

A. Appendix

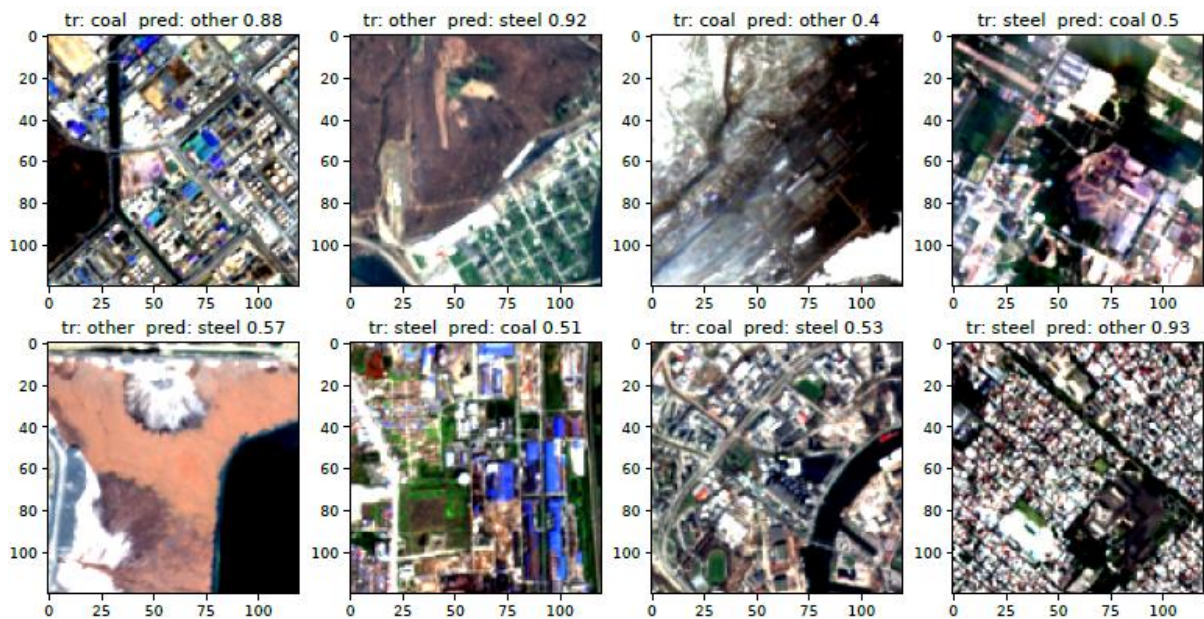
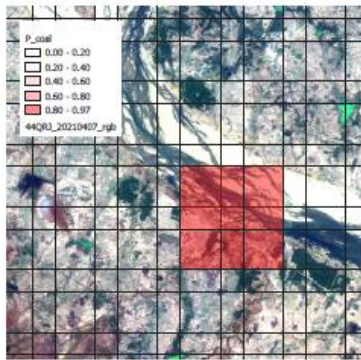
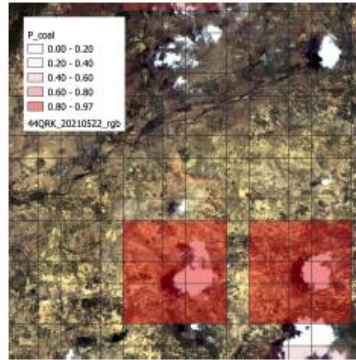


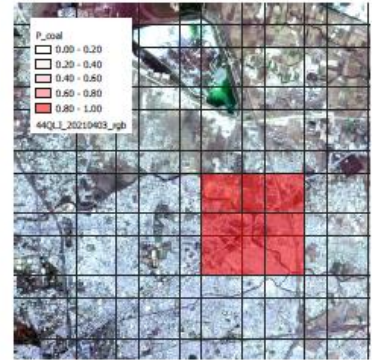
Figure A 3. Wrong predictions of the lower resolution model on the test data set. Labels show truth, prediction, and probability. The model struggles with coal and steel plants that are not isolated but in an industrial or urban area (top first and bottom last), geological formations it mistakes for steel plants (top second, bottom first), as well as distinguishing steel and coal (top last, bottom second and third).



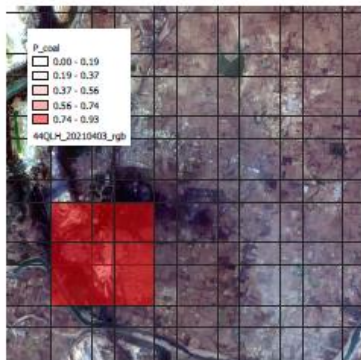
(a) False positive: river



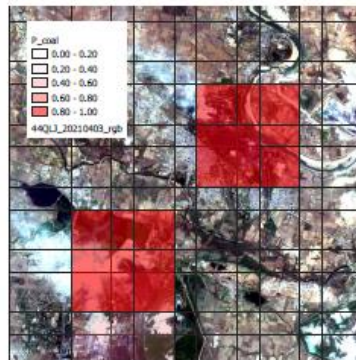
(b) False positive: cloud



(c) False positive: urban



(d) False positive: industry/mine



(e) True positive



(f) Magnified top patch from e)

Figure A 4. Positives for coal detection in the deployment data at low resolution.

Transparent red patches indicate where the model gives high probability of coal plant detection. However, only the red patches in e) are true positives (the top one magnified in f) shows a characteristic cooling tower).

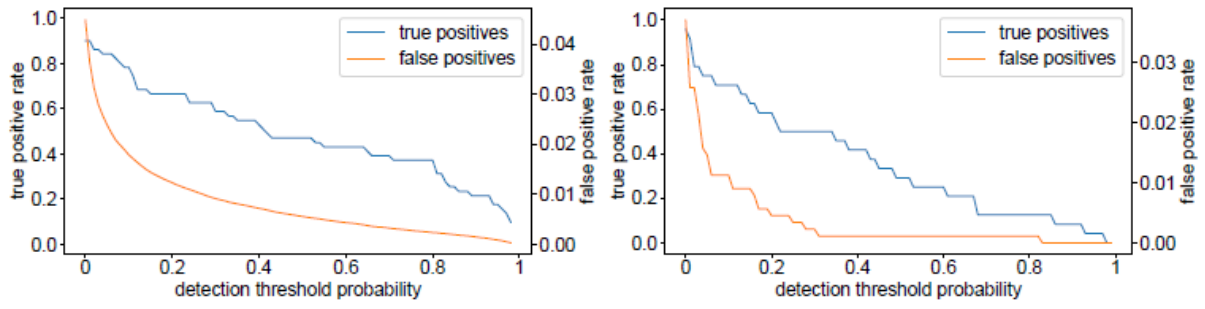


Figure A 5. Dependence of true and false positive rates on thresholds for detection of coal plants in the first stage (left) and the second stage (right).