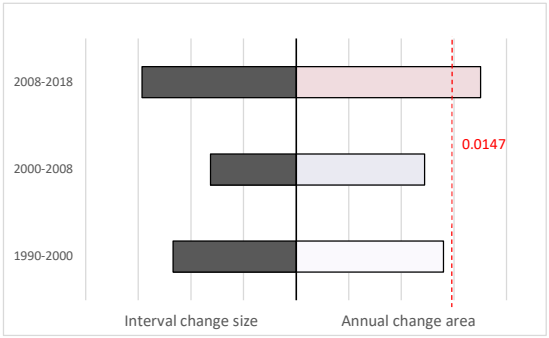
The following is an example of the calculations performed for the transformation of the conventional intensity analysis bar charts into composite heat maps proposed in this work. This example was carried out specifically for the buffer zone of the Chocó Andino biosphere reserve. The ranking of Uniformity Values for each level of analysis is detailed in the main text based on the results by zone and time intervals.

Total area buffer zone:	1,045,184.00	pixels
Total area buffer zone without persistence:	146,383.00	pixels
Total Annual Transition Size for Gain of Agricultural Land (AL)	6,839.10	pixels

CONVENTIONAL INTENSITY ANALYSIS

Interval Intensity Analysis (IIA)

Time interval	Change size	Annual change	Uniform change across intervals	interval behavior
1990-2000	146383	0.0140	0.0147	Slow
2000-2008	101939	0.0122	0.0147	Slow
2008-2018	183294	0.0175	0.0147	Fast



Interval Change Size (ICS)

- ICS ≤ 5%
- 20% ≥ ICS > 15%
- 10% ≥ ICS > 5%
- ICS > 20%

Interval Change Intensity

Slow — Uniform — Fast

COMPOSITE HEAT MAPS

Uniform change across intervals = Interval Uniformity Value (IUV)

Interval change intensity

1990-2000	2000-2008	2008-2018
-0.0504	-0.1734	0.1891

$$\frac{Annual\ change}{Uniform\ change\ across\ intervals} - 1$$

Interval change size

1990-2000	2000-2008	2008-2018
14.01%	9.75%	17.54%

$$\frac{Change\ size}{Total\ area\ buffer\ zone} * 100$$

Result

1990-2000	2000-2008	2008-2018

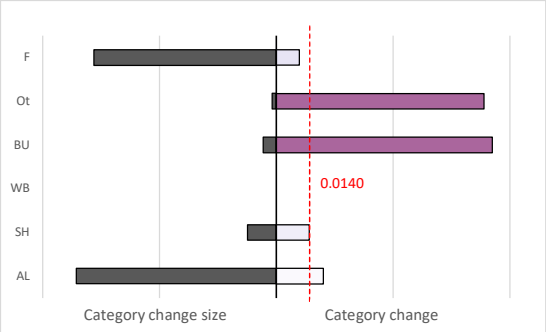
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Total area buffer zone without persistence:	146,383.00	pixels
Total Annual Transition Size for Gain of Agricultural Land (AL)	6,839.10	pixels

CONVENTIONAL INTENSITY ANALYSIS

Category Intensity Analysis (CIA)

Time interval: 1990-2000

LULC categories	Gross Gain	Gain Intensity	Uniform Category Intensity	Gain Behavior
AL	6839.1	0.0201	0.0140	Active
SH	981.6	0.0141	0.0140	Active
WB	0	0.0000	0.0140	No transition
BU	443.8	0.0925	0.0140	Active
Ot	131.3	0.0890	0.0140	Active
F	6242.5	0.0100	0.0140	Dormant



Category Change Size (CCS)

- ○ CCS ≤ 5%
- ◕ 20% ≥ CCS > 15%
- ◔ 10% ≥ CCS > 5%
- ● CCS > 20%

Category Change Intensity

Dormant — Uniform — Active

COMPOSITE HEAT MAPS

Uniform Category Intensity = Category Uniformity Value (CUV)

Category change intensity from 1990 to 2000 $\frac{Gain\ intensiy}{Uniform\ category\ intensity} - 1$

AL	SH	WB	BU	Ot	F
0.4377	0.0088	0.0000	5.6057	5.3516	-0.2885

Category change size from 1990 to 2000 $\frac{Gross\ gain}{Total\ area\ buffer\ zone\ without\ persistence} * 10^{a}$

AL	SH	WB	BU	Ot	F
47%	7%	0%	3%	1%	43%
●	◔		○	○	●

Result

AL	SH	WB	BU	Ot	F
●	◔		○	○	●

[a] Difference between last and first year of time interval

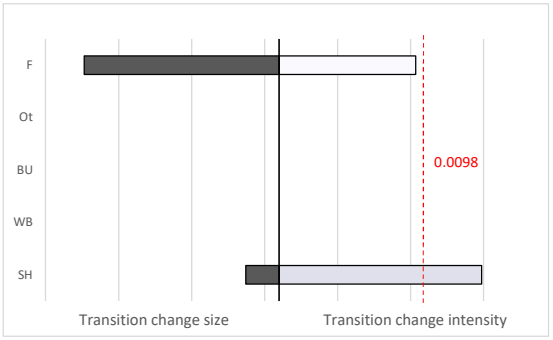
Total area buffer zone:	1,045,184.00	pixels
Total area buffer zone without persistence:	146,383.00	pixels
Total Annual Transition Size for Gain of Agricultural Land (AL)	6,839.10	pixels

CONVENTIONAL INTENSITY ANALYSIS

Transition Intensity Analysis (TIA)

Time interval: 1990-2000

LULC categories	Annual Transition Size for Gain of AL	Transition Intensity for Gain of AL	Uniform Transition Intensity	Transition Behavior for Gain of AL
SH	998.1	0.0139	0.0098	Target
WB	0	0.0000	0.0098	No transition
BU	0	0.0000	0.0098	No transition
Ot	0	0.0000	0.0098	No transition
F	5841	0.0093	0.0098	Avoid



Category Change Size (CCS)

- CCS ≤ 5%
- 20% ≥ CCS > 15%
- 10% ≥ CCS > 5%
- CCS > 20%

Transition Change Intensity

Avoid — Uniform — Target

COMPOSITE HEAT MAPS

Uniform Transition Intensity = Transition Uniformity Value (TUV)

Transition change intensity from 1990 to 2000 $\frac{Transition\ Intensity\ for\ Gain\ of\ \ AL}{Uniform\ transition\ intensity} - 1$

AL				
SH	WB	BU	Ot	F
0.4192	0.0000	0.0000	0.0000	-0.0422

Transition change size from 1990 to 2000 $\frac{Annual\ Transition\ Size\ for\ Gain\ of\ AL}{Total\ Annual\ Transition\ Size\ for\ Gain\ of\ AL} * 100$

AL				
SH	WB	BU	Ot	F
0.1459	0.0000	0.0000	0.0000	0.8541

Result without colour coding of land processes

AL				
SH	WB	BU	Ot	F

Result including colour coding of land processes

AL				
SH	WB	BU	Ot	F

Land processes:

- Agricultural/livestock rotation
- Deforestation