Appendix: Datasets Illustration and Experiment Results for Paper *Unsupervised Multitemporal Building Change Detection Based on Cosegmentation Using Time-Series SAR*

Kaiyu Zhang, Xiaolei Lv, Jili Yuan, and Xikai Fu

Contents

1 Original Datasets

1.1 Original Data 1

(a) T_1

(b) T_2

(c) T_3

(d) T_4

(e) T_5

(f) T_6

(g) T_7

(h) T_8
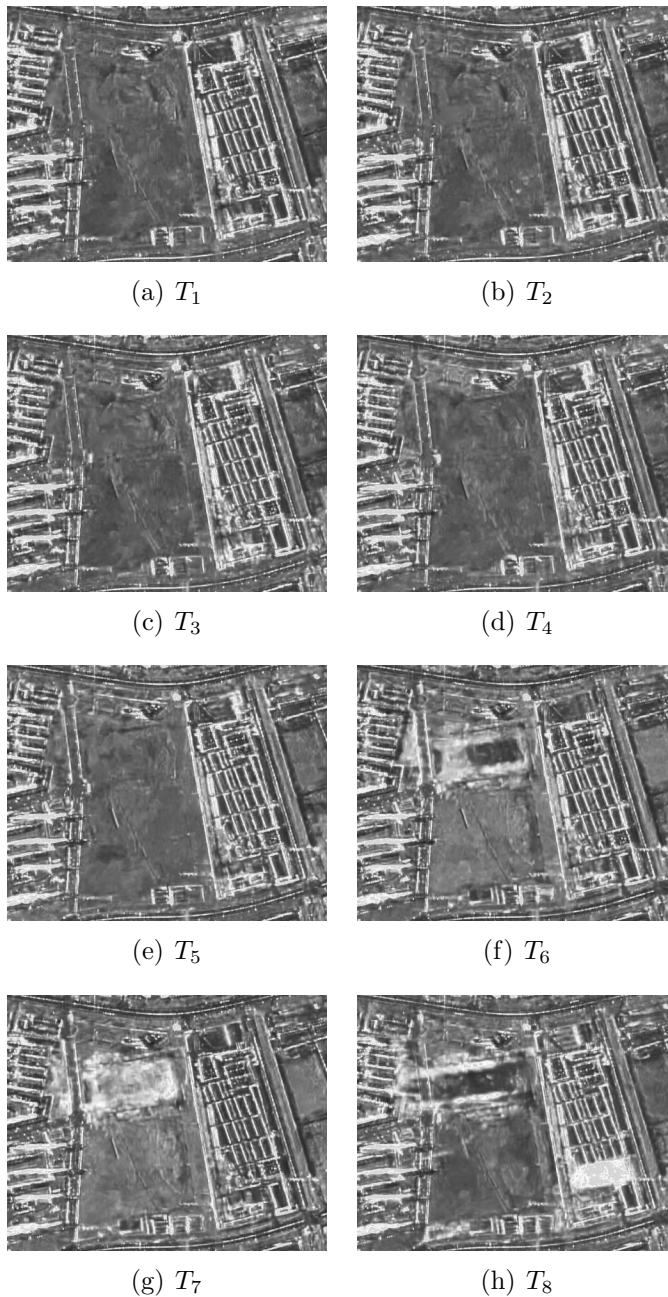
Figure 1: Original Data 1

1.2 Original Data 2

(a) T_1

(b) T_2

(c) T_3

(d) T_4

(e) T_5

(f) T_6

(g) T_7

(h) T_8

(i) T_9

(j) T_{10}

(k) T_{11}

(l) T_{12}

(m) T_{13}

(n) T_{14}

(o) T_{15}

(p) T_{16}
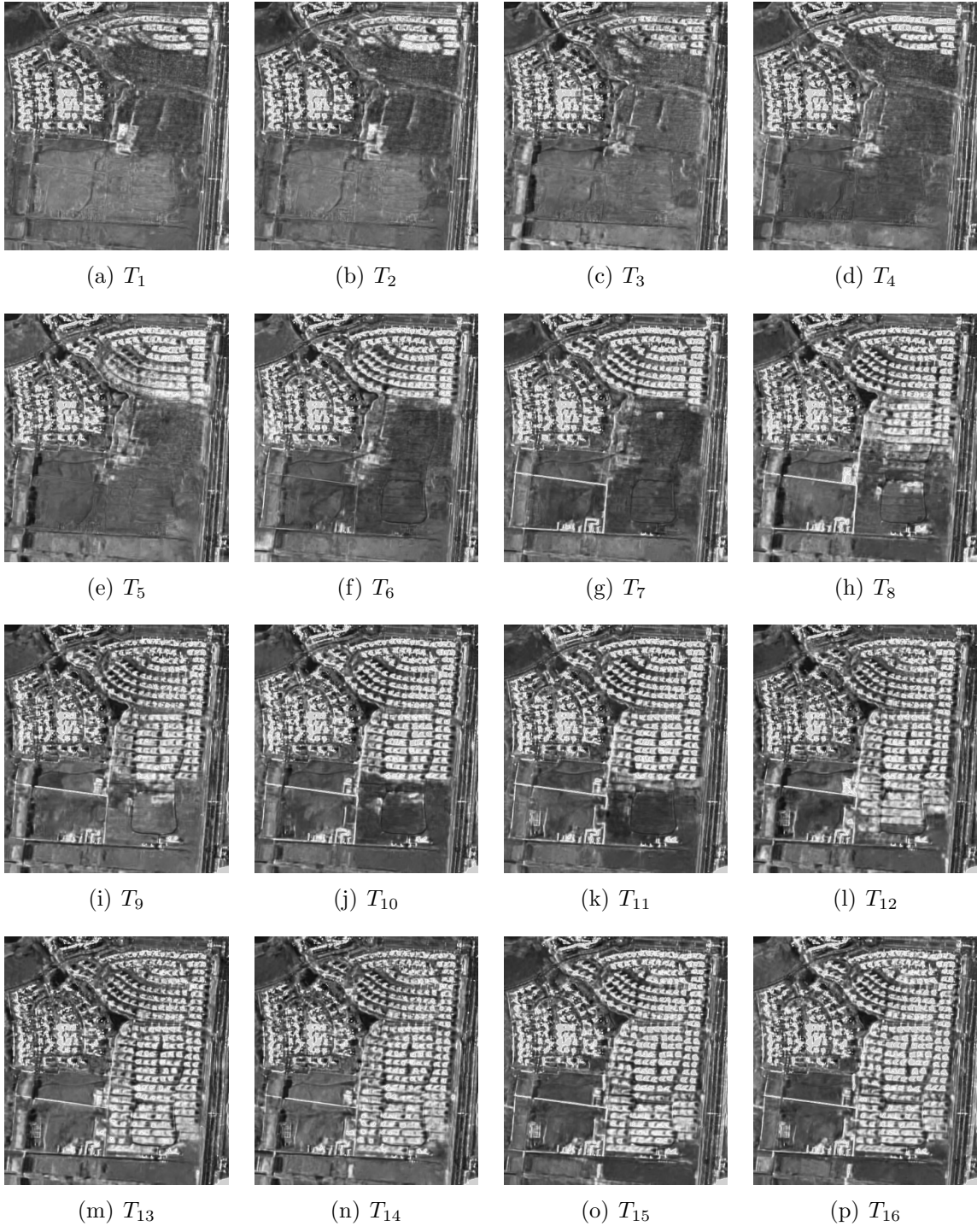
Figure 2: Original Data 2

2 Change Frequency Maps(CFM)

2.1 CFM of Data 1

(a) Proposed R

(b) Proposed σ^2

(c) Proposed Q

(d) Proposed L

(e) NORCAMA

(f) SFTC

(g) Ground Truth
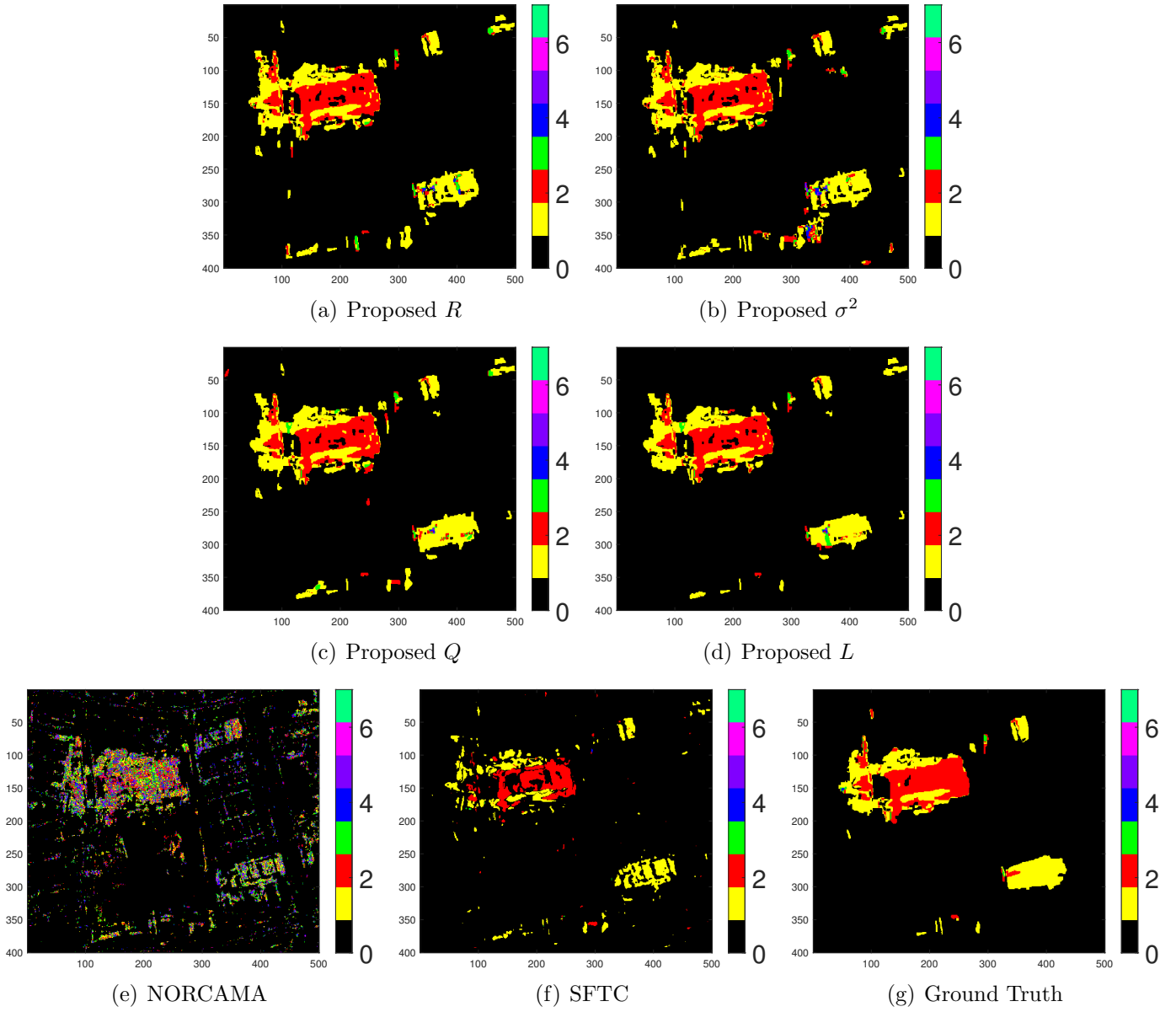
Figure 3: Change Frequency Maps(CFM) of data 1

2.2 CFM of Data 2

(a) Proposed R

(b) Proposed σ^2

(c) Proposed Q

(d) Proposed L
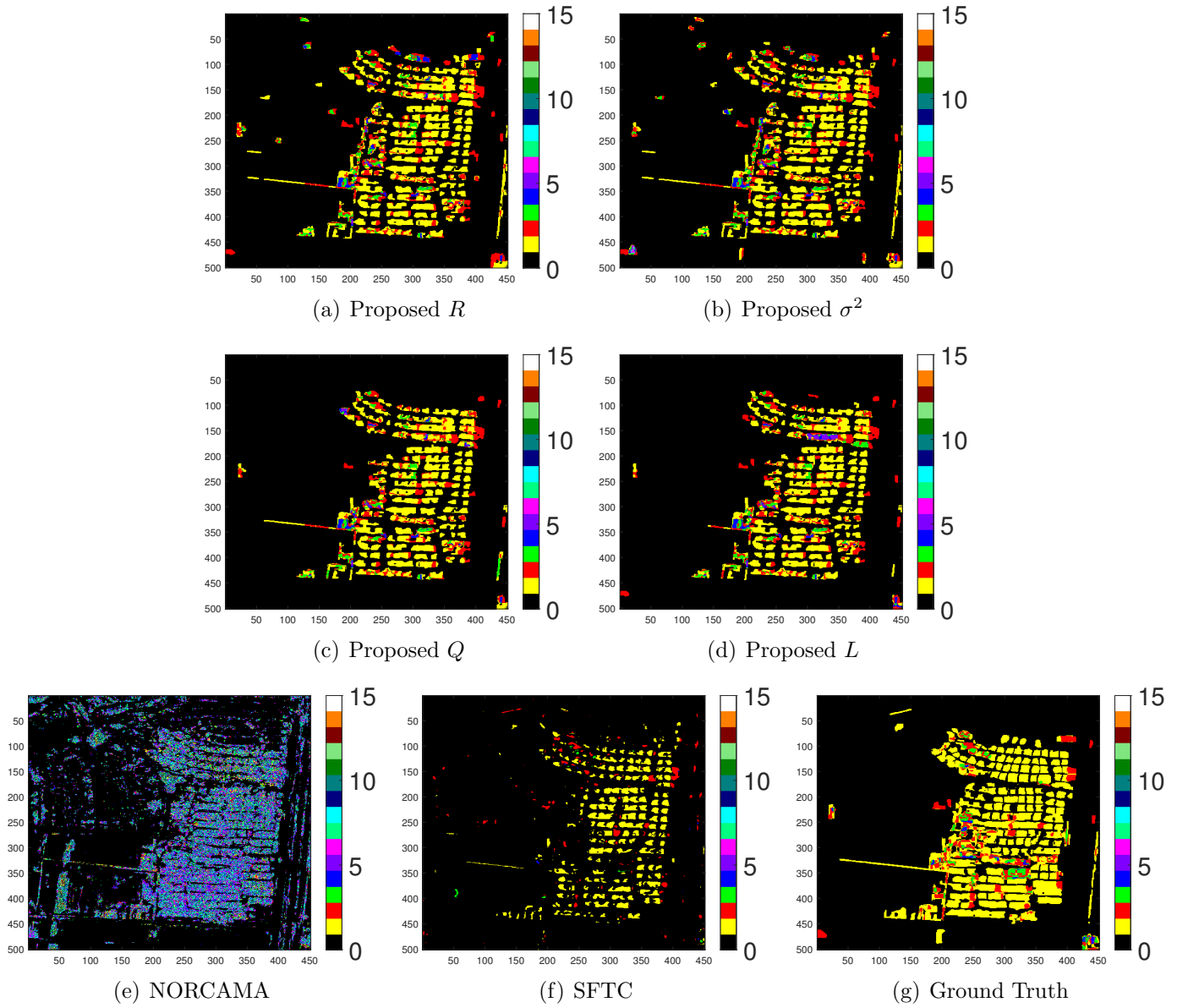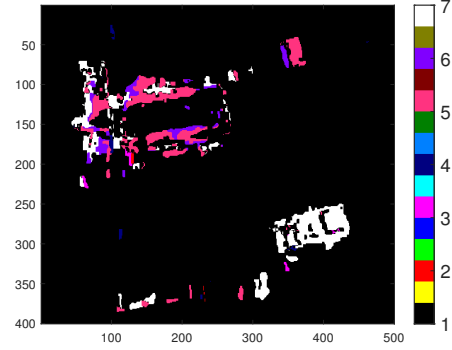
(e) NORCAMA

(f) SFTC

(g) Ground Truth

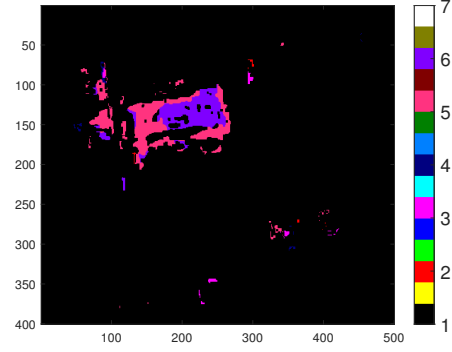Figure 4: Change Frequency Maps(CFM) of data 2

3 Change Moments Maps(CMMs)

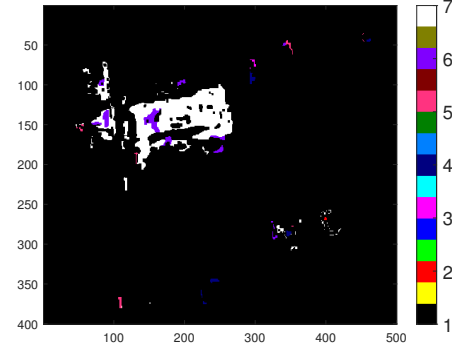The CMMs are generated by the proposed method using *range* change feature.
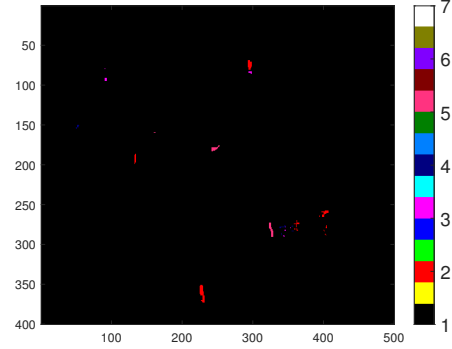
3.1 CMMs of Data 1

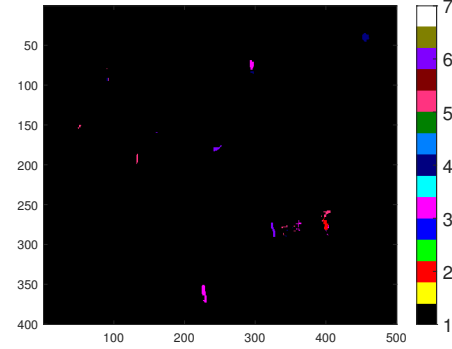(a) The 1st change for objects that $CF = 1$

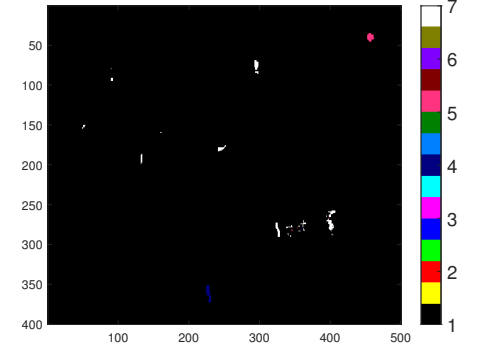(b) The 1st change for objects that $CF = 2$

(c) The 2ed change for objects that $CF = 2$
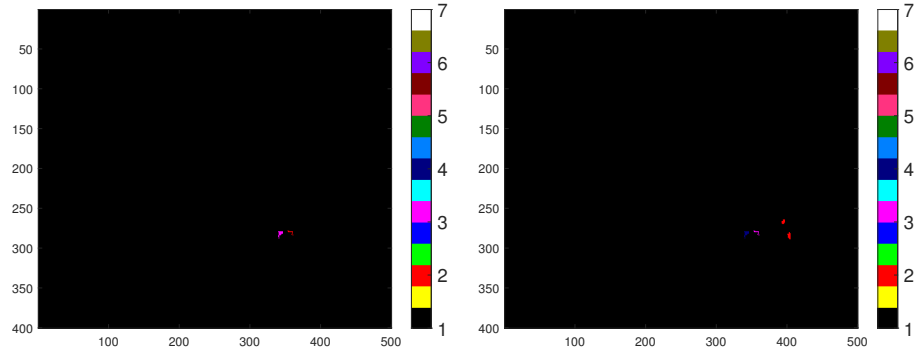

(d) The 1st change for objects that $CF = 3$
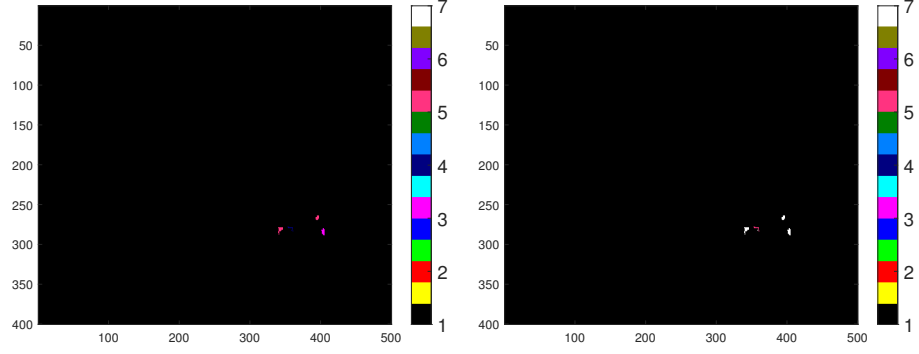
(e) The 2nd change for objects that $CF = 3$

(f) The 3rd change for objects that $CF = 3$

Figure 5: Change Moments Maps(CMMs)$(CF \leq 3)$ of data 1

(a) The 1st change for objects that $CF = 4$

(b) The 2nd change for objects that $CF = 4$

(c) The 3rd change for objects that $CF = 4$

(d) The 4th change for objects that $CF = 4$

Figure 6: Change Moments Maps(CMM)($CF = 4$) of data 1

(a) The 1st change for objects that $CF = 5$

(b) The 2nd change for objects that $CF = 5$

(c) The 3rd change for objects that $CF = 5$

(d) The 4th change for objects that $CF = 5$
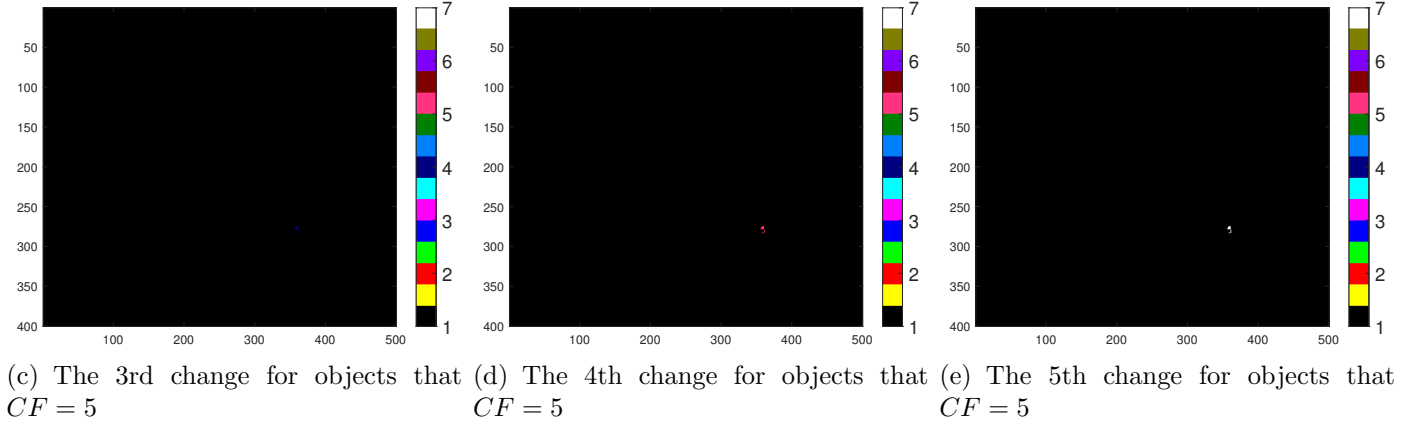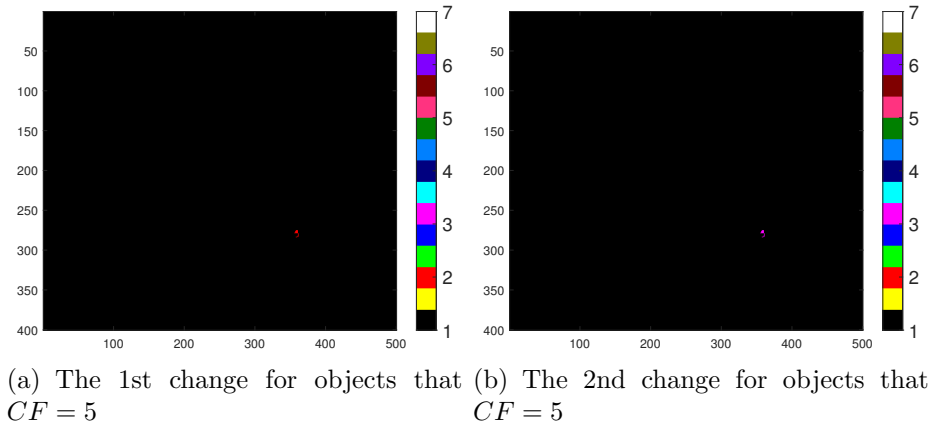
(e) The 5th change for objects that $CF = 5$

Figure 7: Change Moments Maps(CMMs)($CF = 5$) of data 1

3.2 CMMs of Data 2

(a) 1st change for objects that $CF = 1$

(b) The 1st change for objects that $CF = 2$

(c) The 2ed change for objects that $CF = 2$

(d) The 1st change for objects that $CF = 3$

(e) The 2nd change for objects that $CF = 3$

(f) The 3rd change for objects that $CF = 3$

Figure 8: Change Moments Maps(CMMs)($CF \leq 3$) of data 2

(a) The 1st change for objects that $CF = 4$

(b) The 2nd change for objects that $CF = 4$

(c) The 3rd change for objects that $CF = 4$

(d) The 4th change for objects that $CF = 4$

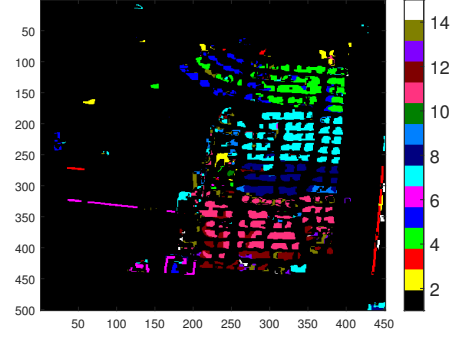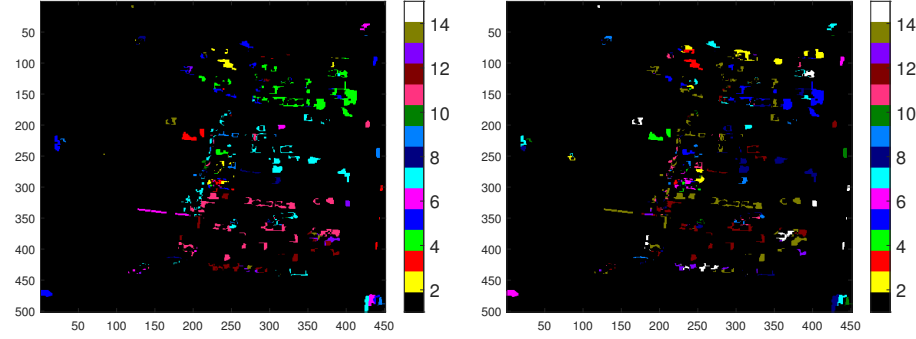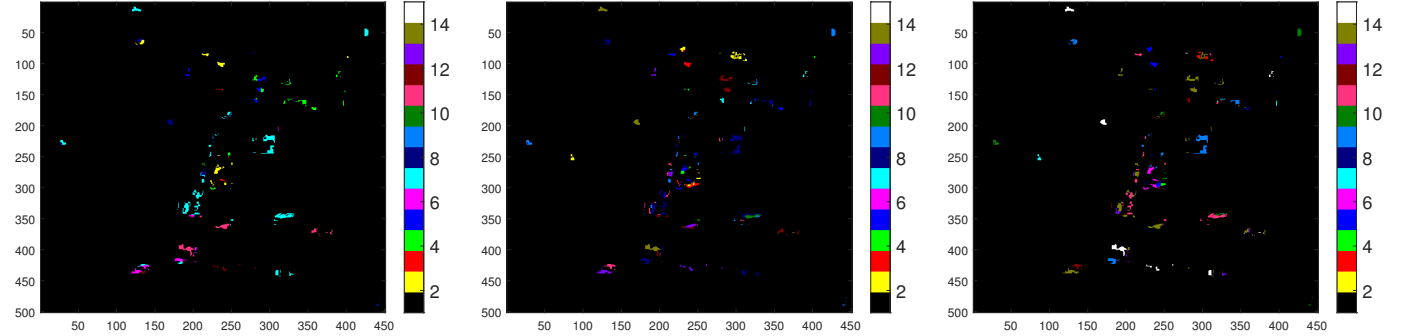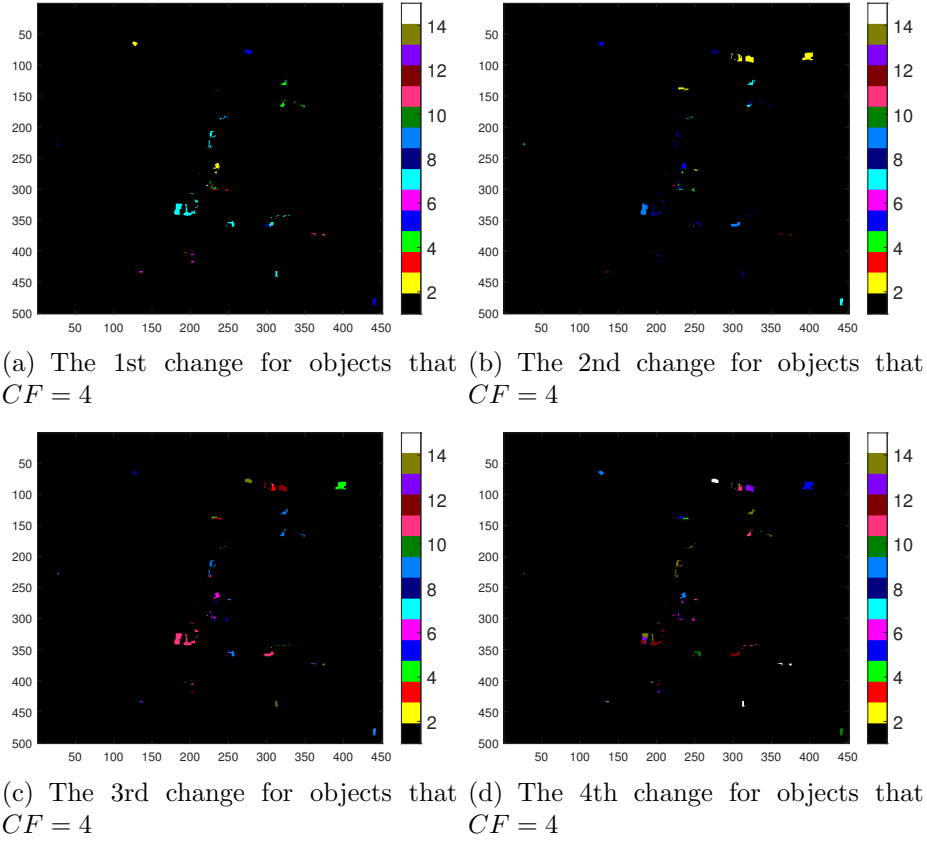Figure 9: Change Moments Maps(CMMs)($CF = 4$) of data 2

(a) The 1st change for objects that $CF = 5$

(b) The 2nd change for objects that $CF = 5$

(c) The 3rd change for objects that $CF = 5$

(d) The 4th change for objects that $CF = 5$
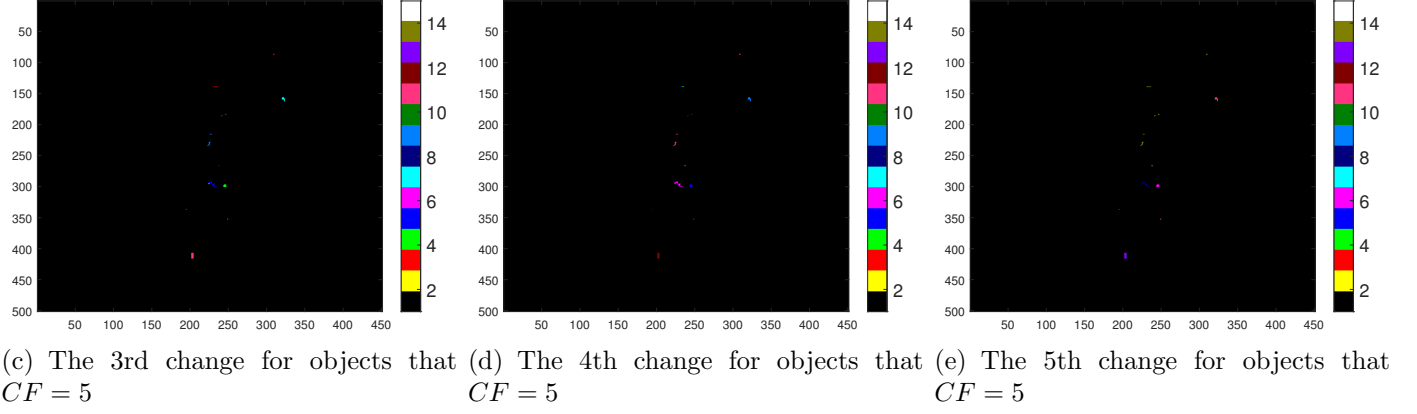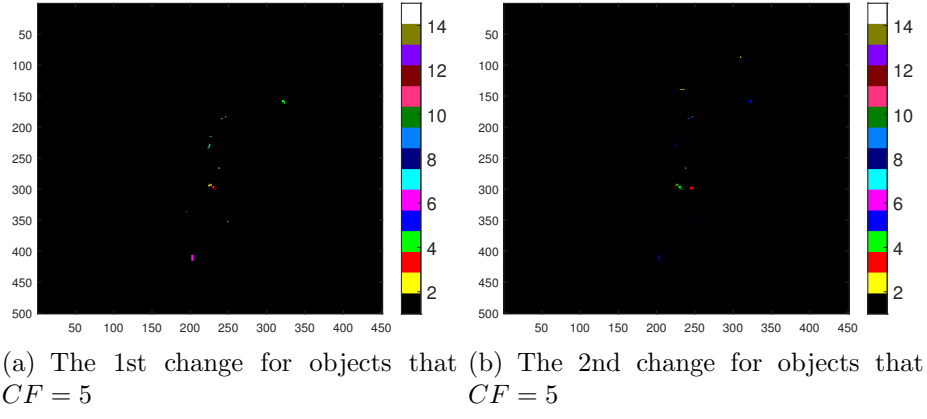

(e) The 5th change for objects that $CF = 5$

Figure 10: Change Moments Maps(CMMs)($CF = 5$) of data 2