



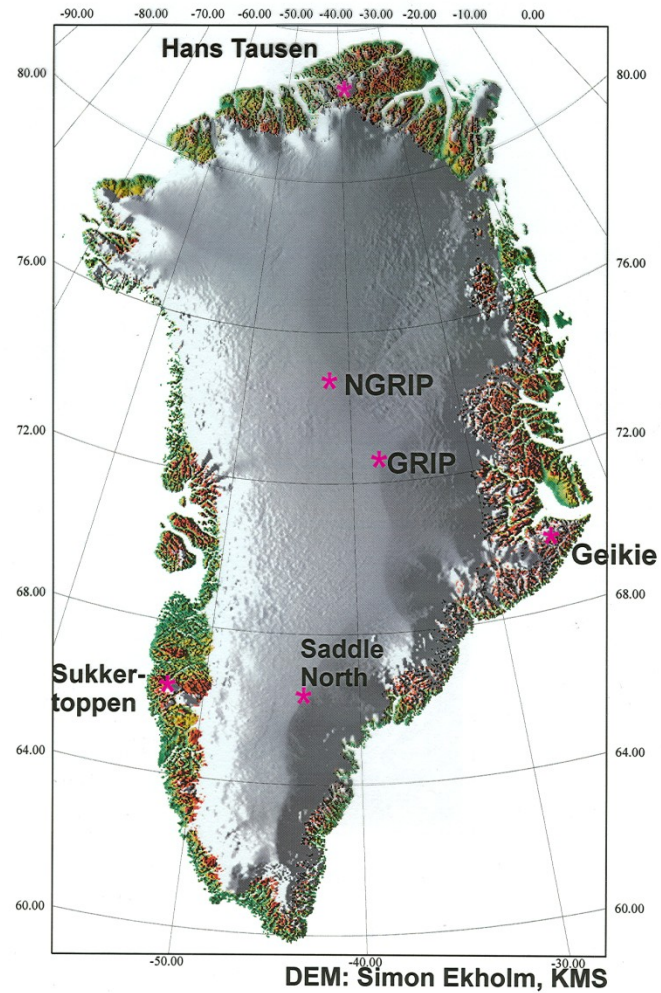
# satellite geophysics. Topography, lec\_day\_10\_1.ppt

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- Højden af landområder
- Højde og dybde af søer
- Højde og dybde af is og havområder.
- Samt ændringer af disse højder/dybder !!



# Satellite geophysics. Topografi.





# Satellite geophysics. Topografi.

- **Satellitter:**
- <http://database.eohandbook.com/database/missiontable.aspx>
- **Instrumenter**
- <http://database.eohandbook.com/database/instrumenttable.aspx>
- **Data sources**
- <http://database.eohandbook.com/measurements/overview.aspx>



## Satellite geophysics. *Satelitter I, USA.*

- SRTM, - Space Shuttle
- **TPX** – Radar altimetri og SAR
- ICESAT – Laser altimetri
- ASTER
- **Landsat 5 og 7**
- **NMP EO-1**



## Satellite geophysics. *Satelitter II, EU/CDN*

- ENVISAT, (ESA)
- RADARSAT, (CDN)
- CryoSat2 (ESA)
- SPOT-4,5, (CNES)
- RapidEye (DLR)
- TanDEM-X (DLR)
- TerraSAR-X (DLR)



## Satellite geophysics. *Satelitter III, Rus mm.*

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- Monitor-E (Rus)
- Resurs DK 1 (Rus)
- THEOS (Thailand)



## Satellite geophysics. Instruments, I.

- Radar and Laser altimeters
- Interferometric altimeters
- MSS – Multispectral scanner (80 m res.)
- TM , ETM+. Thematic mapper (30 m res.)
- ALI, optical imager (10 m res.)
- Hyperion, Hyperspectral imager (30 m res.)
- LEISA AC – correction for atmosphere



## Satellite geophysics. Instruments, II.

- HRVIR (Visible, infrared), (10 m res., styrbar !)
- X-band SAR (1.2 – 1.4 m res.)
- PAN (GISTDA), High Res. Optical (2m res.)
- PSA (Pancromatic Imag. System), (8 m res.)
- GEOTON – optical (1 m res.)
- ARINA – electromagnetic field variations





## Satellite geophysics. Generelt.

- Nogle instrumenter ser kun ”nedad”
- Nogle instrumenter kan drejes om 1 akse
- Der er stor forskel på opløsning og dækningsområde
  
- De fleste er sol-synkrone
- Repeat cycle varierer meget. Helt ned til 1 dag (med 5 satellitter)



## Satellite geophysics. Dybder.

- Udfra vandfladens højde-variationer beregnes skøn for tyngdeanomalien
- Her løses inverst problem, og der fås dybder under antagelse af havvand og bund har konstant tæthed.



# Satellite geophysics. Land is-tykkelse.

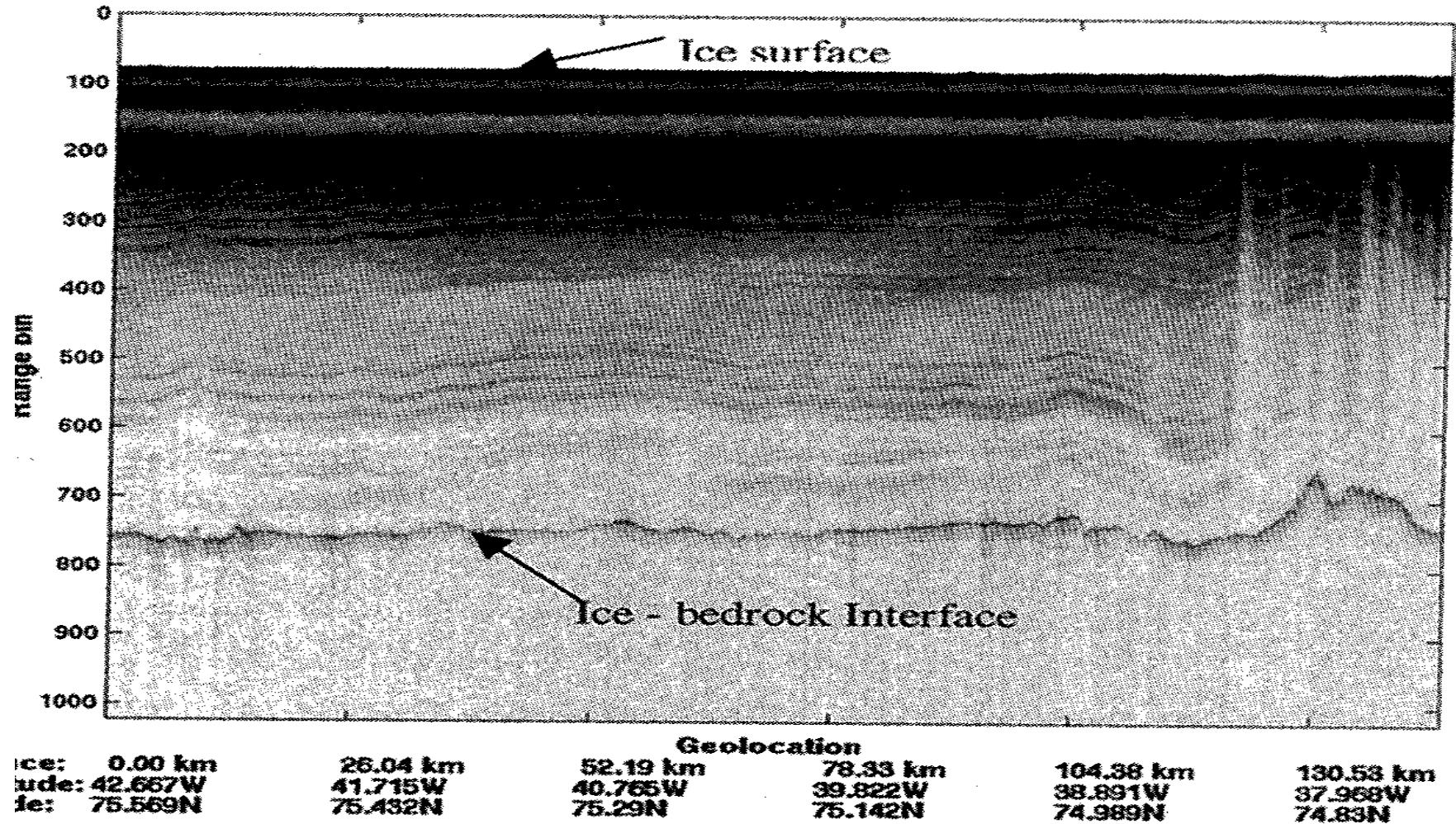
Fra fly eller bil:

<http://www.geophysical.com/iceandsnow.htm>





# Satellite geophysics. Is-tykkelser.







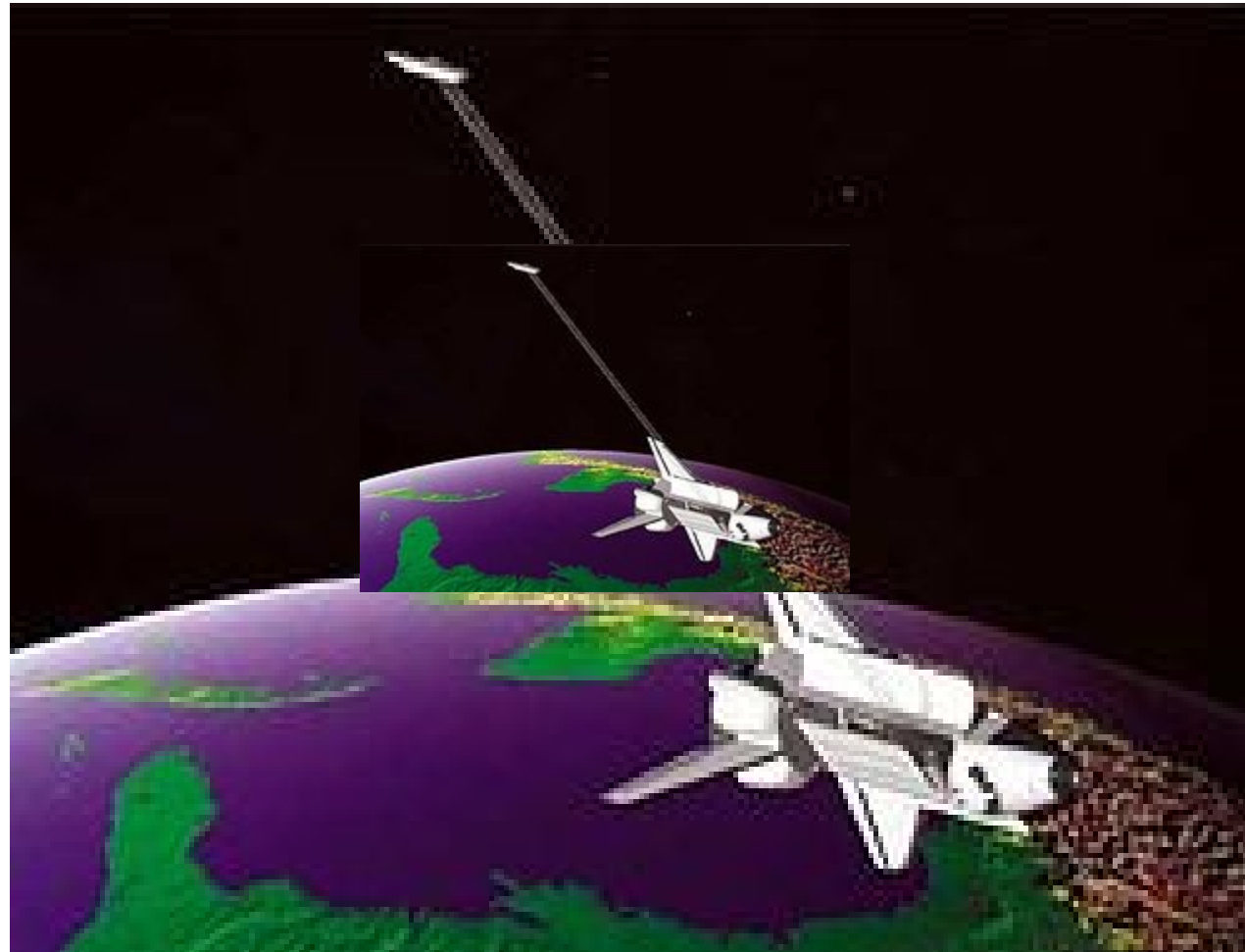
## Satellite geophysics. SRTM.

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The Shuttle Radar Topography Mission (SRTM) obtained elevation data on a near-global scale to generate the most complete high-resolution digital topographic database of Earth. SRTM consisted of a specially modified radar system that flew onboard the Space Shuttle Endeavour during an 11-day mission in February of 2000.



# Satellite geophysics. SRTM.





# Satellite geophysics. SRTM.





# Satellite geophysics. SRTM - UCPH

## Download

Map Satellite Hybrid

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**CGIAR-CSI SRTM 90m Global Elevation Database**  
Mashup by Jawoo Koo (HarvestChoice/FPRI)

Sortedams Sø

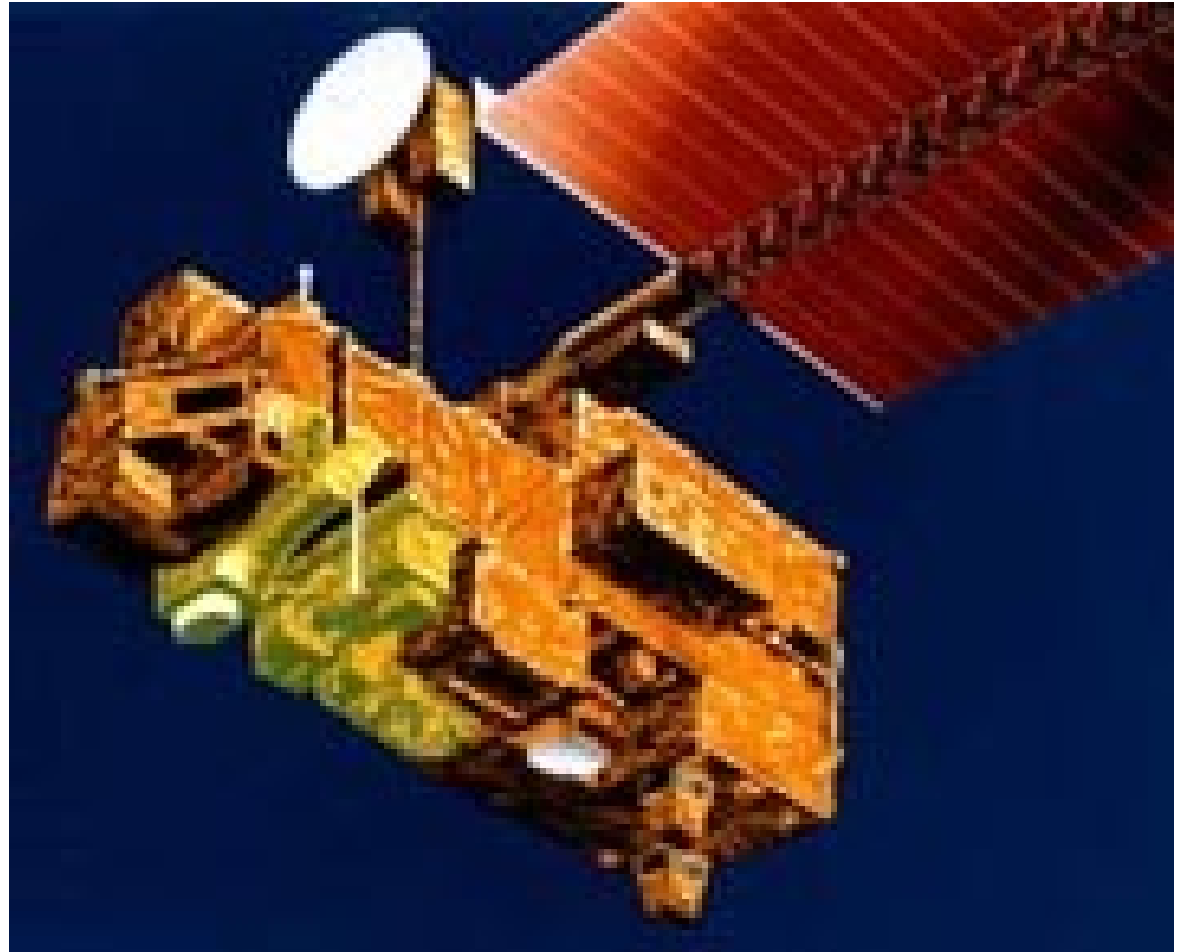
Drag and drop the marker  to see the data tile thumbnail and download links.





## Satellite geophysics. ASTER

Flying on "TERRA"  
Covers up to 81 gr.





# Satellite geophysics. ASTER.

## Maule Volcanic Field, Chile-Argentina

