



Teoretický blok
Hospodarení s přírodními zdroji TaS



**Aplikace DPZ a GIS v podmínkách
tropu a subtropu**

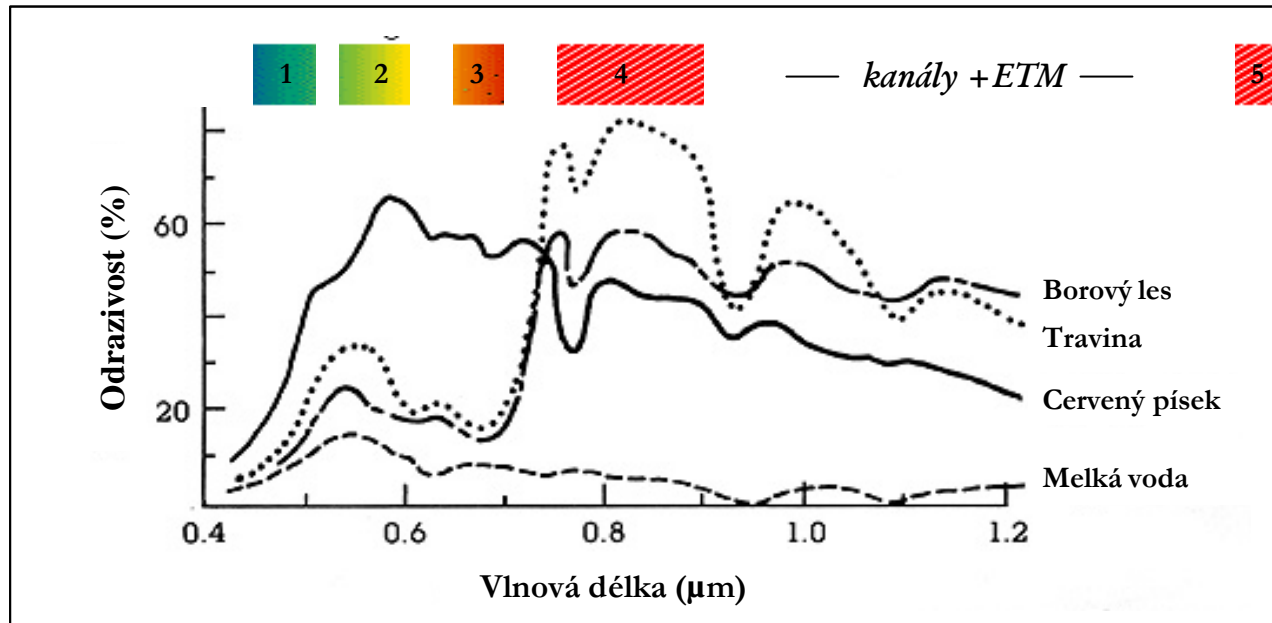
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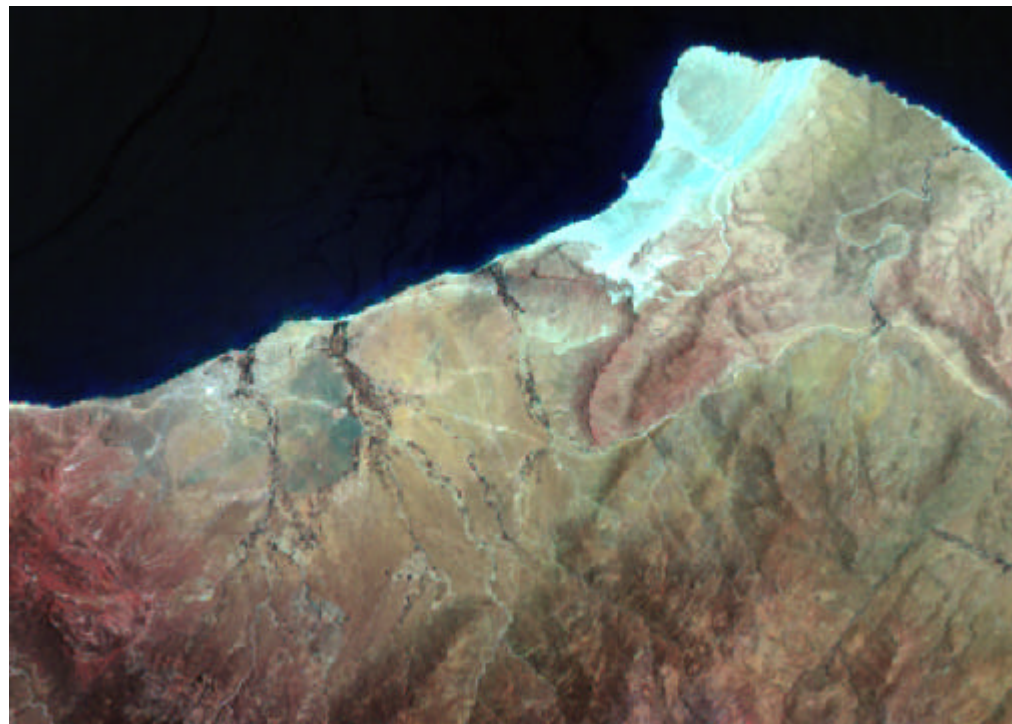
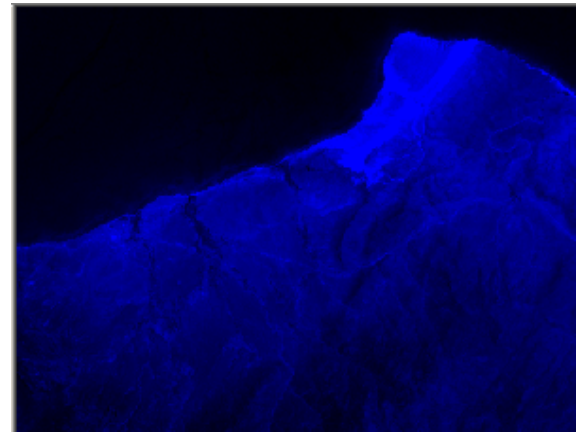
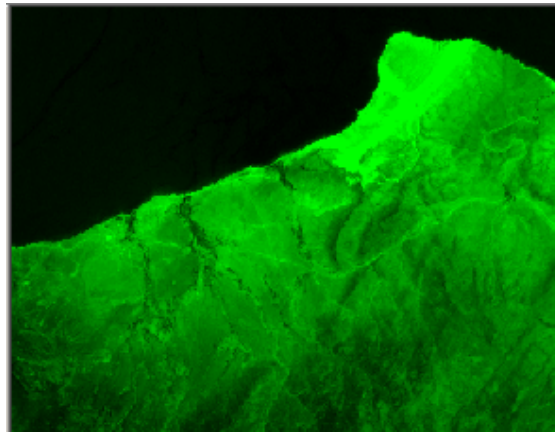
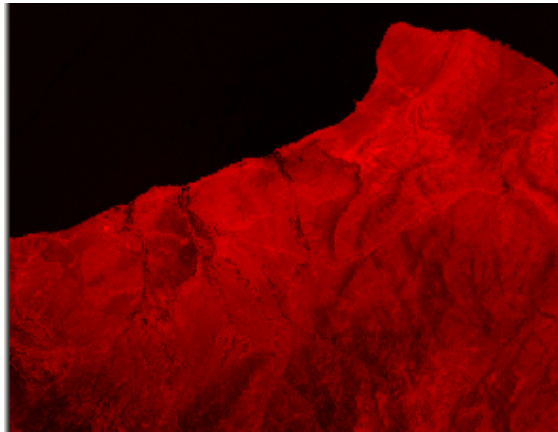
Fyzikální základy optického (pasivního) DPZ:

- zemský povrch je snímán v různých částech spektra (viditelné, IC, term., PAN)
- počet kanálu -> multispektrální (3 - 7) X hyperspektrální (až 250)
- RGB kompozice -> možnost vizualizace „neviditelných“ jevu



Optický DPZ využívá základní fyzikální vlastnosti všech objektů: *ruzné povrchy (objekty) mají v jednotlivých částech spektra rozdílnou odrazivost.* **Vegetace** absorbuje velkou část záření ve viditelné části spektra pomocí pigmentu, proto je odrazivost v zelené části spektra relativně vysoká. Naproti tomu (a oproti ostatním povrchům) má vegetace v blízké infračervené oblasti spektra vlivem struktury pletiv odrazivost velmi vysokou. Na dané spektrální křivce se „podepisuje“ i druh a aktuální stav (aktivita) vegetace. **Voda** má vysokou absorpci záření ve všech částech spektra, proto je její odrazivost velmi nízká. **Holá puda** má odrazivost proměnlivou vzhledem k obsahu vody a minerálu, strukture, texture, atd. Většinou však bývá její odrazivost průměrná v celém spektru.

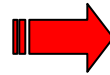
RGB kompozice -» vizualizace



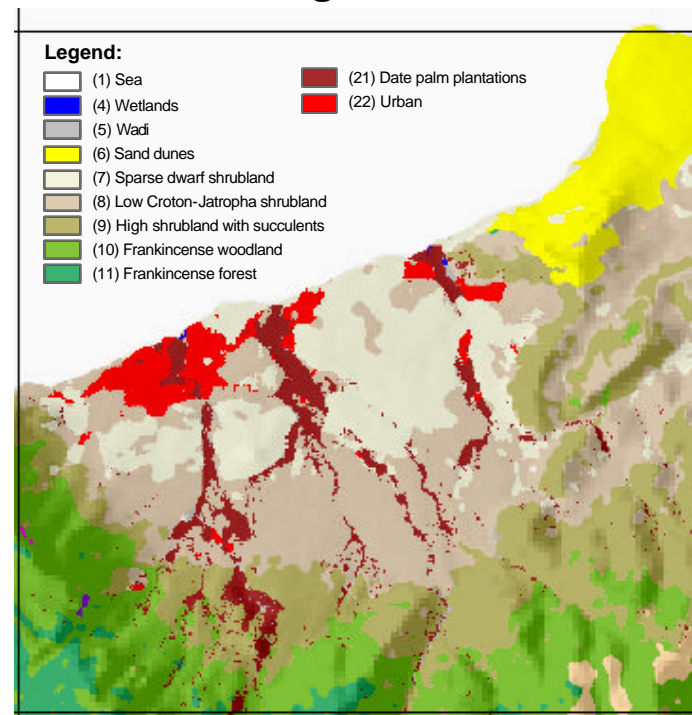
Classification:

- pixels are sorted in thematic classes ... creation of a thematic map
- possibility to link a database
- thematic layer carrying information - ready to use in any GIS or DSS

Raw image:



Classified image:



KLASIFIKACE:

- pixely jsou razeny do tříd ... vzniká tematická mapa.
- různé povrchy mají různou odrazivost v různých částech spektra.....
- RGB kompozice -> možnost vizualizace a použití „neviditelných“ jevu

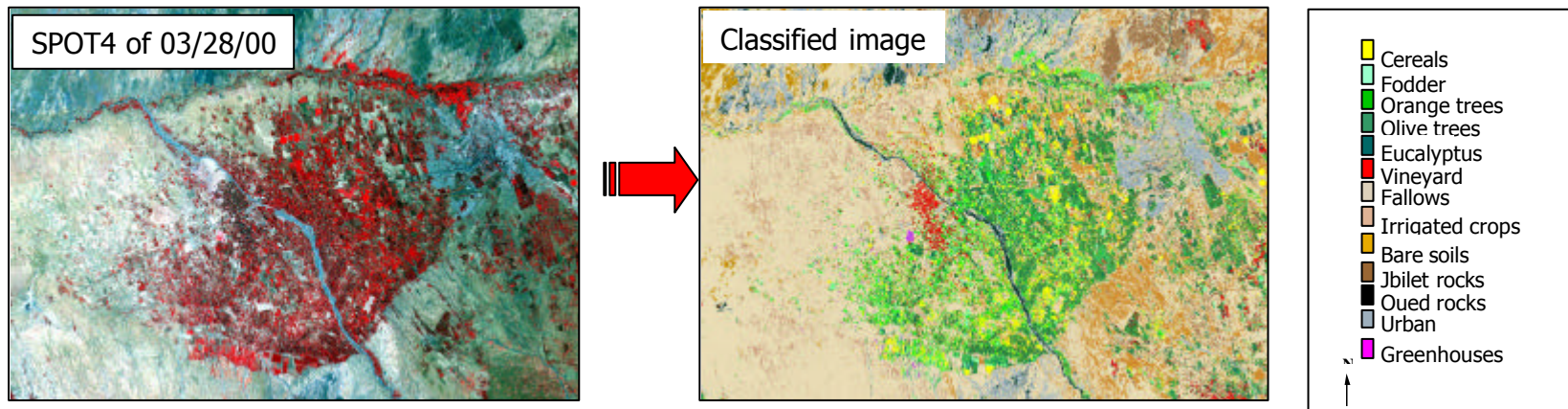
Zpusoby klasifikace:

- řízená **X** nerízená
- Hard **X** Fuzzy

Problém
neklasifikovaných
pixelu

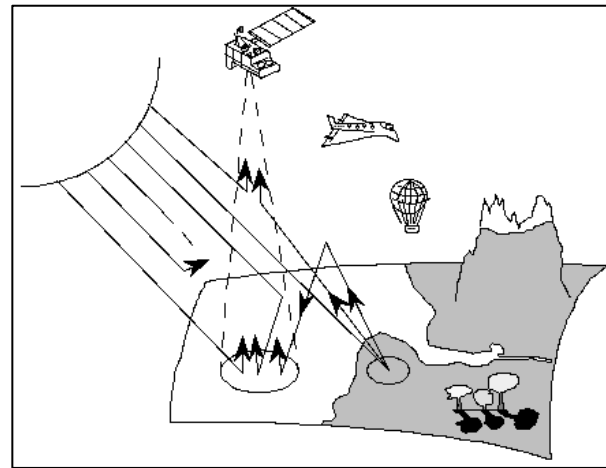
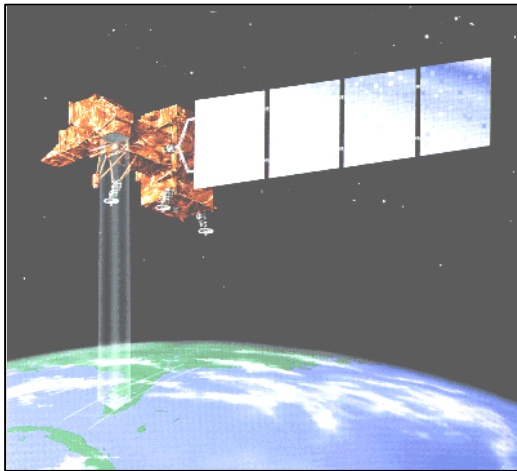
Rozhodovací kriteria:

- min. vzdálenost
- normalizovaná min. vzdálenost (napr. smerodatná odchylka)
- maximální pravdepodobnost



Družicové snímky:

- **low-resolution** (pixel 0,8 - 4 km, záber 2 500 km; NOAA-AVHRR, SPOT Veg.)
 - **moderate resolution** (pixel 250 m, záber cca 1500 km; MODIS)
 - **high resolution** (pixel 5-60 m, záber 50 - 180 km, Landstat, SPOT, IRS, etc.)
 - **ultra-high resolution** (pixel - méne než metr, záber cca 10km)
-
- z velikosti pixelu vyplývá že výsledná radiometrická hodnota je často výsledkem odrazivosti RUZNÝCH povrchu !
 - problém stínu, pozadí, atmosférických vlivu, atd ...



Družice	Stát/ Organizace	Start	Prostorové rozlišení (m) / Záběr (km)			Termínové rozlišení (dny)
			panchro	multispektr.	radar	
Landsat 5	USA	1.3.1984	-	30-120/185	-	16
Spot 1	FRANCIE	22.2.1986	10/117	20/117	-	26
Spot 2	FRANCIE	22.1.1990	10/117	20/117	-	26
NOAA 14	USA	30.12.1994	-	1100/2600	-	2x denne
ERS-2	ESA	21.4.1995	-	-	26/100	35
Radarsat 1	KANADA	4.11.1995	-	-	7,6-100/ 50-500	24
IRS-1C	INDIE	28.12.1995	5,8/70	23,5-70,5/148	-	24
OrbView 2	USA	1.8.1997	-	1100/2800	-	1
Meteosat 7	EUMETSAT	2.9.1997	-	5 km/ polokoule	-	30 min
IRS-1D	INDIE	29.9.1997	5,8/70	23,5-70,5/148	-	24
TRMM	USA	28.11.1997	-	2100/720	5-45 km	-
Spot 4	FRANCIE	24.3.1998	10/117	20-1100/117-2600	-	3-26
NOAA 15	USA	13.5.1998	-	1100/2600	-	2x denne
Resurs O1-4	RUSKO	10.7.1998	-	30-161/60-714	-	21
FASAT-B	CHILE	10.7.1998	-	150-1500/?	-	21
TMSAT-1	THAILAND	10.7.1998	-	100-2500/?	-	-
Landsat 7	USA	15.4.1999	15/185	30-60/185	-	16
UOSAT 12	ANGLIE	20.4.1999	10/10	30/60	-	-
Kitsat 3	KOREJSKÁ REP.	26.5.1999	-	15/50	-	?
TUBSAT-C	NEMECKO	26.5.1999	350	-	-	?
Okean-O1	RUSKO	17.7.1999	-	50-820/195-620	2500/455	5
Ikonos	USA	24.9.1999	1/11	4/11	-	1,5
CBERS 1	CÍNA/ BRAZILIE	14.10.1999	-	20/?	-	20
TERRA	USA	18.12.1999	-	15-90-1000/60-2330	-	16
KOMPSAT	KOREJSKÁ REP.	20.12.1999	-	30/60	-	?
Tsinghua	CÍNA	28.6.2000	-	39/150	-	?

Družice	Stát/ Organizace	Start	Prostorové rozlišení (m) / Záber (km)			Termínové rozlišení (dny)
			panchro	multispektr.	radar	
BIRD	NEMECKO	15.7.2000	-	100-300/150	-	?
NOAA 16	USA	21.9.2000	-	1100/2600	-	2x denne
EO-1	USA	21.11.2000	-	15-60/150	-	16
SAC-C	ARGENTINA	21.11.2000	-	30-300/70	-	?
EROS	IZRAEL	5.12.2000	1,8/12	-	-	3-5 dní
GOES 12	USA	23.7.2001	-	5 km/ polokoule	-	30 min
QuickBird 2	USA	18.10.2001	0,6/11	2,4/11	-	2-4 dny
Meteor 3M-1	RUSKO	10.12.2001	80/2900	32/76	-	1
Envisat	ESA	1.3.2002	-	150/600	15/100	?
Spot 5	FRANCIE	4.5.2002	2,5/60	10/60	-	26
Aqua	USA	4.5.2002	-	150/2330	-	16
NOAA 17	USA	24.6.2002	1,8/12	1100/2600	-	2x denne

WorldView-1	USA		1 / 4		-	
GeoEye	USA		0,5 / 2		-	

DPZ data zdarma

GLCF (Global Land Cover Facility - archiv družicových dat různého rozlišení, která mohou být použita pro zabezpečení nejruznějších výzkumných úkolů (geografie, ekologie, globální oteplování, odlesňování atd.). Data GLCF jsou dostupná prostřednictvím serveru University of Maryland.

Info: <http://glcf.umiacs.umd.edu/data/>.

Vyhledávání: <http://glcfapp.umiacs.umd.edu:8080/esdi/index.jsp>

V rámci EU: Od 1. 2. 2005 jsou v rámci programu OASIS, který je financované Evropskou komisí, **všechny SPOT data** (s výjimkou DEM) poskytována zdarma. Po řádné registraci a vyplnění on-line formuláru a po schválení vědeckou radou je poskytnut volný přístup ke všem obrazovým datům satelitu SPOT. Info: <http://medias.obs-mip.fr/oasis/>

Od roku 2009 jsou data programu **Landsat** poskytována zdarma. Info: <http://www.usgs.gov>

DPZ data zdarma (pokracování)

SRTM – DEM: Data jsou uložena ve formátu .HGT po územních celcích jejichž strany odpovídají 1° zeměpisné délky respektive země. šířky a je možné je zdarma (!) stáhnout například na internetové adrese: <ftp://edcsgs9.cr.usgs.gov/pub/data/srtm/> nebo <ftp://e0mss21u.ecs.nasa.gov/>. Název souboru představuje vždy země. souřadnice JZ rohu příslušného území o velikosti 1°x 1°. Jeden soubor má ve formátu .ZIP velikost do 2MB. Území ČR představuje přibližně 30MB dat.

MODIS: <http://edcdaac.usgs.gov/datapool/datatypes.asp>

GoogleEarth !

Vyhledávání a stahování dat přes USGS

<http://www.usgs.gov>

The screenshot shows the Earth Explorer interface with three main sections:

- 1. Select your dataset(s)**: A list of categories including Aerial Photography, AVHRR, Commercial, Declassified Data, Digital Elevation, Digital Line Graphs, Digital Maps, EO-1, Global Land Survey, Landsat Archive, Landsat Decadal, Landsat Science, and Radar. Under Landsat Archive, several datasets are checked, including L7 SLC-off, L7 SLC-on, Landsat 1-5 MSS, and Landsat 4-5 TM.
- 2. Enter your search criteria**: A search form with 'Address/Place name' set to 'Socotra'. A search button is visible. Below the search bar, a table lists search results:

Num	Address	Latitude	Longitude
1	Socotra, Yemen	12.489158	53.907147
2	Socotra, Yemen	12.5	54
3	Socotra, Yemen	12.6306722	53.9057779

Below the table, there are date selection fields: 'From (mm/dd/yyyy): 01/01/1920' and 'To (mm/dd/yyyy): 12/31/2020'. A 'Search these months only' checkbox is also present.

- 3. Search >>>**: A map of the region around Socotra, Yemen, with a red pin indicating the search location. The map includes a scale bar (0 to 2000 km) and various map controls. Below the map, there are options for 'Area Selected' (Degree/Minute/Second or Decimal) and 'Number of Results' (set to 200).



Vyhledávání a stahování dat MODIS

USGS science for a changing world
NASA LP DAAC LAND PROCESSES DISTRIBUTED ACTIVE ARCHIVE CENTER

HOME ABOUT PRODUCTS GET DATA TOOLS USER COMMUNITY CUSTOMER SERVICE

MODIS Overview
MODIS Products Table
MODIS Policies
ASTER Overview
ASTER Products Table
ASTER Policies
Other Data Links

MODIS Products Table

These links will direct you to specific information and access points for each of the MODIS Land Products distributed from LP DAAC.

Shortname	Platform	MODIS Product	Master Type	Res (m)	Temporal Granularity
MOD12Q1	Combined	Land Cover Type	Tile	500m	Yearly
MOD15A2	Combined	MODIS/Terra-Aqua Leaf Area Index/PPAR 8-Day L3 Global 1km SIN Grid V30S	Tile	1000m	8 Day
MOD43A1	Combined	BRDF-Albedo Model Parameters	Tile	500m	16 Day
MOD43A2	Combined	BRDF-Albedo Quality	Tile	500m	16 Day
MOD43A3	Combined	Albedo	Tile	500m	16 Day
MOD43A4	Combined	Nadir BRDF-Adjusted Reflectance	Tile	500m	16 Day
MOD43B1	Combined	BRDF-Albedo Model Parameters	Tile	1000m	16 Day
MOD43B2	Combined	BRDF-Albedo Quality	Tile	1000m	16 Day
MOD43B3	Combined	Albedo	Tile	1000m	16 Day
MOD43B4	Combined	Nadir BRDF-Adjusted Reflectance	Tile	1000m	16 Day
MOD43C1	Combined	BRDF-Albedo Model Parameters	CMG	5000m	16 Day
MOD43C2	Combined	BRDF-Albedo Snow-free Quality	CMG	5000m	16 Day
MOD43C3	Combined	Albedo	CMG	5000m	16 Day
MOD43C4	Combined	Nadir BRDF-Adjusted Reflectance	CMG	5000m	16 Day
MOD45A1	Combined	Burned Area	Tile	500m	Monthly
MOD09A1	Terra	Surface Reflectance Bands 1-7	Tile	500m	8 Day
MOD09Q1Q	Terra	Surface Reflectance Bands 1-7	CMG	5000m	Daily
MOD09GA	Terra	Surface Reflectance Bands 1-7	Tile	500/1000m	Daily
MOD09G0	Terra	Surface Reflectance Bands 1-2	Tile	250m	Daily
MOD09G1	Terra	Surface Reflectance Bands 1-2	Tile	250m	8 Day
MOD11_L2	Terra	Land Surface Temperature & Emissivity	Swath	1000m	5 Mts

MOD11C3	Terra	Land Surface Temperature & Emissivity	CMG	5000m	Monthly
MOD13A1	Terra	Vegetation Indices	Tile	500m	16 Day
MOD13A2	Terra	Vegetation Indices	Tile	1000m	16 Day
MOD13A3	Terra	Vegetation Indices	Tile	1000m	Monthly
MOD13C1	Terra	Vegetation Indices	CMG	5000m	16 Day
MOD13C2	Terra	Vegetation Indices	CMG	5000m	Monthly
MOD13Q1	Terra	Vegetation Indices	Tile	250m	16 Day
MOD14	Terra	Thermal Anomalies & Fire	Swath	1000m	5 Mts
MOD14A1	Terra	Thermal Anomalies & Fire	Tile	1000m	Daily
MOD14A2	Terra	Thermal Anomalies & Fire	Tile	1000m	8 Day
MOD15A2	Terra	Leaf Area Index - FPAR	Tile	1000m	8 Day
MOD17A2	Terra	Gross Primary Productivity	Tile	1000m	8 Day
MOD44B	Terra	Vegetation Continuous Fields	Tile	500m	Yearly
MOD09A1	Aqua	Surface Reflectance Bands 1-7	Tile	500m	8 Day
MOD09Q1Q	Aqua	Surface Reflectance Bands 1-7	CMG	5000m	Daily
MOD09GA	Aqua	Surface Reflectance Bands 1-7	Tile	500/1000m	Daily
MOD09G0	Aqua	Surface Reflectance Bands 1-2	Tile	250m	Daily
MOD09G1	Aqua	Surface Reflectance Bands 1-2	Tile	250m	8 Day
MOD11_L2	Aqua	Land Surface Temperature & Emissivity	Swath	1000m	5 Mts
MOD11A1	Aqua	Land Surface Temperature & Emissivity	Tile	1000m	Daily
MOD11A2	Aqua	Land Surface Temperature & Emissivity	Tile	1000m	8 Day
MOD11B1	Aqua	Land Surface Temperature & Emissivity	Tile	8000m	Daily
MOD11C1	Aqua	Land Surface Temperature & Emissivity	CMG	5000m	Daily
MOD11C2	Aqua	Land Surface Temperature & Emissivity	CMG	5000m	8 Day
MOD11C3	Aqua	Land Surface Temperature & Emissivity	CMG	5000m	Monthly
MOD13A1	Aqua	Vegetation Indices	Tile	500m	16 Day
MOD13A2	Aqua	Vegetation Indices	Tile	1000m	16 Day
MOD13A3	Aqua	Vegetation Indices	Tile	1000m	Monthly
MOD13C1	Aqua	Vegetation Indices	CMG	5000m	16 Day
MOD13C2	Aqua	Vegetation Indices	CMG	5000m	Monthly
MOD13Q1	Aqua	Vegetation Indices	Tile	250m	16 Day
MOD14	Aqua	Thermal Anomalies & Fire	Swath	1000m	5 Mts
MOD14A1	Aqua	Thermal Anomalies & Fire	Tile	1000m	Daily
MOD14A2	Aqua	Thermal Anomalies & Fire	Tile	1000m	8 Day
MOD15A2	Aqua	Leaf Area Index - FPAR	Tile	1000m	8 Day
MOD17A2	Aqua	Gross Primary Productivity	Tile	1000m	8 Day

Vyhledávání a stahování dat MODIS

The image shows two browser windows side-by-side. The left window displays the LP DAAC Data Pool homepage with navigation tabs (DATA, TOOLS, USER COMMUNITY, CUSTOMER SERVICE) and a search bar. Below the navigation, there are sections for 'Get Data', 'NASA Warehouse Inventory Search Tool (WIST)', 'USGS Global Visualization Viewer (GloVis)', 'LP DAAC Data Pool', 'MODIS Reprojection Tool on the Web (MRTWeb)', and 'ASTER Tasking'. Each section includes a brief description and a small thumbnail image of the tool's interface.

The right window shows the 'Selecting Spatial Area-of-Interest' page. It features a navigation menu (HOME, ABOUT, PRODUCTS, GET DATA, TOOLS, USER COMMUNITY, CUSTOMER SERVICE) and the main heading 'LP DAAC Data Pool'. Below this, there is a 'Current Search Criteria' section with a table:

Current Search Criteria	
You may click on a hyperlinked criterion to go back and resume the drill-down from that point.	
Data Group	MOLA
Data Set	MYD13Q1.5

Below the table, it states: 'The above search criteria would return approximately 46126 granules which is about 4231336.5 MB of data.' It then lists 'Your options are:'

- Select a tile or spatial extent from the [map](#) (or enter a [bounding box](#)).
- Skip Spatial and move on to [Temporal](#)
- [Get the granules](#) that match the above criteria. **Note:** Search exceeds max. result limit (500 granules). Result set will be truncated.
- [Start a new search](#)

The 'Select from Map' section follows, with a heading and a paragraph explaining the map's functionality. Below the text is a map interface showing a globe with a grid overlay. The map is titled 'Coordinate: 07.30659, 107.04586'. On the left, there is a 'Layers' list with checkboxes for Political, Hydrology, Places, Roads, Rail, WRS1, WRS2, Density Map, Show, and In Color. The 'Density Map' layer is checked. Below the layers, there is a 'Fit' dropdown set to 'Auto' and a 'Density' legend with color-coded boxes for Low (green), Medium (yellow), High (orange), and Maximum (red). On the right side of the map, there are controls for 'Zoom Out', 'Zoom In', and 'World Size' set to 45. At the bottom, there are 'Map Mode' options: Pan, Pan&Zoom, Rectangle, and Polygon.

Vyhledávání dat - DigitalGlobe

DigitalGlobe® ImageFinder - Windows Internet Explorer

http://browse.digitalglobe.com/imagefinder/navigator.do?navAction=ZOOMBOX&x

Soubor Úpravy Zobrazit Oblíbené položky Nástroje nápověda

DigitalGlobe® ImageFinder

Help | Close

Map Catalog Polygon Download

Go To:

Search Filter

Acquisition Date: 4/1/02 - 5/20/09
Off Nadir Angle: 0.0 - 25.0 degrees
Cloud Cover: 0 - 20 %

SEARCH MODIFY FILTER

Map Status

Lon: Area: 66 km²
Lat: Scale: 1:632 075

Indian Ocean

SUBMIT Email an order inquiry to Customer Service.

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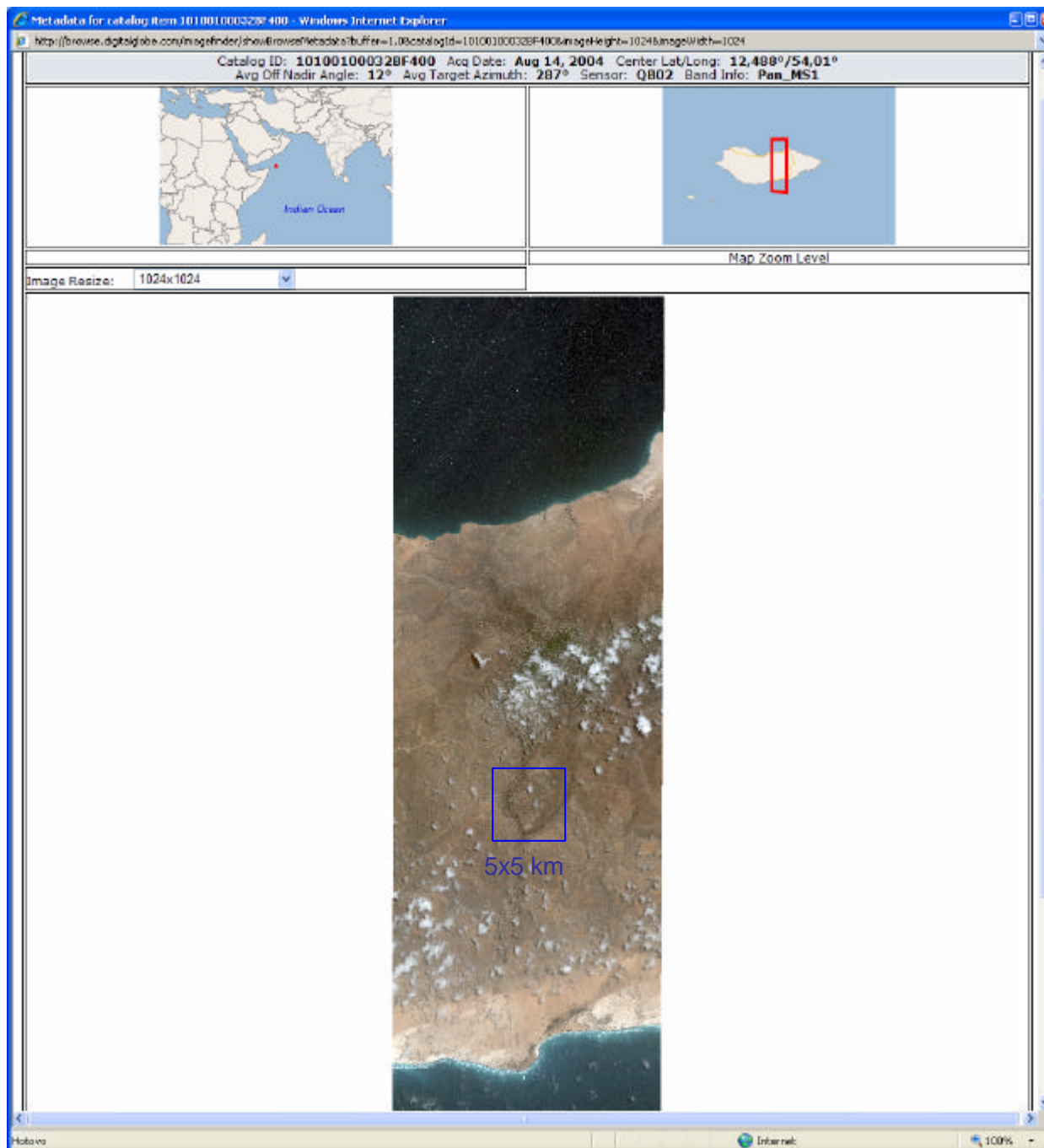
Hotovo Internet 100%

Catalog - Windows Internet Explorer
 http://browse.digitalglobe.com/imagefinder/catalogListDisplay.do?noCache=1242722533405

51 images meet your filter criteria The spatial search criteria have changed. [Search Again](#) [Help](#) [Close](#)

Select	Browse Image	Catalog Id	Sensor Vehicle	Acquisition Date	Total Max Off Nadir Angle	Area Max Off Nadir Angle	Area Min Sun Elevation	Total Cloud Cover Pct	Area Cloud Cover Pct	Imaging Bands
<input checked="" type="checkbox"/>	<input type="checkbox"/> View	1010010004B71C00	QB02	2005/12/21	15.37°	14.14°	50.27°	1%	0%	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	1010010004F87700	QB02	2006/05/14	13.64°	-	-	5%	-	Pan+MS1
<input checked="" type="checkbox"/>	<input type="checkbox"/> View	1010010005B62100	QB02	2007/06/27	10.93°	-	-	2%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	1020010003A13100	WV01	2008/06/11	23.91°	-	-	4%	-	Pan Only
<input type="checkbox"/>	<input type="checkbox"/> View	1020010003051700	WV01	2008/08/14	9.34°	7.93°	68.69°	9%	13%	Pan Only
<input type="checkbox"/>	<input type="checkbox"/> View	10200100046DD100	WV01	2008/10/13	19.58°	-	-	4%	-	Pan Only
<input type="checkbox"/>	<input type="checkbox"/> View	1010010001703C00	QB02	2002/11/25	14.90°	-	-	14%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	101001000412CB00	QB02	2005/02/28	6.35°	-	-	12%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	1010010004A6A800	QB02	2005/11/15	16.93°	16.13°	55.91°	8%	35%	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	1010010004D7DE00	QB02	2006/03/03	13.83°	12.12°	61.94°	1%	0%	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	1010010004E07A00	QB02	2006/03/21	13.69°	-	-	3%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	1010010004FACF00	QB02	2006/05/19	18.46°	-	-	13%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	101001000534F000	QB02	2006/09/17	4.79°	-	-	0%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	10200100029D6200	WV01	2008/06/02	5.23°	-	-	11%	-	Pan Only
<input type="checkbox"/>	<input type="checkbox"/> View	1020010003893100	WV01	2008/06/15	9.61°	-	-	0%	-	Pan Only
<input type="checkbox"/>	<input type="checkbox"/> View	102001000482CC00	WV01	2008/10/09	17.67°	-	-	4%	-	Pan Only
<input type="checkbox"/>	<input type="checkbox"/> View	1020010004DD4C00	WV01	2008/10/13	19.32°	18.6°	63.58°	8%	10%	Pan Only
<input checked="" type="checkbox"/>	<input type="checkbox"/> View	101001000163A100	QB02	2002/11/02	7.94°	6.71°	57.62°	14%	34%	Pan+MS1
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 2 View	10100100032BF400	QB02	2004/08/14	12.28°	-	-	10%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	101001000372EB00	QB02	2004/12/13	14.88°	-	-	15%	-	Pan+MS1
<input checked="" type="checkbox"/>	<input type="checkbox"/> View	1010010004198300	QB02	2005/03/13	12.63°	-	-	10%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	1010010004E2BF00	QB02	2006/03/26	13.84°	-	-	5%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	1010010007CED200	QB02	2008/03/18	12.94°	-	-	2%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	10100100084C0C00	QB02	2008/07/17	4.31°	-	-	0%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	1020010004512300	WV01	2008/09/30	15.48°	-	-	4%	-	Pan Only
<input type="checkbox"/>	<input type="checkbox"/> View	101001000153F900	QB02	2002/10/10	15.68°	-	-	1%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	1010010003854900	QB02	2005/01/18	13.09°	-	-	3%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	1010010004152600	QB02	2005/03/05	14.55°	-	-	0%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	1010010004E87F00	QB02	2006/04/08	13.95°	-	-	2%	-	Pan+MS1
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 1 View	1010010007BD6200	QB02	2008/02/29	19.03°	-	-	8%	-	Pan+MS1
<input type="checkbox"/>	<input type="checkbox"/> View	10200100041C1000	WV01	2008/10/09	18.91°	-	-	3%	-	Pan Only
<input type="checkbox"/>	<input type="checkbox"/> View	1020010004DE2300	WV01	2008/11/12	18.94°	-	-	3%	-	Pan Only

Vyhledávání dat:
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Metadata for catalog item 1010010007806200 - Windows Internet Explorer
http://browse.digitalglobe.com/Image/ndir/showBrowseMetadata?buffer=1.0&catalogId=1010010007806200&imageHeight=1024&imageWidth=1024

Catalog ID: 1010010007806200 Acq Date: Feb 29, 2008 Center Lat/Long: 12,513°/54,073°
Avg Off Nadir Angle: 15° Avg Target Azimuth: 63° Sensor: QB02 Band Info: Pan_MSI

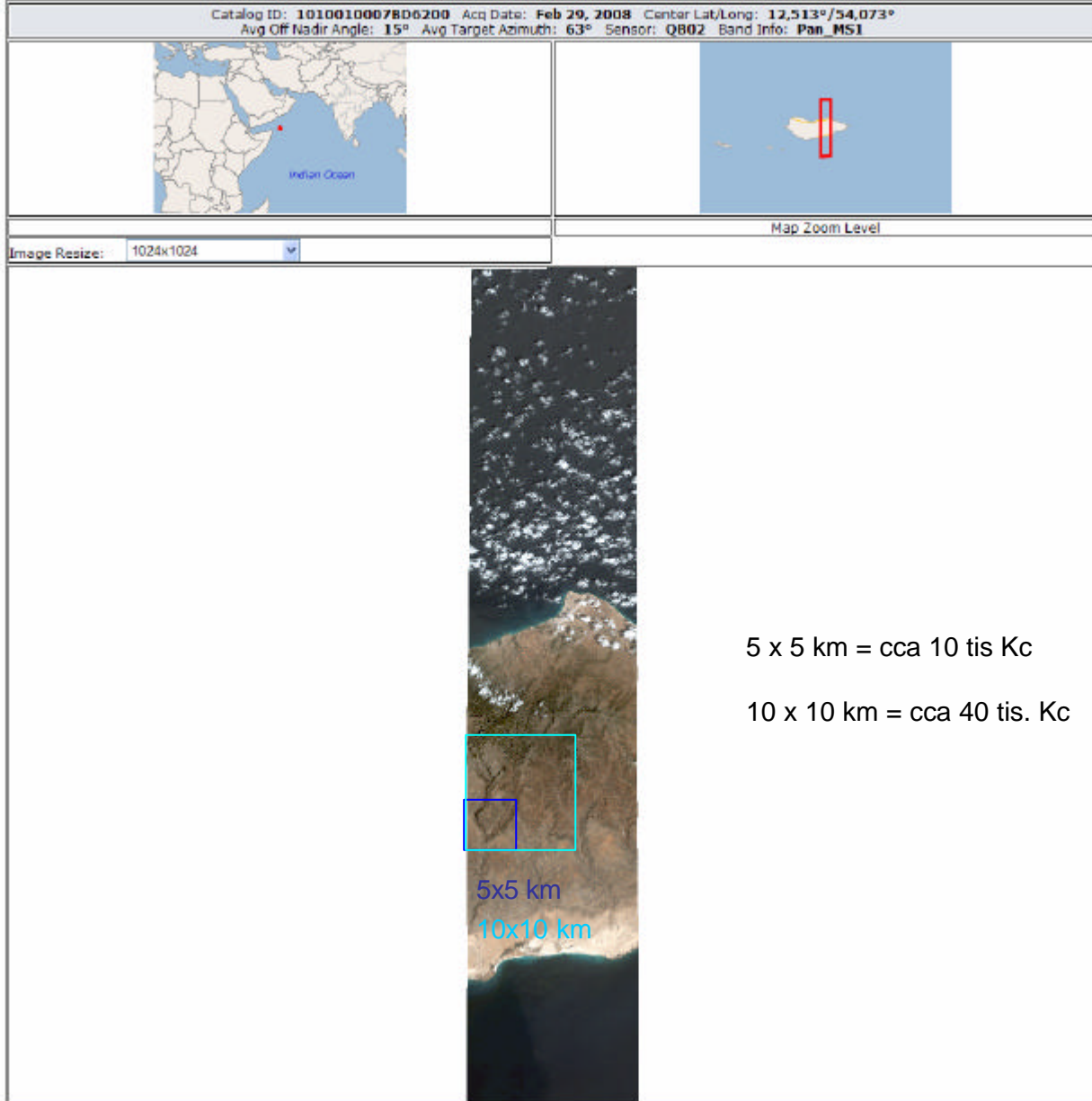


Image Resize: 1024x1024

Map Zoom Level

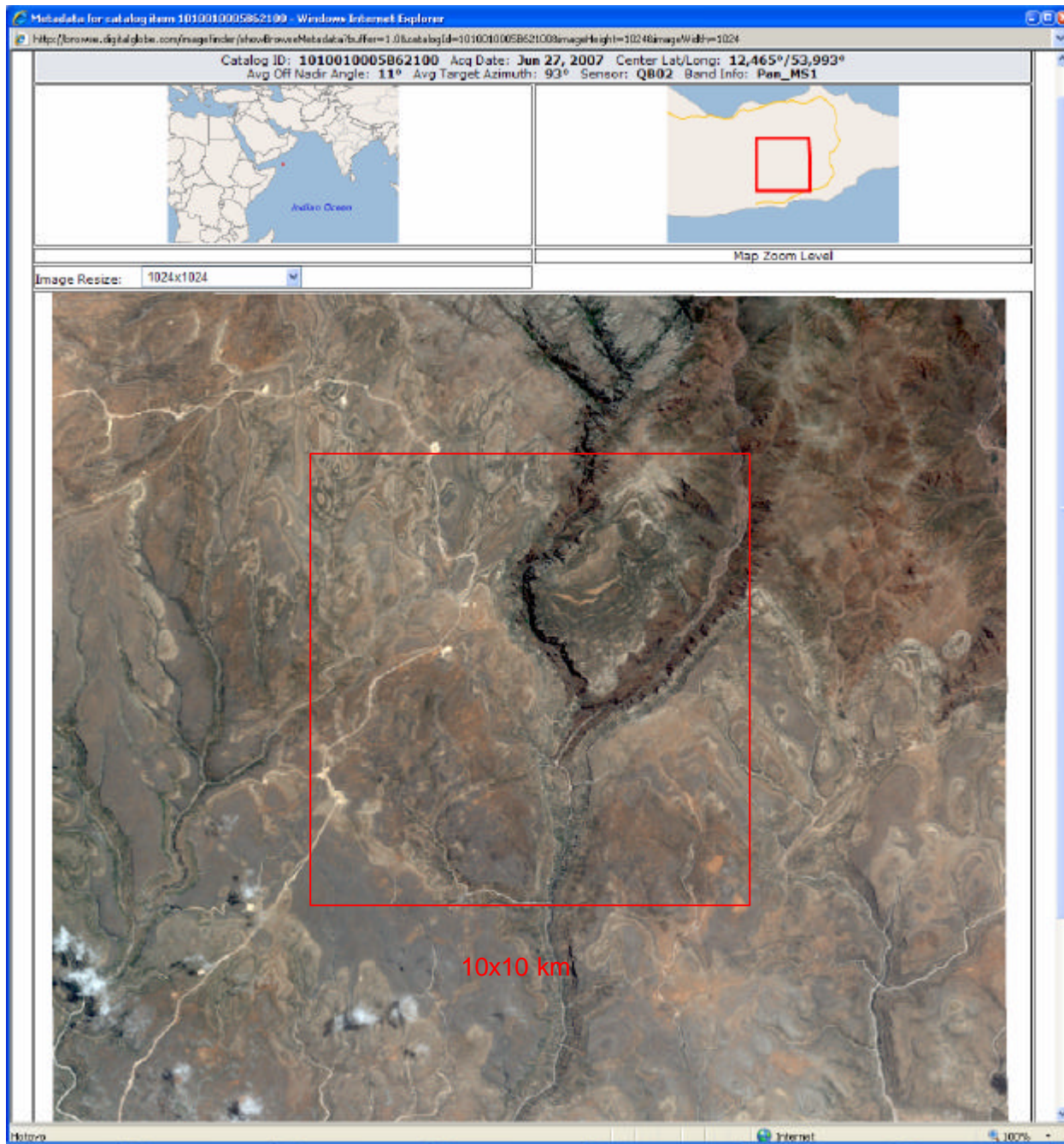
5 x 5 km = cca 10 tis Kc
10 x 10 km = cca 40 tis. Kc

5x5 km
10x10 km

Hotovo

Internet 100%

Vyhledávání dat:
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