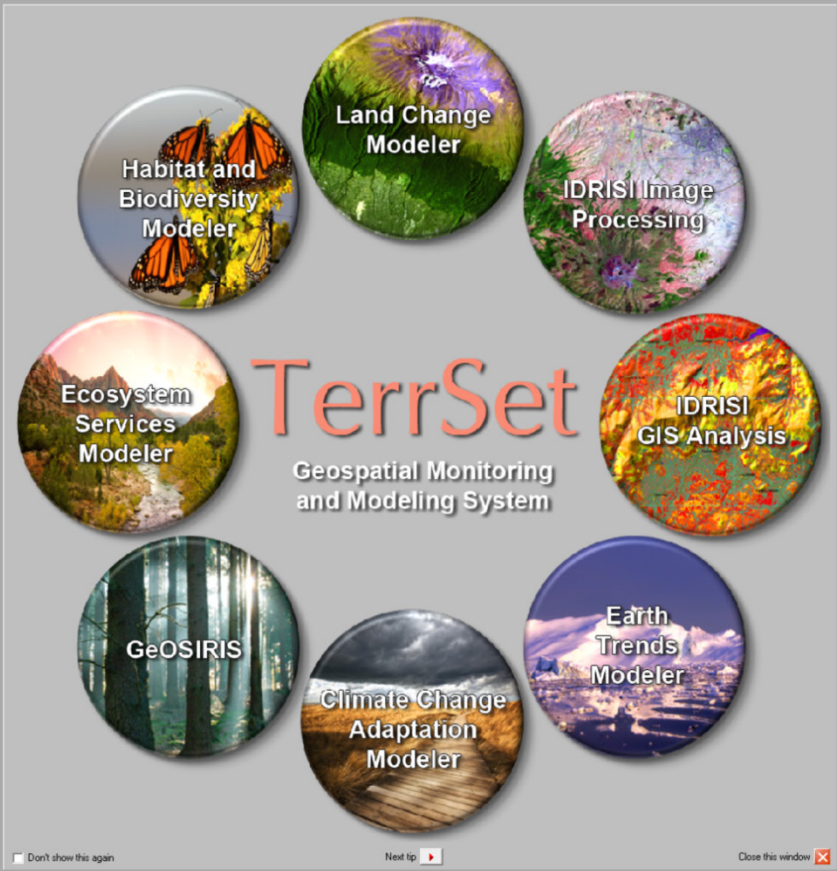




TerrSet

Geospatial Monitoring and Modeling System

TerrSet Explorer



The splash screen features a central title 'TerrSet' in a large, orange, serif font, with the subtitle 'Geospatial Monitoring and Modeling System' in a smaller, grey, sans-serif font below it. Surrounding the title are seven circular icons, each representing a different module: 'Habitat and Biodiversity Modeler' (butterflies), 'Land Change Modeler' (purple flower), 'IDRISI Image Processing' (satellite map), 'IDRISI GIS Analysis' (topographic map), 'Ecosystem Services Modeler' (mountain landscape), 'GeOSIRIS' (forest), and 'Earth Trends Modeler' (cityscape). At the bottom of the splash screen, there are three controls: a checkbox labeled 'Don't show this again', a 'Next tip' button with a right-pointing arrow, and a 'Close this window' button with a red 'X' icon.

Don't show this again

Next tip 

Close this window 

IDRISI GIS Analysis

TerSet Geospatial Monitoring and Modeling System

File IDRISI GIS Analysis IDRISI Image Processing Land Change Modeler Habitat and Biodiversity Modeler GeoSIRIS Ecosystem Services Modeler Earth Trends Modeler Climate Change Adaptation Modeler

sierrailluminated

Sierra de Gredos : Fire Risk

sierra_in_runoff

Surface Runoff Derived from the DEM using the RUNOFF Module

By Through

Image Calculator - Map Algebra and Logic Modeler

Operation type: Mathematical expression Logical expression

Output file name:

Expression to process: $\ln[\text{sierra_runoff}-1]$

7	8	9	/	^	×	COVER	EXP	SIN	ARCCOS
4	5	6	*	NRATIO	NEG	LOGIT	COS	ARCTAN	
1	2	3	-	MIN	RECIP	SORT	TAN	FAD	
0	.	-	+	MAX	LN	SOR	ARCSIN	DEG	
()	[]			Insert Image	CLEAR	ABS	

RUNOFF - surface runoff accumulation

Input surface image:

Control specifications:

Add precipitation image:

Add infiltration image:

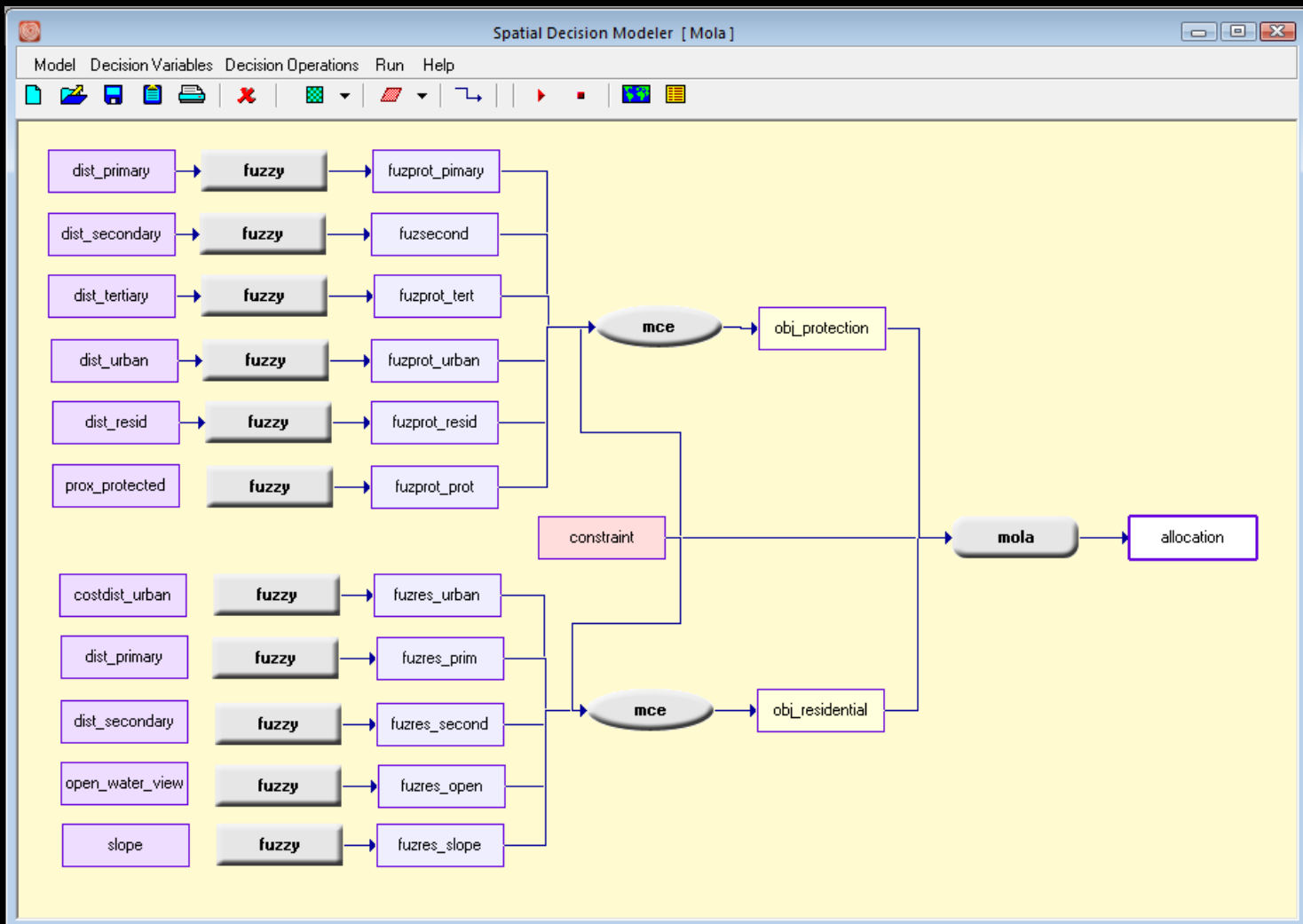
Add duration image:

Add initial absorption image:

Pattern pt removal

RF 1 - 61967 c. 639 + 394 x. 362198174900 y. 4466172.832462 Flythrough - working

Spatial Decision Modeler



IDRISI Image Processing

TerrSet Geospatial Monitoring and Modeling System

File | IDRISI GIS Analysis | IDRISI Image Processing | Land Change Modeler | Habitat and Biodiversity Modeler | GeoSIRIS | Ecosystem Services Modeler | Earth Trends Modeler | Climate Change Adaptation Modeler

Windows Help

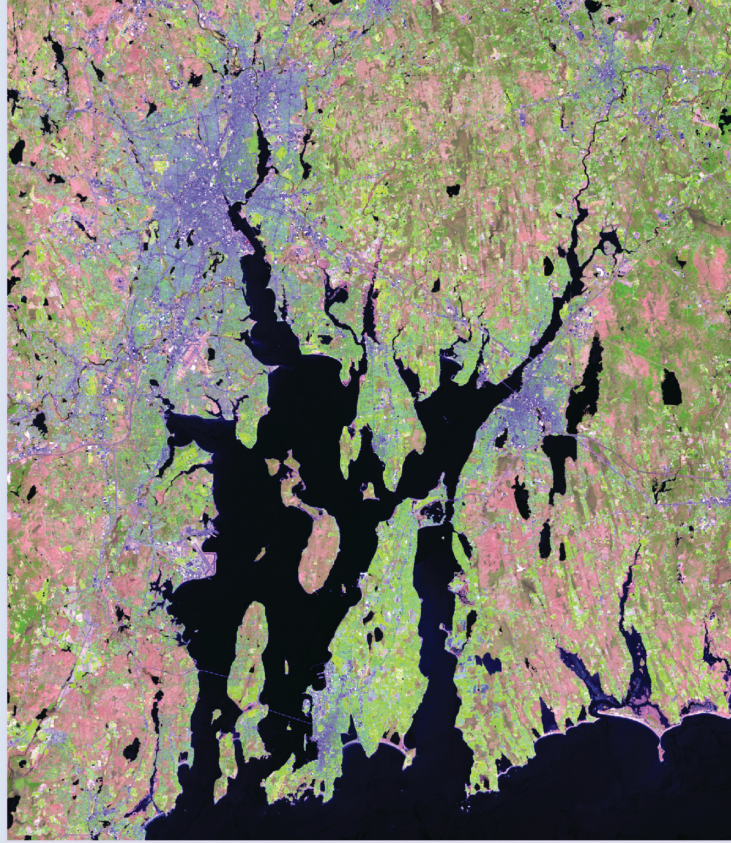
TerrSet Explorer

Projects Files Filters

- D:\vna_landuse8 [25]
 - bands2_7.tif
 - bands2_7_m.tif
 - lc11.tif
 - lc11_masked.tif
 - LC80120312013122LGN01_B1.tif
 - LC80120312013122LGN01_B2.tif
 - LC80120312013122LGN01_B3.tif
 - LC80120312013122LGN01_B4.tif
 - LC80120312013122LGN01_B5.tif
 - LC80120312013122LGN01_B6.tif
 - LC80120312013122LGN01_B7.tif
 - LC80120312013122LGN01_B8.tif
 - LC80120312013122LGN01_B9.tif
 - LC80120312013122LGN01_B10.tif
 - LC80120312013122LGN01_B11.tif
 - LC80120312013122LGN01_B0A.tif
 - LEFT MAP
 - MA_Landuse_11.tif
 - makasig.tif
 - mask.tif
 - mask.tif
 - mask.tif
 - REV_MASK.RST
 - RIGHT MAP
 - TMP-1.tif
 - TMP-2.tif
 - Browser...

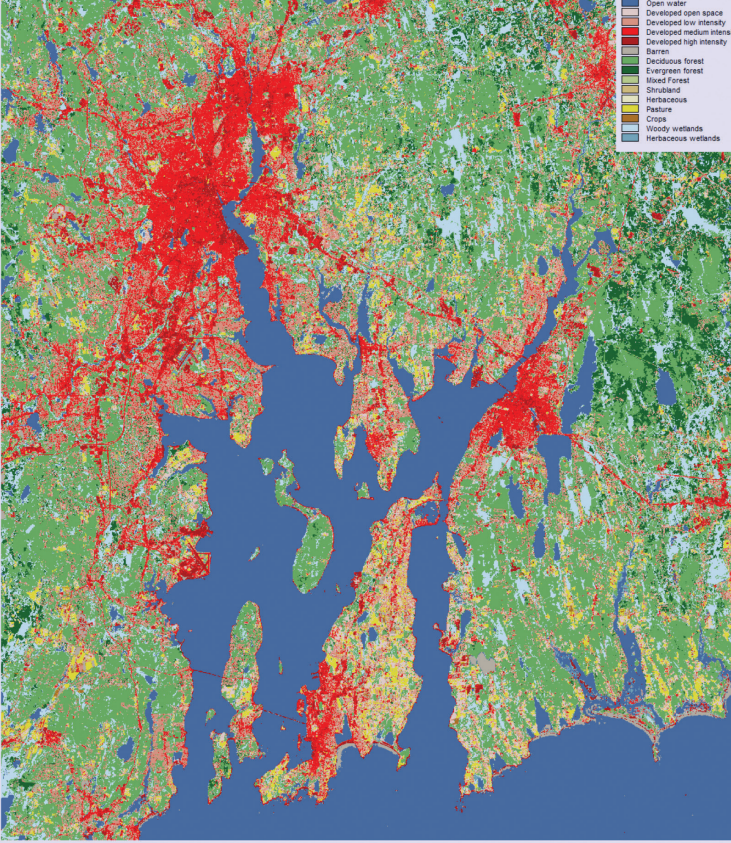
bands2_7_mx.lc80120312013122LGN01_b6

Landsat 8 : May 2, 2013 : Bands 4,5,6



bands2_7_mx.maxlike

Maximum Likelihood Classification



- Open water
- Developed open space
- Developed low intensity
- Developed medium intensity
- Developed high intensity
- Barren
- Deciduous forest
- Evergreen forest
- Mixed Forest
- Shrubland
- Herbaceous
- Pasture
- Crope
- Woody wetlands
- Herbaceous wetlands

Metadata

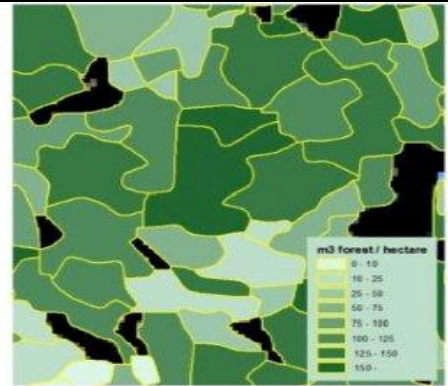
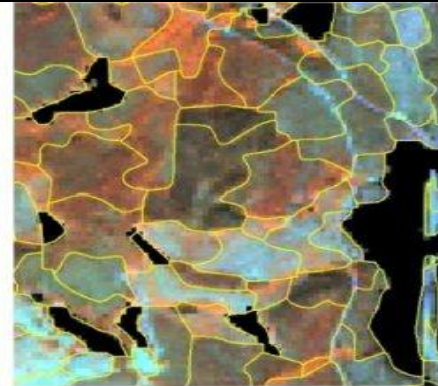
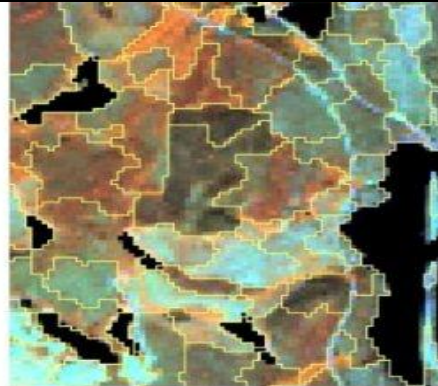
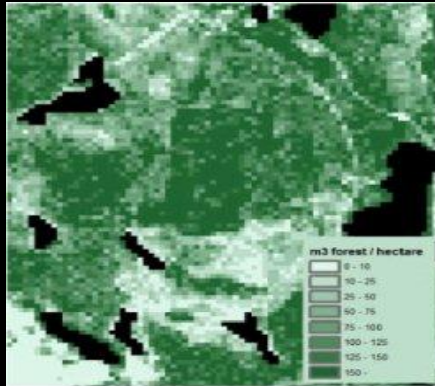
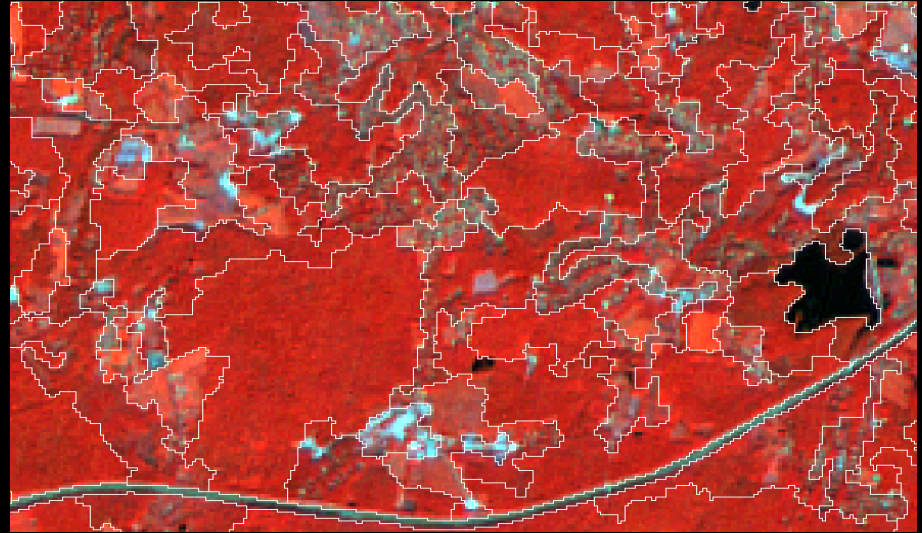
Name	LC80120312013122LGN01_B2
File format	IDRISI Raster A 1
File title	LC80120312013122LGN01_B2: Band 2 T
Data type	Real
File type	Binary
Columns	7781
Rows	7951
Ref. system	Utm 18n
Ref. units	Meters
Unit. dist.	1.000000
Min. X	191305.000000
Max. X	424815.000000
Min. Y	4611305.000000
Max. Y	4739115.000000
Proj'n error	Unknown
Y Resolution	30
X Resolution	30
Min. value	0.000000
Max. value	793.076177
Display min	45.2622757
Display max	73.3944695
Value units	M
Value error	Unknown
Flag value	None
Flag def'n	None
Legend cats	0
Categories	
Lineage	"This file was created by the Landsat I m...
Completeness	
Consistency	
Comment	"T# class :greyscale";Scale in X: '30";S...

RF 1: 177074 c: 3378 r: 3738 x: 292733.679590 y: 4636946.280399

IDRISI Image Processing

Segment-based classification

*e.g., National Forest
Inventory, Sweden 2005*



TerrSet Geospatial Monitoring and Modeling System

File | IDRISI GIS Analysis | IDRISI Image Processing | Land Change Modeler | Habitat and Biodiversity Modeler | GeoSIRIS | Ecosystem Services Modeler | Earth Trends Modeler | Climate Change Adaptation Modeler

Window | Help

Ecosystem Services Modeler: ESM

About ESM | Aesthetic Quality | Carbon Storage and Sequestration | Coastal Vulnerability | Crop Pollution | Habitat Quality and Risk | Habitat Risk Assessment | Hydropower | Maine Aquaculture | Offshore Wind Energy | Developing Use | Sediment Retention | Timber Harvest | Water Pollution | Water Yield | Waste Energy

Water Yield

Watershed image: Mass_Watersheds
Sub-watershed image: Mass_SubWatersheds
Biophysical table (.csv): Biophysical_Model
Land cover image: MA_landcov_predict_2100
Precipitation image: MA_Precip_2100
Evapotranspiration image: Mass_Reference_ET
Restricting layer depth image: MASS_SOIL_DEPTH
FAWC image: Mass_FAWC
Seasonality factor: 7
Output: Water yield image: wy2100

Run

landcov_predict_2100

Projected Land Cover 2100
(from LCM)

ma_precip_2100

Predicted Precipitation 2100
(from CCAM)

wy2100_pixel

Expected Water Yield (mm) 2100

Composer

- ✓ [] 2100_landcov
- ✓ [] 2100_precip
- ✓ [] 2100_wy

Auto-Arrange

RF 1: 917225 c: 4199 r: 2305 x: 159620343396 y: 892210.029933

Carbon Sequestration

Ecosystem Services Modeler


TenSet Geospatial Monitoring and Modeling System

File | IDRISI GIS Analysis | IDRISI Image Processing | Land Change Modeler | Habitat and Biodiversity Modeler | GeOSIRIS | Ecosystem Services Modeler | Earth Trends Modeler | Climate Change Adaptation Modeler

Window | Help | PolyRas

Ecosystem Services Modeler: ESM

Crop Pollination | Habitat Quality and Rarity | Habitat Risk Assessment | Hydropower
Marine Aquaculture | Offshore Wind Energy | Overlapping Use
Sediment Retention | Timber Harvest | Water Purification | Water Yield | Wave Energy
About ESM | Aesthetic Quality | Carbon Storage and Sequestration | Coastal Vulnerability



Input Settings

Required input

Current land cover image: Year:

Carbon pools table:

Future land cover

Future land cover image: Year:

Harvest rate

Current harvest rate (rgf):

Future harvest rate (rgf):

Compute economic valuation

Price of carbon per metric ton:

Annual rate of change in the price of carbon (%):

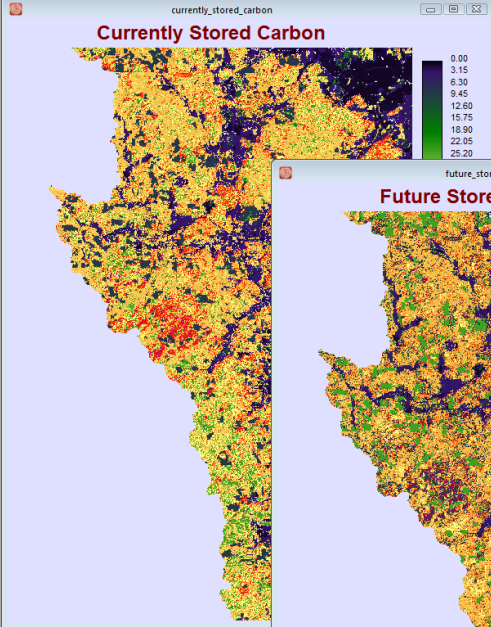
Market discount rate (%):

Output Setting

Output file prefix:

currently_stored_carbon

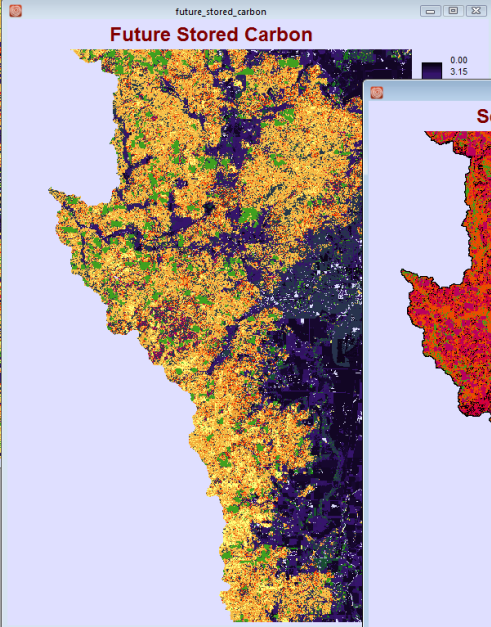
Currently Stored Carbon



0.00
3.15
6.30
9.45
12.60
15.75
18.90
22.05
25.20

future_stored_carbon

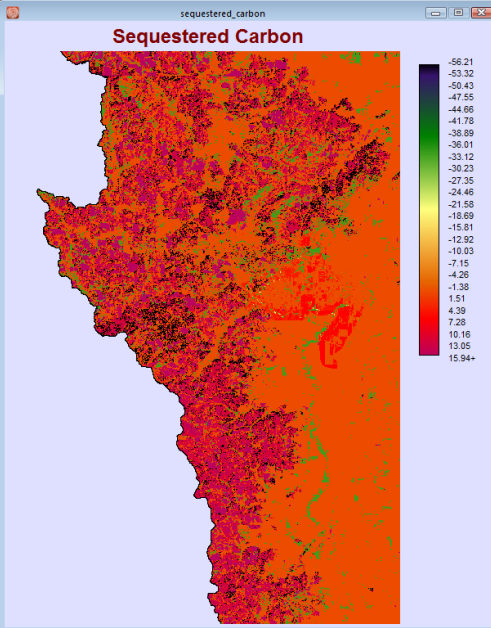
Future Stored Carbon



0.00
3.15

sequestered_carbon

Sequestered Carbon



-56.21
-53.32
-50.43
-47.55
-44.66
-41.78
-38.89
-36.01
-33.12
-30.23
-27.35
-24.46
-21.58
-18.69
-15.81
-12.92
-10.03
-7.15
-4.26
-1.38
1.51
4.39
7.28
10.16
13.05
15.94


RF 1: 305980 c: 768 r: 618 x: 466789,438304 y: 493799,746209

TerSet Geospatial Monitoring and Modeling System

File IDRISI GIS Analysis IDRISI Image Processing Land Change Modeler Habitat and Biodiversity Modeler GeoSIRIS Ecosystem Services Modeler Earth Trends Modeler Climate Change Adaptation Modeler

Ecosystem Services Modeler: ESM

Maine Aquaculture Offshore Wind Energy Overlapping Use
Sediment Retention Timber Harvest Water Purification Water Yield Wave Energy
About ESM Aesthetic Quality Carbon Storage and Sequestration Coastal Vulnerability
Crop Pollination Habitat Quality and Rarity Habitat Risk Assessment Hydropower



Crop Pollination

Current land cover image:

Pollinator species/guilds table (.csv):

Land cover attributes table (.csv):

Output file prefix:

Future prediction
Future land cover image:

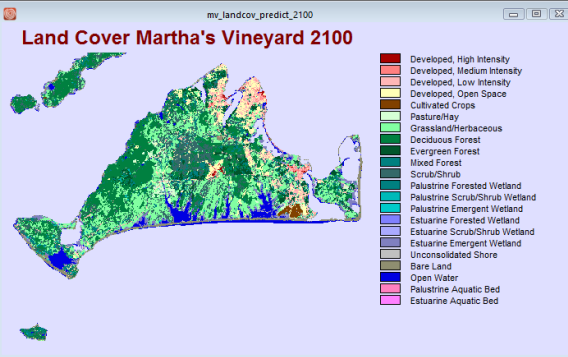
Land cover current year: Land cover future year:

Calculate pollinator service value
Half-saturation constant:

Proportion of total crop yield attributed only to wild pollination:

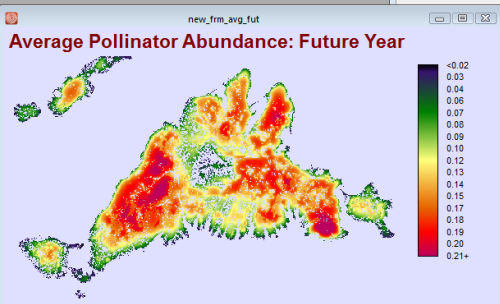
Mask

mv_landcov_predict_2100
Land Cover Martha's Vineyard 2100

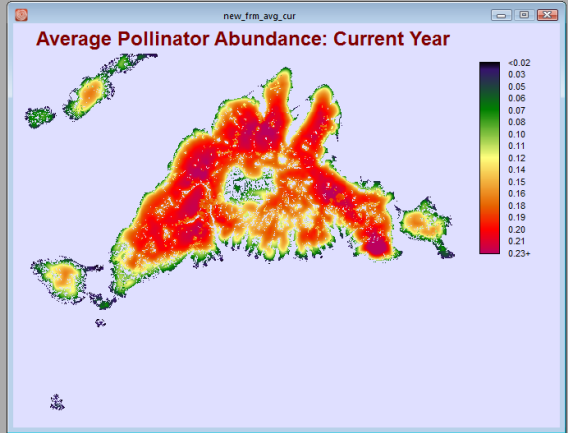


- Developed, High Intensity
- Developed, Medium Intensity
- Developed, Low Intensity
- Developed, Open Space
- Cultivated Crops
- Pasture/Hay
- Grassland/Herbaceous
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Scrub/Shrub
- Palustrine Forested Wetland
- Palustrine Scrub/Shrub Wetland
- Palustrine Emergent Wetland
- Estuarine Forested Wetland
- Estuarine Scrub/Shrub Wetland
- Estuarine Emergent Wetland
- Unconsolidated Shore
- Bare Land
- Open Water
- Palustrine Aquatic Bed
- Estuarine Aquatic Bed

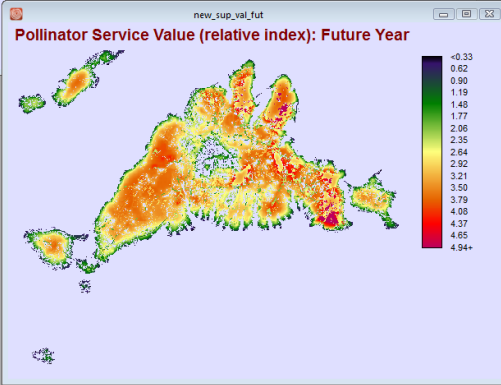
new_fm_avg_fut
Average Pollinator Abundance: Future Year



new_fm_avg_cur
Average Pollinator Abundance: Current Year

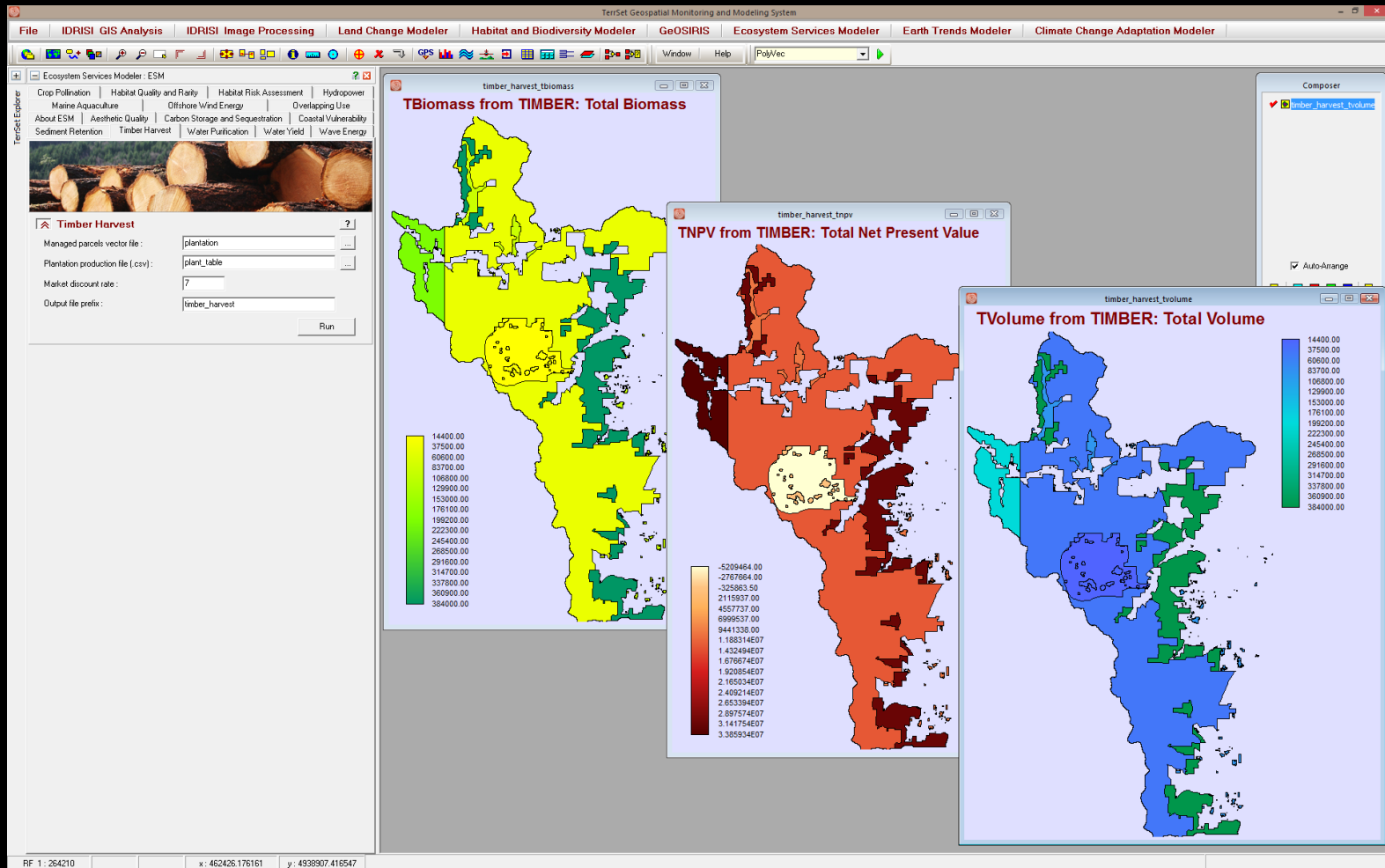


new_sup_val_fut
Pollinator Service Value (relative index): Future Year



Composer
new_fm_avg_fut

RF 1: 235193 c: 762 r: 367 x: 277447.576139 y: 793962.808037



Earth Trends Modeler

Terrestrial Geospatial Monitoring and Modeling System

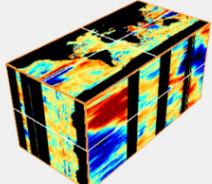
File | IDRISI GIS Analysis | IDRISI Image Processing | Land Change Modeler | Habitat and Biodiversity Modeler | GEOSIRIS | Ecosystem Services Modeler | Earth Trends Modeler | Climate Change Adaptation Modeler

Earth Trends Modeler

Explore | Analysis | Preprocess

ETM Session Parameters

Explore Space / Time Dynamics



Series: Toppos5793 Create/recreate visualization Reset

Time: Jul 17 1990 X: 0 Y: 0 Cube

Explore PCA / EOT / Fourier PCA / CCA / Wavelets

Explore Temporal Profiles

Explore Series Relationships

Explore Trends

Seasonal trends Interannual trends Series: ndvi

Seasonal trend analysis options

Harmonics: 2 Filled seasonal curves Define a circular sample


Amplitude 0 Observed seasonal curves Select a vector feature

Amplitude 1 Green up/down: 40% Draw sample region

Phase 1 Trend to graph

Amplitude 2 Save samples in vector layer Filled Curves

Phase 2



Filled seasonal curves (x: -85.46 y: 32.04) 1982 2010

402 Green-up	Mar 12 12:00	Mar 1 12:00	Diff: -11 days
402 Green-down	Nov 24 18:00	Dec 24 12:00	Diff: +29.7 days

Seasonal Trends in NDVI 1982 - 2010

Composer

- ndvi_sta_amplitudes
- background2
- usa_states

AutoAverage


TerrSet Geospatial Monitoring and Modeling System

File | IDRISI GIS Analysis | IDRISI Image Processing | Land Change Modeler | Habitat and Biodiversity Modeler | GeoSIRIS | Ecosystem Services Modeler | Earth Trends Modeler | Climate Change Adaptation Modeler

Window Help

Climate Change Adaptation Modeler - CCAM

About CCAM | Generate Scenario | Impact Analysis | Preprocess



Model Global Warming and Sea Level Rise - MAGICC 2.1

Model parameters:

Emission scenario: Carbon cycle model: Carbon cycle climate feedbacks

Thermohaline circulation: Aerosol forcing:

Vertical diffusion (Kz): Ice melt:

Sensitivity (Delta T2d): Model:

Output parameters:

Reference year for climate model output:

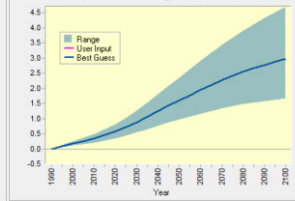
Last year for climate model run:

Interval for climate model:

MAGICC output:

Temperature change Sea level rise

Temperature Change (°C) w.r.t 1990



Generate Climate Scenarios - SCENGEN 2.1

Scenario: **A1B-AIM**

Climate scenario generation:

Month Season Annual Climatology

Variable: Precipitation Exponential scaling

Scenario year:

Models:

BCCRCM2 CSIRO-3.0 GFDL-CM2.1 IPSL-CM4 MRI-232a

CCCMA-3.1 ECHG GISS-EH MIROC-HI INMCM3.0

FGOALS1.0 GISS-ER MIROC-MED UKHADCM3

CNRM-3 GFDL-CM2.0 INMCM-3.0 MPIECH-5 UKHADGEM

Select default Select all Select none

Options:

Overlay vector layer on results:

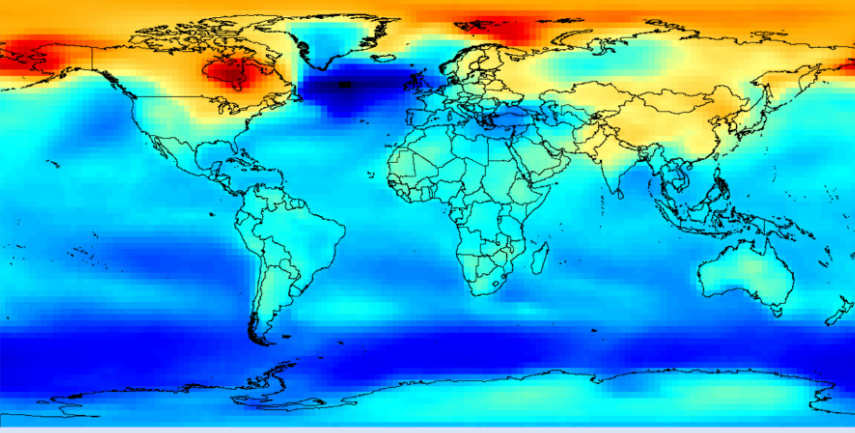
Include spatial effects of aerosols Vector overlay line color: Blue Yellow

Drift correction No correction Both White Cyan Green

Output prefix:

a1b-aim_2100_temperature_january_absdel

A1B-AIM ABSOLUTE CHANGE IN TEMPERATURE January 2100 : Ensemble Mean (degC)



-3.80
-3.66
-1.51
-0.37
0.77
1.91
3.05
4.20
5.34
6.48
7.62
8.76
9.90
11.05
12.19
13.33
14.47

Composer

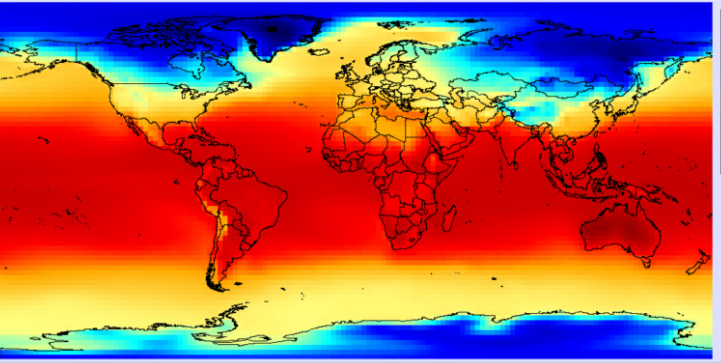
a1b-aim_2100_temperature

world_nations

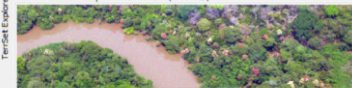
Auto-Arrange

a1b-aim_2100_temperature_january_abs-obs

A1B-AIM NEW MEAN CLIMATE January 2100 : Ensemble Mean (degC)



-38.12
-33.40
-28.68
-23.95
-19.23
-14.51
-9.78
-5.06
-0.34
4.39
9.11
13.83
18.58
23.28
28.01
32.73
37.45



Filter IUCN Species Ranges

IUCN range polygon file (.vct): terrestrial_mammals
 IUCN database (.accdb): terrestrial_mammals
 Database table: TERRESTRIAL_MAMMALS
 Polygon ID field: IDR_ID
 Species ID field: s4_no
 Red List Status field: category

Red List status filter options

Least Concern (LC) Critically Endangered (CR)
 Near Threatened (NT) Extinct in the Wild (EW)
 Vulnerable (VU) Extinct (EX)
 Endangered (EN) Data Deficient (DD)

Spatial filter option

Bounding rectangle Bounding polygon

Bounding rectangle

Copy from existing file: Vector Raster
 Raster file: sa_mask
 Min X: 63.0048973 Min Y: 55.952537
 Max X: 33.4602577 Max Y: 13.5018063

Include species if

Range intersects Range is endemic

Output prefix: sa_endemic_VUENCR

Biodiversity Analysis

Species range data

Vector composite polygon
 Vector group
 Raster group

Regional definition

Focal zone
 Vector region polygons
 Raster region polygons

Input composite polygon file: sa_endemic_VUENCR_species_ID

Reference layer for rasterization: SA_Mask

Apply land or region mask: SA_Mask

Output alpha diversity file: alpha_sa_endemic_VUENCR

Output beta diversity file:

Output gamma diversity file:

Output S-disparity file:

Output range restriction file:

sa_mask

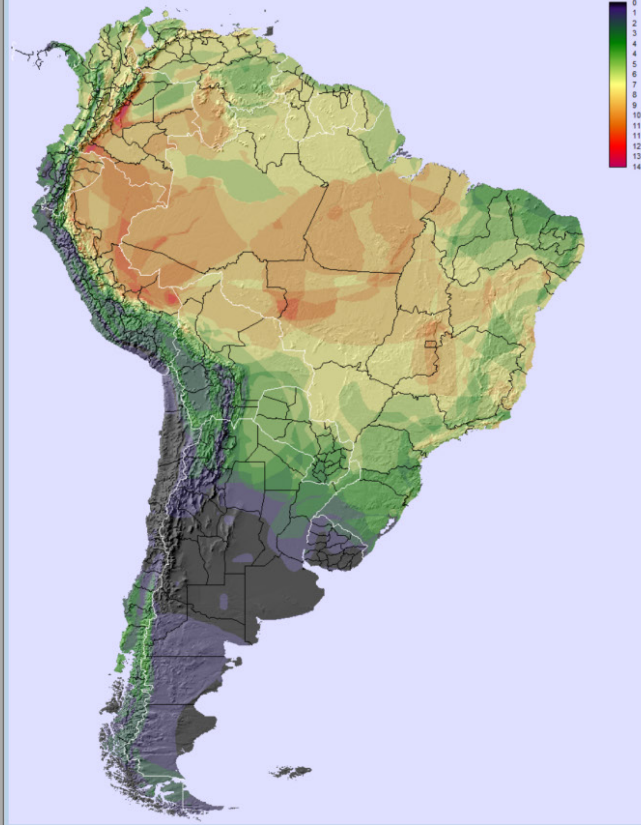
Extracted Ranges from the IUCN Red List Database

Vulnerable, Endangered and Critically Endangered Mammals



hillshade_elevation_worldclim_2min_rec

Frequency of Vulnerable, Endangered and Critically Endangered Mammals



GeOSIRIS - REDD+

TerrSet Geospatial Monitoring and Modeling System

File IDRISI GIS Analysis IDRISI Image Processing Land Change Modeler Habitat and Biodiversity Modeler GeOSIRIS Ecosystem Services Modeler Earth Trends Modeler Climate Change Adaptation Modeler

Window Help

GeOSIRIS Modeler

About GeOSIRIS

GeOSIRIS session parameters

External factors

World carbon price (\$/tCO₂e): 10.00
Country national reference level as proportion of business-as-usual (BAU) emissions: 1.00

Decision on national REDD+ rules and incentives

Benefit sharing (government share): 0.20
Within-country carbon price applied to emission decreases above reference level (\$/tCO₂e): 8
Cost sharing (government share): 1.00
Within-country monetary penalty applied to emission increases above reference level (\$/tCO₂e): 0

Model parameters

Price elasticity of demand for agriculture on newly deforested land: 0.6
Exogenous increase in price of agriculture on newly deforested land (in g. due to increased global demand for agricultural commodities): 0.3

Input image files

Effective Opportunity Cost

Run logistic regression Run Poisson regression Use external model

Independent variables:

Input Image	Agricultural Revenue	Number of files:
ag_rev_revenue	Yes	8125
slope	No	10
elevation	No	
Log_Cap	No	
Log_Road	No	

Proportion of potential agricultural revenue retained after production costs: 1.00
Regression sampling proportion: 10

Forest cover classes

Single forest cover class Multiple forest cover classes

Classification

Quartile classification User-defined classification Geographic stratification

Maximum Cover	Coefficients
20.00	1.557099E-05
70.00	8.945429E-06
95.00	1.183236E-05
100.00	6.589122E-05

Number of Classes: 4

Output parameters

GeOSIRIS output name: GeOSIRIS_Indonesia
Model precision: 0.0010
Maximum number of iterations: 10
Proportional change in country ag price: 1.4234 Equilibrium 1.4234

Run

geosiris_indonesia_carbon emissions without redd modeled

Carbon emissions without REDD (tCO₂e/5 yrs; modeled)

Legend: 10000.00, 157825.00, 168812.50, 180000.00, 191687.50, 203375.00, 215062.50, 226750.00, 238437.50, 250125.00, 261812.50, 273500.00, 285187.50, 296875.00, 308562.50, 320250.00, 331937.50, 343625.00, 355312.50, 367000.00, 378687.50, 390375.00, 402062.50, 413750.00, 425437.50, 437125.00, 448812.50, 460500.00, 472187.50, 483875.00, 495562.50, 507250.00, 518937.50, 530625.00, 542312.50, 554000.00, 565687.50, 577375.00, 589062.50, 600750.00, 612437.50, 624125.00, 635812.50, 647500.00, 659187.50, 670875.00, 682562.50, 694250.00, 705937.50, 717625.00, 729312.50, 741000.00, 752687.50, 764375.00, 776062.50, 787750.00, 800000.00, 811687.50, 823375.00, 835062.50, 846750.00, 858437.50, 870125.00, 881812.50, 893500.00, 905187.50, 916875.00, 928562.50, 940250.00, 951937.50, 963625.00, 975312.50, 987000.00, 1000000.00

geosiris_indonesia_carbon emissions with redd

Carbon emissions with REDD (modeled; tCO₂e/5yrs)

Legend: 10000.00, 157825.00, 168812.50, 180000.00, 191687.50, 203375.00, 215062.50, 226750.00, 238437.50, 250125.00, 261812.50, 273500.00, 285187.50, 296875.00, 308562.50, 320250.00, 331937.50, 343625.00, 355312.50, 367000.00, 378687.50, 390375.00, 402062.50, 413750.00, 425437.50, 437125.00, 448812.50, 460500.00, 472187.50, 483875.00, 495562.50, 507250.00, 518937.50, 530625.00, 542312.50, 554000.00, 565687.50, 577375.00, 589062.50, 600750.00, 612437.50, 624125.00, 635812.50, 647500.00, 659187.50, 670875.00, 682562.50, 694250.00, 705937.50, 717625.00, 729312.50, 741000.00, 752687.50, 764375.00, 776062.50, 787750.00, 800000.00, 811687.50, 823375.00, 835062.50, 846750.00, 858437.50, 870125.00, 881812.50, 893500.00, 905187.50, 916875.00, 928562.50, 940250.00, 951937.50, 963625.00, 975312.50, 987000.00, 1000000.00

geosiris_indonesia_difference between carbon emissions with and without redd

Difference in carbon emissions with REDD (tCO₂e/5yrs)

Legend: -20040.51 - -15587.07, -15587.07 - -11133.63, -11133.63 - -6680.18, -6680.18 - -2226.73, -2226.73 - 2226.73, 2226.73 - 6680.18, 6680.18 - 11133.61, 11133.61 - 15587.06, 15587.07 - 20040.51+

RF 1 1964497 c 655 i 277 x 1249639 737639 y 177288 088643

Land Change Modeler

TerSet Geospatial Monitoring and Modeling System

File | IDRISI GIS Analysis | IDRISI Image Processing | Land Change Modeler | Habitat and Biodiversity Modeler | GEOSIPRS | Ecosystem Services Modeler | Earth Trends Modeler | Climate Change Adaptation Modeler

Land Change Modeler: ES

Change Analysis | Transition Potentials | Change Prediction | Planning | REDD Project

LCM Session Parameters

Change Analysis

Gains and losses by category Units: cells

Net change by category

Contributors to net change experienced by: Open Water

Gains and losses between 2001 and 2006

Category	Gain/Loss (cells)
Emergent Herbaceous Wetlands	~1000
Woody Wetlands	~1000
Cultivated Crops	~1000
Hay/Pasture	~1000
Herbaceous	~1000
Shrub/Scrub	~1000
Mixed Forest	~1000
Evergreen Forest	~1000
Deciduous Forest	~1000
Barren Land	~1000
Developed, High Intensity	~1000
Developed, Medium Intensity	~1000
Developed, Low Intensity	~1000
Developed, Open Space	~1000
Open Water	~1000

Change Maps

Map changes Ignore transitions less than 14500 cells

Map persistence

Map gains / losses in: Developed, Open Spac Include Persistence

Map the transition from: Open Water to: Developed, Open Spac

Exchanges between: Developed, Open Spac and: Developed, Open Spac

Output name (optional): Create Map

Spatial Trend of Change

ma_landuse_01

Land cover 2001

ma_landuse_06

Land cover 2006

- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Barren Land
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrub/Scrub
- Herbaceous
- Hay/Pasture
- Cultivated Crops
- Woody Wetlands
- Emergent Herbaceous Wetlands

RF 1: 888323 c: 5084 r: 1709 x: 186383.354332 y: 910213.517024

TerSet Geospatial Monitoring and Modeling System

File | IDRISI GIS Analysis | IDRISI Image Processing | Land Change Modeler | Habitat and Biodiversity Modeler | GeoSIRIS | Ecosystem Services Modeler | Earth Trends Modeler | Climate Change Adaptation Modeler

Window Help

Land Change Modeler: ES

Change Analysis Transition Potentials | Change Prediction | Planning | REDD Project

Transition Sub-Models: Status

From:	To:	Sub-Model Name:
Yes Deciduous Forest	Developed Open Space	Decid_to_Devel
Yes Deciduous Forest	Developed Low Intensity	Decid_to_Devel_1
Yes Evergreen Forest	Developed Open Space	Everg_to_Devel
Yes Evergreen Forest	Developed Low Intensity	Everg_to_Devel_2
Yes Hay/Pasture	Developed Low Intensity	Hay_P_to_Devel

Include all To group sub-models, give them a common name
 Include none Sub-Model to be evaluated: Decid_to_Devel_1

Variable Transformation Utility

Test and Selection of Site and Driver Variables

Transition Sub-Model Structure

Sub-Model being evaluated: Decid_to_Devel_1

Variable	Rate	Basis layer type	Operation
quant_atDist_Mass_TIGERRR:Static			
quant_atDist_Mass_TIGERRR:Static			
quant_atDist_Mass_To_Mar:Static			
quant_atMass_elevation_NEI:Static			
quant_atMass_slope:Static			

Number of files: 11

Run Transition Sub-Model

MLP Neural Network Stochastic Logistic Regression

Minimum cells that transitioned from 2001 to 2006: 33756
 Minimum cells that persisted from 2001 to 2006: 775105

Sample size per class: 10000 (50% training / 50% testing)

MLP neural network parameters

Training parameters

Use automatic training
 Use dynamic learning rate

Start learning rate: 0.00014
 End learning rate: 6.25E-04
 Momentum factor: 0.5
 Sigmoid constant α : 1.0
 Hidden layer nodes: 5

Error monitoring

Running statistics

RMS: 0.01
 Iterations: 10000
 Training RMS: 0.3594 Testing RMS: 0.3385
 Accuracy rate: 100 %
 Accuracy rate: 84.16% Skill measure: 0.6832

ma_01_06_to_11_transition_potential_from_7_to_2
 Potential for transition from Deciduous to Developed Open

ma_01_06_to_11_transition_potential_from_8_to_3
 Potential for transition from Evergreen to Developed Low Intensity

ma_01_06_to_11_transition_potential_from_7_to_3
 Potential for transition from Deciduous to Developed Low Intensity

landcov_predict_2030

Vulnerability to Land Transition 2006 - 2030

landcov_predict_2030

Projected Land Cover 2030

- Open Water
- Developed Open Space
- Developed Low Intensity
- Developed Medium Intensity
- Developed High Intensity
- Barren Land
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrublands
- Herbaceous
- Hay/Pasture
- Cultivated Crops
- Woody Wetlands
- Emergent Herbaceous Wetlands

Composer

- landcov_predict_2030
- ma_towns_poly_spc83

AutoArrange

RF 1: 881378 e: 3854 r: 2061 x: 143481 794122 y: 899652 086298

TerSet Geospatial Monitoring and Modeling System

File | IDRISI GIS Analysis | IDRISI Image Processing | Land Change Modeler | Habitat and Biodiversity Modeler | GeoSIRIS | Ecosystem Services Modeler | Earth Trends Modeler | Climate Change Adaptation Modeler

Land Change Modeler: ES

Change Analysis | Transition Potentials | Change Prediction | Planning | REDD Project

LCM Session Parameters

Change Analysis

Gains and losses by category Units: [hectares]

 Net change by category

 Contributors to net change experienced by: [Open Water]

Gains and losses between 2001 and 2006

Change Maps

Map changes Ignore transitions less than [250] hectares

 Map persistence Include Persistence

 Map gains / losses in: [Deciduous Forest]

 Map the transition from: [Open Water] to [Developed, Open Space]

 Exchanges between: [Developed, Open Space] and [Developed, Open Space]

 Output name (optional): _____ Create Map

Spatial Trend of Change

Map spatial trend from: [Cultivated Crops] to [Hay/Pasture]

 Order of polynomial: **9th**

 Output name (optional): _____ Map Trend

- Emergent Herbaceous Wetlands to Open Water
- Deciduous Forest to Developed, Open Space
- Evergreen Forest to Developed, Open Space
- Mixed Forest to Developed, Open Space
- Shrub/Scrub to Developed, Open Space
- Hay/Pasture to Developed, Open Space
- Woody Wetlands to Developed, Open Space
- Barren Land to Developed, Low Intensity
- Deciduous Forest to Developed, Low Intensity
- Evergreen Forest to Developed, Low Intensity
- Mixed Forest to Developed, Low Intensity
- Shrub/Scrub to Developed, Low Intensity
- Hay/Pasture to Developed, Low Intensity
- Cultivated Crops to Developed, Low Intensity
- Woody Wetlands to Developed, Low Intensity
- Emergent Herbaceous Wetlands to Developed, Low Intensity
- Barren Land to Developed, Medium Intensity
- Deciduous Forest to Developed, Medium Intensity
- Evergreen Forest to Developed, Medium Intensity
- Hay/Pasture to Developed, Medium Intensity
- Woody Wetlands to Developed, Medium Intensity
- Deciduous Forest to Developed, High Intensity
- Deciduous Forest to Barren Land
- Evergreen Forest to Herbaceous
- Open Water to Emergent Herbaceous Wetlands
- Woody Wetlands to Emergent Herbaceous Wetlands

Change from

2001 to 2006

9th Order Trend : Deciduous Forest to Developed, Low Intensity

9th Order Trend : Cultivated Crops to Hay/Pasture

RF 1: 236327 c: 8543 r: 1412 x: 230140.646396 y: 819135.428953