SNO Dataset Creation Software Design

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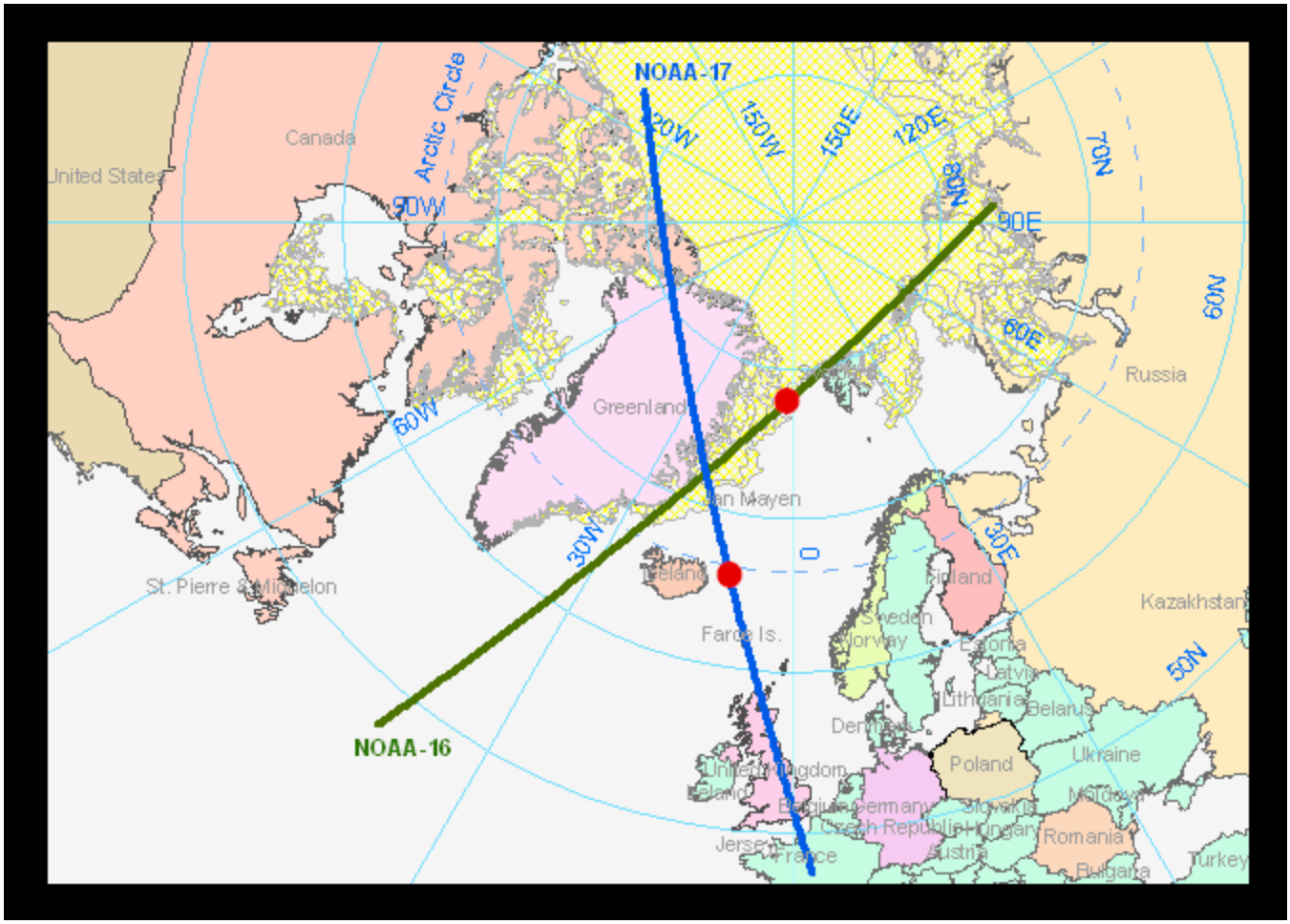
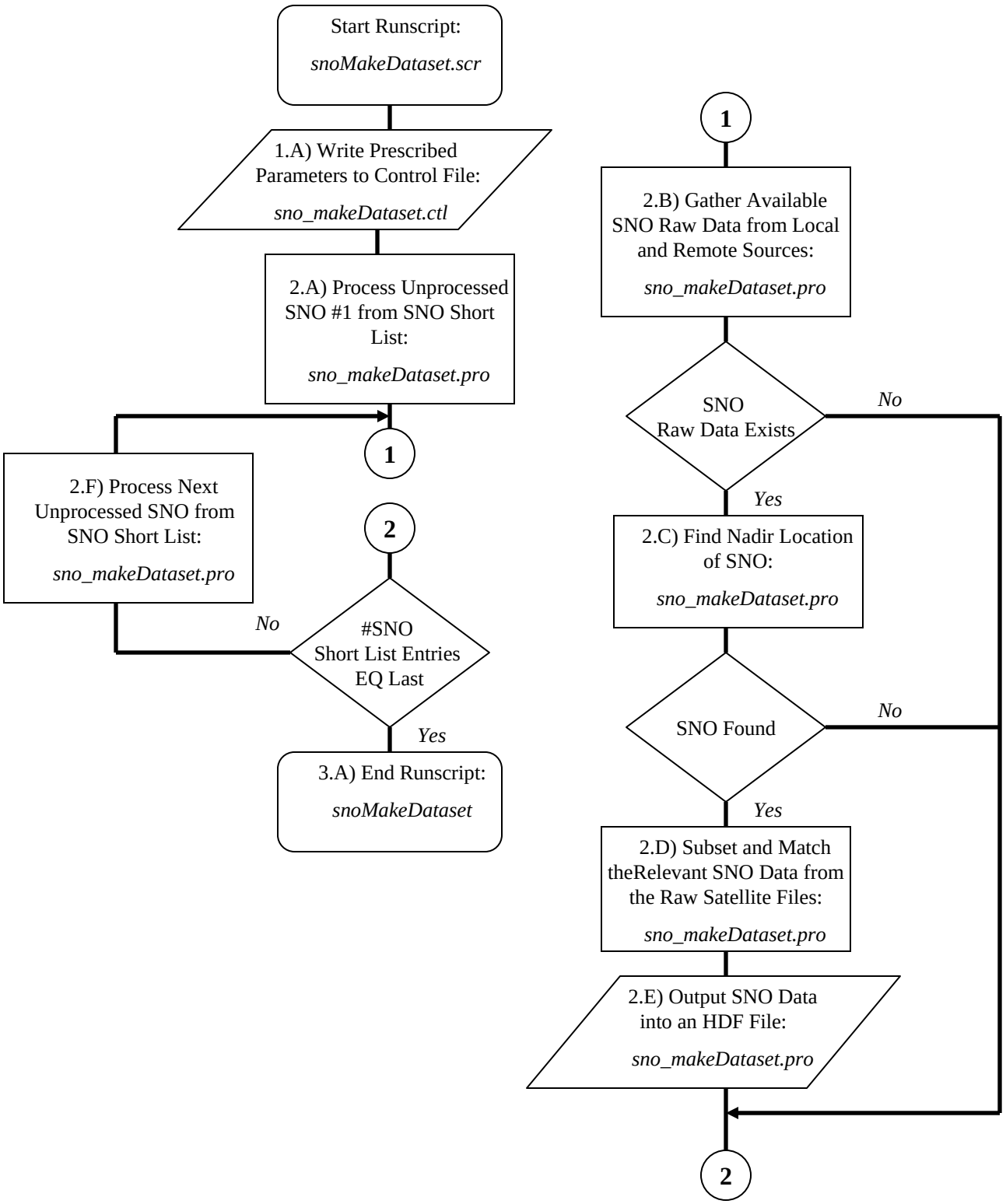
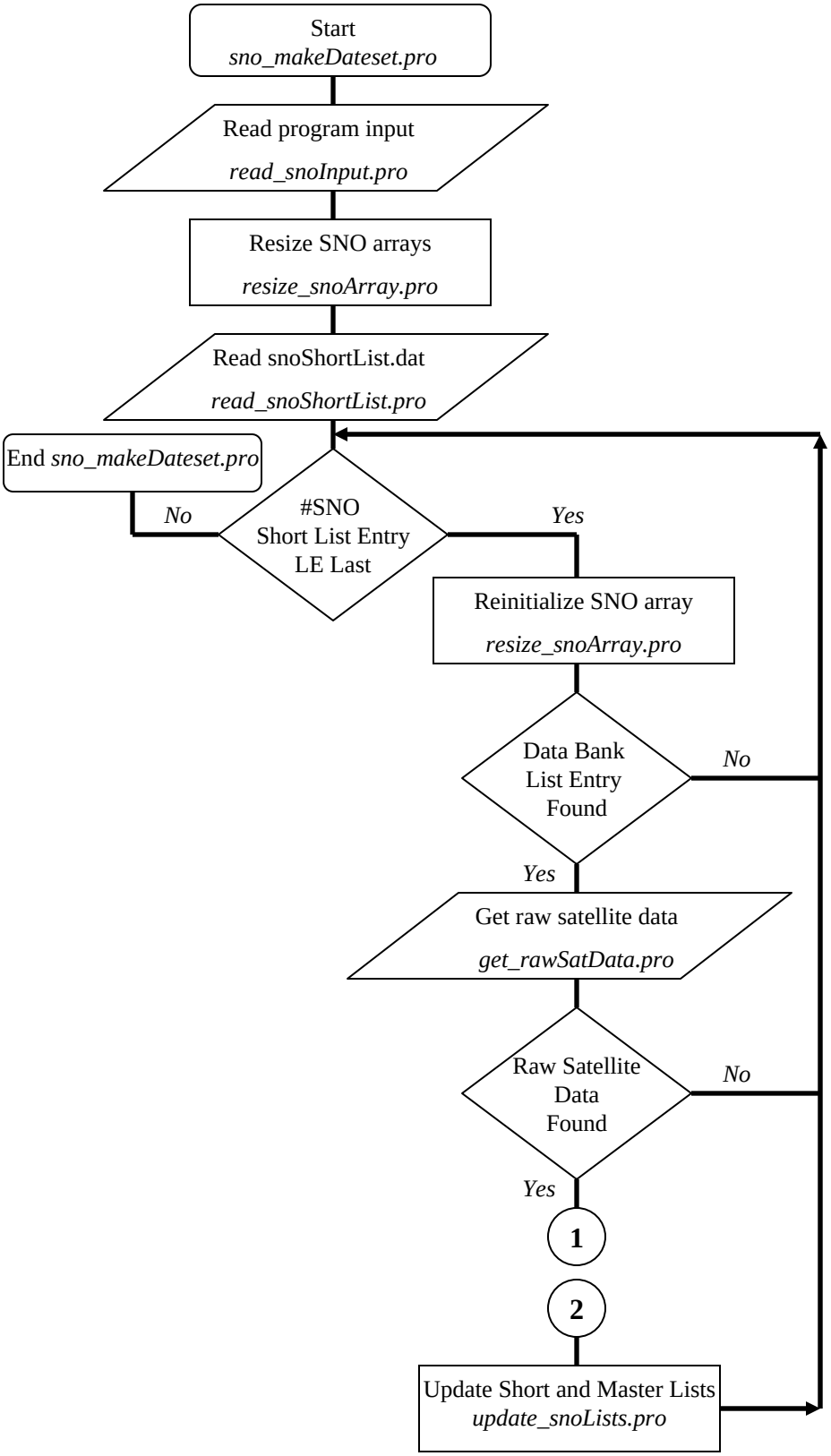


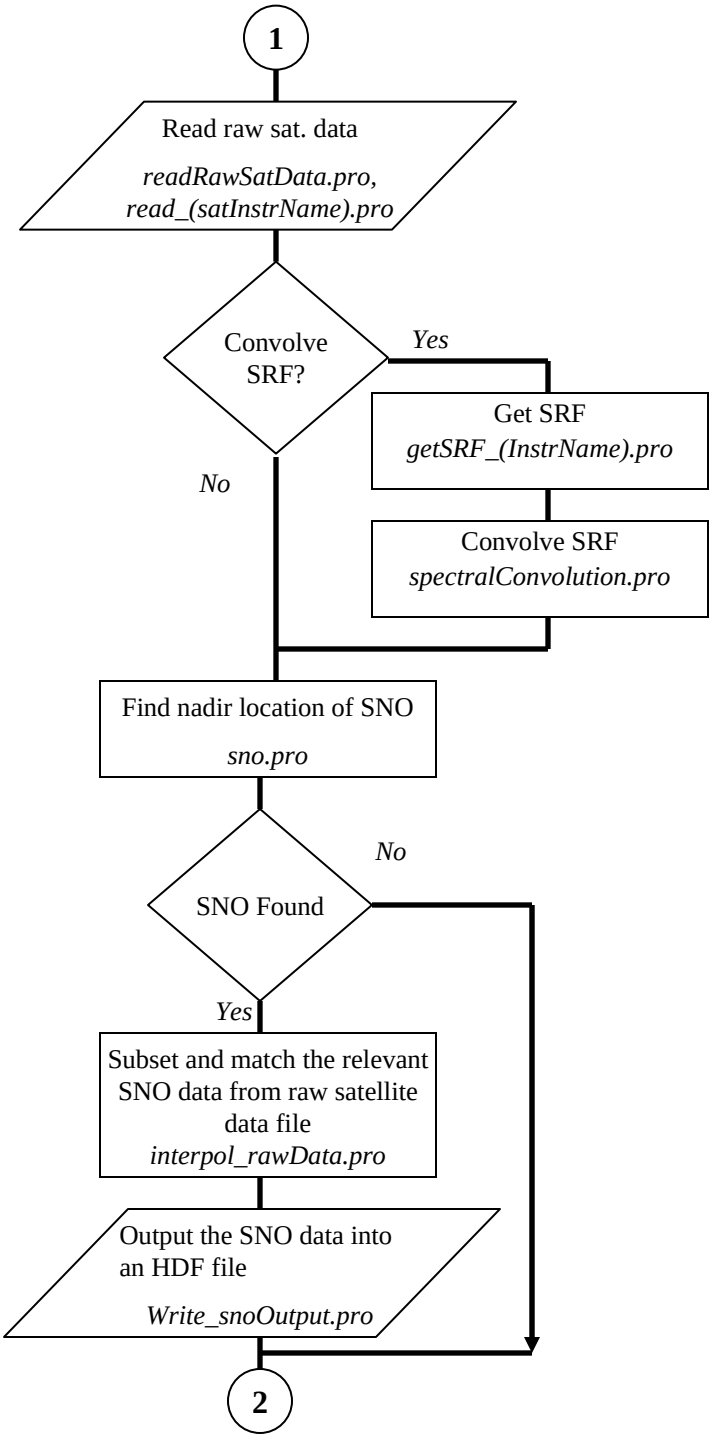
SNO Dataset Creation Software: General Architecture



SNO Dataset Creation Flowchart: sno_makeDataset.pro



SNO Dataset Creation Flowchart: sno_makeDataset.pro (cont.)



SNO Dataset Creation Software: sno_makeDataset.pro

1st Call Seq.	1	2	3
Main Prgm: L1 Subprgm	**sno_makeDataset**	sno_makeDataset: **read_snoInput**	sno_makeDataset: **resize_snoArray**
Date	07/12/2005	07/12/2005	07/13/2005
Input Files		sno_makeDataset.ctl SNO_InstrSpecs/(instr Name).ctl	
Function	Data Processing Driver	Data Input	Data Processing
Description	Creates subsets of, and performs analyses on, data from Simultaneous Nadir Overpasses (SNO) of two satellite instruments. The code for procedures read_modis, read_avhrr_gac, sno, and sno_pixMatch has been edited from procedures written by Pubu Ciren and Changyong Cao of NOAA/NESDIS/ORA.	Reads in input from control files that contains information regarding satellites that are undergoing a simultaneous nadir overpass.	Resizes arrays of raw satellite data based on parameter structure values that were assigned in the procedure read_sno_input

1st Call Seq.	4	5	6
Main Prgm: L1 Subprgm	sno_makeDataset: **read_snoShortList**	sno_makeDataset: **reinit_snoArray**	sno_makeDataset: **get_rawSatData**
Date	08/18/2005	08/19/2005	08/22/2005
Input Files	snoShortList.dat		
Function	Data Input	Data Processing	Data Handling
Description	Reads in input from the simultaneous nadir overpass short list.	Re-initializes arrays of raw satellite data based on parameter structure values that were assigned in the procedure read_snoInput	Accesses the satellite data bank and tests the data bank for necessary data. If the data is there, put it in local directories. If it is not, then send back a flag that will allow the main program to go to the next SNO entry from the SNO Short List.

SNO Dataset Creation Software: sno_makeDataset.pro (cont: 1)

1st Call Seq.	7	8	9
Main Prgm: **L1 Subprgm:** **L2 Subprgm**	sno_makeDataset: **get_(satInstrName)**	sno_makeDataset: **read_rawSatData**	sno_makeDataset: read_rawSatData: **read_(satInstrName)**
Date	08/22/2005	07/13/2005	07/15/2005
Input Files			SNO_rawInput/ (Raw Sat. Data Filename)
Function	Data Handling	Data Processing	Data Input
Description	Gets the (SATELLITE INSTRUMENT NAME) data from the data bank prescribed in structure dataBankInfoStruct.	Populates the raw satellite data arrays	Reads the raw (SATELLITE INSTRUMENT NAME) data and assigns to the appropriate data arrays. This code has been edited from programs written by Pubu Ciren and Changyong Cao of NOAA/NESDIS/ORA.

1st Call Seq.	10	11	12
Main Prgm: **L1 Subprgm:** **L2 Subprgm**	sno_makeDataset: read_rawSatData: **getSRF_(instrName).pro**	sno_makeDataset: read_rawSatData: **spectralConvolution.pro**	sno_makeDataset: **sno**
Date	12/23/2005	12/21/2005	07/15/2005
Input Files	SRF Data	SRF Data	
Output Files			
Function	Data Analysis	Data Analysis	Data Analysis
Description	Obtains the spectral response functions (SRFs) from satellite instruments. The SRF's are utilized for the purpose of spectral convolution of the data. This code has been edited from a program written by Likun Wang and Changyong Cao of NOAA/NESDIS/ORA.	Spectrally convolves the radiance data from one satellite instrument to another, using the SRF of the other instrument. This code was developed from a program written by Likun Wang and Changyong Cao.	Identifies and isolates all pixels associated with Simultaneous Nadir Overpasses (SNO) of two satellite instruments. This code has been edited from programs written by Pubu Ciren and Changyong Cao of NOAA/NESDIS/ORA.

SNO Dataset Creation Software: sno_makeDataset.pro (cont: 2)

1st Call Seq.	13	14	15
Main Prgm: L1 Subprgm	sno_makeDataset: **interpol_snoRawData**	sno_makeDataset: **write_snoOutput**	sno_makeDataset: **update_snoLists**
Date	07/28/2005	07/18/2005	08/23/2005
Input Files			snoShortList.dat snoMasterList.dat
Output Files		SNO_rawOutput/ (SNO_identifier).hdf	snoShortList.dat snoMasterList.dat
Function	Data Analysis	Data Output	Data Queue Update
Description	Interpolates SNO satellite data set 2 to the pixel geolocations of SNO satellite data set 1. This code was developed from program modis2gac.pro, which was written by Changyong Cao on May 27, 2005. The method to find the correct data set 2 subregion for collocation is called Neighborhood Transverse Search (NTS).	Outputs raw data from two satellite instruments near their Simultaneous Nadir Overpass location. The format of the data output is Hierarchal Data Format, or HDF.	Adds a new SNO to the SNO Master List and removes it from the SNO Short List