Table 1: Landsat 7 ETM imagery bands.

Band	Wavelengths (μm)	Color	Pixel Size (approximate)	Tested for model?
1	0.45 – 0.52	Blue	30 meter	Y
2	0.52 – 0.60	Green	30 meter	Y
3	0.63 – 0.69	Red	30 meter	Y
4	0.76 – 0.90	Near Infra-red	30 meter	Y
5	1.55 – 1.75	Short-wave Infra-red	30 meter	Y
6	10.4 – 12.5	Thermal Infra-red	60 meter	N
7	2.08 – 2.35	Short-wave Infrared	30 meter	Y
8	0.52 – 0.90	Gray-scale of entire visual spectrum	15 meter	N

Table 2: Most informative mapping model resulting from Tobit Regression (summary output directly from the R statistical package).

```
                           Value Std. Error      z         p
(Intercept)              128.2068    5.42e+01   2.37 1.79e-02
DATA$NDVIDiffRescaled   -276.9399    1.04e+02  -2.65 8.04e-03
DATA$NDVIDiffRescaled2   213.3715    5.31e+01   4.02 5.85e-05
DATA$Elev                 -0.0278    5.89e-03  -4.72 2.40e-06
DATA$rj2                  -0.2098    6.78e-02  -3.09 1.98e-03
Log(scale)                 2.9189    5.37e-02  54.32 0.00e+00

Scale= 18.5

Gaussian distribution
Loglik(model)= -835.5   Loglik(intercept only)= -903
        Chisq= 135.04 on 4 degrees of freedom, p= 0
Number of Newton-Raphson Iterations: 3
n= 262
```

Table 3: Error of omission and commission summaries for prediction of presence or absence of *B. tectorum* and for prediction below 10 % versus at or above 10 %.

area	correctly predicted absence	correctly predicted presence	omission (present where predicted absent)	commission (absent where predicted present
whole map (*n* = 75)	19 (25 %)	29 (39 %)	12 (16 %)	15 (20 %)
northern 2/3 (*n* = 42)	5 (5%)	24 (57 %)	7 (17 %)	9 (21 %)
southern 1/3 (*n* = 33)	17 (52 %)	5 (15 %)	5 (15 %)	6 (18 %)

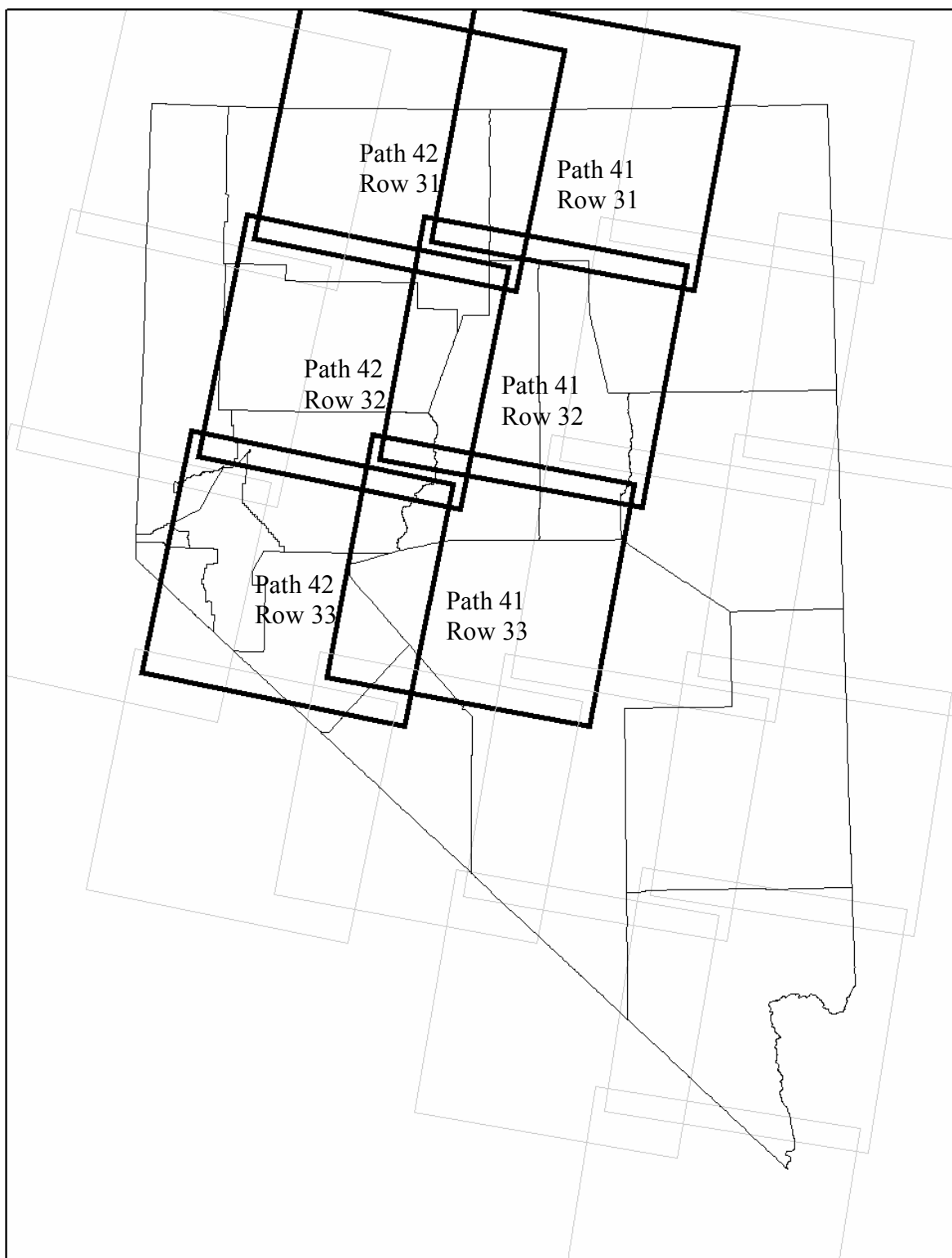| area	correctly predicted 0–9 %	correctly predicted 10+ %	omission (predicted 0–9 % where 10+ %)	commission (predicted 10+ % where 0–9 %)
whole map (*n* = 75)	51 (68 %)	13 (17 %)	1 (1 %)	10 (13 %)
northern 2/3 (*n* = 42)	18 (43 %)	13 (31 %)	1 (2 %)	10 (24 %)
southern 1/3 (*n* = 33)	33 (100 %)	0 (0 %)	0 (0 %)	0 (0 %)

Figure 1: State of Nevada showing approximate Landsat 7 scene coverage. Each square is one scene; heavy line squares show the scenes used for this project.
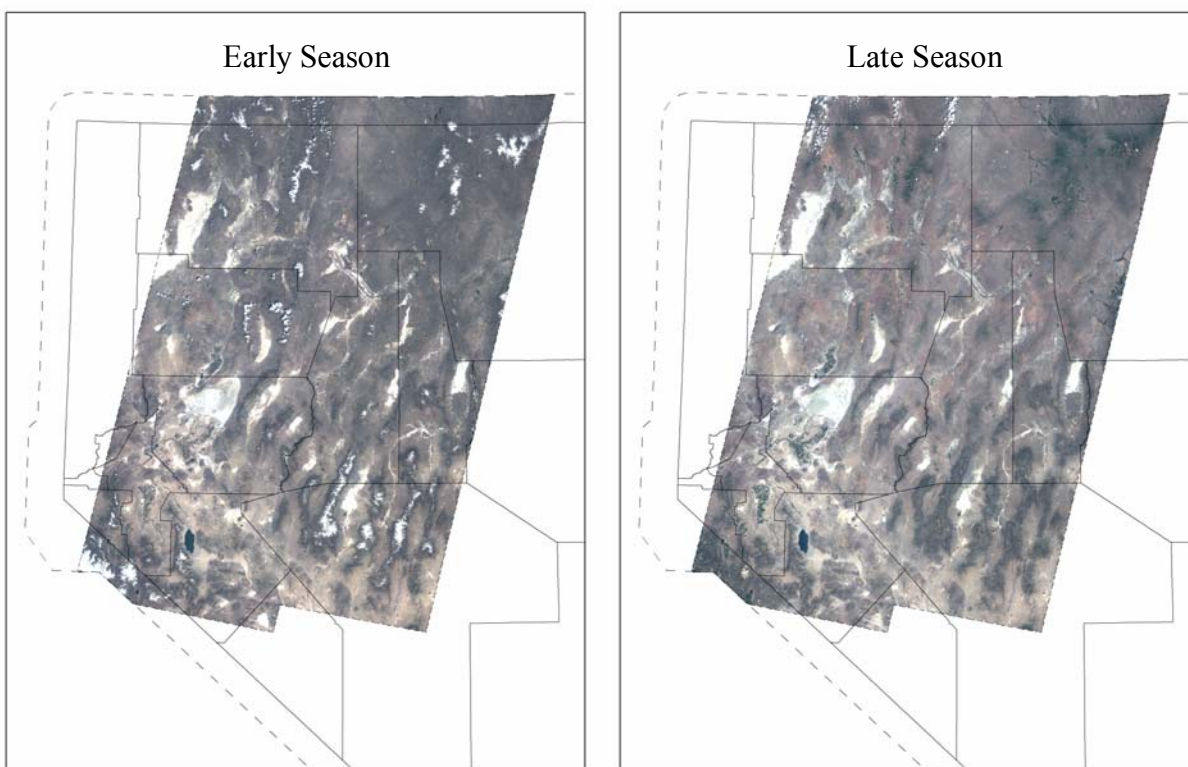
Figure 2: Imagery for mapping area showing Nevada counties (solid lines) and the Nevada
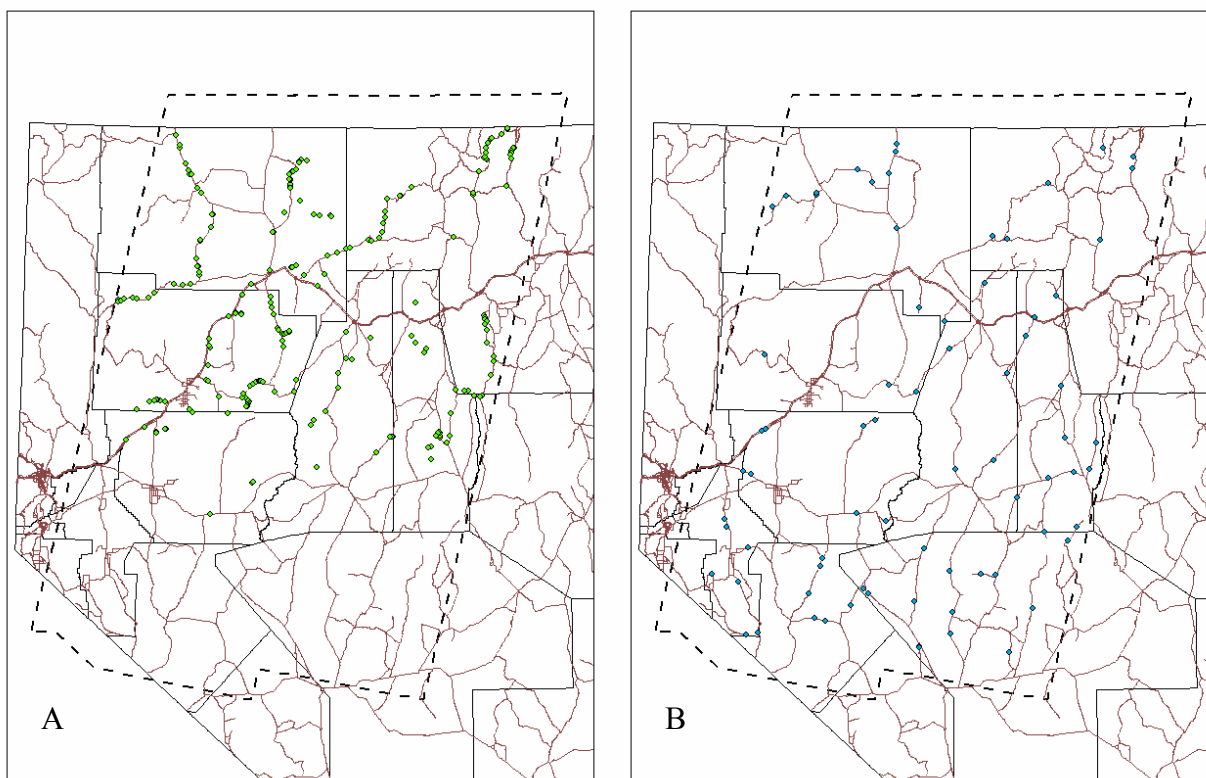Natural Heritage Program mapping area boundary (dashed line).

Figure 3: sampling plot locations (colored circles). (A) Training plots. (B) Assessment Plots. Nevada counties are shown with black lines, significant roads with brown lines, and the mapping area with a dashed line.
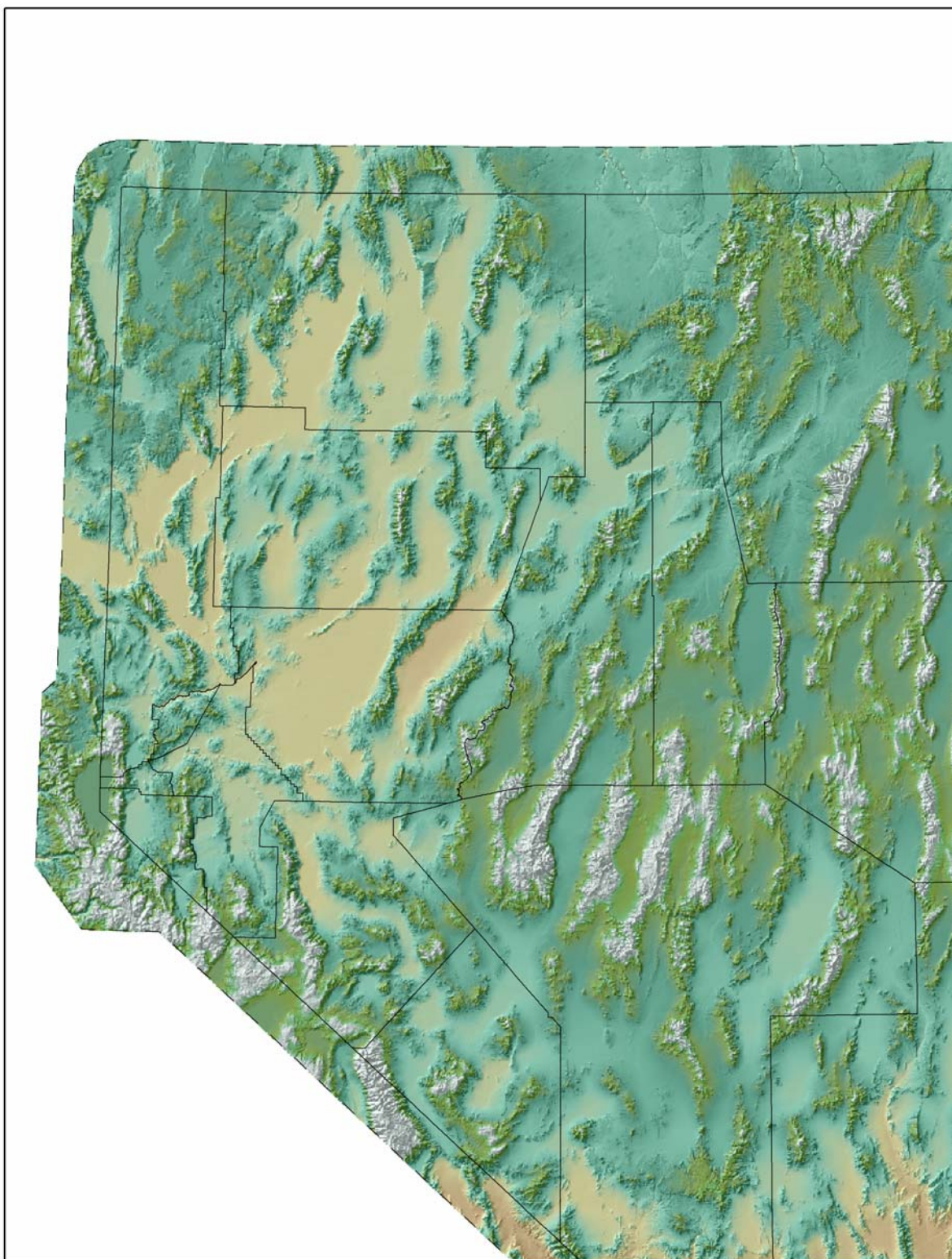
Figure 4: National Elevation Dataset. Color sequence begins with orange at low elevation and proceeds through yellow, sage-green, and pine-green to white at high elevation. NED is displayed with hill-shading to increase visual interpretation.
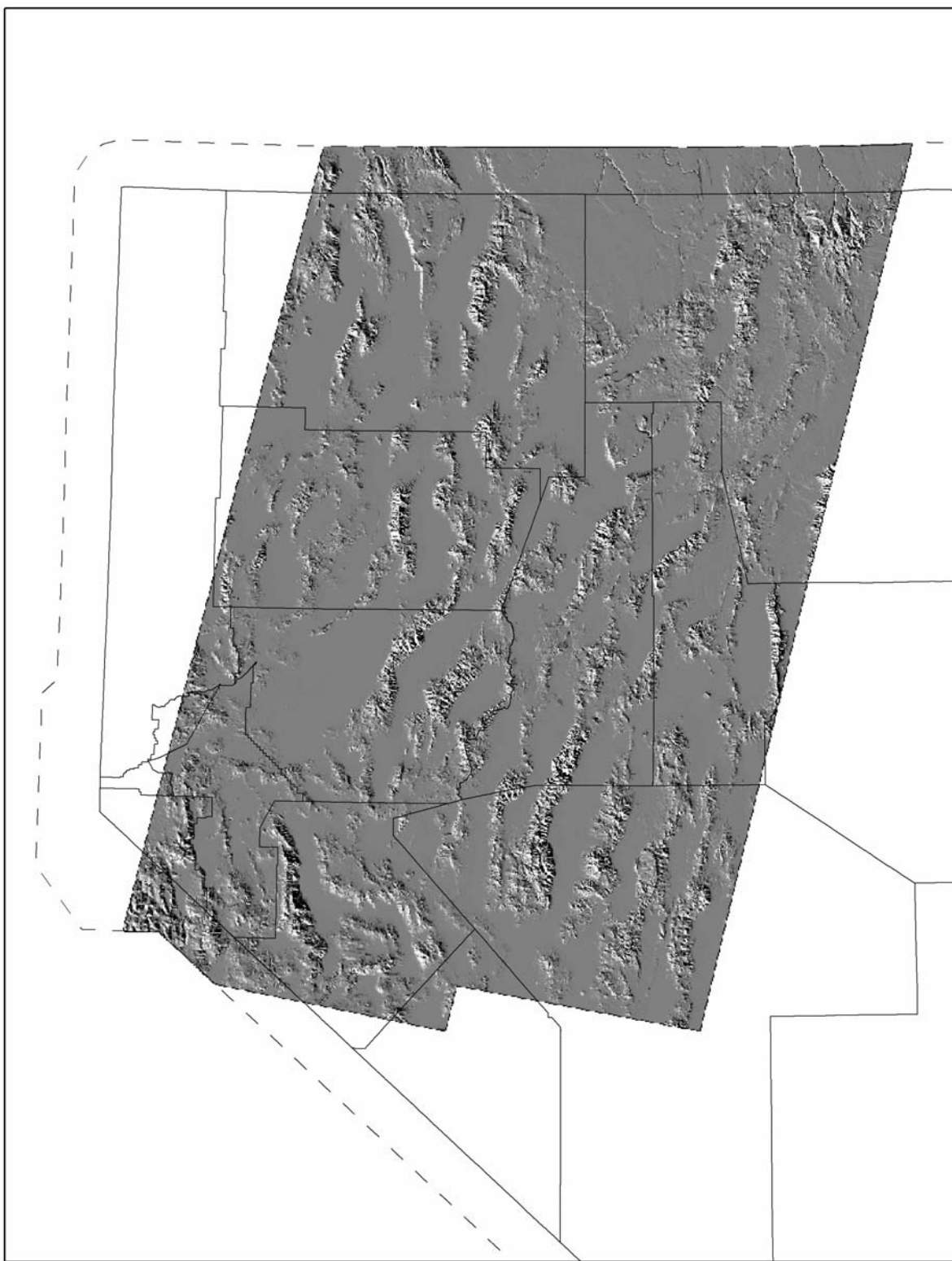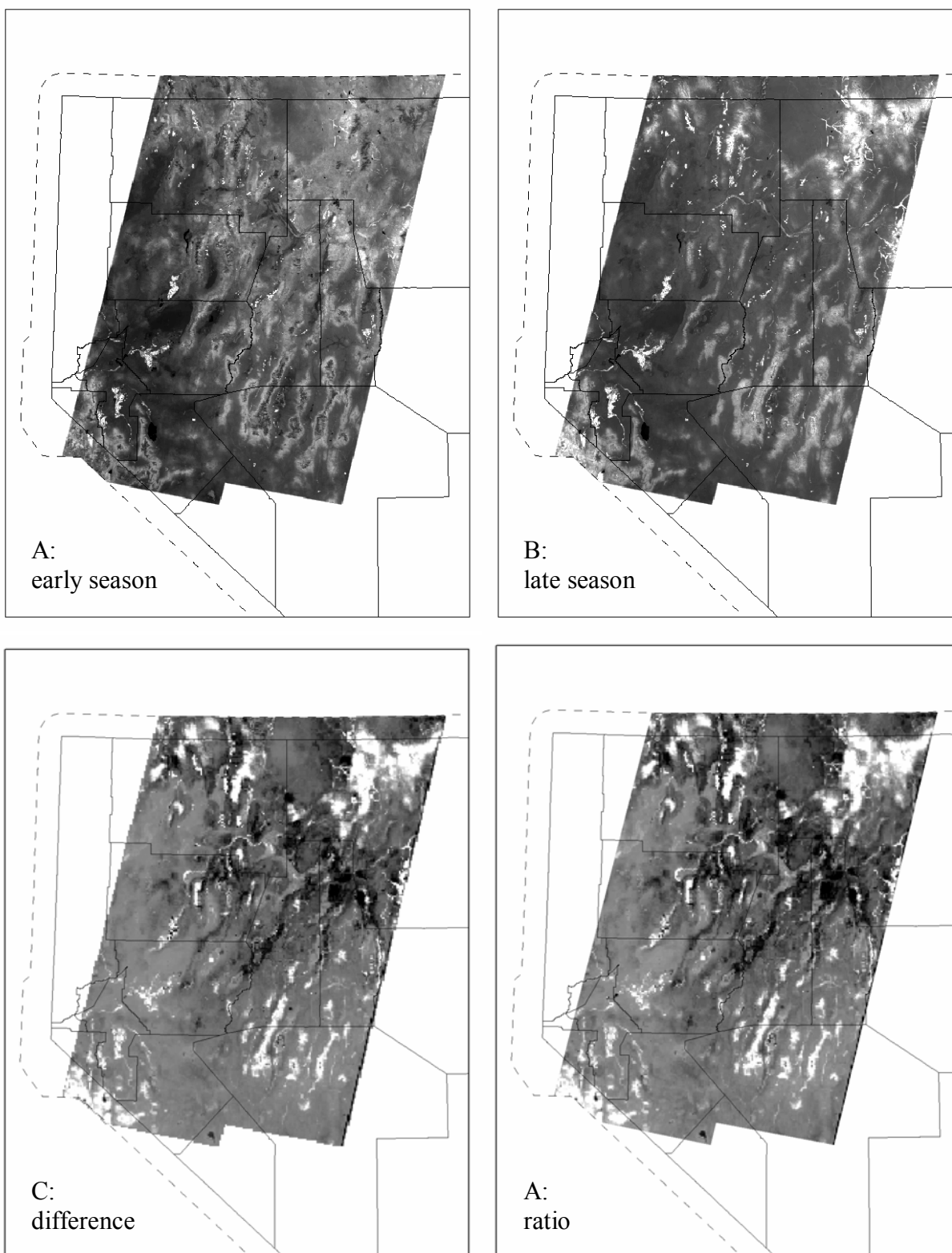
Figure 5: Heat Index.

Figure 6: NDVI and derived phenology variables. (A) NDVI for the early season image. (B) NDVI for the late season image. (C) NDVI difference. (D) NDVI ratio.

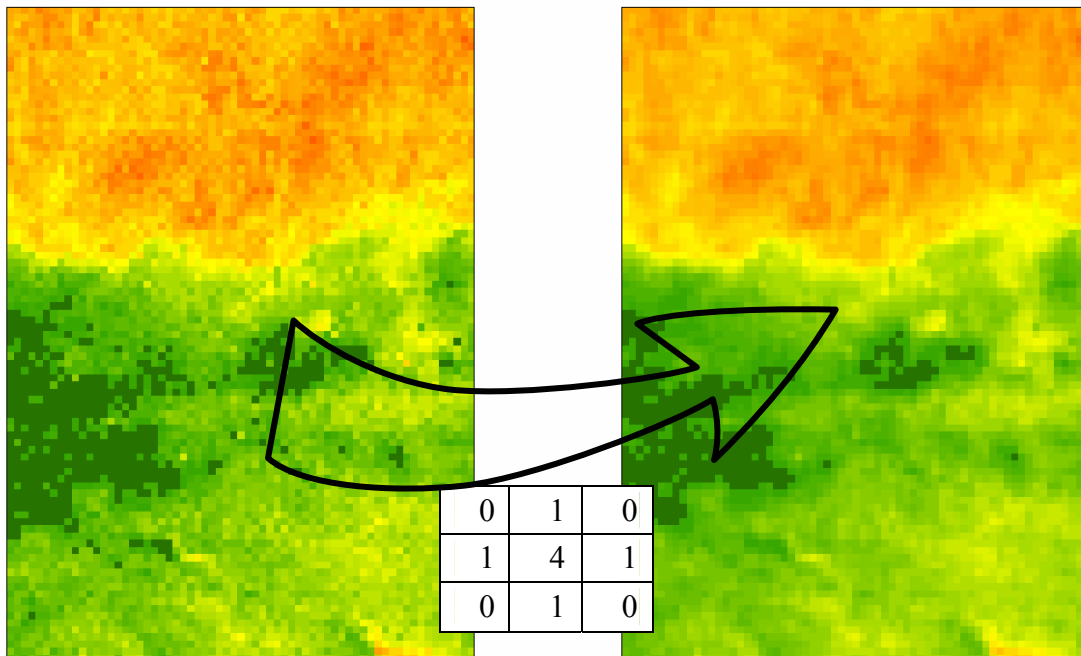| 0	1	0
1	4	1
0	1	0

Figure 7: The smoothing kernel and its affect on the estimated percent cover of *Bromus tectorum*, shown for only a small portion of the map. The kernel used replaces the value of each pixel with a weighted average of the pixel and the four adjacent pixels in cardinal directions, where the focal pixel's value is given a weight of 4 while the adjacent pixels are each weighted at one.

Histogram of Percent Cover for
***Bromus tectorum* in Training Plots**

A

Histogram of Percent Cover for
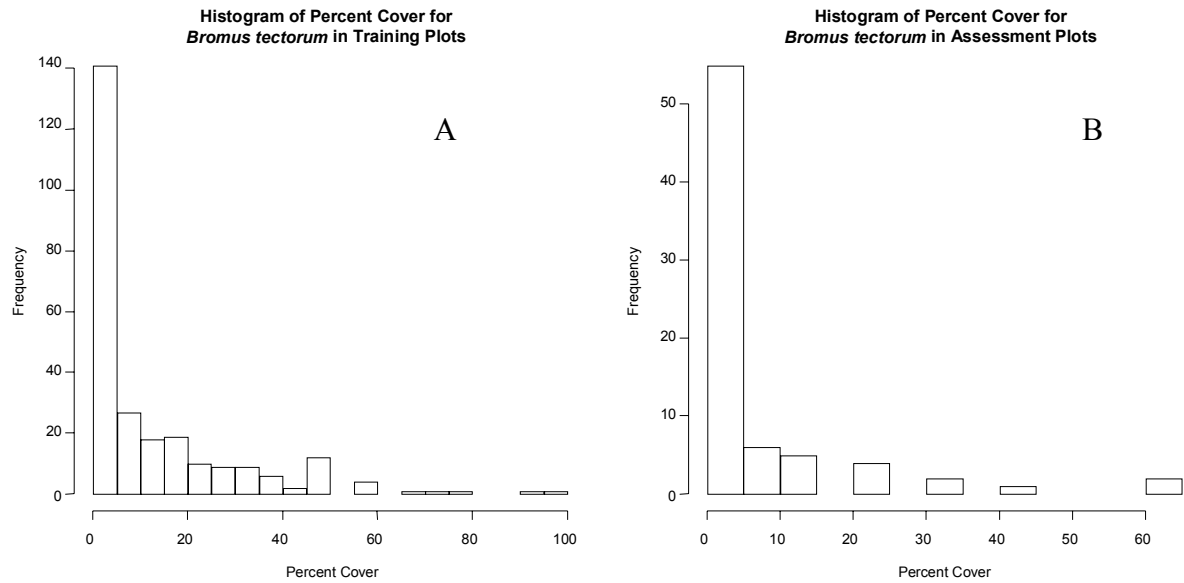***Bromus tectorum* in Assessment Plots**

B

Figure 8: Histogram of percent cover for *Bromus tectorum* in sampling plots for (A) training data and (B) assessment data. Each bar covers a 5 percent range.
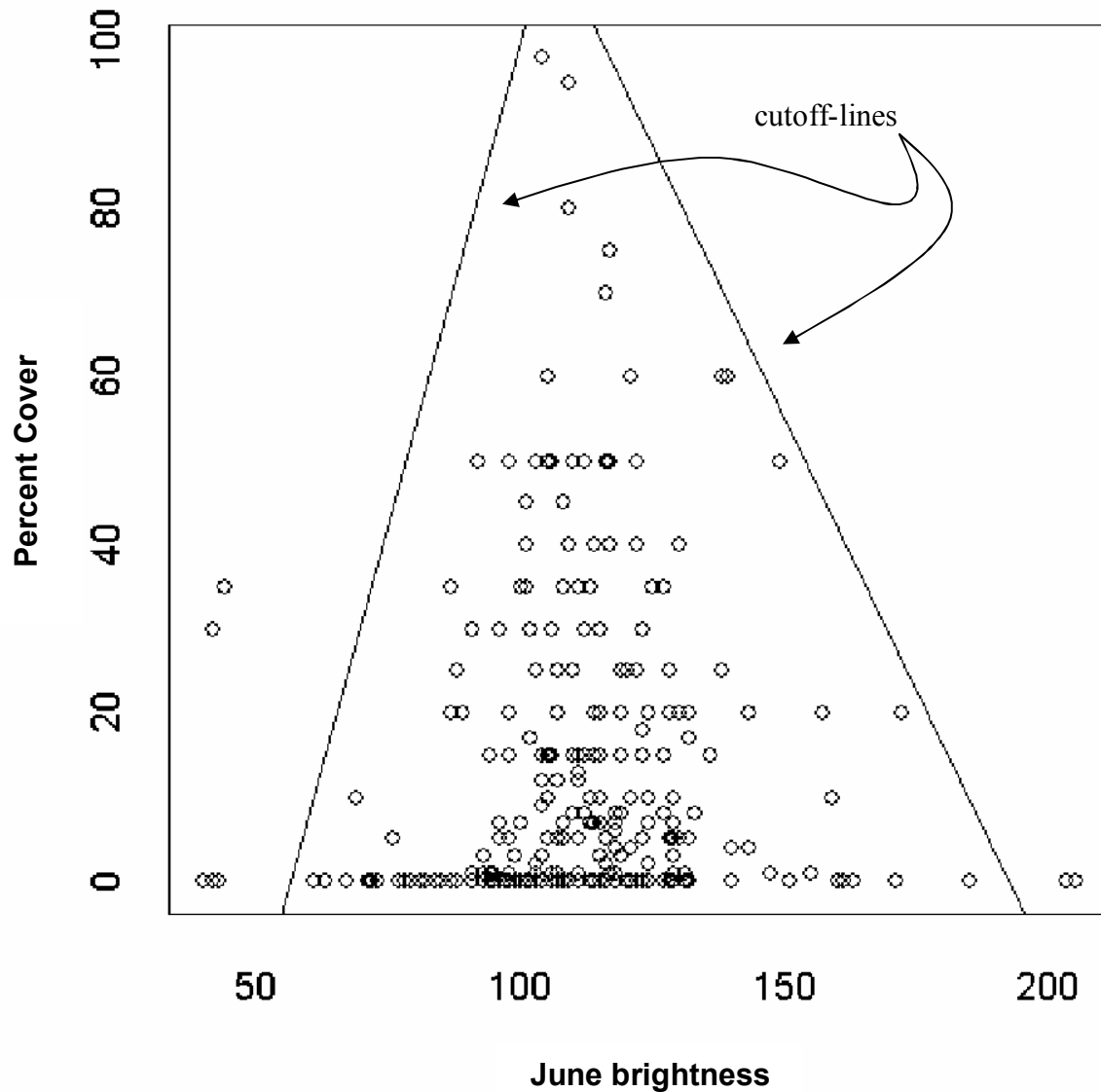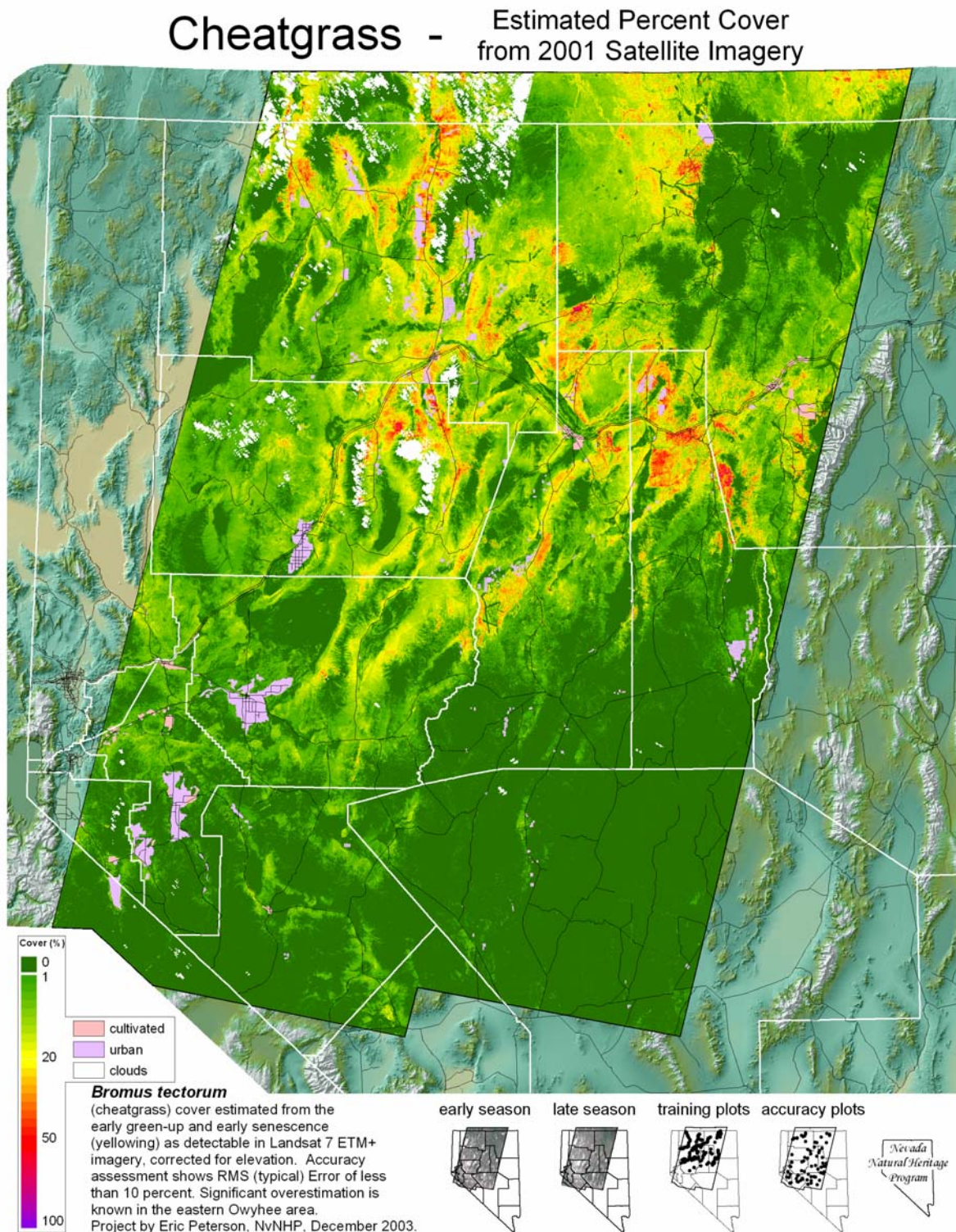
Figure 9: Estimation cutoffs based on graphing *Bromus tectorum* percent cover at training plots over the average pixel brightness across all 6 bands of the June imagery. Estimations of percent cover are not allowed to fall above the cutoff lines for their given brightness in the June imagery.
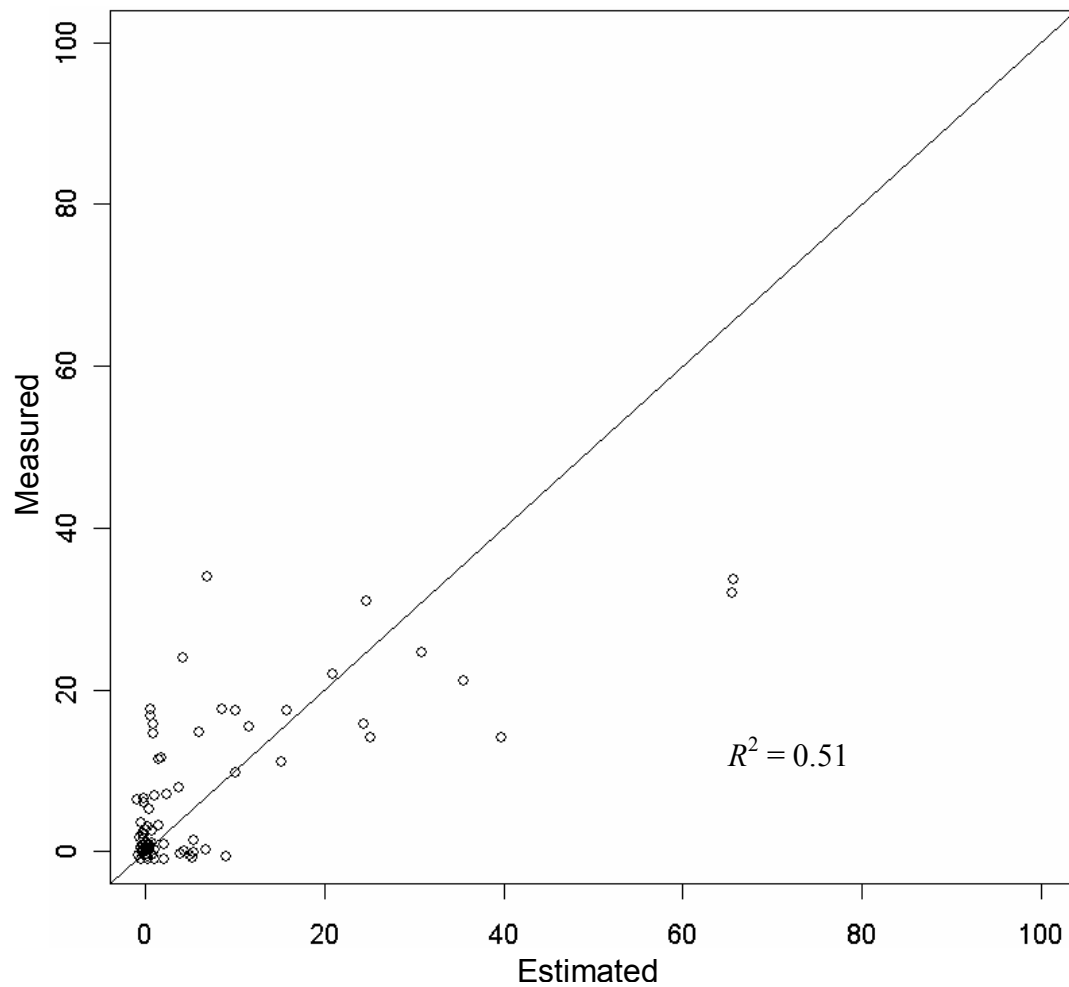
Figure 10: Estimated percent cover of *Bromus tectorum.*

Figure 11: Estimated versus actual percent cover at the 75 assessment sampling plots (points jittered by up to +/- 1 in order to view overlapping points at or near the origin). The line represents the 'ideal' one-to-one relationship.
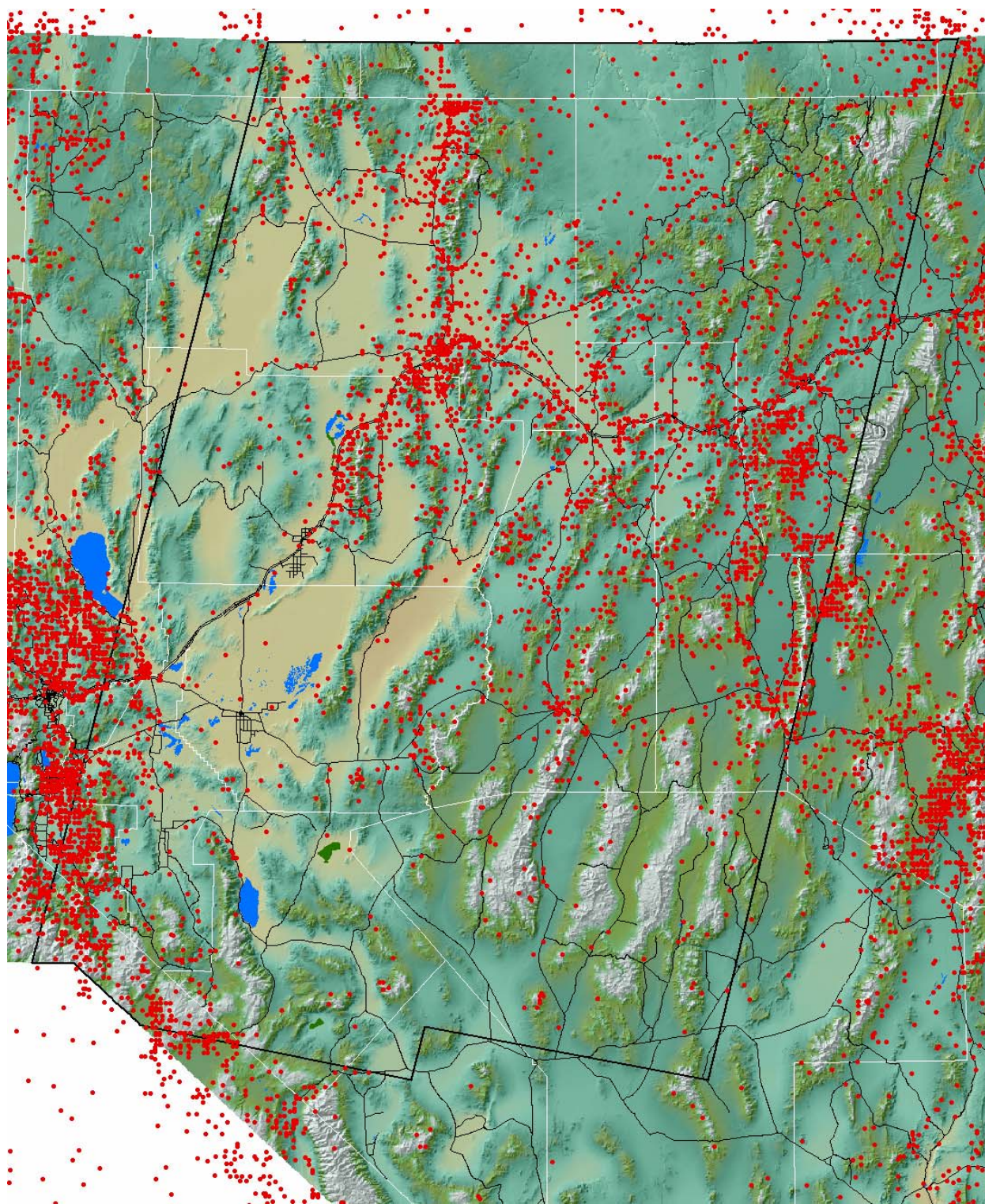
Figure 12: Point locations for fires from 1980 through 1999 (source: Bureau of Land Management, National Applied Resource Sciences Center).