The following libraries reside in: *https://github.com/NCAR/lrose-core/codebase/libs*

Lib Description	Name	SubDir	Directory	Contents
Run-time parameter support TDRP	tdrp	src	include/tdrp	include files
			tdrp	source
Data portability for byte swapping and data sizes	dataport	src	include/dataport	include files
			bigend	big-endian source
			smallend	small-endian source
			swap	byte swapping
ANSI C support General C++ support classes and routines	toolsa	src	include/toolsa	include files
			Log	logging
			URL	LROSE-style URL handling
			compress	data compression
			file_io	low-level file I/O wrappers
			fmq	legacy FMQ interface superceded by libs/Fmq
			http	legacy http support
			ldata	legacy latest_data_info support
			mem	memory handling routines
			misc	semaphore support shared memory support
			pjg	legacy simple projective geometry
			pmu	process mapper registration communication with procmap
			port	legacy ANSI-C portability handling
			reutil	legacy regular expressions
			sockutil	C++ TCP socket classes

			str	string manipulation and handling C and C++
			tty	C++ TCP socket classes
			umisc	legacy miscellaneous routines
			utim	time handling - DateTime class
			xml	lightweight C++ XML support
			templates	testing templates for compiler errors
Physics for meteorology	physics	src	include/physics	include files
			gtg	turbulence
			itfa	turbulence
			physics	physics for meteorology
			vil	vertically-integrated liquid
Euclidean geometry Projection geometry for mapping	euclid	src	include/euclid	include files
			Grid	Gridded data
			Grid2d	2-D grids
			Pjg	Projective geometry
			Point	Points
			Polygon_simplify	Simple polygon support
			Polyline	polyline support
			Projection	deprecated
			SunPosn	Sun position from time Uses NOVA
			WorldPoint	Lat/Lon
			affine	Affine transforms
			boundary	boundaries, graphs etc
			clump	clumping support
			geometry	geometry math
			search	point in polygon etc
General math support	rapmath	src	include/rapmath	include files
			angles	Combine angles

			complex	Complex math
			functions	Fuzzy logic
			lists	Ordered list
			malloc	Deprecated
			misc	Math routines
			round	Deprecated
			stats	Statistics
			tree	BD tree
			trig	Trigonometry
			umath	Curve fitting
Shape file support (GIS)	shapelib	src	include/shapelib	include files
			shapelib	source
Contouring math	contour	src	include/contour	include files
			contour	classes
			contour_alg	algorithms
			contour_smooth	smoothing
Reading GRIB-1 files	grib	src	include/grib	include files
			degrib	reading
			fortran	FORTRAN support
Reading GRIB-2 files	grib2	src	include/grib2	include files
			grib2	source
KD-tree Searching using a decision tree	kd	src	include/kd	include files
			kd	source
Data file support (RAL data infrastructure)	didss	src	include/didss	include files
			DataFileNames	get info from file names (e.g. date/time)
			DsAccess	access control

			DsInputPath	Reading data files from list
			DsMessage	Class for data service messages
			DsURL	URL support for data servers
			LdataInfo	latest_data_info support
			RapDataDir	data directory from environment variables
Data server support (RAL data infrastructure)	dsserver	src	include/dsserver	include files
			DataMapper	Communication with DataMapper
			DestUrlArray	Data distribution control
			DsClient	Client handling for accessing data servers
			DsFileIo	Single-file handling
			DsLdataInfo	latest_data_info support for data servers and clients
			DsLocator	Getting TCP ports for data services
			DsServer	DsServer class
			DsSvrMgrSocket	Communication with server manager
Data services support for classes that are dependent on multiple libraries (RAL data infrastructure)	dsdata	src	include/dsdata	include files
			AcarsDataPoint	ACARS support
			DsTrigger	Triggering support for realtime and archive analysis
			Tstorm	TITAN storm handling
File message queue	Fmq	src	include/Fmq	include files
			DrawQueue	drawing command queue support for displays (e.g. CIDD)
			DsFmq	server support for Fmq
			DsRadarQueue	FMQ support for radar data
			Fmq	Base classes
			GenericQueue	Generic message queue
			NowcastQueue	Queue for nowcasting apps

			RemoteUIQueue	Queue for controlling display apps via remote GUI
Data formats in the RAL data system	rapformats	src	include/rapformats	include files
			DsRadar	Radar data, FMQs
			Edr	Eddy dissipation rate for turbulence
			GenPoly	Generic polygon
			GenPt	Generic point
			Maps	Maps
			MultBuf	Buffers
			Pirep	FAA Pilot Reports
			SigAirMet	FAA Sigmets and Airmets
			Sndg	Soundings
			ThreshMap	Threshold mappings
			Usgs	USGS data
			VerGrid	Verification grid
			Windshear	Wind shear data
			WinsRadar	Taiwan WINS radar
			ac_data	Aircraft data
			ac_posn	Aircraft position
			ac_route	Aircraft route
			acars	FAA ACARS
			ascii_shapeio	Shapes
			bdry	Boundaries
			ccm	CCM files
			cedric	CEDRIC files
			checktimes	WSDDM icing check times
			flt_path	Flight path
			fos	NWS Family of Services
			gint	GINT format
			hist_fore	History / forecast
			iidabin	Icing products
			kavouras	Legacy Kavouras data
			km	Lagacy Kavouras mosaic

			ltg	Lightning
			mcidas	McIdas satellite data
			mdvt	Legacy MDVT data
			metar	FAA METARs
			mitre	MITRE Corporation data
			nids	NWS NEXRAD NIDS products
			nws_wwa	NWS Warnings
			pirep	FAA Pilot reports
			r_data	Deprecated
			radar	Radar formats - deprecated
			sounding	Soundings
			station_data	Surface station data
			swap	Byte swapping
			taf	FAA TAFs
			titan	TITAN storm track data
			trec_gauge	Pseudo snow gauge from TREC
			var_elev	Variable elevation angles in radar vol
			zr	Z-R precip relationships
MDV file support (Meteorological Data Volume) for gridded data	Mdv	src	include/Mdv	include files for C++
			include/Mdv/mdv	include files for C
			ClimoFileFinder	climatology support
			ClimoStatCalc	climatology support
			DsMdvx	server support for Mdvx classes
			Mdvx	C++ classes for file operations
			MdvxChunk	Support for chunks (blobs) in Mdv files
			MdvxContour	Countouring math support
			MdvxField	C++ class for Mdv data field
			MdvxGrid	Grid support
			MdvxProj	Mdv projective geometry
			MdvxRadar	Radar metadata support
			MdvxRemapLut	Lookup table for projection transforms

			MdvxTimeList	Handling time lists for MDV files
			MdvxTimeStamp	Time stamps for MDV files
			MdvxUrlWatcher	Watching for new data
			MdvxVsectLut	Lookup table for vertical sections
			NcfMdv	Conversion to/from NetCDF
			Radx	Conversion to/from Radx
			oldMdv	Legacy code
SPDB support (Symbolic Product Data Base) with time-based keys	Spdb	src	include/Spdb	include files
			DsDpdb	data server support
			DsSymprodServer	base class for symbolic product server for displays
			FltRoute	Flight route support
			Sounding	Sounding data classes support
			StormThresholds	Titan support
			Symprod	Symbolic product server base classes
			WxHazards	Weather hazard support
			ltg	Lightning data support
NASA TRMM Radar Support Lib	trmm_rsl	src	include/trmm_rsl	include files
			rsl	code
Radar Radial Data support	Radx	src	include/Radx	include files
			D3R	CSU D3R format
			Dorade	legacy NCAR DORADE format
			EEC	EEC formats
			ForayNc	Legacy NCAR FORAY NetCDF
			Gamic	Gamic formats
			Gematronik	Gematronik formats
			Hrd	Hurricane Research Division formats
			Leosphere	Leosphere lidar formats
			Ncf	CfRadial formats
			Nexrad	Nexrad formats

			Noxp	OU NOXP radar formats
			Radx	Base classes
			Rapic	Australian BOM RAPIC format
			Sigmet	Vaisala/SIGMET formats
			Tdwr	TDWR format
			Twolf	OU TWOLF lidar format
			UF	Legay NCAR Universal Format
			hdf5	HDF5 low-level support
			netcdf	NetCDF low-level support
NetCDF support	NcxxUtils	src	include/NcxxUtils	include files
			DataPort	data portability
			Hdf5	HDF5 support
			Nc3	NetCDF 3 support
			Ncxx	NetCDF 4 support
			Udunits	Udunits support
RADAR data and algorithms	radar	src	include/radar	include files
			complex	complex math
			convstrat	convective stratiform partitioning
			dorade	DORADE file handling
			filter	filtering algorithms
			geom	range geometry
			iwrf	time series data support (Integrated Weather Radar Format)
			kdp	Computing KDP
			moments	Computing moments
			pid	Computing particle ID, hydrometeor classification
			precip	Computing precip rate
			qc	Data quality
			radx	Radx moments support
			spol	NCAR S-Pol support
			ts	Time series support

RADAR data filtering algorithms	FiltAlg	src	include/FiltAlg	include files
			FiltAlg	source
RADAR Refractivity support	Refract	src	include/Refract	include files
			refract	clutter targets
			RefFile	file handling
Advection for nowcasting	advect	src	include/advect	include files
			GridAdvect	advect gridded data
Hydrology support	hydro	src	include/hydro	include files
			AlterMeta	Alert system support
			Basin	Drainage basin computations
			RainGauge	Rain gauge support
			Stream	Stream representation for watershed
Display support for Titan displays and CIDD	rapplot	src	include/rapplot	include files
			FirLoc	Location of Flight Information Region
			StationLoc	Location of surface stations
			gplot	Plotting in world coordinates
			xutil	X utilities
Display support for CIDD	cidd	src	include/cidd	include files
			cdata_util	CIDD data handling
			images	Image creation
Xview support for CIDD This is a legacy library from SUN microsystems, that only compiles in 32-bit mode.	xview	src	include/xview	public include files
			include/xview_private	private include files
			include/bitmap	bit maps
			include/images	images

			include/pixrect	images
			attr	code
			etc. etc.	code
Xview support for CIDD Devguide was the GUI builder for xview	devguide	src	include/devguide	include files
			guidexv	code
Xview suppor for CIDD	olgx	src	include/olgx	include files
			olgx	code
Perl support	perl5	src	Perl modules	
Python support	python	src	Python scripts	