Annotated Bibliography of Selected Court Cases Involving Geospatial Technologies

Provided below are selected court cases in which the use of geospatial technologies was either in dispute or provided evidence to resolve a dispute. The technologies are grouped into three categories: GPS, remote sensing, and GIS. Within each category, cases are sorted chronologically from the earliest case to the most recent. There is a mixture of supreme court cases, district court case, and appeals court cases, and many different US states are represented. Although there are certainly many other court cases and geospatial technologies that could be provided, it is hoped that this list will provide a starting point for most readers interested in discovering the diverse ways geospatial technologies have been represented in the US judicial system.

Global Positioning Systems (GPS) Cases

Johnson v. State (1986) Fla. App., 492 So.2d 693

After police obtained a warrant permitting a single GPS tracking device to be installed on an airplane, a second backup device was also installed as a precaution. The first GPS device did fail and data from the second GPS device was introduced during trial. The Florida Appeals Court determined the second GPS device constituted "an illegal entry beyond the scope of the warrant."

State v. Campbell (1988) Or., 306 Or. 157, 759 P.2d 1040

The opinion of the court was that the use of any tracking device without a warrant or in an emergency situation was a violation of the state constitution.

United States v. McIver (1999) 9th Cir., 186 F.3d 1119

McIver sought to exclude GPS tracking evidence on the basis of being an illegal search and seizure under the Fourth Amendment. Police attached a magnetized GPS to the undercarriage of the defendant's truck while parked in his driveway. The court rejected the contention since the defendant made no attempts to shield

G.A. Elmes et al. (eds.), *Forensic GIS: The Role of Geospatial Technologies for Investigating Crime and Providing Evidence*, Geotechnologies and the Environment 11, DOI 10.1007/978-94-017-8757-4, © Springer Science+Business Media Dordrecht 2014

the undercarriage of his vehicle from police and since the device did not interfere with the operation of the vehicle. The court determines that subsequent monitoring was not a search.

State v. Jackson (2002) Wash. Ct. App., 46 P. 3d 257, 261
Appeals court decided GPS tracking did not violate Fourth Amendment rights or state constitutional provisions. Instead, GPS was viewed as an augmentation of visual tracking. The defendant's use of public road revealed information the police would have been able to document without any such tracking devices.

Whitehead v. State (2002) Ga. App., 258, 271, 574 S.E.2d 351
With consent, police attached GPS device to the vehicle of an informant. The informant was guided to the home of a drug dealer home by a friend. After purchasing 100 pounds of marijuana, police tracked the vehicle and eventually stopped it to recover the drugs. Using the seizure, police arrested the drug dealer. The appeals court affirmed that there was probable cause to arrest the drug dealer.

State v. Clifton (2003) 158 N.C. App., 580 S.E.2d 40
Defendant used counterfeit checks to purchase a vehicle equipped with a GPS system. Police located the vehicle through the manufactured GPS. The North Carolina Appeals Court affirmed the conviction of the defendant for obtaining property by false pretenses.

State v. Jackson (2003) Wash.,76 P.3d 217, 224
Court ruled that a warrant was required prior to using a GPS tracking device. Unlike visible observation of binoculars, GPS did not merely augment visual tracking but instead provided a technological substitute that was capable of extensive intrusions into private affairs.

State v. Jackson (2003) Wash., 150 2d 251, 76 P.3d 217
Defendant reported his daughter missing. Police obtained a search warrant and attached GPS devices to Jackson's vehicles while impounded for the search. After returning the vehicles, police informed Jackson that if the missing girl was hastily buried, animals would dig her up and she would be found and recovered quickly. Data from the GPS revealed Jackson traveled to two separate remote locations. Police recovered the missing body at the second location. Both the district and appeals court determined a warrant was not required under the Washington State constitution. The Washington Supreme Court made the final determination that GPS tracking without a warrant was a violation of the state constitution. However, since police did have a warrant to install the GPS, the use of GPS data as evidence was permissible.

People v. Lacey (2004) N.Y., No. 2463 N/02, WL 1040676
First New York case seeking constitutional protection against GPS devices. The New York court decided a warrant was required before law enforcement could attach a GPS to a suspect's vehicle and track movements. The court noted that a person is entitled to feel secure knowing their movement is not being tracked without a warrant based on probable cause.

United States v. Bennett (2004) U.S. App. 9th Cir., 363 F.3d 947

A joint task force targeting smuggling activity from Mexico into Southern California boarded Bennett's boat and, after an extensive search, found over 1,550 pounds of marijuana. Defendant was convicted and appealed the admission of GPS testimony indicating Bennett had been in Mexico prior to his arrest. During trial, the custom officer testified about the GPS data but did not produce the data. When asked, the officer stated he was not the custodian but had witnessed the data. The trial court determined the government is not excused from the best evidence rule's preference for the original data and therefore contended that the GPS-based testimony was inadmissible under the best evidence rule.

United States v. Berry (2004) D. Md., 300 F.Supp.2d 366

Police obtained a warrant to place a GPS device on the vehicle of Berry who was suspected of trafficking heroin. The court regarded GPS tracking as an extension of visual tracking and supported the probable cause to obtain the warrant. Although GPS data was recorded after the warrant expired, that data was not introduced at trial.

Brown v. Texas (2005) Tex. App., 163 S.W.3d 818

The defendant was a truck driver convicted of murder. At trial, GPS records from his truck were presented as evidence to prove he was at the location the victim was found around the time the victim would have been strangled. Two witnesses testified to the GPS records: an employee of the trucking company who stated the GPS records were business records, and a geographer. Defendant appealed the qualification of the geographer as an expert witness. The appeals court affirmed that the geographer, who used GPS on a daily basis, had a degree in geography, and demonstrated knowledge of how GPS worked and its reliability was a qualified expert witness.

Chism v. State (2005) Ind., 824 N.E.2d 334

As part of his sentence for conspiracy to deliver drugs, Chism was placed on home detention and ordered to wear a GPS anklet. Chism argued the state code did not permit GPS monitoring. The appeals court agreed that no authority existed for the trial court to assign GPS monitoring. A review by the Indiana Supreme Court affirmed the original trial court's order to wear a GPS anklet, citing the GPS device did not monitor movement but only broadcasted alerts if the defendant left his residence.

Elgin v. St. Louis Coca-Cola Bottling Co. (2005) U.S. Dist., Case No. 4:05CV970-DJS

Defendants installed GPS trackers on company vehicles after vending machines experienced cash shortages with no sign of forced entry. Despite the installation of trackers on Caucasian employees, the plaintiff alleged the act was racially motivated. The investigation by the defendant cleared the plaintiff of any wrongdoing and he received no adverse employment action. The court opined that the installation of tracking devices on their own vehicles did not intrude upon the employee's expectation of privacy.

People v. Gant (2005) N.Y. Co. Ct. [Westchester County] WL 1767655 NY Slip Op 25307; 9 Misc. 3d 611; 802 N.Y.S.2d 839

Grant was indicted for criminal possession of narcotics. Defendant motioned to suppress all GPS evidence. The court ruled that no warrant was required to place a GPS device on a vehicle when investigating a crime, the defendant had no expectation to privacy on public roads, the defendant was unable to demonstrate he owned the vehicle with the attached GPS, and the defendant was not entitled to suppression of evidence obtained from the use of the GPS device.

State v. Jackson (2005) Tenn. Crim. App., No. M2004-00562-CCA-R3-CD

Defendant was convicted of possession of cocaine within 1,000 ft of a school. On appeal, the testimony of the surveyor who measured the distance from the school to the offense location with a GPS was determined to have a scientific foundation. The expert witness had been a professional surveyor for 16 years, passed several tests, and used GPS devices for 7 years. The witness explained the GPS was accurate to 1½ in. The appeals court affirmed the trial court did not abuse its discretion in allowing the testimony of this witness to prove the offense occurred within 1,000 ft of a school.

Turner v. Am. Car Rental (2005) 92 Conn. App.

The plaintiff rented a car from the defendant. The car was equipped with a GPS device to track the position and speed of the vehicle. According to the contract, the defendant would impose a penalty for speeding. The plaintiff alleged the defendant never stated the penalty would be drawn directly from his bank account and he furthermore alleged the GPS unit in the car violated his privacy. The appeals court concluded the plaintiff failed to show that he had any expectation of privacy on a public highway. As for the fee, the original court sided with the plaintiff and determined the defendant was engaged in deceptive practices.

United States v. Moran (2005) N.Y. U.S. Dist., 349 F.Supp.2d

Moran protests a GPS device attached to his vehicle by law enforcement personnel without a warrant. The GPS device tracked Moran's vehicle for 2 days. Law enforcement personnel could have conducted a visual surveillance of the vehicle as it traveled on the public highways. The district court found that Moran had no expectation of privacy in his vehicle on a public roadway. Thus, there was no search or seizure and no Fourth Amendment implications in the use of the GPS device.

Medina v. State (2006) Fla. App., 920 So. 2d 136

The trial court rejected on objection by the plaintiff's counsel that GPS tracking evidence did not satisfy the Frye standard. Florida Court of Appeal affirmed the trial court decision on the grounds that GPS technology was neither new nor novel and had long been accepted within the scientific community and was therefore not subject to a Frye hearing.

People v. Randolph (2006) Cal. App., Unpub. 4th Appellate District, Division 2

Defendant pleaded guilty to abuse of his spouse and was required to submit to continuous monitoring by a GPS device. The defendant appealed, arguing the

GPS monitoring was invalid, unreasonable, and unconstitutional. The appeals court rejected the defendant's claims citing the GPS was necessary to help reform the defendant by discouraging him from concealing future criminality.

State v. Harte (2006) 395 N.J. Super. 162, 928 A.2d 157

Defendant was convicted of eluding police after a high-speed pursuit. The state introduced audio and video evidence. The audio evidence was a recording of the pursuing officer in which pursuit speed was announced. The video of the chase also included the officer's GPS unit displaying the speed of the pursuing officer's vehicle. Although this case was an appeal on the authenticity of the audio and video recordings, the pursuit speeds indicated by the officer were verified through the video capturing the GPS speeds.

Doe v. Schwarzenegger (2007) U.S. Dist., 476 F. Supp. 2d 1178

Defendants had been convicted of sexual offenses decades prior to the passage of Jessica's Law in California which required sexual offenders to wear GPS monitoring devices for life. After the passage of the Sexual Predator Punishment and Control Act (SPPCA), defendants were notified that they would be required to wearing a GPS anklet. After review of the SPPCA, the district court determined the SPPCA could not be retroactively enforced and the requirement for the defendants to wear GPS anklets was inapplicable.

Gerardi v. City of Bridgeport et al. (2007) Conn. Super. Ct., CV084023011S

The City of Bridgeport acquired vehicles equipped with GPS devices for use by city employees. Pending disciplinary hearings and termination resulting from GPS data indicating the defendant was not properly performing his job, the plaintiff alleges he was not notified of the GPS unit and therefore the city violated state statutes. The court found the statutes claimed to be violated by the plaintiff did not apply to this case, and the court was therefore unable to grant the injunctions sought by the plaintiff.

John Doe et al. v. Walsh in her capacity as Chairperson et al. (2007) Mass. Super. Ct., Opinion No.: 99601

Four convicted sex offenders on parole sought an injunction against the defendants requiring them to wear GPS monitoring devices after a state law was passed requiring paroled offenders to continuously wear GPS monitoring devices. The court determined GPS monitoring devices meant to keep sex offenders out of exclusion zones was not a violation of individual liberties nor a violation of privacy since data would only be transmitted if the offender entered an exclusion zone.

Morton v. Nassau County Police Department (2007) U.S. Dist., 05-CV-4000 (SJF) (AKY)

Suspected of being involved in a series of burglaries, police attached a GPS device to Morton's vehicle while parked on a public street. Morton argued GPS was a violation of the Fourth Amendment. The district court dismissed the plaintiff's claim, declaring the use of a GPS device was not an unreasonable search or seizure.

State v. Martin (2007) 182 Vt. 96, 377; 944 A.2d 867

Defendant was convicted of boating while intoxicated and causing death from an accident. The defendant appealed, stating the accident did not occur within Vermont's boundaries and therefore Vermont did not have jurisdiction. The prosecution presented GPS recordings from the rescuers and their testimony. All GPS recordings placed the boat accident in Vermont. The appeals court determined the testimony and GPS recordings established beyond a reasonable doubt that the boat accident did occur within Vermont's boundaries.

United States v. Garcia (2007) U.S. App., 474 F.3d 994

The defendant appealed his conviction of crimes relating to the manufacture of methamphetamine. The only issue on appeal was whether evidence obtained as a result of a GPS tracking device attached to the defendant's car should have been suppressed as an unconstitutional search. The appeals court affirmed the district court determination that the GPS tracking device did not constitute a seizure. The GPS device did not affect the car's driving qualities, did not draw power from the car, did not take up space that might have been occupied, did not alter the car's appearance, and did not "seize" the car in any intelligible sense of the word.

Vitka v. City of Bridgeport et al. (2007) Conn. Super., CV0804022961S

The City of Bridgeport acquired vehicles equipped with GPS devices for use by city employees. Pending disciplinary hearings resulting from GPS data indicating the defendant was not properly performing his job, the plaintiff alleges he was not notified of the GPS unit and therefore the city violated state statutes. The court found the statutes claimed to be violated by the plaintiff did not apply to this case and the court was therefore unable to grant the injunctions sought by the plaintiff.

Stone v. Maryland (2008) 178 Md. App. 428, 941 A.2d 1238

Wanted in connection to several burglaries, a Maryland Trooper obtained Stone's cell phone number. After "pinging" the cell phone, the trooper located Stone's vehicle and attached a GPS tracking device. Stone was arrested in his vehicle after being located by a GPS device. A subsequent search of the vehicle yielded additional drug charges which Stone seeks to dismiss. The Maryland Appeals Court ruled GPS tracking was not a violation of the Fourth Amendment because Stone was traveling on a public road. The court further determined the cell phone "ping" was irrelevant to the case because Stone's vehicle was in a motel parking lot in full public view. The "ping" only helped narrow down the search area.

United States v. Coleman (2008) U.S. Dist., Case No. 07–20357

DEA agents obtained a warrant to locate the defendants vehicle through the manufacturer installed OnStar GPS. Once the vehicle was located, local sheriff deputies arrested the defendant and found heroin during their search of his vehicle. The defendant contends that he had a reasonable expectation of privacy in utilizing the GPS and that the tracking of a third party's factory-installed GPS receiver was constitutionally vague. The appeals court concluded the original warrant was valid based on probable cause and that tracking with a warrant is not constitutionally vague.

People v. Weaver (2009) N.Y., 909 N.E.2d 1195, 1199–1200
Police tracked suspect's vehicle for a 2-month period without a warrant. The court concluded the extended tracking constituted a search, requiring a warrant. Although the court admitted the defendant's expectation to privacy was diminished while on a public road, that expectation was not reduced to zero.

Foltz v. Commonwealth (2010) Va. Ct. App., 698 S.E.2d 281
Appeals court determined the weeklong warrantless use of GPS tracking device placed on the bumper of Foltz vehicle to monitor the movement of Foltz was not an unconstitutional search or seizure. The police could have obtained the same information by following the vehicle.

United States v. Marquez (2010) 8th Cir. 605 F.3d 604
The use of a GPS device to track the movements of Marquez vehicle did not violate the Fourth Amendment. The defendant was suspected to be involved in the interstate transport of drugs. The court ruled that the extended tracking of the defendant's vehicle was not random or arbitrary, was noninvasive, and resulted from reasonable suspicion. Furthermore, the device was attached to the vehicle while parked in public.

United States v. Maynard (2010) D.C. Cir., Nos. 08-3030, 08-3034, WL 3063788
With an emphasis on privacy expectations, the court ruled that the warrantless use of a GPS tracking device was an unconstitutional search under the Fourth Amendment. It was concluded that the extended use of GPS provided more information than the police would have possibly been able to obtain through observation of movements.

United States v. Pineda-Moreno (2010) 9th Cir., 591 F.3d 1212, 1217
Defendant observed purchasing a large quantity of fertilizer. Recognized as plant food used for the growth of marijuana, DEA agents placed a GPS tracker on the defendant's vehicle. GPS devices were placed on the vehicle in both public areas and the defendant's driveway. Agents noticed there were no access controls (e.g., fence/gate) and no posting against trespassing. Agents eventually used the GPS records to locate a marijuana field the defendant traveled to. The appeals court affirmed a person does not have an expectation of privacy in their unsecured driveway. Furthermore, the GPS tracking did not constitute a violation of the Fourth Amendment.

United States v. Cuevas-Perez (2011) U.S. App., 640 F.3d 272
Federal agents and the police came to suspect the defendant of being involved in a drug distribution operation. Without a warrant, a detective attached a GPS tracking unit to defendant's vehicle while it was parked in a public area. While the defendant was on a trip, the police took up visual surveillance and discontinued the use of the GPS device. The device had been in use for a total of approximately 60 h. The appeals court determined that suppression of the GPS evidence was not warranted because the warrantless use of the GPS tracking device did not violate defendant's Fourth Amendment rights since (1) GPS tracking does not constitute a search, (2) the surveillance was not lengthy, and (3) real-time information is exactly the kind of information that drivers make available by traversing public roads.

United States v. Jones (2012) 132 S. Ct., 945; 181 L. Ed. 2d 911

Federal Bureau of Investigation (FBI) agents obtained a warrant for the installation of a GPS tracking device to the undercarriage of a vehicle registered to Jones's wife while parked in a public parking lot. Agents tracked the vehicles movement for 28 days despite a 10-day effectiveness period for the warrant. At the trial, GPS evidence was presented and Jones was convicted. Jones appealed the evidence and the DC Appeals Court overturned the conviction, finding the admission of evidence obtained by the warrantless use of a GPS device constituted a search and was a violation of the Fourth Amendment. The US Supreme Court reviewed the case and affirmed the opinion of the appeals court.

People v. Moorer (2013) NY Slip Op 23048, 39 Misc. 3d 603

Defendant accused of murder. Police "pinged" his cell phone to determine his location. Judges ruled the cell phone here was not surreptitiously attached to an unwitting individual. Moreover, public ignorance about cell phone technology can no longer be maintained in this day and age—cell phones are voluntarily carried by their users and may be turned on or off at will. By a person's voluntary utilization, through GPS technology, of a cell phone, a person necessarily has no reasonable expectation of privacy with respect to the phone's location—vis-à-vis the pinging—even though he maintains what may be a reasonable expectation of privacy in the content of his phone conversations. Therefore, the pinging of defendant's cell phone does not implicate or violate defendant's rights under the New York State Constitution.

United States v. Baker (2013) U.S. App., 713 F.3d 558

During the course of an investigation of armed robberies, police placed a GPS tracking device on the car of the defendant's girlfriend. The GPS data allowed police to link the car to an armed robbery. The defendant was tracked, pulled over, and found to be in possession of a firearm. The defendant appealed the admission of the GPS evidence, stating it violated his Fourth Amendment rights. Due to the fact the defendant did not raise the issue during the original trial, the appeals court determined the defendant waived his rights to raise the issue during an appeal.

United States v. Miller (2013) U.S. App., No. 12–50238

Upon release of imprisonment, the defendant was required to submit to GPS monitoring during a 3-year period of supervised release. The defendant appealed, asserting that the GPS monitoring constituted a greater deprivation of his liberty interest than was reasonably necessary. A review of the defendant's background found that any impairments of the defendant's privacy were outweighed by the benefits of GPS monitoring; accordingly the appeals court affirmed the decision of the district court.

Remote Sensing Cases

United States v. Reserve Mining Co. (1974) D.C. Cir., 380 F. Supp. 11

Satellite imagery presented to provide evidence of violations of the Clean Water Act by Reserve Mining Co.

United States v. Kilgus (1978) 9th Cir., 571 F.2d 508

Court refused to admit thermal imagery evidence due to officer's lack of training in interpreting the results and not being able to understand the underlying theories and principles.

Velsicol Chem. Corp. v. New Jersey D.E.P. (1982) N.J., 442 A.2d 1051

Although the court allowed aerial photographs to be presented during trial, an accompanying scientific report based on the interpretation of the photographs was excluding due to the lack of a witness responsible for the report being present to testify about the methods and analysis discussed within the report. The court expected an expert witness to authenticate and explain the remotely sensed data.

California v. Ciraolo (1986) 106 S. Ct., 476 U.S. 207

An airplane was used to fly over the suspect's property and take aerial photographs which conclusively showed the presence of marijuana. According to this supreme court opinion, anything capable of being viewed from a public space is not protected by privacy laws in the United States. Therefore, aerial observations and photographs are legally permitted to monitor and document areas considered private property and present any evidence during trial.

Dow Chem. Co. v. United States (1986) 106 S. Ct., 476 U.S. 227

Supreme court ruled the use of commercial aerial photography used to search private property did not constitute a search if the private property was observable with the naked eye and therefore the photography was admissible as evidence.

United States v. Sanchez (1987) U.S. Court of App. 9th Cir., 829 F.2d

Through the use of thermal imaging (FLIR), a US Customs plane observed an unidentified airplane make a landing in the Arizona desert. The Customs pilot observed (through the FLIR) a pickup pull-up next to the plane and the departure of the plane. Agents on the ground arrested the occupants of the truck and found marijuana. The only evidence linking McCall, the defendant, to the unidentified airplane was the FLIR. The defendant objected to the admission of any evidence obtained through the use of the FLIR, arguing the government had not laid a sufficient foundation for its admission (e.g., testimony of an expert witness). The Customs pilot testified FLIR could only identify generic objects, which satisfied both the trial court and appeals court since FLIR was accepted by the scientific community for the detection of generic objects. Furthermore, the pilot visually witnessed the events through the FLIR that he was operating and highly familiar with. The appeals court affirmed the decision of the trial court, stating the pilot's expertise was adequate to lay a proper foundation for admission of the FLIR evidence.

United States v. Ishmael (1995) Court of Appeals 5th Cir., 48 F.3d 850

Acting on an informant tip, DEA agents used a thermal imaging device to determine if the plaintiff might be operating an indoor marijuana operation. The results suggested he was and agents acquired a warrant to search the building. Defendants argue they had an expectation of privacy and demonstrated secretive activities to ensure privacy. The only probable cause the DEA had was the results of the

thermal imager. The district court suppressed all evidence seized from the property and the results of the thermal imager. DEA appealed the district court decision. The appeals court ruled that the use of thermal imaging did not violate the Fourth Amendment and subsequently found the DEA did have probable cause needed to obtain a search warrant.

West-Oviatt Lumber Co. v United States (1998) 40 Fed. Cl. 557, 566

US Forestry Service (USFS) introduced satellite imagery; however, they failed to ground-truth information derived from the imagery. The court decided not to rely on the satellite imagery and subsequently reached a verdict against the USFS.

St. Martin v. Mobil Exploration (2000) 5th Cir., 224 F.3d 402, 407

Aerial photographs introduced as evidence against allegations of land degradation caused by Mobile Exploration. The aerial photographs and accompanying expert testimony showed erosion was caused by defendant.

Nutra Sweet Co. v. X-L Engineering Co. (2000) 7th Cir., 227 F.3d 776

Nutra Sweet presented aerial photographs as evidence to confirm a history of dumping of hazardous waste on X-L Engineering Land which in turn migrated through groundwater onto Nutra Sweet's land.

Kyllo v. United States (2001) 121 S. Ct. 2038, 533 U.S. 27

The supreme court ruled the use of a thermal imaging device did require a warrant since the technology revealed details of the interior via technology that was not in the general public use.

United States v. McCall (2008) 5th Cir., No. 553 F.3d 821

After being convicted of distributing drugs within 1,000 ft of a school, McCall appealed and argued the government failed to prove the offense was within 1,000 ft of a school. The appeals court concurred. During trial, an aerial photograph was presented without any indication of scale and a detective testified he had driven the distance and although he never measured it, he opined it was within 1,000 ft. The appeals court ruled the opinion of the detective was a lay opinion and not sufficient for a jury to reasonable conclude the distance was less than 1,000 ft. Furthermore, without scale, the court stated the aerial photograph was useless.

United States v. Kattaria (2009) Court of Appeals 8th Cir., 553 F.3d 1171

An informant notified police that Kattaria had an indoor marijuana operation. Thermal imaging was used to confirm the allegations. Kattaria challenged the warrant; however, the appeals court found the police had conducted additional investigations to determine the reliability of the informant. The investigation revealed that Kattaria had a previous conviction for marijuana trafficking and also had an unusually high utility bill. Based on the combined information, the warrant was supported by probable cause.

Banks v. United States (2010) 94 Fed. Cl. 68

Plaintiffs motioned to excluded expert testimony pertaining to the use of Lidar data, contending the technology is inaccurate and unreliable. The court determined the plaintiff's reliability criticism was insufficient to support a motion to strike.

Nicholas v. State (2010) Ark. App. 696, CA CR10-324

Nicholas was pulled over for speeding based on the results of a Lidar speed gun. Nicholas was subsequently arrested for driving while intoxicated and motioned to suppress evidence based on the officer's alleged failure to calibrate the device. The officer initially testified he was trained and certified to operate the Lidar gun and calibrated it on a daily basis. The appeals court found the officer was qualified and dismissed Nicholas' motion to suppress the Lidar evidence.

People v. Mann (2010) 397 Ill. App., 3d 767; 922 N.E.2d 533

Mann cited for speeding. Appealed trial court's decision to admit Lidar speed gun measurements based on the argument Lidar guns had not passed the Frye test for reliability. Citing numerous cases involving Lidar speed measurements, the appeals court ruled Lidar was a generally accepted technology based on accepted scientific principles.

Commonwealth v. Danier (2011) 78 Mass. App. Ct. 1121, Unpub.

Defendant accused of speeding based on the results of a Lidar speed gun. Defendant admitted speeding but appealed the reliability of the Lidar gun and claimed the trial judge never instructed her that she could cross-examine the officer about reliability. Appeals court found the Lidar gun results sufficiently proved the defendant was speeding and concluded any doubts the defendant could appeal would only be speculative.

Pfender v. Secretary, Pa. Dep. of Corr. (2011) U.S. App., 443 Fed. Appx.749

A cell search of an inmate discovered an aerial photograph of the prison site in the inmate's possession. Pennsylvania Department of Corrections classifies aerial photographs of State Correctional Institutes as contraband that threatens security. Investigations revealed the photograph was supplied by the defendant and therefore visiting rights of the defendant were suspended for 2 years. The defendant offered alternative explanations that could explain how the inmate acquired the photographs; however, no substantive evidence was submitted to support the alternative explanations. The appeals court affirmed there was a rational basis for suspending visitation and the rights of the defendant were not violated.

State v. Branch (2011) 243 Ore. App., 309; 259 P.3d 103

Branch arrested for possession and delivery of cocaine within 1,000 ft of a school. Officers utilized Lidar to determine the distance was within 1,000 ft. Branch appealed, citing the state had not established the scientific validity of Lidar. Appeals court exercised judicial notice, citing the well-known use of Lidar qualifies it as admissible.

Geographic Information Systems (GIS) Cases

United States v. Asarco Inc. (1998) 9th Cir., 214 F.3d

The US and Coeur d'Alene Indian Tribe filed suit against Asarco mining for environmental damages. The defendants sought access to the Coeur d'Alene Indian

Tribe's GIS database as a public document. The tribe argued the database was tribal property since they created and paid for it. Defendants argued the US government paid for it. The court ruled the GIS database was a public administrative record, regardless of who created or funded it.

State v. White (2000) Mo. App., 28 S.W.3d 391; 2000 Mo. App.

Defendant was convicted of delivery of a controlled substance within 2,000 ft of a school. On appeal, the defendant argued the state failed to prove he knew he was within 2,000 ft of a school. According to Missouri law, the offender must knowingly commit an offense within 2,000 ft of a school to receive an enhanced penalty. While a GIS map was presented as evidence during trial to prove the distance, the appeals court found it insufficient for proving the defendant knew he was near a school. The GIS map did not indicate topography or visibility around the school. The court reasoned a jury could not reasonably infer whether the school was a large visible complex or a single classroom in the basement of a residential building. Because the map and testimony were insufficient to establish that the defendant knew about the school, the court reversed the ruling against the defendant.

State v. Wright (2000) Conn. App., 752 A.2d 1147, 1156

Wright was convicted of drug offenses. A computer-generated GIS map was used to determine the offense occurred within a school zone. Wright appealed the trial courts admission of the GIS map. The Appeals court determined the map was properly authenticated and admissible since the GIS technician went to the site to verify the maps fairly and accurately represented the correct distance. Furthermore, formulas used to create the map were verified correct by state and private engineering companies.

State v. Perry (2001) Tenn. Crim. App., 2000 WL 1246577

Defendant arrested for possession of cocaine and additionally charged with being within a school zone. GIS was used to create a map with a 1,000 ft buffer zone around a school. The city GIS manager testified about the GIS map and accuracy of the 1,000 ft buffer zones. Defendant was convicted and, on appeal, convictions and sentences were affirmed.

Swaggert v. County of Hubbard (2003) Minn.Tax., File No. C8-02-619

After an increase in real estate property tax resulting from an increased valuation of property, the plaintiff challenged the county's decision. GIS was utilized to determine usable lakefront property which was incorporated into the methodology for determining property value. Although the court did not find fault with the methodology, it did order the value of the property reduced and the recomputation of property taxes.

Microdecisions, Inc. v. Skinner (2004) Fla. App., 889 So. 2d 871

Microdecisions requested a copy of county GIS data, which they sell on their website. Skinner, the county property appraiser, requested Microdecisions enter into a licensing agreement before the data was delivered. The issue before the court was whether the county property appraiser could require prospective commercial users to enter into a licensing agreement for the resale of public records. Basing

their decision on Florida copyright laws, the appeals court decided that Skinner had no authority to assert copyright protection in the GIS maps and could not require a licensing agreement.

Town of Greenwich v. Freedom of Information Commission (2005) 274 Conn. 179, 874 A.2d 785

A citizen requested a copy of all GIS data for the Town of Greenwich. The director denied the request, so the citizen filed a complaint with the commission. The director claimed the data was exempt from disclosure under the Freedom of Information Act. The commission found the data was not exempt. The appellate court agreed with the commission. The Connecticut Supreme Court reviewed the case and affirmed the appellate court decision. The GIS data could have been obtained in separate portions from various town departments. The GIS database was simply a convenient compilation of information already available to the public and therefore not exempt from disclosure. The director further argued the release of the GIS data presented a potential public safety concern. With the director unable to provide any specific statistical data correlating criminal activity or terrorist activity with the disclosure of GIS, the Connecticut Supreme Court determined the director was unable to demonstrate how disclosure of GIS data would compromise security.

Forest Guardians v. United States Federal Emergency Management Agency (2005) U.S. App., 410 F.3d 1214

Forest Guardians (FG) requested GIS data pertaining to the National Flood Insurance Program (NFIP) from the Federal Emergency Management Agency (FEMA) in order to study development and the loss of flood plain areas. FEMA provided printed maps. FG made a second request in which FEMA denied in accordance with Freedom of Information Act exemptions. According to FEMA, the data would compromise the privacy of individuals by revealing specific geographic point locations for NFIP-insured structures. The appeals court agreed with FEMA, noting the nearly nonexistent public interest in the data was negligible since hard-copy maps were provided. The privacy interest of individuals was a concern. The GIS data would reveal names and addresses, ownership, flood risks, and the manner in which property was purchased. Providing such information would constitute an invasion of personal privacy. Furthermore, disclosing the GIS data could subject individuals to unwanted contacts or solicitations by private insurance companies. The appeals court affirmed the judgment of the district court and denied FG request for the GIS data.

Liston v. Town of Pomfret (2006) Conn. Super., CV054001612

The plaintiff learned the adoption of a new electronic GIS map changed zoning codes. The town advertised and conducted public hearings for the purpose of adopting the GIS maps as the official map. The plaintiff alleges the maps were actually a completely new zoning map and not a revised electronic map. The superior court agreed with the plaintiff that the new GIS map effectively changed zoning classifications and was not a revision of the previous zoning maps used by the city.

State v. Lindsey (2006) Tenn. Crim. App., 208 S.W.3d 432

The defendant was convicted of the sale cocaine within 1,000 ft of a school. The city GIS manager presented aerial photographs and testified that the location of the offense was 480 ft from a school.

Dallas v. Texas (2008) Tex. App., No. 05-07-00037-CR

Dallas was convicted of possession with intent to deliver cocaine within 1,000 ft of a school. Dallas argued the evidence was insufficient to prove he was within 1,000 ft of a school. A GIS map with aerial photographs, land surveys conducted by the city surveyor's office, and 1,000 ft buffers around schools was used to provide spatial context to the location of the offense. The location of the Dallas's offense clearly fell within the 1,000 ft buffer zone. The GIS map maker testified the map was accurate to within 3 ft. According to Texas state law, any map produced or reproduced by a municipal or county engineer for the purpose of showing the locations and boundaries of a drug-free zone is admissible into evidence. Upon adoption of a resolution or ordinance approving the map as an official finding and record, the map becomes prima facie evidence. The appeals court concluded a fact-finder could rationally conclude beyond a reasonable doubt that the offense occurred with 1,000 ft of a school and therefore rejected the appeal.

Multi Ag Media v. United States Department of Agriculture (2008) 380 U.S. App. D.C. 1, 515 F.3d 1224

The US Department of Agriculture (USDA) denied a request by the plaintiff to provide the Farm Service Agency's (FSA) GIS database of farm data. The USDA contends the data would compromise the privacy of the family-owned farms by disclosing information that could be used to assess the financial situation of the family farms (e.g., crops and field acreage). The plaintiff argued the GIS database was used to monitor program compliance and such information would allow the public to more easily determine if the USDA was catching cheaters and lawfully administering its program. The appeals court sided with the plaintiff, noting the benefits of providing the data would outweigh personal privacy interests.

Seago and Real Estate Information Service, Inc. v. Horry County (2008) 378 S.C. 414, 663 S.E.2d 38

The plaintiff requested GIS data from the county under the Freedom of Information Act in order to resell the data on the Internet. The county obtained copyrights for the data to protect its investment and the integrity of the data. The county informed the plaintiff the GIS data could be obtained for a fee, but the plaintiff would have to sign a licensing agreement acknowledging the county's copyright. The Supreme Court of South Carolina determined the county could copyright the data; however, the fees violated South Carolina Codes. The issue of fees was remanded back to circuit court for further proceedings.

County of Santa Clara et al. v. Superior Court of Santa Clara County (2009) Cal. App., No. H031658

The county received a request for GIS data under the public records acts. After a court order to provide the GIS files, the county filed this appeal. The county

requested an end-user license agreement and placed a fee of $250,000 on the GIS data request to cover costs. The county also asserted the GIS data was intellectual property and copyrightable. The appeals court affirmed the superior court's judgment and ruled the California Public Records Act (CPRA) did not allow the county to request an end-user license agreement, nor was the data copyrightable as no such provision existed in the CPRA. The county could recover fees associated only with the direct cost of recovery. The appeals court remanded the case back to the superior court for determination of the recovery fees.

Sierra Club v. Superior Court (2011) 195 Cal. App. 4th 1537, 125 Cal. Rptr. 3d 913

Encouraging local governments to develop and maintain computer mapping systems, the California Legislature exempted computer mapping systems from public disclosure. This exemption meant local governments were not required to provide public records when requested for cost of duplication only. The local governments were allowed to recoup costs associated with building and maintaining computer mapping systems and implement a nondisclosure agreement. The Sierra Club was able to receive print out versions of GIS maps as public records subject to duplication costs only. However, the printed versions lacked analytical capabilities sought by the Sierra Club and therefore they petitioned for writ of mandate compelling the county to provide the GIS database for a fee consisting of only the direct costs of duplication. The trial court denied the petition; therefore, the appeals court was asked to decide the matter. At issue was the interpretation of the language used to define "computer mapping systems." Examining the intent of the legislative act (to encourage development), the appeals court affirmed the GIS database was a computer mapping system exempt from public disclosure. The Legislature implemented the act to encourage development because of the costs and time involved in developing and maintain computer mapping systems. Based on the intent of the act, GIS databases were deemed computer mapping systems exempt from public disclosure. The court opined the legislature, not the judiciary, should determine public policy in matters of disclosure and exclusions of databases.

Oregon Natural Desert Ass. v. McDaniel (2012) U.S. Dist., 282 F.R.D. 533

Oregon Natural Desert Association (ONDA) received GIS data from the Bureau of Land Management (BLM). Review of data discrepancies determined the GIS data was "interim" data produced years earlier and therefore inaccurate. BLM confirmed the data was "interim" and offered to provide the final data set for an additional fee. ODNA sought motions to compel the BLM to complete the record and include additional route coverage. The court disagreed with the BLM claim that the GIS data was adequate and approved the motion to compel the BLM to provide the complete record to the ONDA at no cost since the BLM had the data when requested by ONDA. However, the ONDA was not granted the supplemental data they asked for but could propose a more limited modification at a later date after they received and reviewed the complete record from the BLM.

Kane County v. United States (2013) U.S. Dist., Case No. 2:08-cv-00315

Kane County and the State of Utah sought title to highway rights-of-way located on federal land under the Quiet Title Act of 1866. Although the Quiet Title Act was repealed in 1976, valid rights-of-way existing prior to the repeal were grandfathered in and deemed to continue in effect. The United States provided quiet title to some of the 15 roads but denied quiet title to others. Kane County and the State of Utah filed action to obtain the remaining roads. Aerial photographs and USGS topographic maps compiled from aerial photographs prior to 1976 conclusively proved the existence of roads subject to be grandfathered under the Quiet Title Act. Recent GPS measurements of the road centerlines also proved the current roads fall within permissible range of errors that exist in map making. Based on the evidence provided by the aerial photographs, Kane County and the State of Utah were able to gain quiet title from the United States. Despite testimony, additional roads that were not proven through aerial photographs remained under the control of the United States and were not quiet titled to the plaintiffs due to the lack of evidence establishing rights of claim.

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