

World - Intensification of Storm Surges 2008

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Sampling

No content available

Questionnaires

No content available

Data Collection

Data Collection Dates

Start	End	Cycle
2008	2008	N/A

Data Collection Mode

Other [oth]

Data Processing

No content available

Data Appraisal

Other forms of Data Appraisal

Limitations of the research:

1. The relative likelihoods of alternative storm surge scenarios have not been assessed in this research. Following Nicholls et al (2007), a homogeneous future increase of 10% in extreme water levels during tropical storms is assumed. In all likelihood, regions of the world may experience a smaller increase and others a larger increase. Better local modeling of the impact of climate change on storm intensities (with the support of hurricane generator models) is needed to better forecast changes in storm surges.
2. Among the 84 developing countries included in this analysis, our estimation is restricted to coastal segments where historical storm surges have been documented.
3. The absence of a global database on shoreline protection has prevented us from incorporating the effect of existing protection measures (e.g., sea dikes) on exposure estimates.
4. Lack of spatially disaggregated secondary information on indicators prevented us from including small islands in this analysis.
5. The impacts of intensification of storm surges and SLR have been assessed using existing population, socio-economic conditions and patterns of land use, rather than attempting to predict their future states. Human activity is generally increasing more rapidly in coastal areas and thus the impacts of storm surges will be more pronounced in these areas. This effect is countered by adaptation measures (e.g., sea dikes), which we also do not attempt to estimate in this exercise. Adaptation measures from the purely technological (e.g., coastal embankments), to coastal-zone management (e.g., land-use planning, regulations, relocation) are often context, location and community-specific. Thus in our analysis, we refrain from generalizing any adaptive measures across our sub-set of developing countries.

File Description

Variable List

Area

Content

Cases 90

Variable(s) 10

Structure
Type:
Keys: ()

Version

Producer

Missing Data

Variables

ID	Name	Label	Type	Format	Question
V11	Countryname	Country name	discrete	character	
V12	DIVA_Coastline	Km of coastline	contin	numeric	length of coastline from DIVA database (km)
V13	AREATOT	Total country area (km2)	contin	numeric	total area (km)
V14	AREACOAST	Area of coastal zone (km2)	contin	numeric	area of coastal zone (km)
V15	AREAZ2	Current surge zone (km2)	contin	numeric	area of z2 (km)
V16	AREAZ1	Increment with climate change	contin	numeric	area of z1 (km)
V17	AREAZ1Z2	Surge zone with climate change	contin	numeric	
V18	V8	AREAZ2 over AREACOAST	contin	numeric	
V19	V9	AREAZ1+Z2 over AREACOAST	contin	numeric	
V20	increasein	% increase in surge zone with CC	contin	numeric	

Population

Content

Cases 90

Variable(s) 10

Structure
Type:
Keys: ()

Version

Producer

Missing Data

Variables

ID	Name	Label	Type	Format	Question
V31	Countryname	Country name	discrete	character	
V32	DIVA_Coastline	Km of coastline	contin	numeric	length of coastline from DIVA database (km)
V33	GRTOT	Total country population	contin	numeric	total population from GRUMP 2005
V34	GRCOAST	Total coastal population	contin	numeric	population in coastal zone from GRUMP 2005
V35	GRZ2	Population exposed to current storm surges	contin	numeric	population in z2 from GRUMP 2005
V36	GRZ1	Increment in exposed population	contin	numeric	population in z1 from GRUMP 2005
V37	GRZ1Z2	Population exposed to storm surges with climate change	contin	numeric	
V38	V8	GRZ2 OVER GRCOAST	contin	numeric	
V39	V9	GRZ1+Z2 OVER GRCOAST	contin	numeric	
V40	increasein	% increase in population exposed with CC	contin	numeric	

GDP

Content

Cases 90

Variable(s) 10

Structure
Type:
Keys: ()

Version

Producer

Missing Data

Variables

ID	Name	Label	Type	Format	Question
V21	Countryname	Country name	discrete	character	
V22	DIVA_Coastline	Km of coastline	contin	numeric	length of coastline from DIVA database (km)
V23	GDPTOT	GDP of the country	contin	numeric	total 2005 estimated GDP
V24	GDPCOAST	GDP coastal area	contin	numeric	GDP in z1 using gridded 2005 GDP
V25	GDPZ2	GDP in current storm surge zone	contin	numeric	GDP in z2 using gridded 2005 GDP
V26	GDPZ1	Increment in GDP exposure with climate change	contin	numeric	GDP in z1 using gridded 2005 GDP
V27	GDPZ1Z2	GDP in Surge zone with climate change	contin	numeric	
V28	V8	GDPZ2 over GDPCOAST	contin	numeric	
V29	V9	GDPZ1+Z2 over GDPCOAST	contin	numeric	
V30	increasein	% increase in surge zone with CC	contin	numeric	

Ag Area

Content

Cases 90

Variable(s) 10

Structure Type:
Keys: ()

Version

Producer

Missing Data

Variables

ID	Name	Label	Type	Format	Question
V1	Countryname	Country name	discrete	character	
V2	DIVA_Coastline	Km of coastline	contin	numeric	length of coastline from DIVA database (km)
V3	AG1TOT	Total area of cropland (km2)	contin	numeric	total area of cropland from globcov (2005)
V4	AG1COAST	Coastal area of cropland (km2)	contin	numeric	area of croplands in coastal zone (km)
V5	AG1Z2	Current surge zone (km2)	contin	numeric	area of croplands in z2 (km)
V6	AG1Z1	Cropland in current of cropland with climate change	contin	numeric	area of croplands in z1 (km)
V7	AG1Z1Z2	Cropland in surge zone with climate change	contin	numeric	
V8	V8	AG1Z2 over AREACOAST	contin	numeric	
V9	V9	AG1Z1+Z2 over AREACOAST	contin	numeric	
V10	increasein	% increase in surge zone with CC	contin	numeric	

Urban area

Content

Cases 90

Variable(s) 10

Structure
Type:
Keys: ()

Version

Producer

Missing Data

Variables

ID	Name	Label	Type	Format	Question
V41	Countryname	Country name	discrete	character	
V42	DIVA_Coastline	Km of coastline	contin	numeric	length of coastline from DIVA database (km)
V43	URBTOT	Total country urban area (km2)	contin	numeric	urban area as defined by GRUMP
V44	URBCOAST	Coastal urban area (km2)	contin	numeric	area of coastal zone that is defined as urban in GRUMP
V45	URBZ2	Urban Area in Current Surge Zone	contin	numeric	area of z2 that is defined as urban in GRUMP
V46	URBZ1	Increment in exposure of Urban Area with climate change	contin	numeric	area of z1 that is defined as urban in GRUMP
V47	URBZ1Z2	Urban Area in Surge zone with climate change	contin	numeric	
V48	V8	URBZ2 over URBCOAST	contin	numeric	
V49	V9	URBZ1+Z2 over URBCOAST	contin	numeric	
V50	increasein	% increase in surge zone with CC	contin	numeric	

Wetlands

Content

Cases 90

Variable(s) 10

Structure
Type:
Keys: ()

Version

Producer

Missing Data

Variables

ID	Name	Label	Type	Format	Question
V51	Countryname	Country name	discrete	character	
V52	DIVA_Coastline	Km of coastline	contin	numeric	length of coastline from DIVA database (km)
V53	GLWD1TOT	Total wetland area (km2)	contin	numeric	total wetland area from Global Lakes and Wetlands database (excluding lakes and rivers) (km)
V54	GLWD1COAST	Area of coastal wetland (km2)	contin	numeric	area of wetlands in coastal zone (km)
V55	GLWD1Z2	Wetlands in current storm surge zone	contin	numeric	area of wetlands in z2 (km)
V56	GLWD1Z1	Increment in exposure of wetlands with climate change	contin	numeric	area of wetlands in z1 (km)
V57	GLWD1Z1Z2	Wetlands in surge zone with climate change	contin	numeric	
V58	GLWDZ2	GLWDZ2 over GLWD1COAST	contin	numeric	
V59	GLWDZ1Z2	GLWDZ1+Z2 over GLWD1COAST	contin	numeric	
V60	increasein	% increase in surge zone with CC	contin	numeric	

Country name (Countryname)

File: Area

Overview

Type: Discrete
 Format: character
 Width: 31

Valid cases: 90
 Invalid: 0

Km of coastline (DIVA_Coastline)

File: Area

Overview

Type: Continuous
 Format: numeric
 Width: 9
 Decimals: 2
 Range: 13.803-44261.277

Valid cases: 90
 Invalid: 0
 Minimum: 44.2
 Maximum: 269596
 Mean: 8986.5
 Standard deviation: 32040.6

Literal question

length of coastline from DIVA database (km)

Total country area (km2) (AREATOT)

File: Area

Overview

Type: Continuous
 Format: numeric
 Width: 8
 Decimals: 0
 Range: 1047-63838523

Valid cases: 90
 Invalid: 0
 Minimum: 1047
 Maximum: 63838523
 Mean: 2127950.8
 Standard deviation: 7376456.3

Literal question

total area (km)

Area of coastal zone (km2) (AREACOAST)

File: Area

Overview

Type: Continuous
 Format: numeric
 Width: 7
 Decimals: 0
 Range: 45-2012753

Valid cases: 90
 Invalid: 0
 Minimum: 45
 Maximum: 2012753
 Mean: 67091.8
 Standard deviation: 237371.3

Literal question

area of coastal zone (km)

Current surge zone (km2) (AREAZ2)

File: Area

Overview

Current surge zone (km2) (AREAZ2)

File: Area

Type: Continuous
Format: numeric
Width: 9
Decimals: 2
Range: 18-53215

Valid cases: 90
Invalid: 0
Minimum: 18
Maximum: 391812
Mean: 13060.4
Standard deviation: 45676.7

Literal question

area of z2 (km)

Increment with climate change (AREAZ1)

File: Area

Overview

Type: Continuous
Format: numeric
Width: 9
Decimals: 2
Range: 2-14407

Valid cases: 90
Invalid: 0
Minimum: 2
Maximum: 125443
Mean: 4181.4
Standard deviation: 14602.7

Literal question

area of z1 (km)

Surge zone with climate change (AREAZ1Z2)

File: Area

Overview

Type: Continuous
Format: numeric
Width: 9
Decimals: 2
Range: 1.12-956

Valid cases: 90
Invalid: 0
Minimum: 20
Maximum: 517255
Mean: 17241.8
Standard deviation: 60266.8

AREAZ2 over AREACOAST (V8)

File: Area

Overview

Type: Continuous
Format: numeric
Width: 5
Decimals: 2
Range: 2.5-76.5

Valid cases: 90
Invalid: 0
Minimum: 2.5
Maximum: 76.5
Mean: 25
Standard deviation: 12.4

AREAZ1+Z2 over AREACOAST (V9)

File: Area

Overview

AREAZ1+Z2 over AREACOAST (V9)

File: Area

Type: Continuous
Format: numeric
Width: 5
Decimals: 2
Range: 3.3-81.1

Valid cases: 90
Invalid: 0
Minimum: 3.3
Maximum: 81.1
Mean: 32.5
Standard deviation: 13.8

% increase in surge zone with CC (increasein)

File: Area

Overview

Type: Continuous
Format: numeric
Width: 6
Decimals: 2
Range: 6-102.3

Valid cases: 90
Invalid: 0
Minimum: 6
Maximum: 102.3
Mean: 34.5
Standard deviation: 15.5

Country name (Countryname)

File: Population

Overview

Type: Discrete	Valid cases: 90
Format: character	Invalid: 0
Width: 31	

Km of coastline (DIVA_Coastline)

File: Population

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 9	Minimum: 44.2
Decimals: 2	Maximum: 269596
Range: 13.803-44261.277	Mean: 8986.5
	Standard deviation: 32040.6

Literal question

length of coastline from DIVA database (km)

Total country population (GRTOT)

File: Population

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 13	Minimum: 152622
Decimals: 2	Maximum: 4761957402
Range: 152622-4761957402	Mean: 158731913.4
	Standard deviation: 581872519.5

Literal question

total population from GRUMP 2005

Total coastal population (GRCOAST)

File: Population

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 9	Minimum: 9361
Decimals: 0	Maximum: 707891627
Range: 9361-707891627	Mean: 23596387.6
	Standard deviation: 89026118.2

Literal question

population in coastal zone from GRUMP 2005

Population exposed to current storm surges (GRZ2)

File: Population

Overview

Population exposed to current storm surges (GRZ2)

File: Population

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 9	Minimum: 2997
Decimals: 0	Maximum: 122066082
Range: 2997-122066082	Mean: 4068869.4
	Standard deviation: 15060664.7

Literal question

population in z2 from GRUMP 2005

Increment in exposed population (GRZ1)

File: Population

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 8	Minimum: 892
Decimals: 0	Maximum: 52007481
Range: 892-52007481	Mean: 1733582.7
	Standard deviation: 6487786.3

Literal question

population in z1 from GRUMP 2005

Population exposed to storm surges with climate change (GRZ1Z2)

File: Population

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 9	Minimum: 3954
Decimals: 0	Maximum: 174073563
Range: 3954-174073563	Mean: 5802452.1
	Standard deviation: 21538910.9

GRZ2 OVER GRCOAST (V8)

File: Population

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 5	Minimum: 1.8
Decimals: 2	Maximum: 64.1
Range: 1.8-64.1	Mean: 26.7
	Standard deviation: 11.8

GRZ1+Z2 OVER GRCOAST (V9)

File: Population

Overview

GRZ1+Z2 OVER GRCOAST (V9)

File: Population

Type: Continuous
 Format: numeric
 Width: 5
 Decimals: 2
 Range: 2.4-73

Valid cases: 90
 Invalid: 0
 Minimum: 2.4
 Maximum: 73
 Mean: 35.3
 Standard deviation: 13.4

% increase in population exposed with CC (increasein)

File: Population

Overview

Type: Continuous
 Format: numeric
 Width: 6
 Decimals: 2
 Range: 9-111.1

Valid cases: 90
 Invalid: 0
 Minimum: 9
 Maximum: 111.1
 Mean: 36.6
 Standard deviation: 18

Country name (Countryname)

File: GDP

Overview

Type: Discrete
 Format: character
 Width: 31

Valid cases: 90
 Invalid: 0

Km of coastline (DIVA_Coastline)

File: GDP

Overview

Type: Continuous
 Format: numeric
 Decimals: 2
 Range: 13.803-44261.277

Valid cases: 90
 Invalid: 0
 Minimum: 44.2
 Maximum: 269596
 Mean: 8986.5
 Standard deviation: 32040.6

Literal question

length of coastline from DIVA database (km)

GDP of the country (GDPTOT)

File: GDP

Overview

Type: Continuous
 Format: numeric
 Decimals: 2
 Range: 55771384-7974584973544

Valid cases: 90
 Invalid: 0
 Minimum: 55771384
 Maximum: 7974584973544
 Mean: 265819499118.1
 Standard deviation: 965172071016.4

Literal question

total 2005 estimated GDP

GDP coastal area (GDPCOAST)

File: GDP

Overview

Type: Continuous
 Format: numeric
 Decimals: 2
 Range: 5823194-1375029637604

Valid cases: 90
 Invalid: 0
 Minimum: 5823194
 Maximum: 1375029637604
 Mean: 45834321253.5
 Standard deviation: 178617245711.9

Literal question

GDP in z1 using gridded 2005 GDP

GDP in current storm surge zone (GDPZ2)

File: GDP

Overview

GDP in current storm surge zone (GDPZ2)

File: GDP

Type: Continuous
Format: numeric
Decimals: 2
Range: 524367-268684843006

Valid cases: 90
Invalid: 0
Minimum: 524367
Maximum: 268684843006
Mean: 8956161433.5
Standard deviation: 33731199548.9

Literal question

GDP in z2 using gridded 2005 GDP

Increment in GDP exposure with climate change (GDPZ1)

File: GDP

Overview

Type: Continuous
Format: numeric
Decimals: 2
Range: 170052-122109546336

Valid cases: 90
Invalid: 0
Minimum: 170052
Maximum: 122109546336
Mean: 4070318211.2
Standard deviation: 15956957795.7

Literal question

GDP in z1 using gridded 2005 GDP

GDP in Surge zone with climate change (GDPZ1Z2)

File: GDP

Overview

Type: Continuous
Format: numeric
Decimals: 2
Range: 694419-390794389342

Valid cases: 90
Invalid: 0
Minimum: 694419
Maximum: 390794389342
Mean: 13026479644.7
Standard deviation: 49633464059.7

GDPZ2 over GDPCOAST (V8)

File: GDP

Overview

Type: Continuous
Format: numeric
Decimals: 2
Range: 2-60.5

Valid cases: 90
Invalid: 0
Minimum: 2
Maximum: 60.5
Mean: 26.1
Standard deviation: 11.2

GDPZ1+Z2 over GDPCOAST (V9)

File: GDP

Overview

GDPZ1+Z2 over GDPCOAST (V9)

File: GDP

Type: Continuous
Format: numeric
Decimals: 2
Range: 2.7-65.7

Valid cases: 90
Invalid: 0
Minimum: 2.7
Maximum: 65.7
Mean: 35
Standard deviation: 13

% increase in surge zone with CC (increasein)

File: GDP

Overview

Type: Continuous
Format: numeric
Decimals: 2
Range: 7.8-122.1

Valid cases: 90
Invalid: 0
Minimum: 7.8
Maximum: 122.1
Mean: 38.5
Standard deviation: 19.2

Country name (Countryname)

File: Ag Area

Overview

Type: Discrete	Valid cases: 90
Format: character	Invalid: 0
Width: 31	

Km of coastline (DIVA_Coastline)

File: Ag Area

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 9	Minimum: 44.2
Decimals: 2	Maximum: 269596
Range: 13.803-44261.277	Mean: 8986.5
	Standard deviation: 32040.6

Literal question

length of coastline from DIVA database (km)

Total area of cropland (km2) (AG1TOT)

File: Ag Area

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 7	Minimum: 0
Decimals: 0	Maximum: 6474010
Range: 0-6474010	Mean: 215800.3
	Standard deviation: 815382.2

Literal question

total area of cropland from globcov (2005)

Coastal area of cropland (km2) (AG1COAST)

File: Ag Area

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 9	Minimum: 0
Decimals: 2	Maximum: 505265
Range: 0-144725	Mean: 16842.2
	Standard deviation: 67181.8

Literal question

area of croplands in coastal zone (km)

Current surge zone (km2) (AG1Z2)

File: Ag Area

Overview

Current surge zone (km2) (AG1Z2)

File: Ag Area

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 8	Minimum: 0
Decimals: 2	Maximum: 59336
Range: 0-10228	Mean: 1977.9
	Standard deviation: 7919.3

Literal question

area of croplands in z2 (km)

Cropland in current of cropland with climate change (AG1Z1)

File: Ag Area

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 8	Minimum: 0
Decimals: 2	Maximum: 29164
Range: 0-6642	Mean: 972.1
	Standard deviation: 3855.1

Literal question

area of croplands in z1 (km)

Cropland in surge zone with climate change (AG1Z1Z2)

File: Ag Area

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 8	Minimum: 0
Decimals: 2	Maximum: 88500
Range: 0-904	Mean: 2950
	Standard deviation: 11769.4

AG1Z2 over AREACOAST (V8)

File: Ag Area

Overview

Type: Continuous	Valid cases: 83
Format: numeric	Invalid: 7
Width: 6	Minimum: 0
Decimals: 2	Maximum: 100
Range: 0-100	Mean: 18.1
	Standard deviation: 22.6

AG1Z1+Z2 over AREACOAST (V9)

File: Ag Area

Overview

AG1Z1+Z2 over AREACOAST (V9)

File: Ag Area

Type: Continuous
Format: numeric
Width: 6
Decimals: 2
Range: 0-100

Valid cases: 83
Invalid: 7
Minimum: 0
Maximum: 100
Mean: 22.5
Standard deviation: 23.5

% increase in surge zone with CC (increasein)

File: Ag Area

Overview

Type: Continuous
Format: numeric
Width: 6
Decimals: 2
Range: 14.3-328.6

Valid cases: 59
Invalid: 31
Minimum: 14.3
Maximum: 328.6
Mean: 68
Standard deviation: 60.9

Country name (Countryname)

File: Urban area

Overview

Type: Discrete
 Format: character
 Width: 31

Valid cases: 90
 Invalid: 0

Km of coastline (DIVA_Coastline)

File: Urban area

Overview

Type: Continuous
 Format: numeric
 Width: 9
 Decimals: 2
 Range: 13.803-44261.277

Valid cases: 90
 Invalid: 0
 Minimum: 44.2
 Maximum: 269596
 Mean: 8986.5
 Standard deviation: 32040.6

Literal question

length of coastline from DIVA database (km)

Total country urban area (km2) (URBTOT)

File: Urban area

Overview

Type: Continuous
 Format: numeric
 Width: 7
 Decimals: 0
 Range: 83-1646992

Valid cases: 90
 Invalid: 0
 Minimum: 83
 Maximum: 1646992
 Mean: 54899.7
 Standard deviation: 194254.5

Literal question

urban area as defined by GRUMP

Coastal urban area (km2) (URBCOAST)

File: Urban area

Overview

Type: Continuous
 Format: numeric
 Width: 9
 Decimals: 2
 Range: 7.783-56181

Valid cases: 90
 Invalid: 0
 Minimum: 10
 Maximum: 206254
 Mean: 6875.1
 Standard deviation: 25263.8

Literal question

area of coastal zone that is defined as urban in GRUMP

Urban Area in Current Surge Zone (URBZ2)

File: Urban area

Overview

Urban Area in Current Surge Zone (URBZ2)

File: Urban area

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 8	Minimum: 2
Decimals: 2	Maximum: 40189
Range: 2-5918	Mean: 1339.6
	Standard deviation: 4758.1

Literal question

area of z2 that is defined as urban in GRUMP

Increment in exposure of Urban Area with climate change (URBZ1)

File: Urban area

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 8	Minimum: 1
Decimals: 2	Maximum: 14991
Range: 1-2901	Mean: 499.7
	Standard deviation: 1796.7

Literal question

area of z1 that is defined as urban in GRUMP

Urban Area in Surge zone with climate change (URBZ1Z2)

File: Urban area

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 8	Minimum: 3
Decimals: 2	Maximum: 55180
Range: 1.1-840	Mean: 1839.3
	Standard deviation: 6551.9

URBZ2 over URBCOAST (V8)

File: Urban area

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 5	Minimum: 4.2
Decimals: 2	Maximum: 88.2
Range: 4.2-88.2	Mean: 28.2
	Standard deviation: 12.8

URBZ1+Z2 over URBCOAST (V9)

File: Urban area

Overview

URBZ1+Z2 over URBCOAST (V9)

File: Urban area

Type: Continuous
 Format: numeric
 Width: 5
 Decimals: 2
 Range: 8.3-94.1

Valid cases: 90
 Invalid: 0
 Minimum: 8.3
 Maximum: 94.1
 Mean: 36.9
 Standard deviation: 14.4

% increase in surge zone with CC (increasein)

File: Urban area

Overview

Type: Continuous
 Format: numeric
 Width: 6
 Decimals: 2
 Range: 5.6-130.1

Valid cases: 90
 Invalid: 0
 Minimum: 5.6
 Maximum: 130.1
 Mean: 35.2
 Standard deviation: 19.5

Country name (Countryname)

File: Wetlands

Overview

Type: Discrete	Valid cases: 90
Format: character	Invalid: 0
Width: 31	

Km of coastline (DIVA_Coasline)

File: Wetlands

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 9	Minimum: 44.2
Decimals: 2	Maximum: 269596
Range: 13.803-44261.277	Mean: 8986.5
	Standard deviation: 32040.6

Literal question

length of coastline from DIVA database (km)

Total wetland area (km2) (GLWD1TOT)

File: Wetlands

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 7	Minimum: 0
Decimals: 0	Maximum: 4388959
Range: 0-4388959	Mean: 146298.6
	Standard deviation: 517582.2

Literal question

total wetland area from Global Lakes and Wetlands database (excluding lakes and rivers) (km)

Area of coastal wetland (km2) (GLWD1COAST)

File: Wetlands

Overview

Type: Continuous	Valid cases: 90
Format: numeric	Invalid: 0
Width: 9	Minimum: 0
Decimals: 2	Maximum: 663930
Range: 0-84735	Mean: 22131
	Standard deviation: 77354.9

Literal question

area of wetlands in coastal zone (km)

Wetlands in current storm surge zone (GLWD1Z2)

File: Wetlands

Overview

Wetlands in current storm surge zone (GLWD1Z2)

File: Wetlands

Type: Continuous
Format: numeric
Width: 9
Decimals: 2
Range: 0-13227

Valid cases: 90
Invalid: 0
Minimum: 0
Maximum: 152767
Mean: 5092.2
Standard deviation: 17606.1

Literal question

area of wetlands in z2 (km)

Increment in exposure of wetlands with climate change (GLWD1Z1)

File: Wetlands

Overview

Type: Continuous
Format: numeric
Width: 8
Decimals: 2
Range: 0-4360

Valid cases: 90
Invalid: 0
Minimum: 0
Maximum: 45741
Mean: 1524.7
Standard deviation: 5285

Literal question

area of wetlands in z1 (km)

Wetlands in surge zone with climate change (GLWD1Z1Z2)

File: Wetlands

Overview

Type: Continuous
Format: numeric
Width: 9
Decimals: 2
Range: 0-939

Valid cases: 90
Invalid: 0
Minimum: 0
Maximum: 198508
Mean: 6616.9
Standard deviation: 22880.7

GLWDZ2 over GLWD1COAST (GLWDZ2)

File: Wetlands

Overview

Type: Continuous
Format: numeric
Width: 6
Decimals: 2
Range: 0-100

Valid cases: 89
Invalid: 1
Minimum: 0
Maximum: 100
Mean: 30.8
Standard deviation: 21.1

GLWDZ1+Z2 over GLWD1COAST (GLWDZ1Z2)

File: Wetlands

Overview

GLWDZ1+Z2 over GLWD1COAST (GLWDZ1Z2)

File: Wetlands

Type: Continuous
 Format: numeric
 Width: 6
 Decimals: 2
 Range: 0-100

Valid cases: 89
 Invalid: 1
 Minimum: 0
 Maximum: 100
 Mean: 37.8
 Standard deviation: 21.4

% increase in surge zone with CC (increasein)

File: Wetlands

Overview

Type: Continuous
 Format: numeric
 Width: 6
 Decimals: 2
 Range: 2.1-339.1

Valid cases: 85
 Invalid: 5
 Minimum: 2.1
 Maximum: 339.1
 Mean: 40.7
 Standard deviation: 49.4

Related Materials

Reports

Sea-level rise and storm surges : a comparative analysis of impacts in developing countries

Title	Sea-level rise and storm surges : a comparative analysis of impacts in developing countries
Author(s)	Susmita Dasgupta Benoit Laplante Siobhan Murray David Wheeler
Date	2009-04-01
Description	An increase in sea surface temperature is evident at all latitudes and in all oceans. The current understanding is that ocean warming plays a major role in intensified cyclone activity and heightened storm surges. The vulnerability of coastlines to intensified storm surges can be ascertained by overlaying Geographic Information System information with data on land, population density, agriculture, urban extent, major cities, wetlands, and gross domestic product for inundation zones likely to experience more intense storms and a 1 meter sea-level rise. The results show severe impacts are likely to be limited to a relatively small number of countries and a cluster of large cities at the low end of the international income distribution.
Filename	http://go.worldbank.org/5PSZTUXO40

Technical documents

Read Me

Title	Read Me
Filename	ReadMe_StormSurges&SLR_data.pdf
