



遙測學與實習 期末報告

第10組 王琮翔、王澤承、賴聰儀

Classified Map- 2017

◆ ARCMAP

- 1.合併打點與104年資料
- 2.參考衛星影像微調點位

◆ ENVI

- 1.輸入資料、設定投影
- 2.進行監督式分類
- 3.調整各分類至指定顏色
- 4.輸出圖檔



Map Accuracy

Confusion Matrix: D:\B04208001\2018_newsp

Overall Accuracy = (109/121) 90.0826%

Kappa Coefficient = 0.8708

| Ground Truth (Pixels) | | | | | | |
|-----------------------|-----|-------|-------|-------|-------|-------|
| Class | EVF | Layer | buEVF | Layer | grEVF | Layer |
| Unclassified | 0 | | 0 | | 0 | |
| Layer: buildi | 29 | | 0 | | 0 | |
| Layer: grass_ | 2 | | 16 | | 0 | |
| Layer: water_ | 0 | | 0 | | 23 | |
| Layer: soil_m | 1 | | 0 | | 0 | |
| Layer: forest | 6 | | 2 | | 0 | |
| Total | 38 | | 18 | | 23 | |
| | | | | | | 33 |

| Ground Truth (Pixels) | |
|-----------------------|-------|
| Class | Total |
| Unclassified | 0 |
| Layer: buildi | 30 |
| Layer: grass_ | 18 |
| Layer: water_ | 23 |
| Layer: soil_m | 10 |
| Layer: forest | 40 |
| Total | 121 |

| Ground Truth (Percent) | | | | | | |
|------------------------|--------|-------|--------|-------|--------|--------|
| Class | EVF | Layer | buEVF | Layer | grEVF | Layer |
| Unclassified | 0.00 | | 0.00 | | 0.00 | |
| Layer: buildi | 76.32 | | 0.00 | | 0.00 | |
| Layer: grass_ | 5.26 | | 88.89 | | 0.00 | |
| Layer: water_ | 0.00 | | 0.00 | | 100.00 | |
| Layer: soil_m | 2.63 | | 0.00 | | 0.00 | |
| Layer: forest | 15.79 | | 11.11 | | 0.00 | |
| Total | 100.00 | | 100.00 | | 100.00 | |
| | | | | | | 100.00 |

| Ground Truth (Percent) | |
|------------------------|--------|
| Class | Total |
| Unclassified | 0.00 |
| Layer: buildi | 24.79 |
| Layer: grass_ | 14.88 |
| Layer: water_ | 19.01 |
| Layer: soil_m | 8.26 |
| Layer: forest | 33.06 |
| Total | 100.00 |

| Class | Commission (Percent) | Omission (Percent) | Commission (Pixels) | Omission (Pixels) |
|---------------|-------------------------|-----------------------|------------------------|----------------------|
| Layer: buildi | 3.33 | 23.68 | 1/30 | 9/38 |
| Layer: grass_ | 11.11 | 11.11 | 2/18 | 2/18 |
| Layer: water_ | 0.00 | 0.00 | 0/23 | 0/23 |
| Layer: soil_m | 10.00 | 0.00 | 1/10 | 0/9 |
| Layer: forest | 20.00 | 3.03 | 8/40 | 1/33 |

| Class | Prod. Acc. (Percent) | User Acc. (Percent) | Prod. Acc. (Pixels) | User Acc. (Pixels) |
|---------------|-------------------------|------------------------|------------------------|-----------------------|
| Layer: buildi | 76.32 | 96.67 | 29/38 | 29/30 |
| Layer: grass_ | 88.89 | 88.89 | 16/18 | 16/18 |
| Layer: water_ | 100.00 | 100.00 | 23/23 | 23/23 |
| Layer: soil_m | 100.00 | 90.00 | 9/9 | 9/10 |
| Layer: forest | 96.97 | 80.00 | 32/33 | 32/40 |

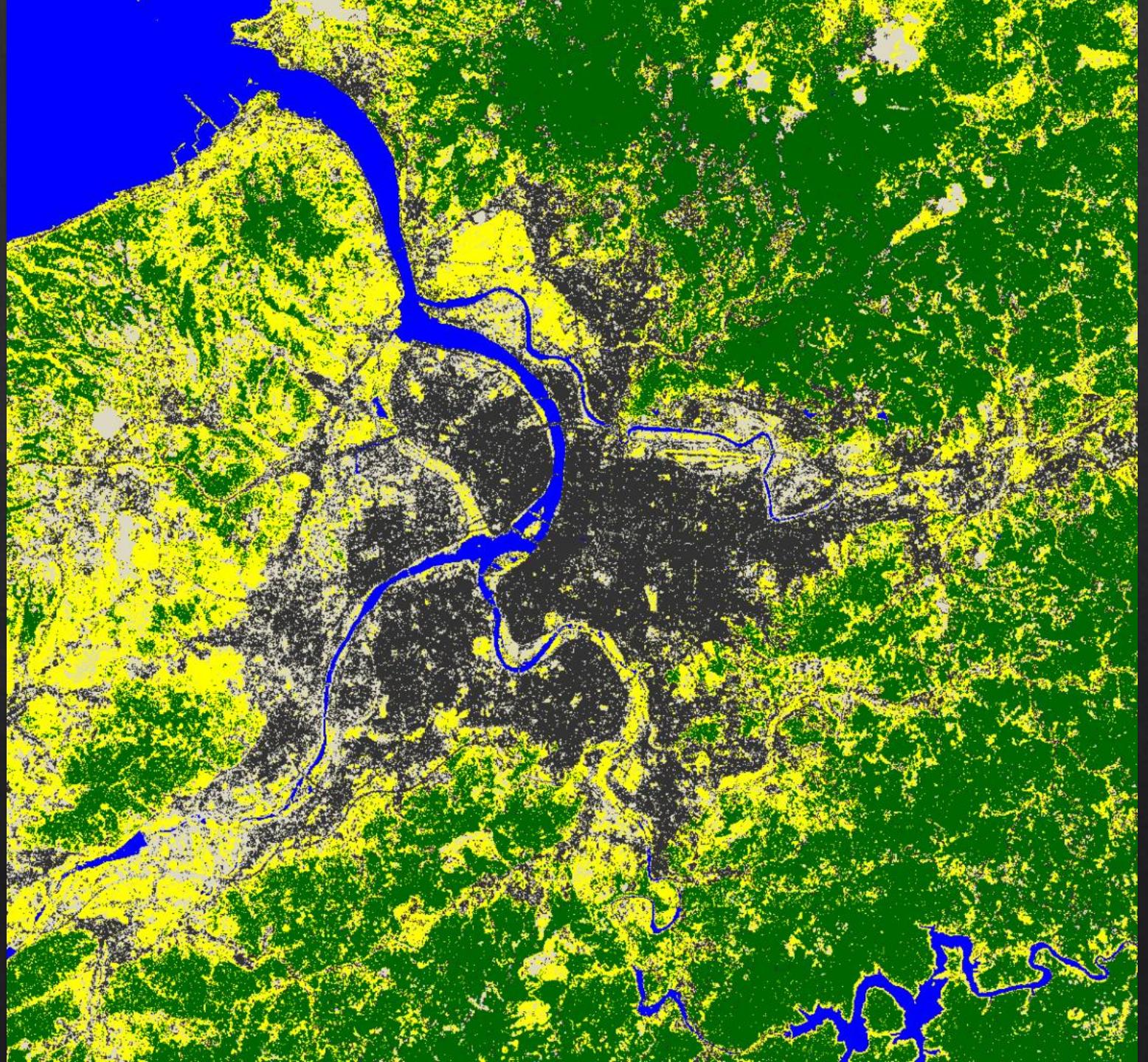
| | Building | Forest | Grass | Soil | Water | Total |
|----------|-----------|-----------|-----------|----------|-----------|-------|
| Building | 29 | 1 | 0 | 0 | 0 | 30 |
| Forest | 6 | 32 | 2 | 0 | 0 | 40 |
| Grass | 2 | 0 | 16 | 0 | 0 | 18 |
| Soil | 1 | 0 | 0 | 9 | 0 | 10 |
| Water | 0 | 0 | 0 | 0 | 23 | 23 |
| Total | 38 | 33 | 18 | 9 | 23 | 121 |

| | Building | Forest | Grass | Soil | Water | Total |
|----------|--------------|--------------|--------------|---------------|---------------|--------|
| Building | 76.3% | 3.0% | 0.0% | 0.0% | 0.0% | 24.8% |
| Forest | 15.8% | 97.0% | 11.1% | 0.0% | 0.0% | 33.0% |
| Grass | 5.3% | 0.0% | 88.9% | 0.0% | 0.0% | 14.9% |
| Soil | 2.6% | 0.0% | 0.0% | 100.0% | 0.0% | 8.3% |
| Water | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 19.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

| | Building | Forest | Grass | Soil | Water |
|-----------|----------|--------|-------|--------|--------|
| Prod Acc. | 76.3% | 97.0% | 88.9% | 100.0% | 100.0% |
| User Acc. | 96.7% | 80.0% | 88.9% | 90.0% | 100.0% |

Overall Accuracy: 90.08%
Kappa: 0.87

Classified Map-
1995



Map Accuracy

Confusion Matrix: D:\B04208001\1995_newsp

Overall Accuracy = (84/100) 84.0000%

Kappa Coefficient = 0.8000

| Ground Truth (Pixels) | | | | | | |
|-----------------------|-----|-------|-------|-------|-------|-------|
| Class | EVF | Layer | buEVF | Layer | foEVF | Layer |
| Unclassified | 0 | | 0 | | 0 | |
| Layer: buildi | 17 | | 0 | | 6 | |
| Layer: forest | 1 | | 20 | | 0 | |
| Layer: grass | 1 | | 0 | | 18 | |
| Layer: soil_8 | 1 | | 0 | | 2 | |
| Layer: water | 0 | | 0 | | 0 | |
| Total | 20 | | 20 | | 20 | |

| Ground Truth (Pixels) | |
|-----------------------|-------|
| Class | Total |
| Unclassified | 0 |
| Layer: buildi | 23 |
| Layer: forest | 21 |
| Layer: grass | 24 |
| Layer: soil_8 | 12 |
| Layer: water | 20 |
| Total | 100 |

| Ground Truth (Percent) | | | | | | |
|------------------------|--------|-------|--------|-------|--------|-------|
| Class | EVF | Layer | buEVF | Layer | foEVF | Layer |
| Unclassified | 0.00 | | 0.00 | | 0.00 | |
| Layer: buildi | 85.00 | | 0.00 | | 30.00 | |
| Layer: forest | 5.00 | | 100.00 | | 0.00 | |
| Layer: grass | 5.00 | | 0.00 | | 90.00 | |
| Layer: soil_8 | 5.00 | | 0.00 | | 10.00 | |
| Layer: water | 0.00 | | 0.00 | | 0.00 | |
| Total | 100.00 | | 100.00 | | 100.00 | |

| Ground Truth (Percent) | |
|------------------------|--------|
| Class | Total |
| Unclassified | 0.00 |
| Layer: buildi | 23.00 |
| Layer: forest | 21.00 |
| Layer: grass | 24.00 |
| Layer: soil_8 | 12.00 |
| Layer: water | 20.00 |
| Total | 100.00 |

| Class | Commission (Percent) | Omission (Percent) | Commission (Pixels) | Omission (Pixels) |
|---------------|-------------------------|-----------------------|------------------------|----------------------|
| Layer: buildi | 26.09 | 15.00 | 6/23 | 3/20 |
| Layer: forest | 4.76 | 0.00 | 1/21 | 0/20 |
| Layer: grass | 25.00 | 10.00 | 6/24 | 2/20 |
| Layer: soil_8 | 25.00 | 55.00 | 3/12 | 11/20 |
| Layer: water | 0.00 | 0.00 | 0/20 | 0/20 |

| Class | Prod. Acc. (Percent) | User Acc. (Percent) | Prod. Acc. (Pixels) | User Acc. (Pixels) |
|---------------|-------------------------|------------------------|------------------------|-----------------------|
| Layer: buildi | 85.00 | 73.91 | 17/20 | 17/23 |
| Layer: forest | 100.00 | 95.24 | 20/20 | 20/21 |
| Layer: grass | 90.00 | 75.00 | 18/20 | 18/24 |
| Layer: soil_8 | 45.00 | 75.00 | 9/20 | 9/12 |
| Layer: water | 100.00 | 100.00 | 20/20 | 20/20 |

| | Building | Forest | Grass | Soil | Water | Total |
|----------|-----------|-----------|-----------|----------|-----------|-------|
| Building | 17 | 0 | 0 | 6 | 0 | 23 |
| Forest | 1 | 20 | 0 | 0 | 0 | 21 |
| Grass | 1 | 0 | 18 | 5 | 0 | 24 |
| Soil | 1 | 0 | 2 | 9 | 0 | 12 |
| Water | 0 | 0 | 0 | 0 | 20 | 20 |
| Total | 20 | 20 | 20 | 20 | 20 | 100 |

| | Building | Forest | Grass | Soil | Water | Total |
|----------|--------------|---------------|--------------|--------------|---------------|--------|
| Building | 85.0% | 0.0% | 0.0% | 30.0% | 0.0% | 23.0% |
| Forest | 5.0% | 100.0% | 0.0% | 0.0% | 0.0% | 21.0% |
| Grass | 5.0% | 0.0% | 90.0% | 25.0% | 0.0% | 24.0% |
| Soil | 5.0% | 0.0% | 10.0% | 45.0% | 0.0% | 12.0% |
| Water | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 20.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

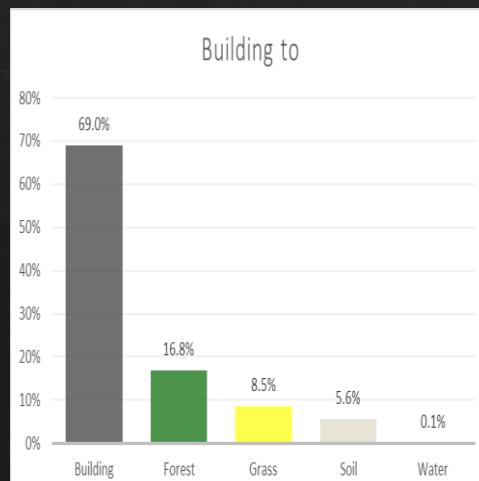
| | Building | Forest | Grass | Soil | Water |
|-----------|----------|--------|-------|-------|--------|
| Prod Acc. | 85.0% | 100.0% | 90.0% | 45.0% | 100.0% |
| User Acc. | 73.9% | 95.2% | 75.0% | 75.0% | 100.0% |

Overall Accuracy: 84.00%
Kappa: 0.80

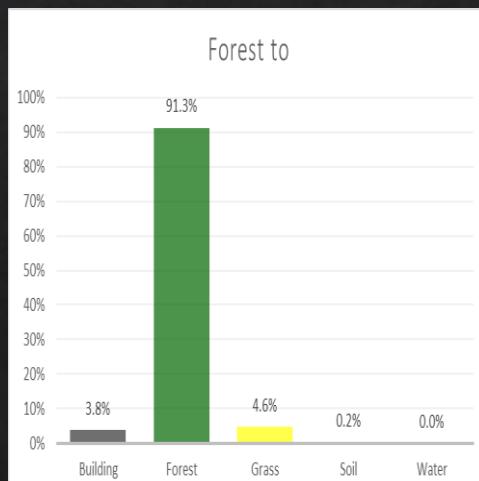
Change Detection

| | Initial State | | | | | | |
|-------------|-------------------------|-----------------------|----------------------|---------------------|----------------------|-----------|-------------|
| | Layer: building_84v.shp | Layer: forest_84v.shp | Layer: grass_84v.shp | Layer: soil_84v.shp | Layer: water_84v.shp | Row Total | Class Total |
| Final State | Unclassified | 0 | 0 | 0 | 0 | 0 | 0 |
| | Layer: building_m.shp | 178449 | 18142 | 57056 | 83659 | 12027 | 349333 |
| | Layer: forest_m.shp | 43442 | 430970 | 166150 | 32296 | 717 | 673575 |
| | Layer: grass_m.shp | 22091 | 21817 | 63795 | 28593 | 2351 | 138647 |
| | Layer: soil_m.shp | 14446 | 1104 | 10120 | 10771 | 177 | 36618 |
| | Layer: water_m.shp | 292 | 8 | 1617 | 255 | 65215 | 67387 |
| | Class Total | 258720 | 472041 | 298738 | 155574 | 80487 | |
| | Class Changes | 80271 | 41071 | 234943 | 144803 | 15272 | |
| | Image Difference | 90613 | 201534 | -160091 | -118956 | -13100 | |

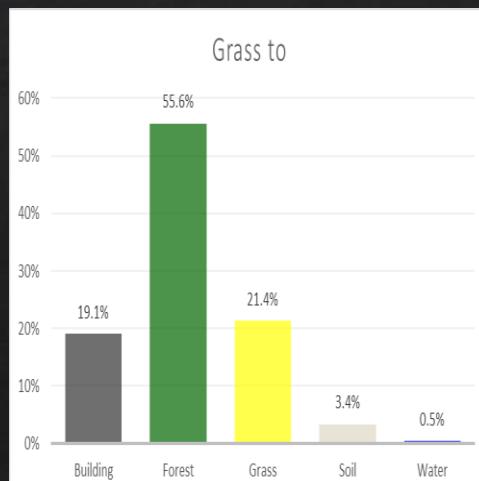
Building to



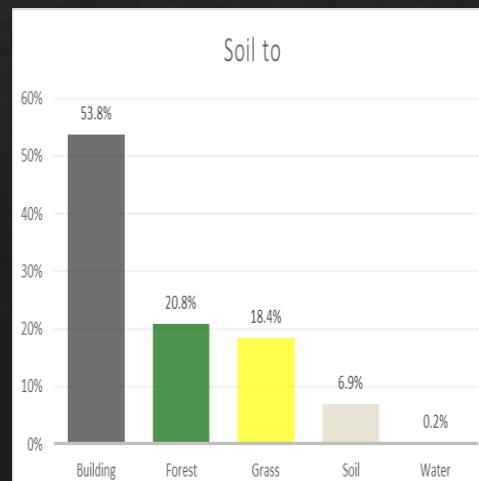
Forest to



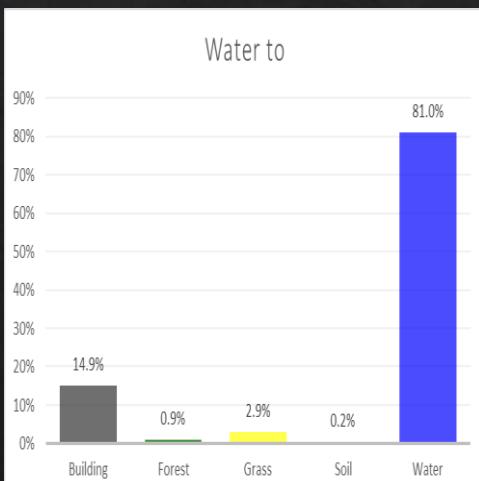
Grass to



Soil to



Water to



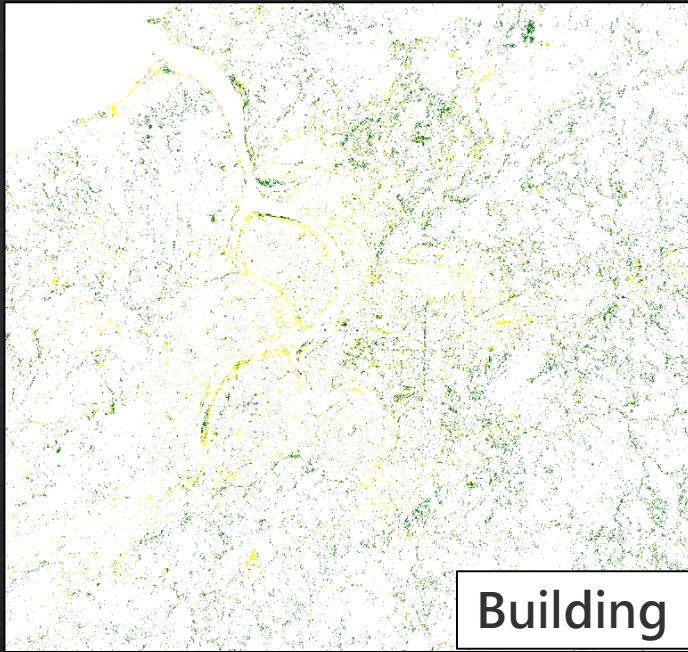
Building

Forest

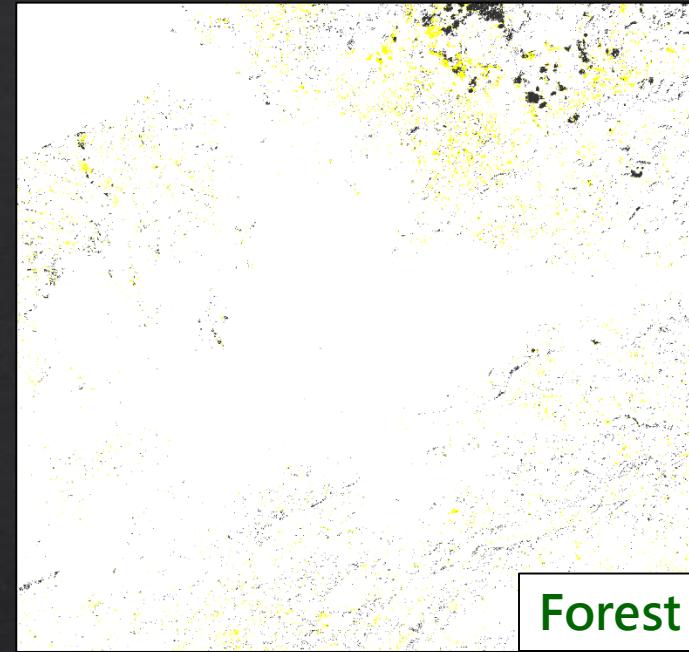
Grass

Soil

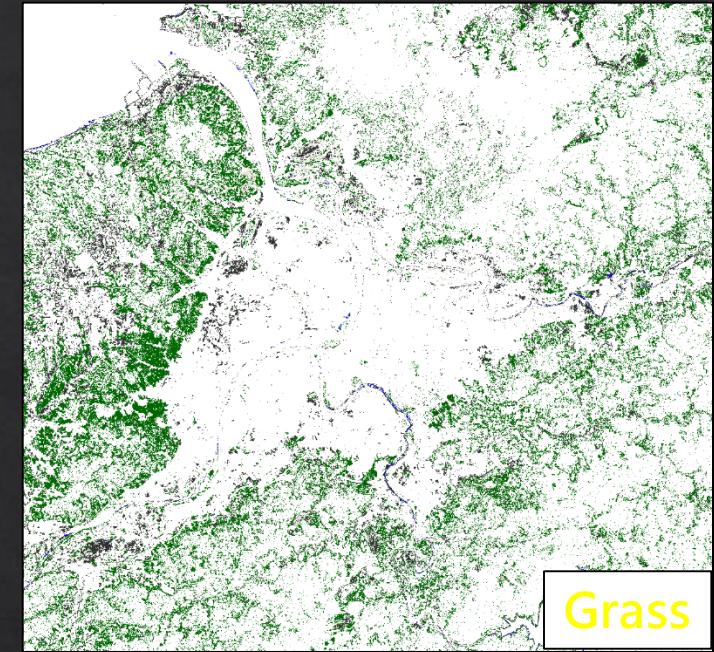
Water



Building



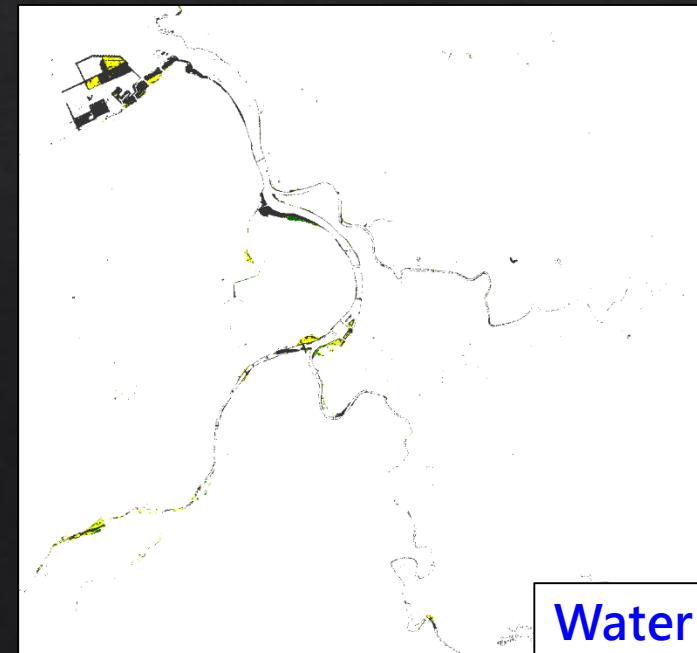
Forest



Grass



Soil



Water

Field Survey Photos



森林：大安森林公園



草地：舊體後草皮



水體：景美溪



建物：城林大橋



砂土：中正橋棒球場

Mapbook: Urban Planning

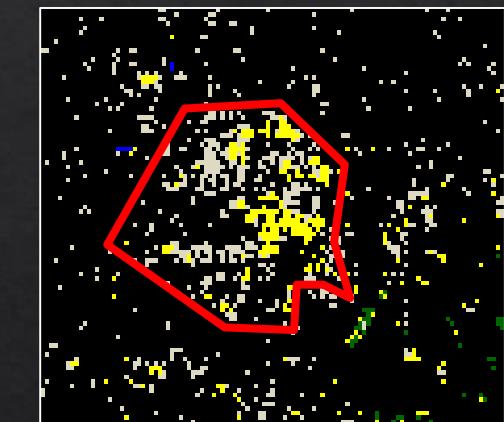
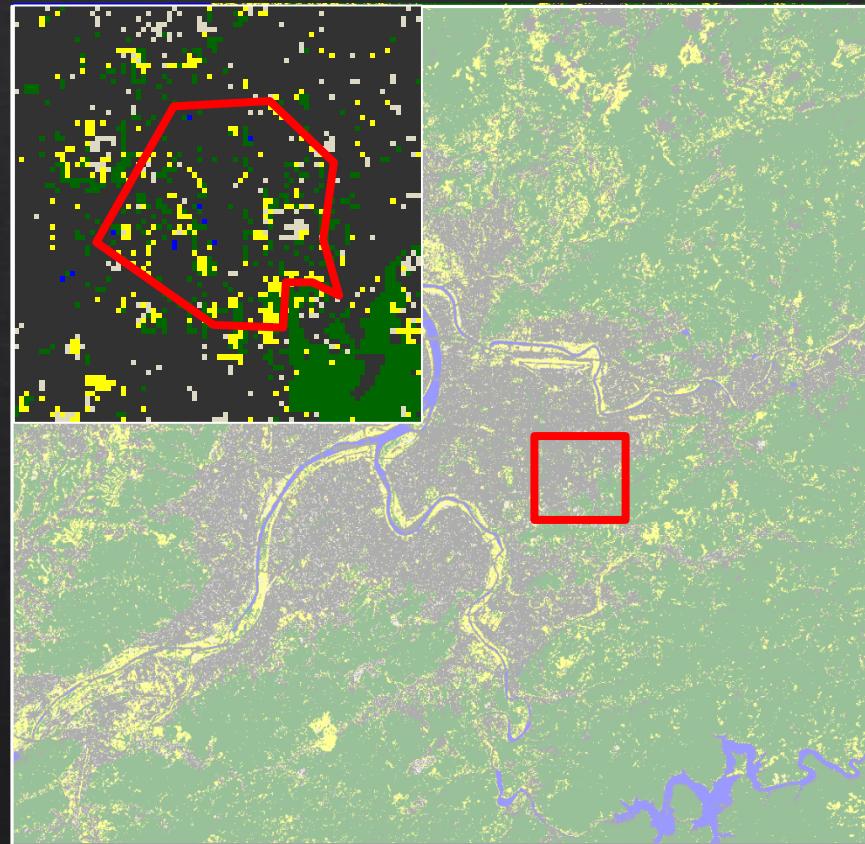
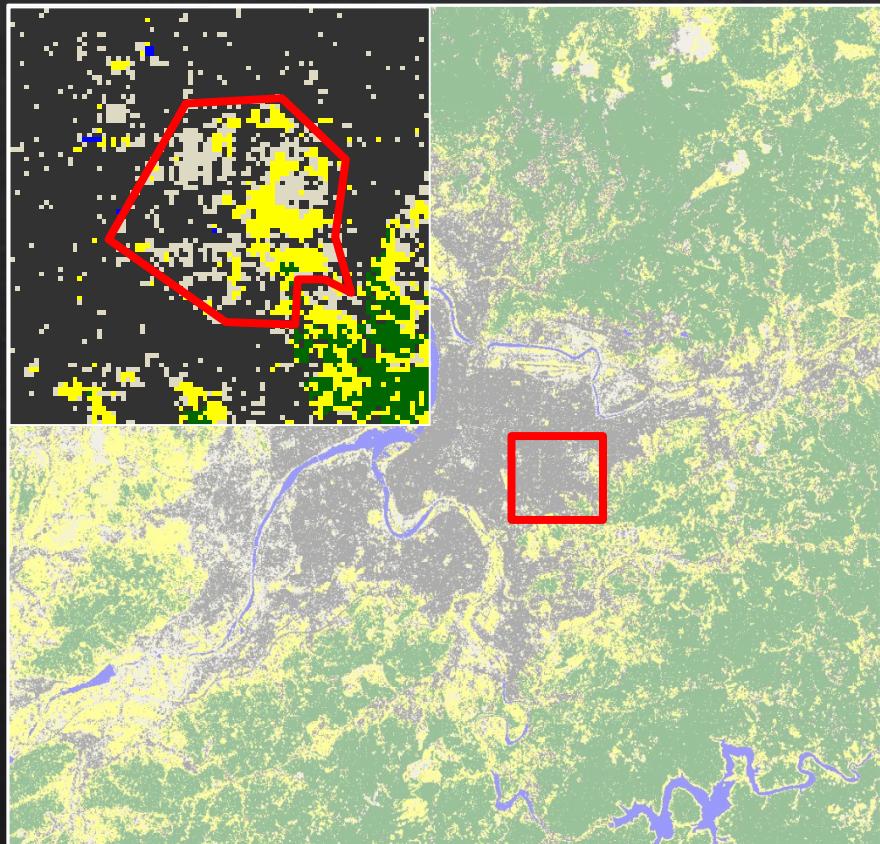
你知道世貿原本不在信義區嗎？

Map 1: 東移的副都心—信義計畫區



你知道世貿原本不在信義區嗎?

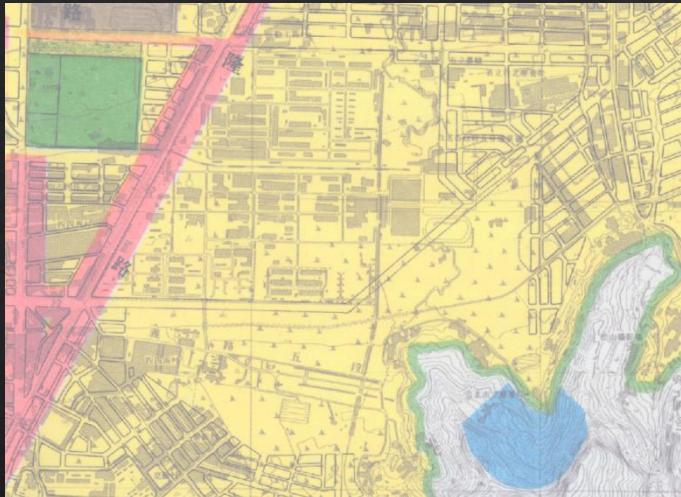
Map 1: 東移的副都心—信義計畫區



你知道世貿原本不在信義區嗎？

Map 1: 東移的副都心—信義計畫區

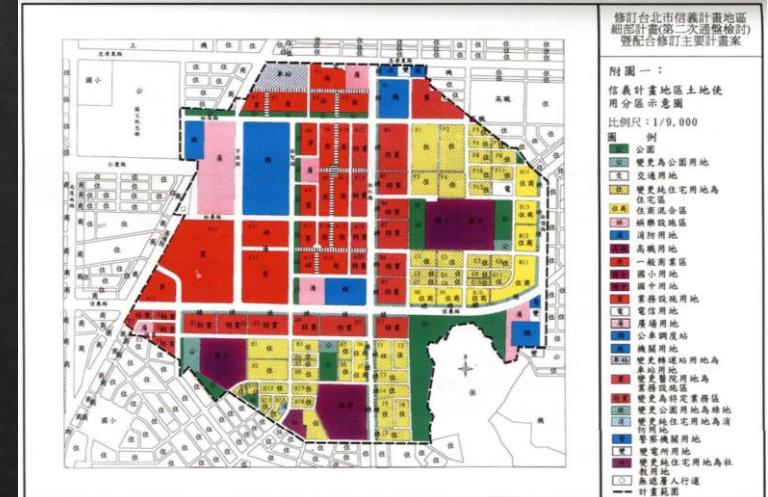
Past-計畫



1995-變革



Now-轉變



營邊段到信義計畫區

- 中正紀念堂 → 四四兵工廠
- 1980年，公布主要計畫與細部計畫。

通盤檢討

- 1990年代，總開發面積不到計畫區四成。
- 1994年進行第一次通盤檢討。

計畫的協調

- 1994年，增加住商混合面積
- 1995年，變更公有商業用地為特定業務區
- 2000年，公布第二次通盤檢討。

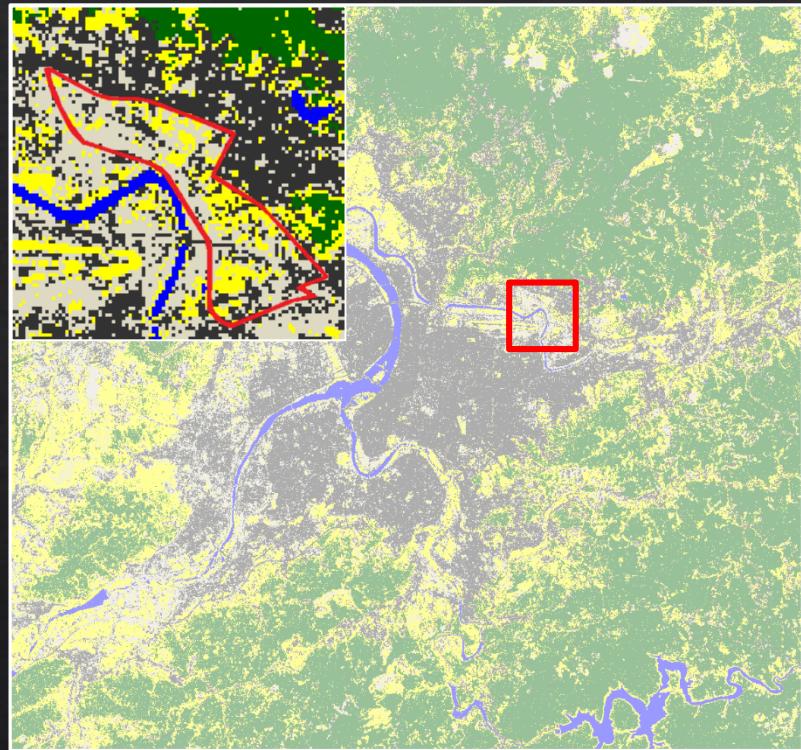
你知道內科本來沒有那麼「高科技」嗎？

Map 2: 順應產業轉型—內湖科技園區

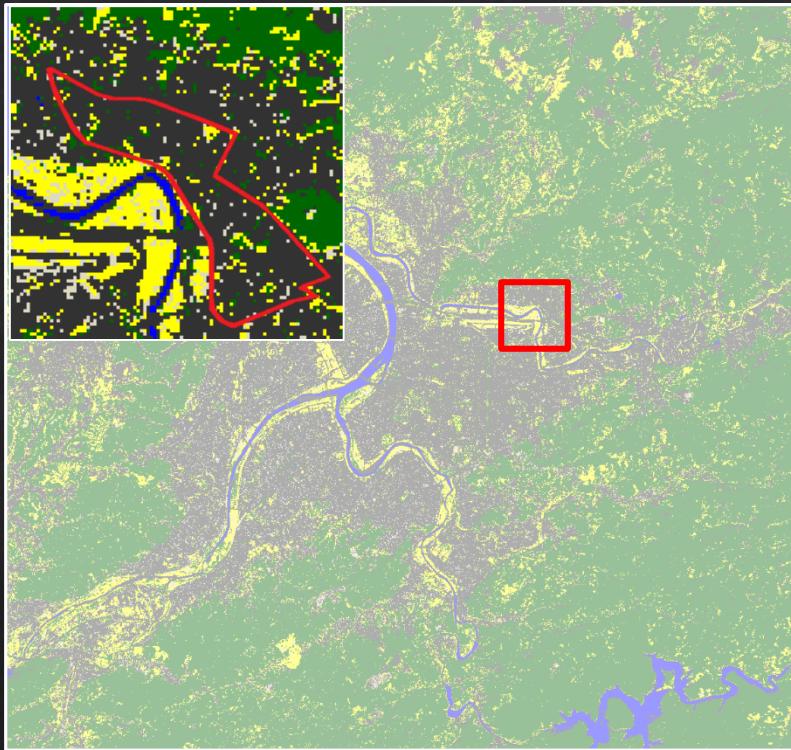


你知道內科本來沒有那麼「高科技」嗎？

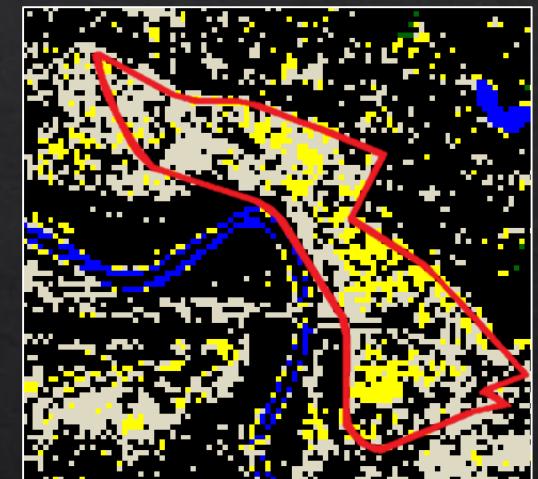
Map 2: 順應產業轉型—內湖科技園區



1995監督式分類地圖



2017監督式分類地圖

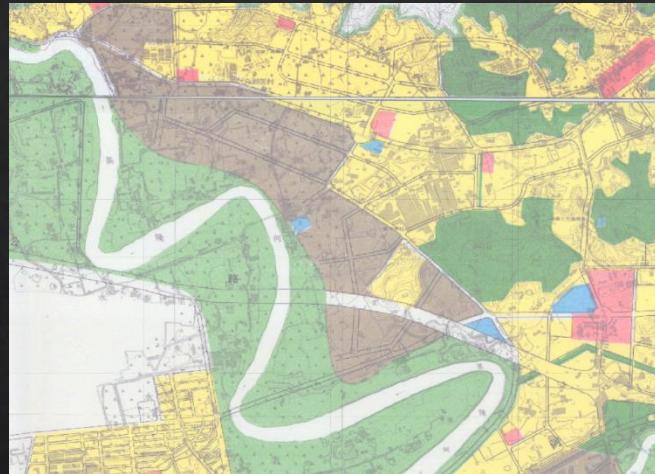


土地利用變遷圖(建物)

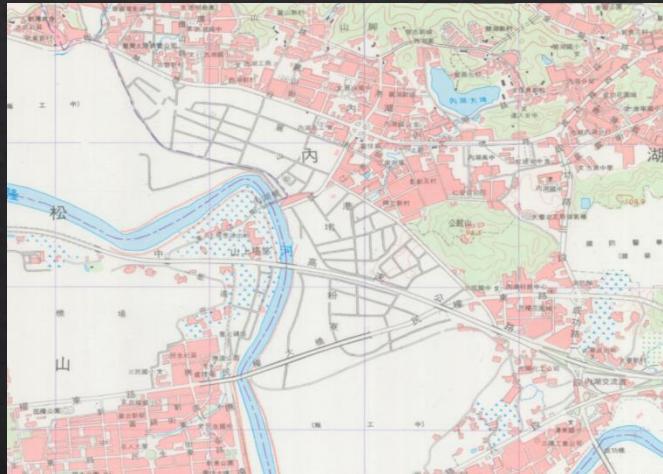
你知道內科本來沒有那麼「高科技」嗎？

Map 2: 順應產業轉型—內湖科技園區

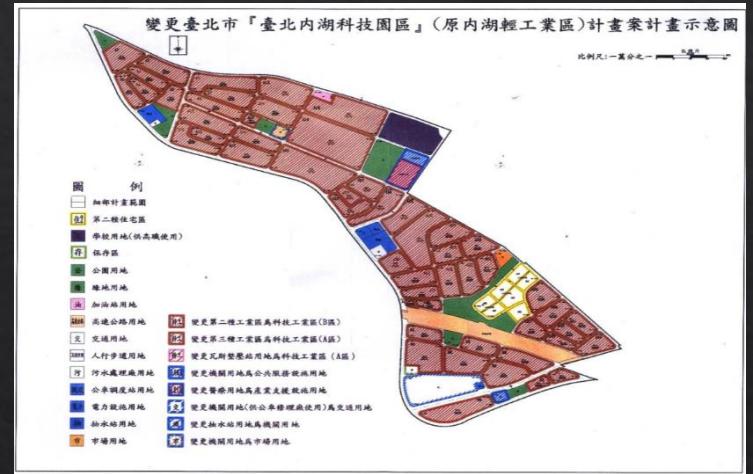
Past-開端



1995-成型



Now-轉型



違章工廠的集中地

- 計畫於內湖建立輕工業區集中管理違章工廠
- 考量到基隆河水患問題，計畫一度停擺

廠商陸續進駐

- 基隆河截彎取直工程完工後，內湖輕工業區開始動工，並於1995年完工
- 由於法規未嚴格執行，建設公司、高科技公司紛紛進駐內湖輕工業區

轉型與擴張

- 政府考慮現況與經濟發展趨勢，將名稱改為內湖科技園區，正式開放高科技廠商進駐
- 目前內湖科技園區幾近飽和，逐漸向園區周邊擴展

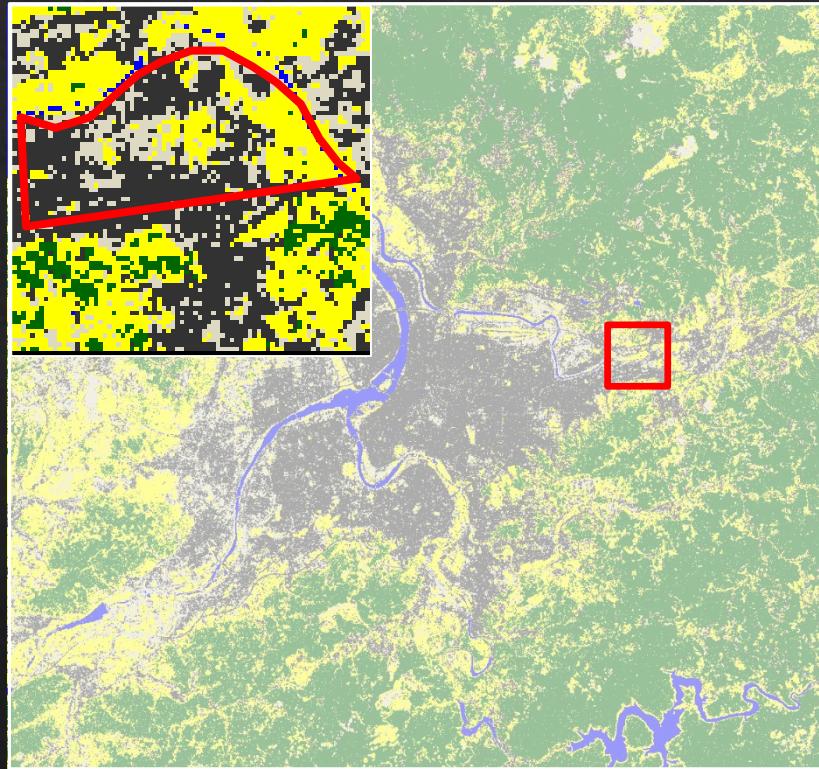


你知道南港以前有「黑鄉」之稱嗎?

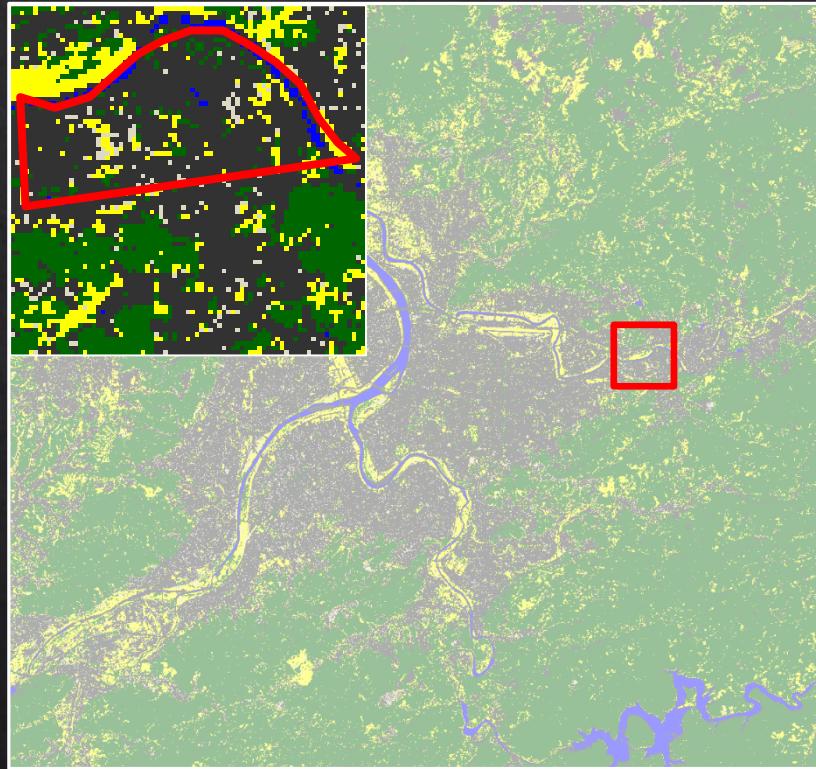
Map 3: 麻雀變鳳凰—南港軟體園區

你知道南港以前有「黑鄉」之稱嗎?

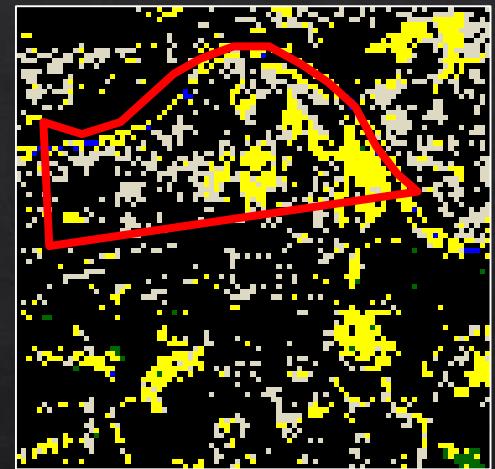
Map 3: 麻雀變鳳凰—南港軟體園區



1995監督式分類地圖



2017監督式分類地圖

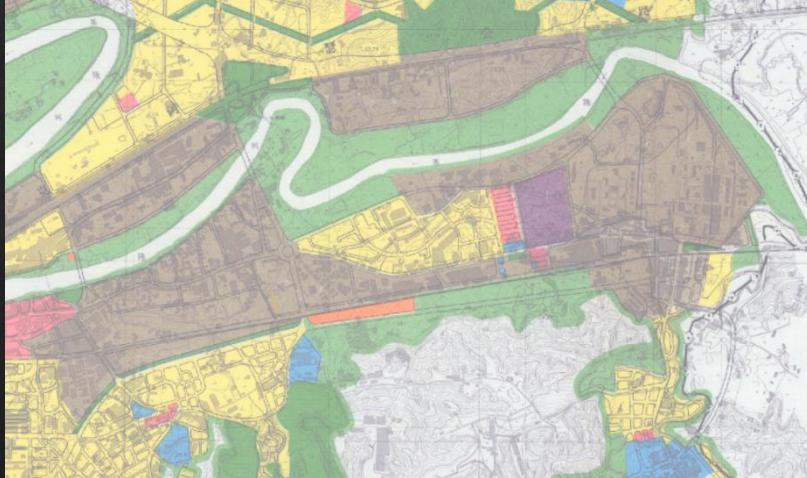


土地利用變遷圖(建物)

你知道南港以前有「黑鄉」之稱嗎?

Map 3: 麻雀變鳳凰—南港軟體園區

Past-黑鄉



1995-蛻變



Now-矽谷



都市棕帶

- 1950年代大量工廠進駐，使南港成為北臺灣的重工業中心，有「黑鄉」之稱
- 大小工廠林立、住工混和、環境品質不佳
- 包括南港輪胎、菸酒公賣局瓶蓋工廠、麵粉廠、化工公司、台灣肥料公司

產業的轉型

- 南港園區本來是國營企業台肥南港廠的舊址，後來經政府徵收後轉為利用
- 行政院在1992年正式核准設立「南港軟經貿園區」，從1996年1月開始興建，到1999年完成第一期建設計畫，目前第三期已完工

交通帶動發展

- 企業廠商的進駐帶動南港發展，還有許多廠商間高度的連結
- 除軟體產業外，亦有金融、電信產業進駐
- 南港軟體園區期盼藉著既有的交通優勢，連結台北各地產業園區，成為台北科技走廊

Lab Credits

| | 王琮翔 | 王澤承 | 賴聰儀 |
|----------------------------|--------------|--------------|--------------|
| Lab work | 30% | 40% | 30% |
| Field work | 40% | 30% | 30% |
| Presentation (PPT) | 30% | 30% | 40% |
| Mapbook | 33.3% | 33.3% | 33.3% |
| Overall percentages | 33.3% | 33.3% | 33.3% |