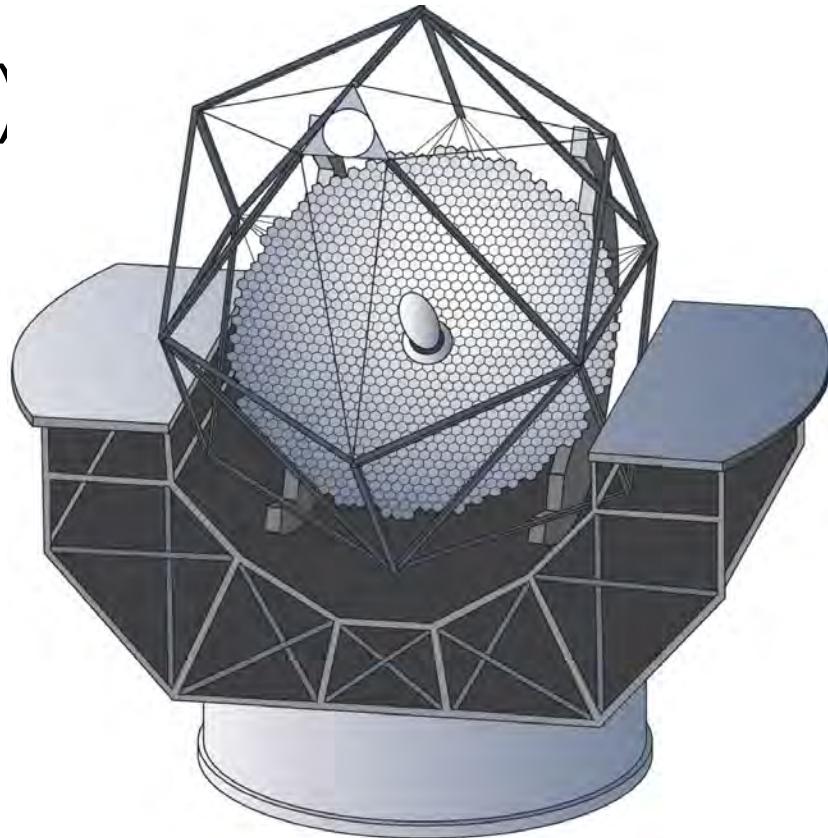
JCMT





TMT

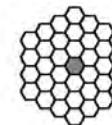
- 492 segments (~ 1.4m each)
3m secondary mirror
- F/15 = 450m focus



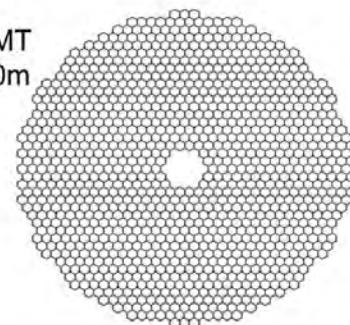
Hale (Palomar) 5m



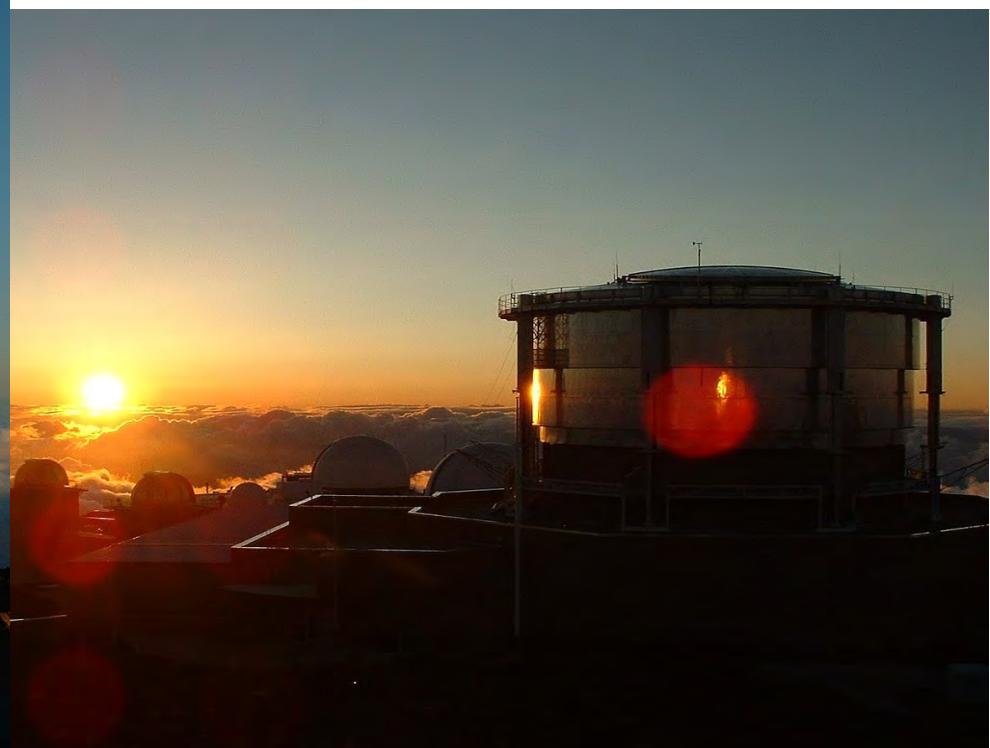
Keck (Hawaii) 10m



TMT 30m



Haleakala observatories



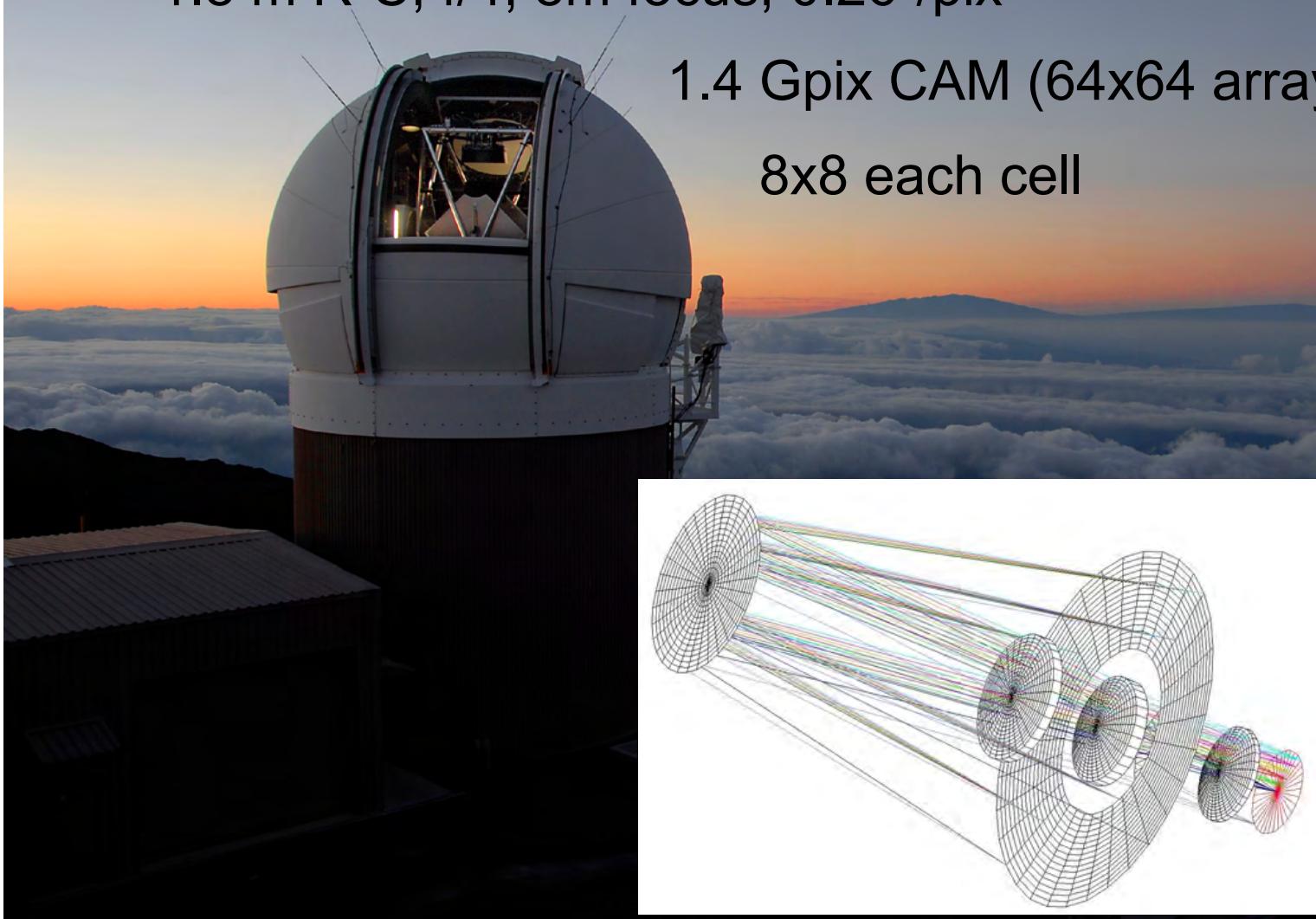


- <http://lcogt.net/>
- 2-m Faulkes telescope North
- Popularizačné účely, pre stredné školy
- 1 a 2m d'alekohľady, budujú 0.4m
- Môžete si kúpiť pozorovací čas



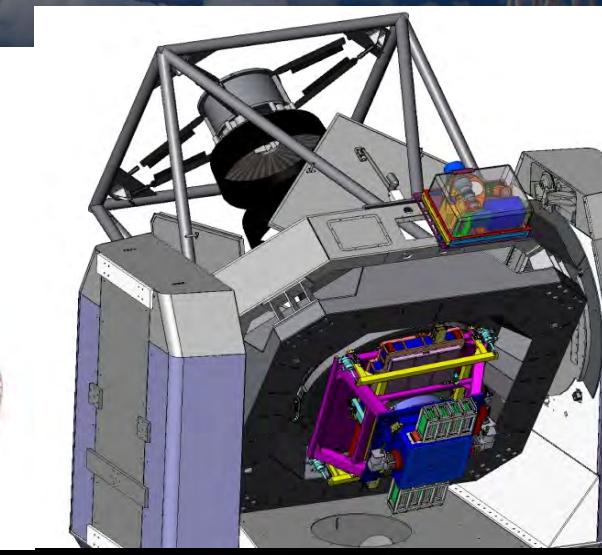
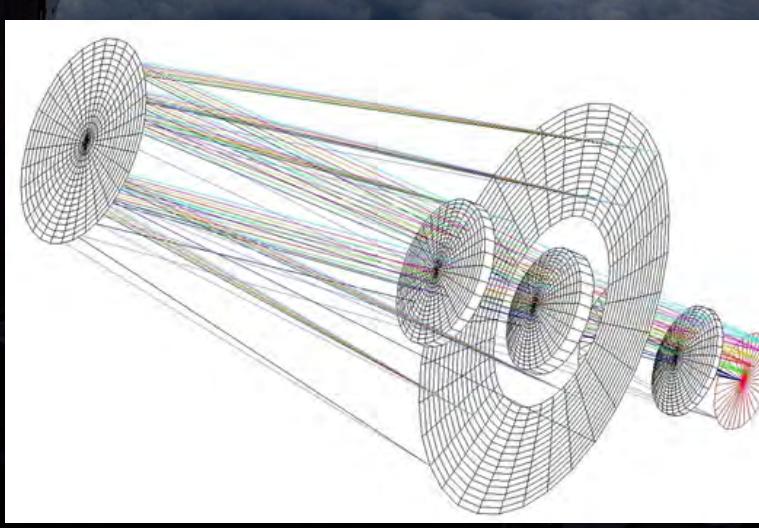
Pan-STARRS

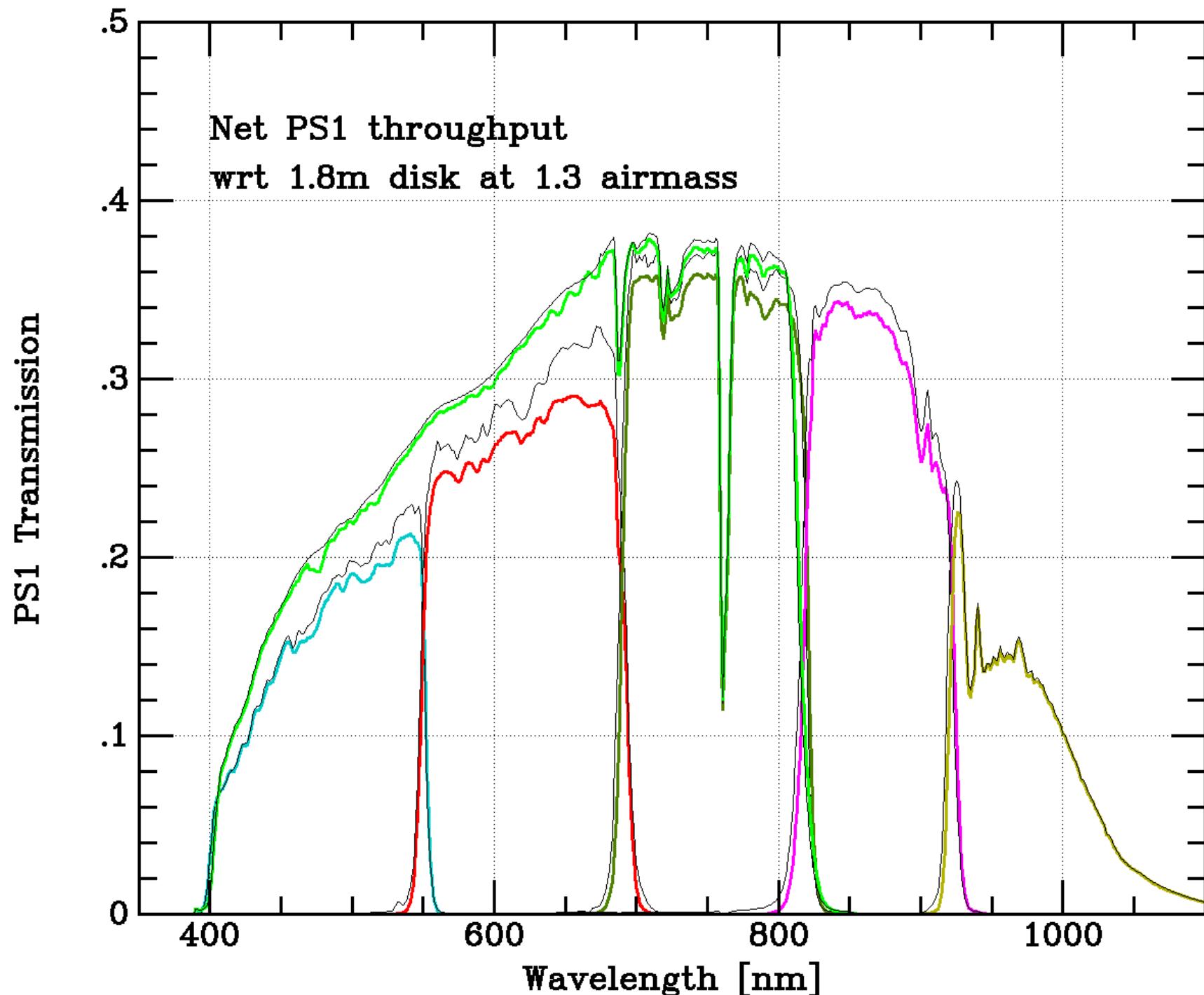
1.8 m R-C, f/4, 8m focus, 0.26"/pix



1.4 Gpix CAM (64x64 array)

8x8 each cell



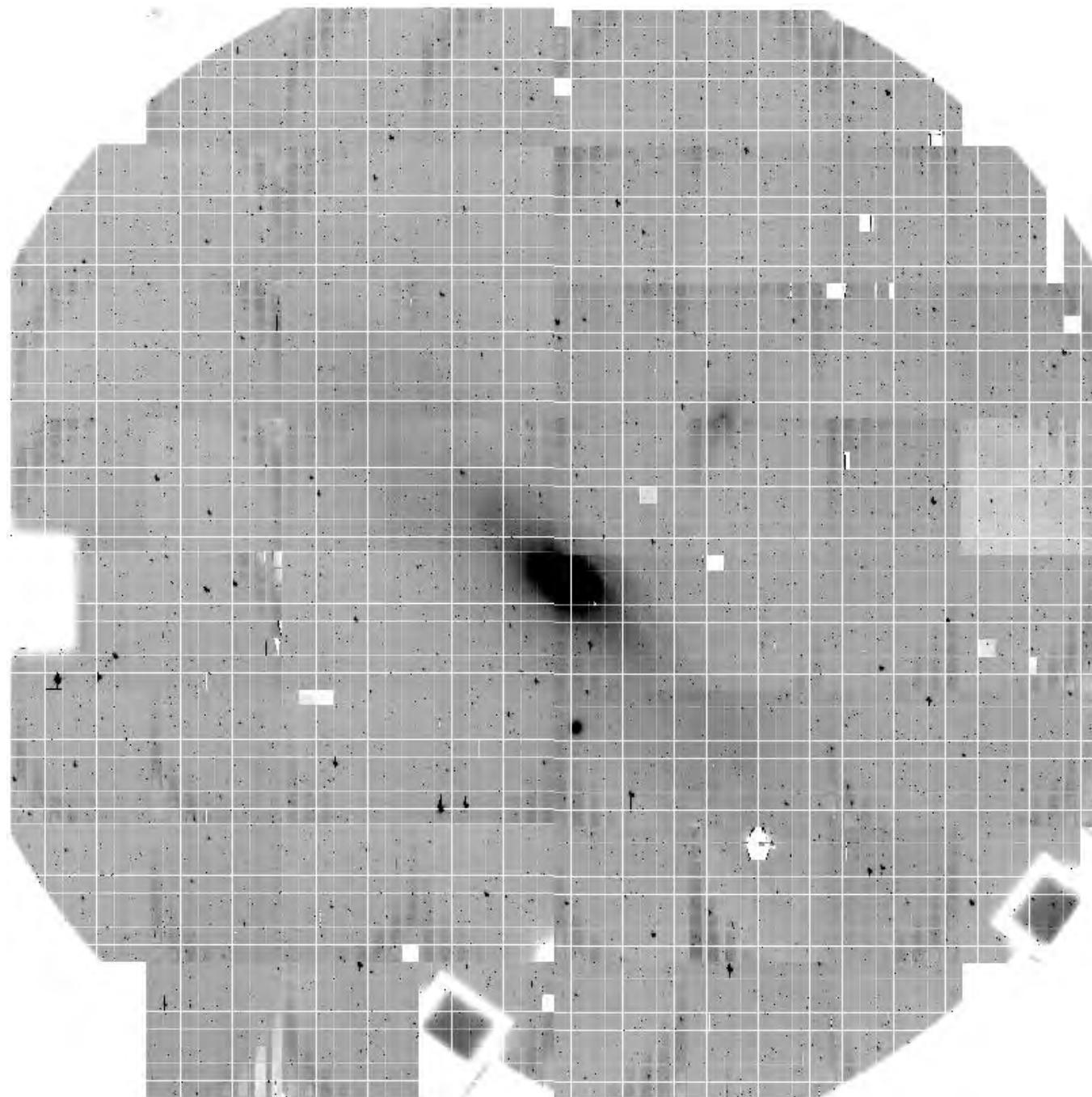


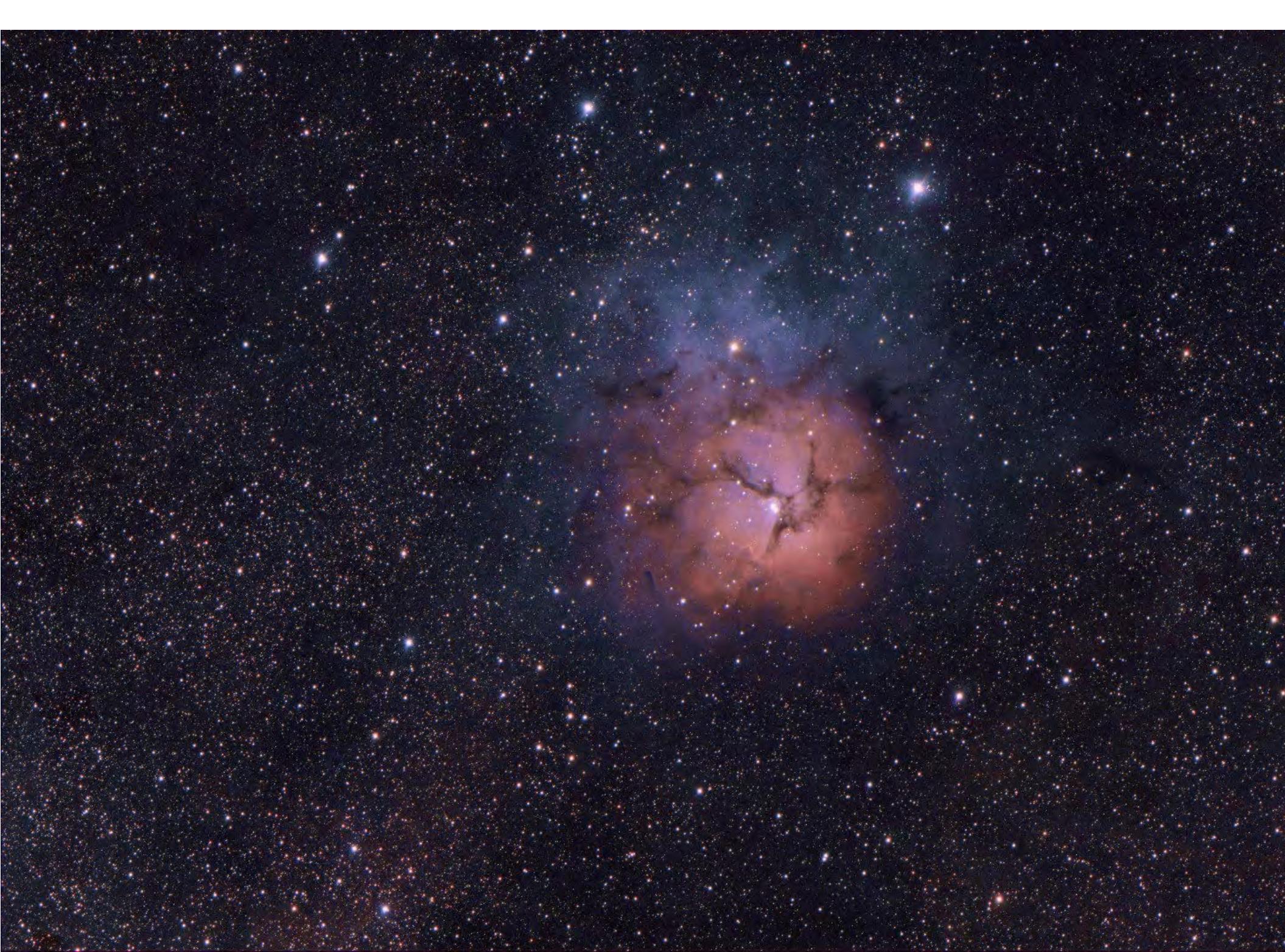
Field of view

- 3 deg (7 square degrees)
- Limiting magnitude $f(t, \text{filter}) \sim 23$ (w)



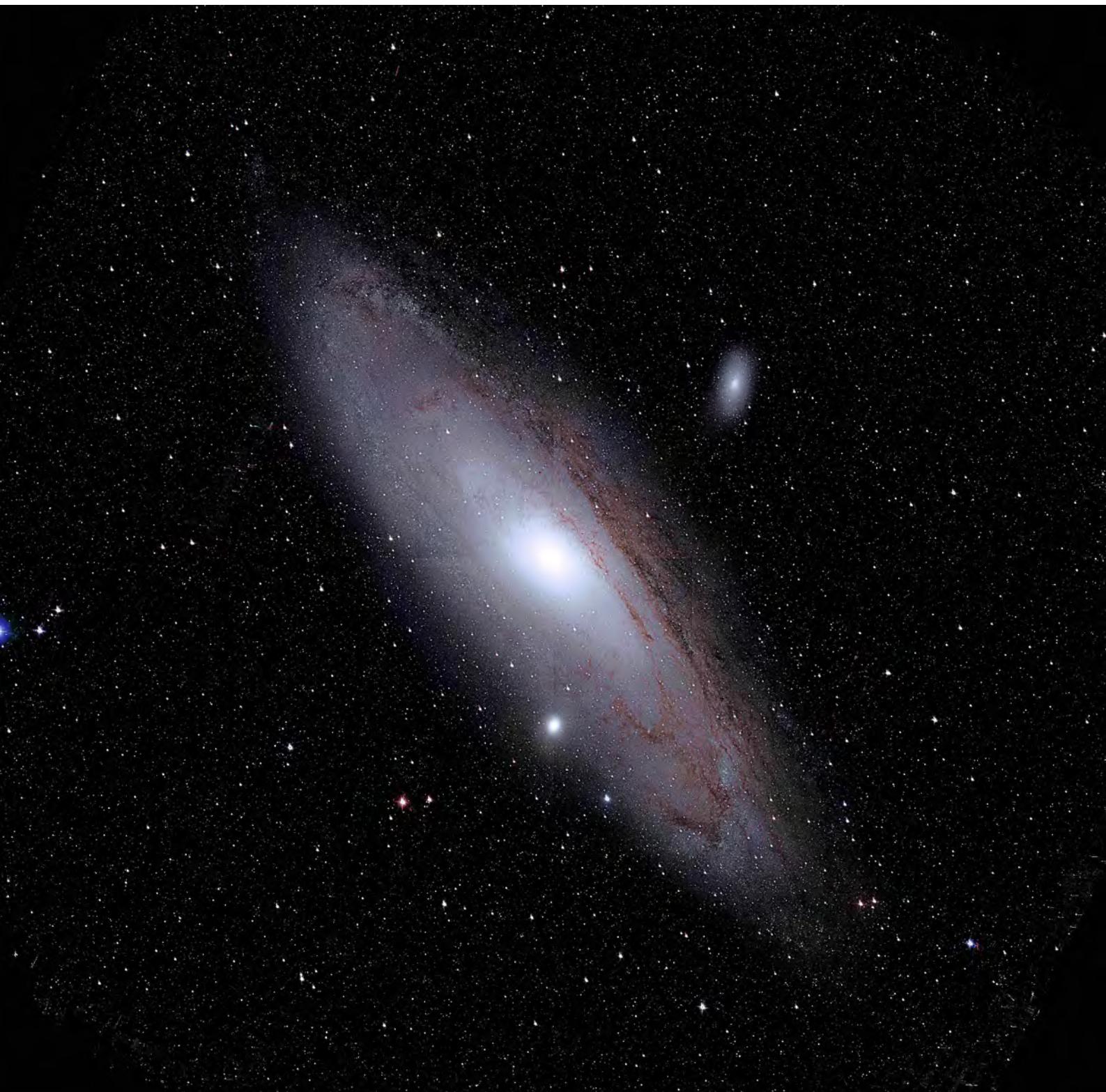
Raw image











Veda s PanSTARRsom

Vnútorná slnečná sústava

Vonkajšia slnečná sústava

Málo hmotné hviezdy, hnedí trpaslíci, mladé hviezdy

Exoplanéty

Mliečna Dráha a lokálna štruktúra

Hĺbkový prieskum galaxie M31

Masívne hviezdy, progenitory supernov

Kozmológia – Explosívne a premenné tranzienty

Vlastnosti galaxií

Aktívne galaktické jadrá a kvazary s vysokým červeným pos.

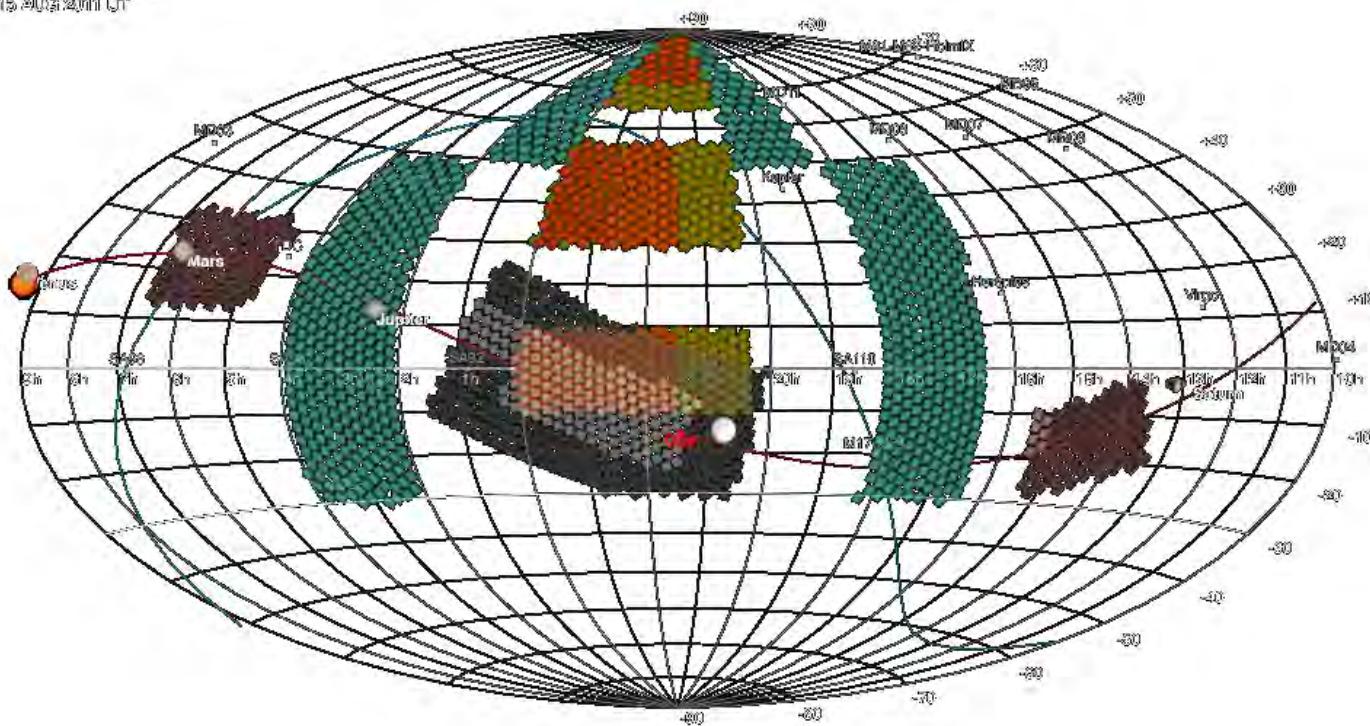
Kozmologické gravitačné šošovkovanie

Veľké štruktúry vesmíru

Čo vidíme za mesiac s PS1

CG 143

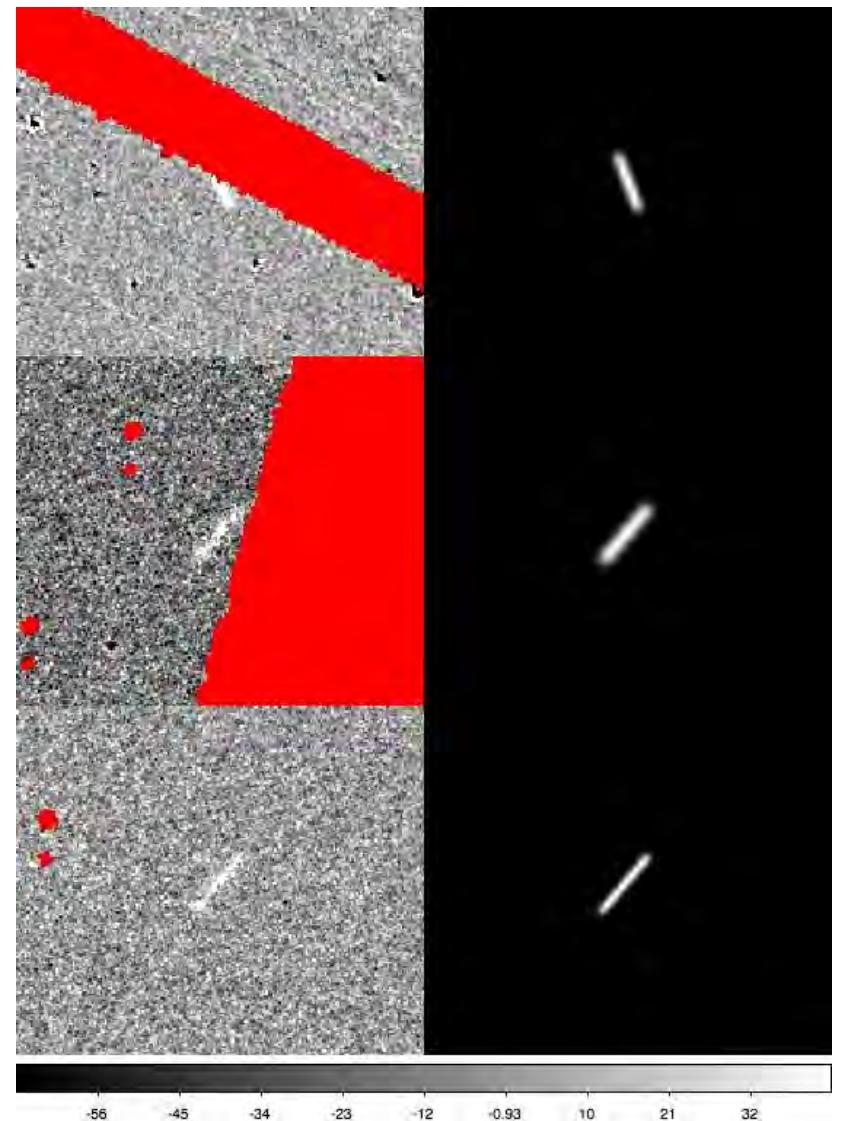
12 AUG 2011 UT to 11 SEP 2011 UT
Showing night 15 AUG 2011 UT



All day/night

Moja práca

- Moving Object Processing System (support)
- Trail fitting
- Discovering, submitting
- Physical properties of asteroids
- Interstellar comets



Ako som sa tam dostal?

- Ako na to: íst' von, konferencie, mat' výsledky a t'ah na bránu

05/2006 Meeting on asteroids and comets in Europe, Vienna, Austria
07/2008 Asteroids, Comets, Meteors, Baltimore, USA
09/2008 IMO International Meteor Conference, Sachticky, Slovakia
04/2009 First planetary defense conference, Granada, Spain
09/2009 European planetary science congress, Potsdam, Germany
05/2010 Meteoroids, Breckenridge, USA
05/2011 Planetary Defense Conference, Bucharest, Romania
05/2012 Asteroids, Comets and Meteors, Niigata, Japan
10/2012 Division for Planetary Sciences Annual Meeting (DPS), Reno, USA
04/2013 Planetary Defense Conference, Flagstaff, USA
10/2013 Division for Planetary Sciences Annual Meeting (DPS), Denver, USA

Objavy: 100 NEO
13 komét
5000 asteroidov



