The SRTM Data Set

Version 1 - Original release
Version 2 - Edited
Version 3 - Void filled?....

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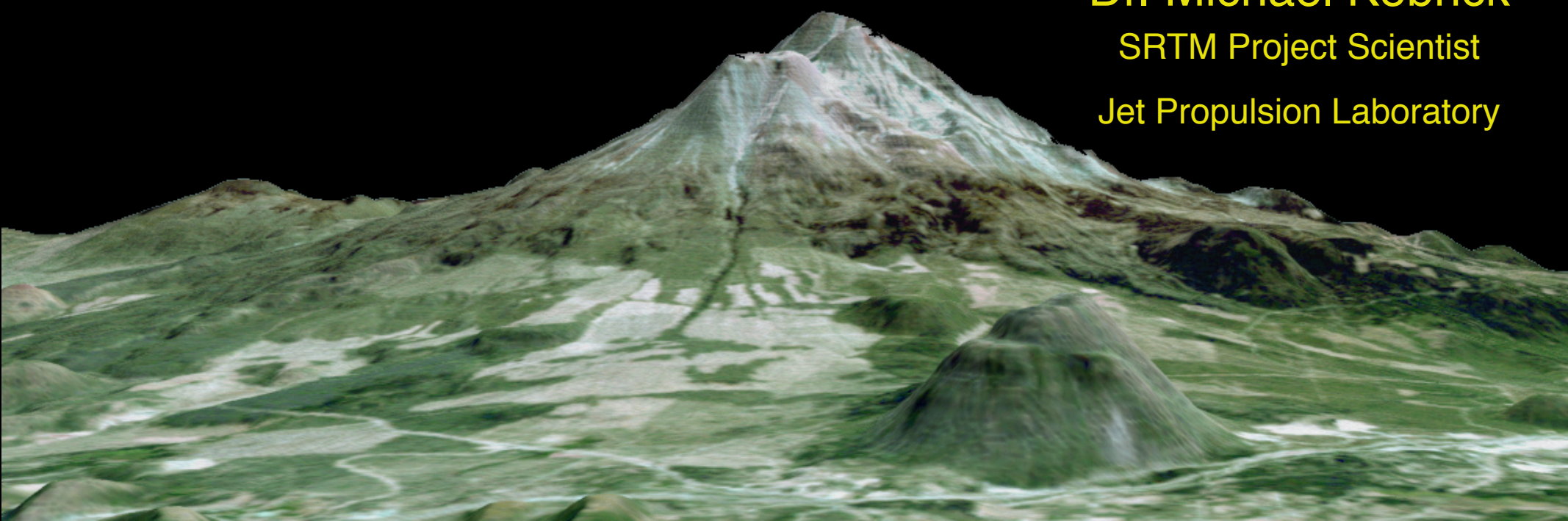


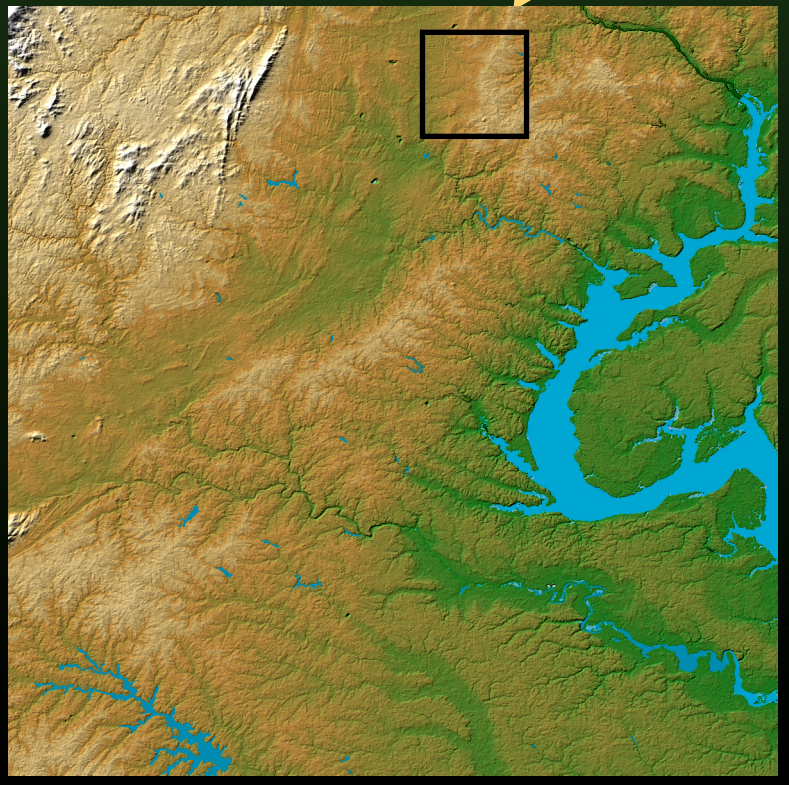
'Version 2'

- NGA editing (aka finishing)
- Reprocessing "missing island" cells
- SRTM Water Body Data
- SRTM Image Data
- The Future

NGA editing

- Flattening water bodies
- Defining coastlines
- 'Step down' of rivers
- Spike and well removal
- Filling small (<16 pixel) voids

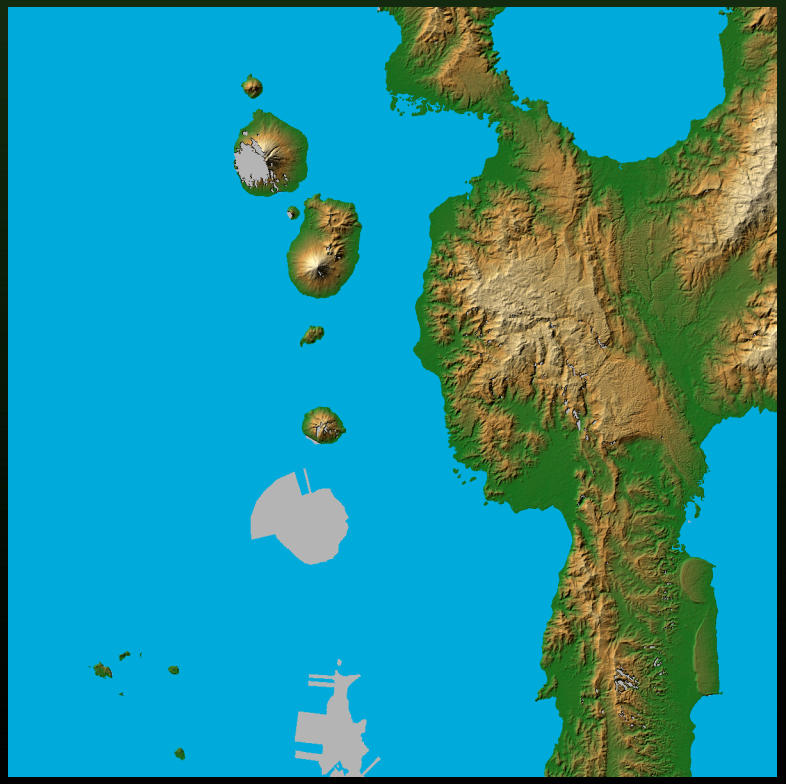
N38W078 unedited



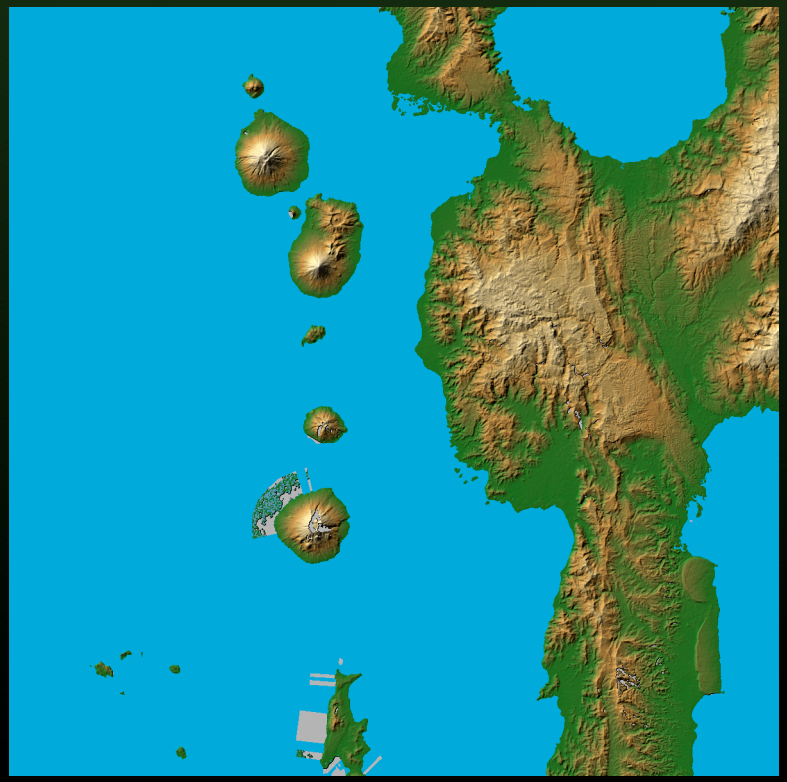
N38W078 edited

SRTM 'Island Reprocessing'

- Phase unwrapping or other errors caused data voids, occassionally where entire islands went undetected
- Reprocessing with slightly 'tweaked' parameters allowed recovery of some data



N00E127 original



N00E127 reprocessed

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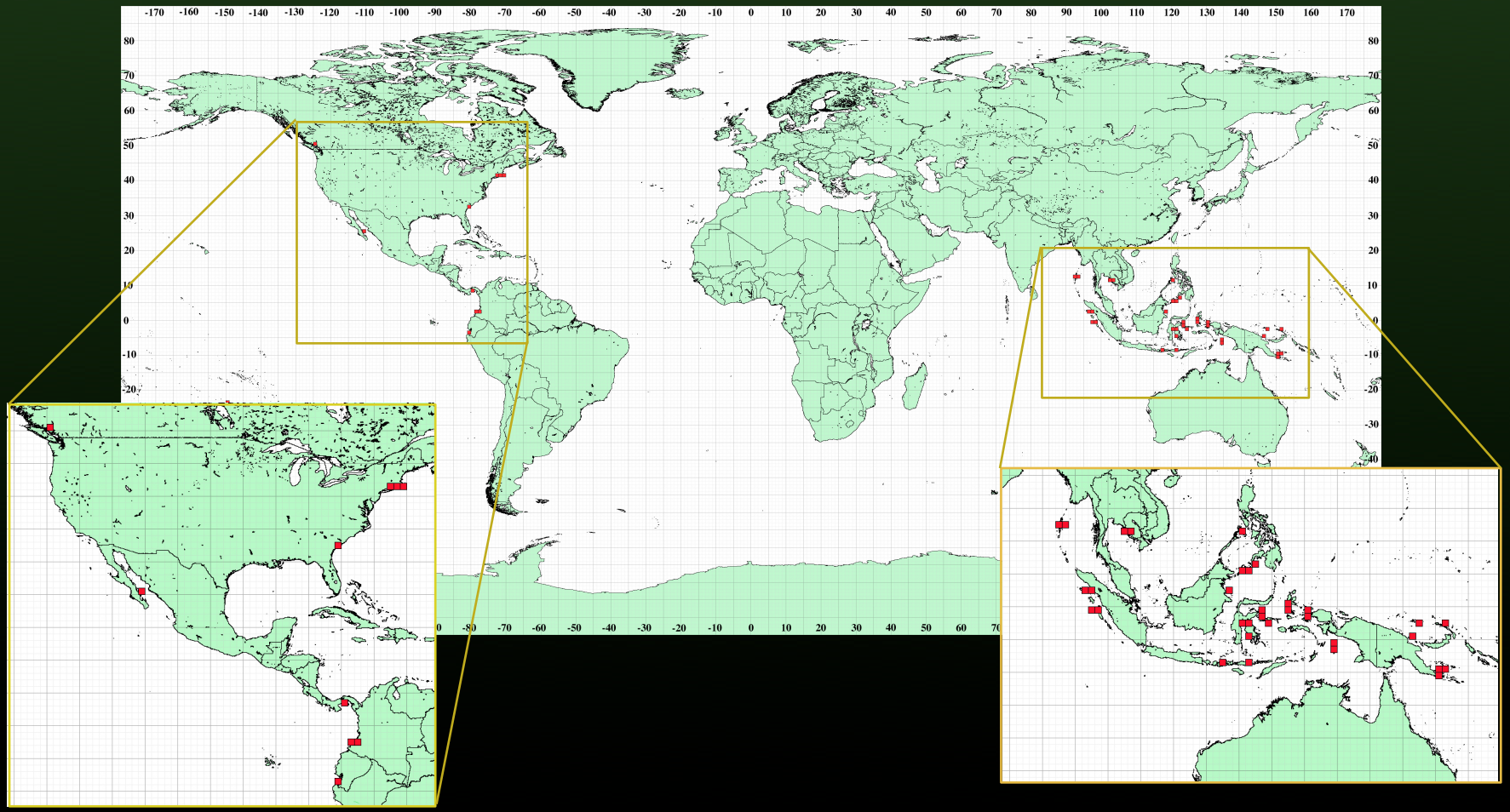
SRTM 'Island Reprocessing'

- 44 cells have been reprocessed, primarily in western Pacific



SRTM Water Body Data

- SWBD are by-product of NGA data editing to produce DTED-2
- One cell for eachSRTM DEM cell containing water (12,299 files)
- Available through USGS Eros Data Center in ESRI Shapefile format

Unedited

Edited

Water Body Data

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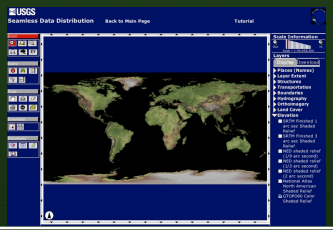
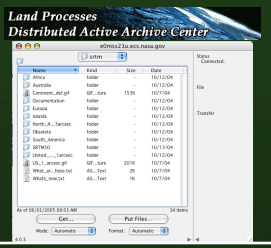
Data Availability



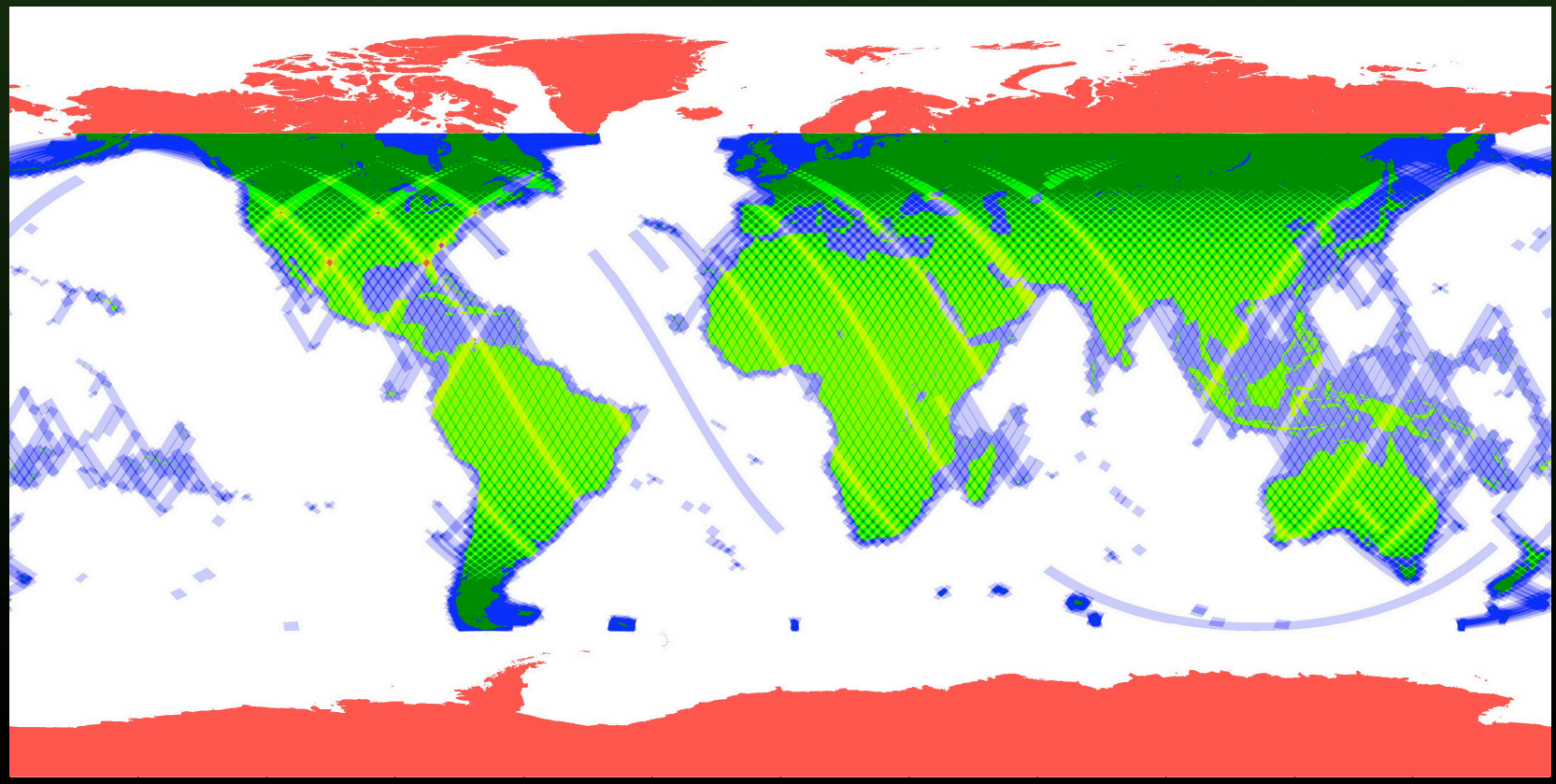


	SDDS Seamless Server http://seamless.usgs.gov/	Mail Order	FTP site ftp://e0mss21u.ecs.nasa.gov/srtm/
Version 1 Original release	-	-	1” U.S. - *SRTM* 3” World - averaged - *SRTM* 30” World - averaged - *GTOPO30*
Version 2 Edited	1” U.S. 3” World - thinned *ArcGrid, Bil, TIFF, GridFloat*	1” U.S. - *DTED* 3” World - thinned - *SRTM(?)*	1” U.S. - *SRTM* 3” World - averaged - *SRTM* 30” World - averaged - *GTOPO30* *(coming soon)*
Version 3 Void filled?			

Notes: Formats noted in cyan
Edited = ‘finished’
Generation method: thinned = subsampled = center sample of 3x3 array (consistent with DTED standard)
averaged = average of 3x3 array (decreases high frequency noise) = ‘research data’

SRTM Image Data

- Each of 765 SRTM data takes also produced rectified image swath
- Orthorectified Image Mosaic (OIM) generated for NGA under special arrangement



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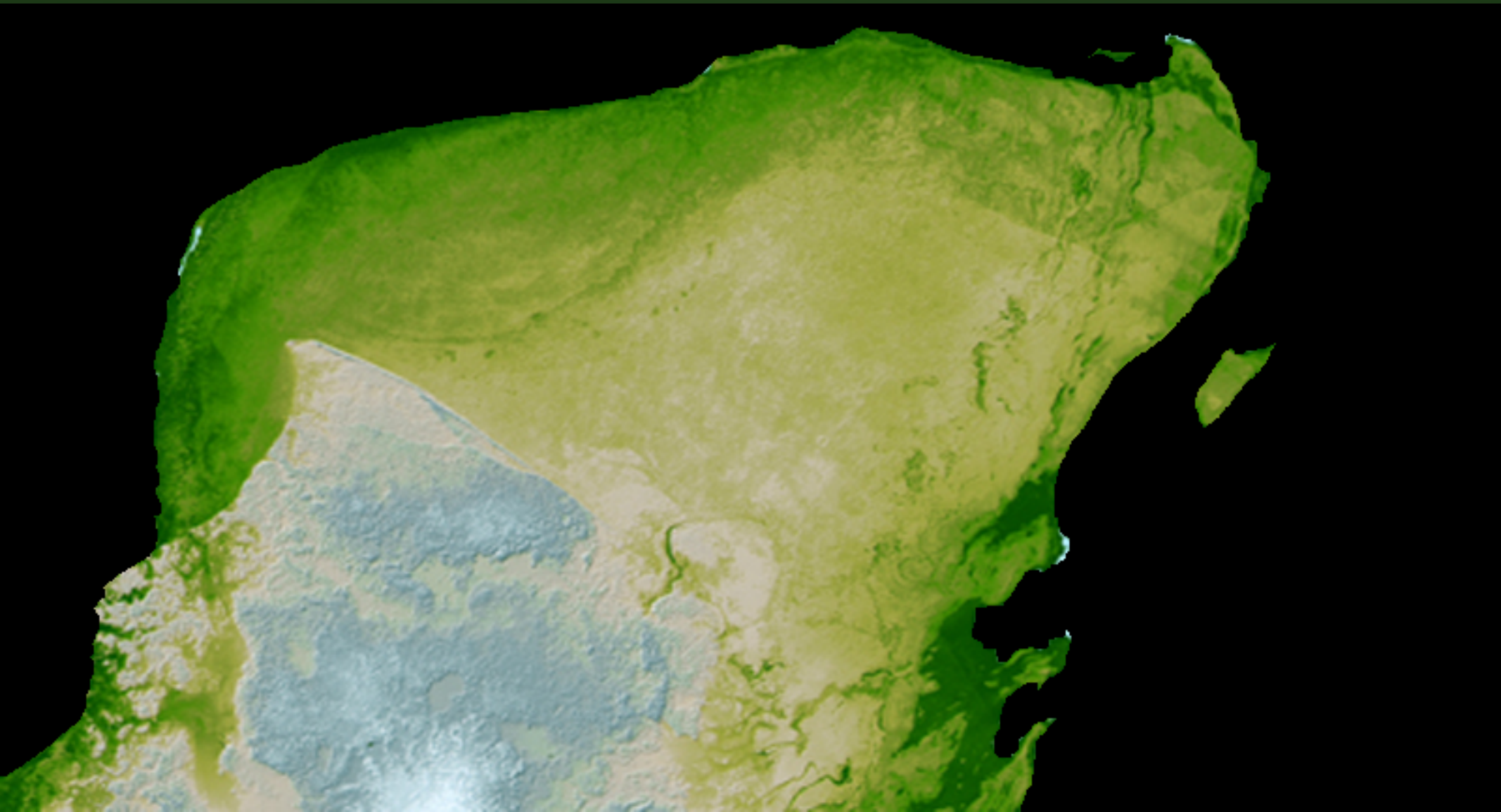
SRTM Image Data

SRTM shaded relief map of Yucatan



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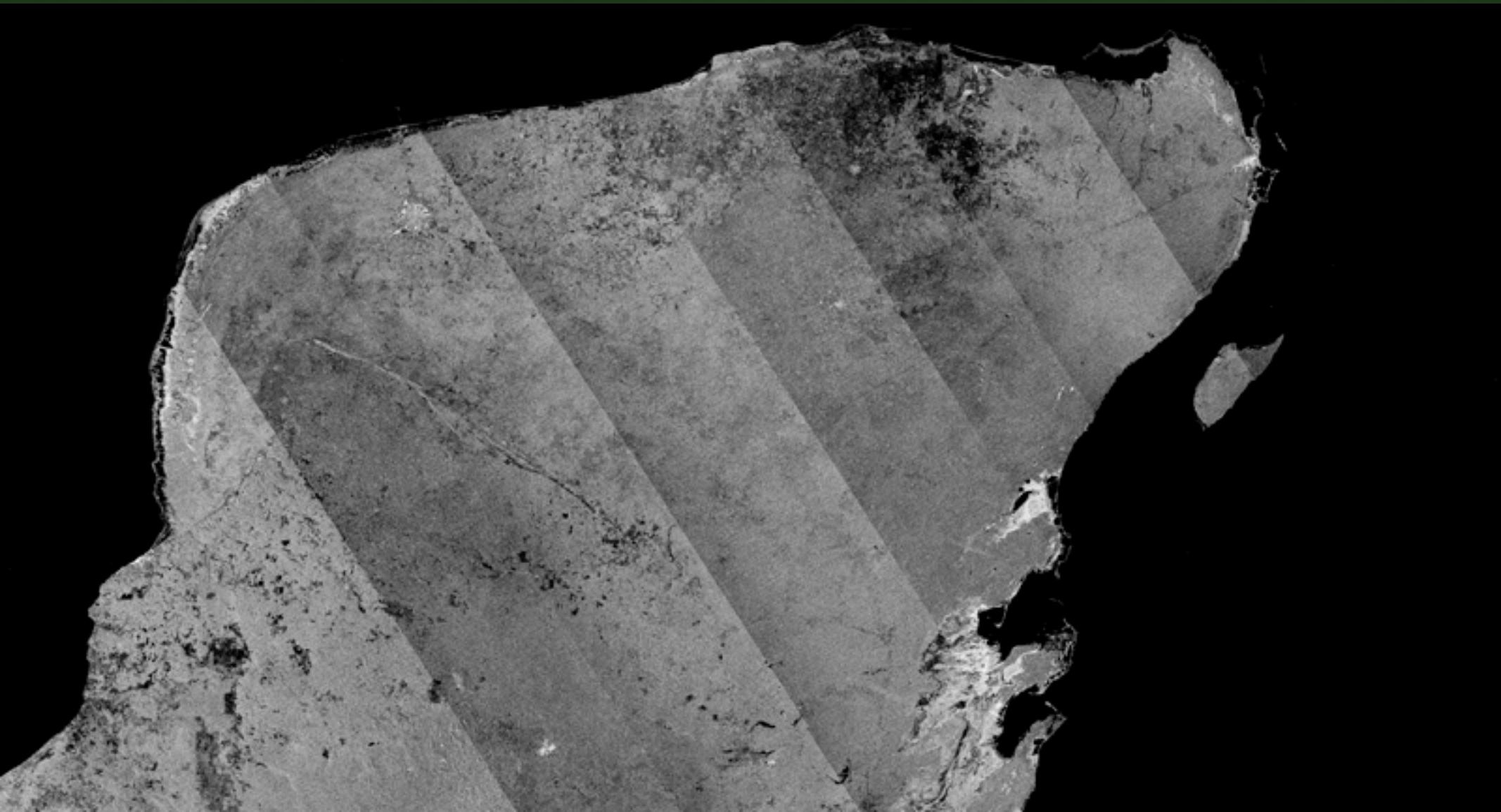
SRTM Image Data

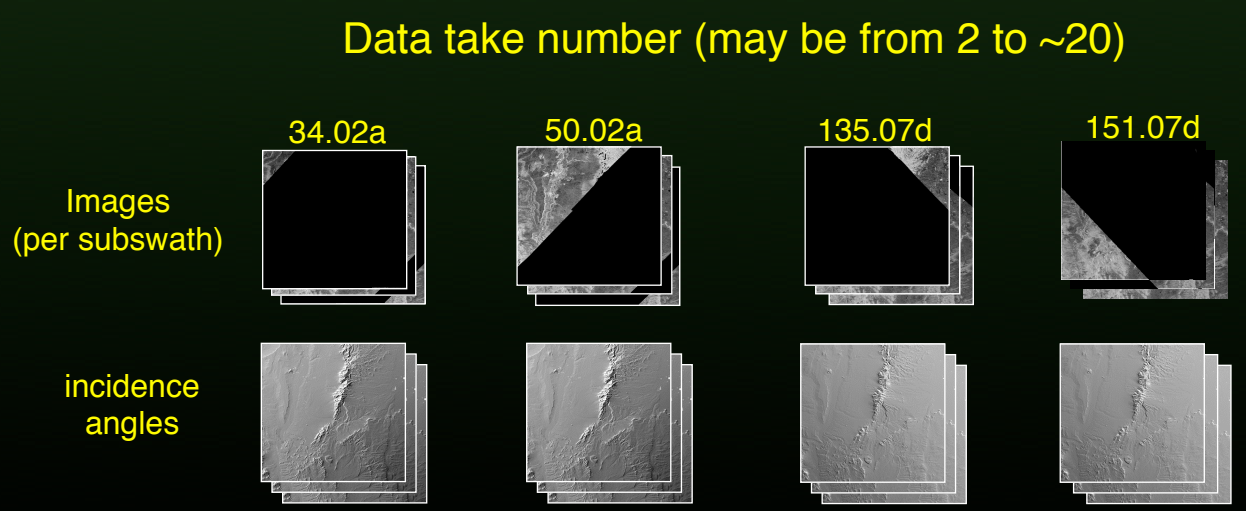
SRTM image mosaic of Yucatan



SRTM Image Data

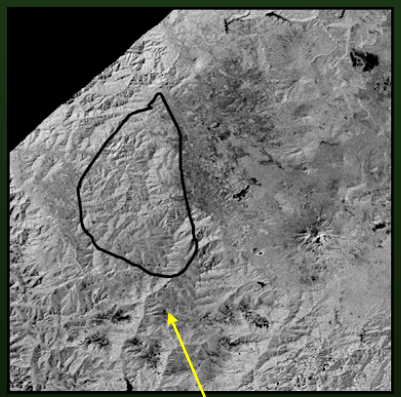
- Includes image, incidence angle map for each subswath crossing each cell
- Subswath inclusion allows differentiating polarizations
- Numerous files/cell, total data set ~ 650 gigabytes (compressed!)
- Distributable at 1 arcsec
- Distribution method still TBD

Individual data take stacks for each cell

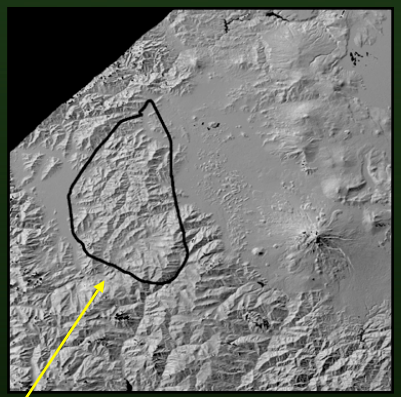


SRTM Image Data Example Application

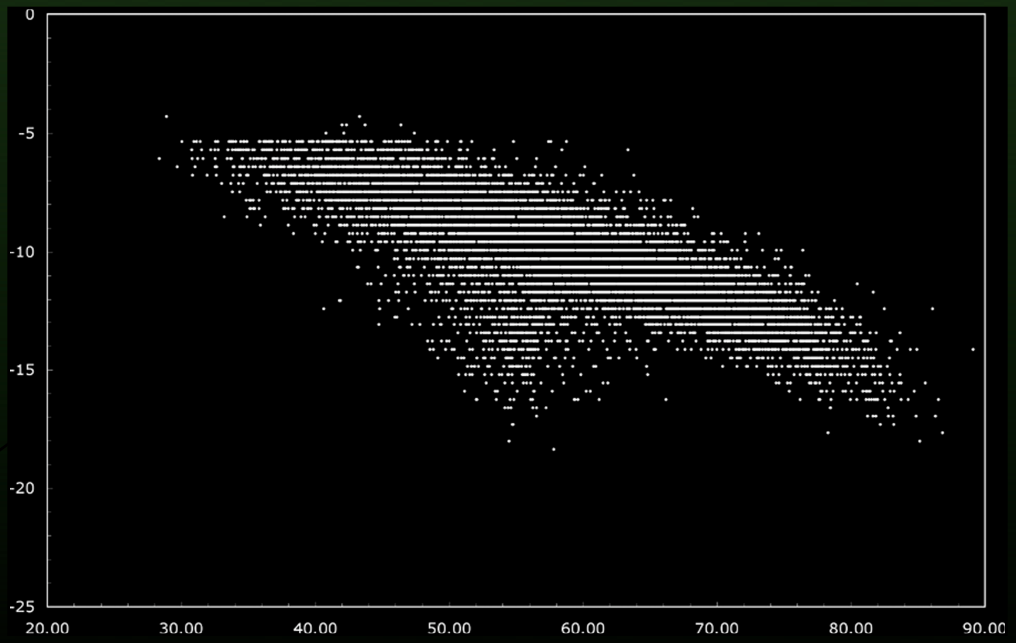
Image



Incidence angle



User-defined
region of interest



Scatter plot generates
backscatter curve

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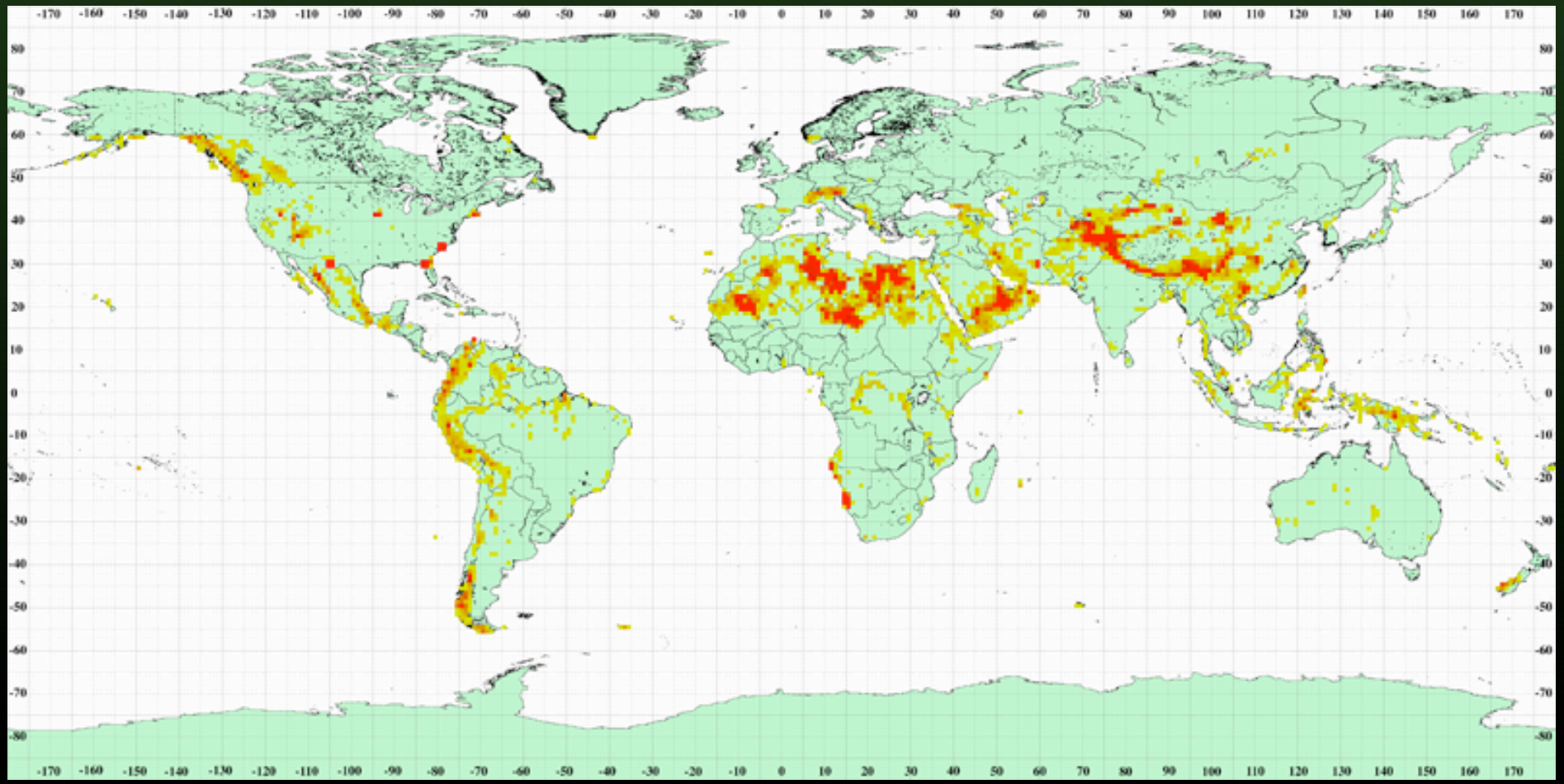
What's Next?

- Fill voids - cell average 0.52%, median 0.0023%



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SRTM Data Popularity!

Equivalent to ~ 2.5 million files/month