

Landsat TM Image

This figure is a Landsat TM (Thematic Mapper) satellite image showing the Amazon River delta and the surrounding coastal waters. The image is framed by a black border with latitude and longitude coordinates. The top edge is labeled with longitude: 76°40'0\"W, 76°30'0\"W, 76°20'0\"W, and 76°10'0\"W. The left edge is labeled with latitude: 05°10'0\"N, 05°00'0\"N, 04°50'0\"N, and 04°40'0\"N. The right edge is labeled with latitude: 05°10'0\"N, 05°00'0\"N, 04°50'0\"N, and 04°40'0\"N. The bottom edge is labeled with longitude: 76°40'0\"W, 76°30'0\"W, and 76°20'0\"W. The image shows the Amazon River flowing from the top left towards the bottom right, where it meets the ocean. The river is characterized by a series of meanders and a complex network of channels. The surrounding coastal waters are dark blue, indicating deep water, while the river and its immediate surroundings are lighter blue, indicating shallower water. A scale bar at the bottom center indicates distances of 0, 5, 10, and 20 km.

Schoonerwien and TOTO Lambert Brightness - Water Depth Relationship
Developed at Schoonerwien and applied at TOTO

Depth (m)

Lambert TM Band 1 Brightness

$y = -0.028x + 1.028$
 $R^2 = 0.566$
Used for TOTO and Schoonerwien Depth (m) in TOTO Search

om Landsat DEM

Schooners Sand Bars Area (m2)

Blue	2,016 - 390,254
Light Blue	398,255 - 1,219,943
Yellow	1,219,944 - 3,157,772
Orange	3,157,773 - 7,370,172
Red	7,370,173 - 15,157,095

Classification Statistics

Count	239
Minimum	2,016
Maximum	15,157,095
Sum	113,346,303
Mean	462,263
Median	62,519
Standard Deviation	1,393,001

Identify	
Identify from:	TOTO, All Sound Bays
TOTO, All Sound Bays	205988
Location:	ZPW, LOS, L2, S262, LOS, 390 Meters
Altitude	102
FID	102
Altitude	102
IS	205988
COY/CUT	
ET_ID	102
Pos. Meter	60521, 301000
Sc. Meter	1.3369090, 1992
Hectares	2002, 449952
Hectares	1336.95009
Length	2006, 200414
Length	2564179, 3579
Length	10010
DRG	14450
DRG	10010
DRG	01001024
DRG	01071234
DRG	1001, 1225
Area_Width	750
Area_Width	500
Roundness	9.056873
Roundness	9.052832
Roundness	500 Meters
Roundness	500
Identified Feature	

Shape Parameter Formulas	
Form Factor	$(4 * 3.140845 * [Sq_Meter]) / ([Peri_Meter] * [Peri_Meter])$
Sinuosity	$([TLength] - [DMG]) / [TLength]$
Aspect	$([TLength] - [Ave_Width]) / [TLength]$
Roundness or Elongation	$([DMG] * [Max_Width]) / [DMG]$

Schwanen Sand Bar Centerlines
Spatial Density

0.02 - 0.08
0.09 - 0.07
0.08 - 1.1
1.2 - 1.4
1.5 - 1.7
1.8 - 2
2.1 - 2.3
2.4 - 2.6
2.7 - 2.8

0 5 10 20 Km

Sand Bars Form Factor
FormFactor (0-1)

- 0.04 - 0.17
- 0.18 - 0.27
- 0.28 - 0.39
- 0.40 - 0.55
- 0.56 - 0.91

Classification

Form Factor (0-1)	
Count	324
Percentage	0.94
Minimum	0.01
Maximum	0.91
Sum	63.74
Mean	0.20
Median	0.13
Standard Deviation	0.13

FormFactor versus Area
Log Scale - Power Function

Y-axis: Form Factor (to 3)
X-axis: Area[m²]

Legend:
 ◆ FormFactor
 — Power (FormFactor)

Regression equation:
 $y = 3.9449x^{-0.22}$
 $R^2 = 0.614$

This log-log plot shows the relationship between Form Factor and Area. The data points (grey diamonds) are fitted with a power function (red line). The regression equation is $y = 3.9449x^{-0.22}$ with an R^2 value of 0.614. The x-axis (Area) ranges from 1 to 10,000,000 m², and the y-axis (Form Factor) ranges from 0.01 to 1.

The map displays the Schomern Landsat DEM Depth (m) and Sand Bar Centroid Density Spatial Density. The depth scale ranges from 0 (red) to -8 (blue). The sand bar centroid density spatial density scale ranges from 2.7-3.9 (red) to 2.9-3.1 (blue). The map shows a series of sand bars along a coastline, with the depth increasing towards the ocean. The sand bar centroid density is highest in the central part of the coastline and decreases towards the ends.

Sand Bar Centroid Density Spatial Density

32.2-3.5
2.9-3.1
2.5-2.8
2.2-2.4
1.9-2.1
1.5-1.8
1.2-1.4
0.74-1.1
0.39-0.73

0 5 10 20 km

76°50'00"W 76°40'00"W 76°30'00"W 76°20'00"W

35°10'00"N 35°00'00"N 34°50'00"N

Landsat DEM

Depth (m)

High: 0

Low: -8

3D Analyst ArcScene
8x Vertical Exaggeration
Looking NE across Schonner



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