

Introduction: The Alaska Fire Service (AFS) owns and maintains the Alaska Lightning Detection Network (ALDN). The network is intended to support the day-to-day activities of wildland fire managers and these data may not be suitable for trend analysis. Many transitions have occurred including changes and improvements in sensor technology and processing software and changes in the number and location of sensors within the network. Each transition has improved detection efficiency (more lightning reported), accuracy (strike location) and detection coverage across Alaska (able to detect at further distance).

YEAR	NOTES
1986	ALDN sensors located in Fairbanks, Bettles, Ft. Yukon, Tanacross, Galena, Tanana, Unalakleet, McGrath, and Aniak.
1987	Missing data
1988	Upgrade to Ft. Yukon lightning detection finder
1989	Missing data, Upgrade at all lightning detection finders
1990	
1991	Upgrade to McGrath and Tanana lightning detection finders.
1992	ALDN sensor in Aniak moved to Bethel. Upgrade to Bettles and Galena lightning detection finders.
1993	ALDN consisted of sensors located in Bethel, McGrath, Unalakleet, Galena, Tanana, Bettles, Ft. Yukon, Fairbanks, Tanacross and three sensors in Canada (Dawson, Mayo, and Burwash). Position Analyzer in Fairbanks was upgraded.
1994	
1995	Before the start of the 1995 fire season, data underwent corrections for systematic site errors.
1996	
1997	Position Analyzer in Fairbanks was upgraded and one was added.
1998	
1999	Two sensors in Canada (Dawson and Mayo) dropped from ALDN.
2000	Sensors in Alaska upgraded to Impact ES sensors; sensors in Canada using a mix of Impact ES and LPAT IV sensors.
2001	Upgrade to main position analyzers to increase processing speed.
2002	Renegotiated with Environment Canada and began including sensors in Old Crow, Eagle Plains, Dawson, Faro, Whitehorse, Sandspit, as well as Burwash.
2003	Ft Yukon lightning detection finder was moved into a clearer area away from trees.
2004	
2005	Compensation made for site error correction differences between strong and weak strikes.
2006	Data from three additional sites in Canada included (Dease Lake, Watson Lake, and Terrace).
2007	Sensors installed in Port Alsworth and Cordova. Some connection problems there caused possible data loss through July 10.
2008	
2009	
2010	
2011	

2012	2012 data collected by Impact sensors and TOA sensors (two different networks). Impact sensors report flash with multiplicity (strokes per flash) whereas TOA reports strokes. Furthermore, the TOA system records cloud-to-cloud strokes whereas the Impact systems did not. The AFS comparison studies indicate the new TOA ALDN is reporting 2.25 times the lightning displayed by the older sensors. It is estimated that approximately 60% of that increase can be attributed to the difference in reporting strokes verses flashes. The balance of that increase results from detection efficiency, expanded statewide sensor coverage and longer range detection.
2013	Full transition to TOA system.
2014	
2015	
2016	
2017	
2018	
2019	New attribute (Polarity) added to dataset.