

ENVISAT MISSION CFI SOFTWARE

Release Notes - Version 5.9

1 INTRODUCTION

This document provides a description of the new functionalities and improvements introduced in the version 5.9 of the Envisat CFI software libraries.

The Envisat CFI Software Release Note consists of the following sections:

- An introduction explaining how to use this document (Section 1).
- A list of the items provided in this CFI software delivery (Section 2.1), indicating the version number of each one of the libraries.
- An installation guide (Section 2.2), explaining how to install and validate any of the CFI software libraries.
- A list of Anomalies closed with this release (solved Software Problems and New Features).

2 NEW RELEASE DESCRIPTION

2.1 CFI Software and Documentation Delivery

The new delivery comprises all the Envisat CFI libraries. The associated Software User Manuals are also included in this release.

The new versions of the CFI software libraries are the following:

CFI Library	SW Package	Supported Platforms	Version Number	Date
ppf_lib	Envisat CFI	SOLARIS/AIX/WINDOWS/LINUX/ MAC OS/MAC on Intel	5.9	30/05/11
ppf_orbit	Envisat CFI	SOLARIS/AIX/WINDOWS/LINUX/ MAC OS/MAC on Intel	5.9	30/05/11
ppf_pointing	Envisat CFI	SOLARIS/AIX/WINDOWS/LINUX/ MAC OS/MAC on Intel	5.9	30/05/11
ppf_genref	Envisat CFI	SOLARIS/AIX/WINDOWS/LINUX/ MAC OS/MAC on Intel	3.9	30/05/11
ppf_visibility	Envisat CFI	SOLARIS/AIX/WINDOWS/LINUX/ MAC OS/MAC on Intel	3.9	30/05/11

The supported computer systems for this release are:

- Sun under Solaris (The source code has been compiled under Solaris 5.7, using the C Sun compiler cc V4.2)

- Sun 64 bits under Solaris (The source code has been compiled under Solaris 5.9, using the C SunStudio9 compiler cc V5.6)
- IBM under AIX. (The source code has been compiled under AIX 4.3, using the C compiler xlc V3.1.4)
- PC under Windows. (The source code has been compiled under Windows 2000 using the Microsoft Visual C++ Compiler)
- PC under Linux. (The source code has been compiled under Suse Linux 9.2, using the C compiler gcc 3.3.4 and glibc 2.3.3)
- Macintosh under Mac OS X. (The source code has been compiled under Mac OS X 10.3.8, using the C compiler gcc 3.3)
- Macintosh 32 and 64 bits on an Intel platform under Mac OS X. (The source code has been compiled under Mac OS X 10.4.9, using the C compiler gcc 4.0.1)
- Note that the distributed binaries have been generated with optimization no debug flags.

The references for the new Software User Manuals are listed below:

Title	Reference	Issue	Date
PPF_LIB Software User Manual	PO-IS-DMS-GS-0557	5.9	30/05/11
PPF_ORBIT Software User manual	PO-IS-DMS-GS-0558	5.9	30/05/11
PPF_POINTING Software User Manual	PO-IS-DMS-GS-0559	5.9	30/05/11
PPF_GENREF Software User Manual	PO-IS-DMS-GS-0609	3.9	30/05/11
PPF_VISIBILITY Software User Manual	PO-IS-DMS-GS-0560	3.9	30/05/11
GENERAL Software User Manual	PO-IS-DMS-GS-0556	5.9	30/05/11

2.2 Distribution packages and installation

The CFI libraries are provided in different formats depending on the platform:

1. For WINDOWS and MACOS, installation programs are available:
 - ENVISATCFI_5_9_WINDOWS.exe
 - ENVISATCFI_5_9_MACIN64.dmg
 - ENVISATCFI_5_9_MACIN.dmg
 - ENVISATCFI_5_9_MACOS.dmg
2. For the other platforms, compressed (gzip) files are provided:
 - ENVISATCFI_5_9_SOLARIS.tar.gz
 - ENVISATCFI_5_9_SOLARIS64.tar.gz
 - ENVISATCFI_5_9_AIX.tar.gz
 - ENVISATCFI_5_9_LINUX.tar.gz
 - ENVISATCFI_5_9_LINUX64.tar.gz

In order to install the libraries it is necessary to follow these steps:

1. Copy the required files (from the zipped files listed above) in the directory where the user wants to install them, say (CFI_INSTALL). In order to determine which libraries it is necessary to install, please check the software dependencies between the CFI software libraries, described in the GENERAL Software User Manual, Section 5.
2. Uncompress (gunzip) and untar (tar xvf) the files.
3. Create the directories "include" and "lib/SOLARIS" in (CFI_INSTALL), for instance, if the user is installing the SOLARIS libraries. (The folder name must be lib/SOLARIS, lib/SOLARIS64).
4. Create all the necessary symbolic links in "(CFI_INSTALL)/include" (or copy there the corresponding files). For example, in case the user is installing all the SOLARIS libraries, the symbolic links will be the following:

```
ln -s ../ppf_lib/include/ppf_lib.h
ln -s ../ppf_lib/include/ppf_lib.inc
ln -s ../ppf_orbit/include/ppf_orbit.h
ln -s ../ppf_orbit/include/ppf_orbit.inc
ln -s ../ppf_pointing/include/ppf_pointing.h
ln -s ../ppf_pointing/include/ppf_pointing.inc
ln -s ../ppf_visibility/include/ppf_visibility.h
ln -s ../ppf_visibility/include/ppf_visibility.inc
ln -s ../ppf_genref/include/ppf_genref.h
ln -s ../ppf_genref/include/ppf_genref.inc
```

5. Create symbolic links in "(CFI_INSTALL)/lib/SOLARIS" (or copy there the corresponding files). For example, if the user is installing all the static SOLARIS libraries, the symbolic links will be the following:

```
ln -s ../../ppf_lib/lib/SOLARIS/libppf_lib.a
ln -s ../../ppf_orbit/lib/SOLARIS/libppf_orbit.a
ln -s ../../ppf_pointing/lib/SOLARIS/libppf_pointing.a
ln -s ../../ppf_pointing/lib/SOLARIS/pp_converter
ln -s ../../ppf_visibility/lib/SOLARIS/libppf_visibility.a
ln -s ../../ppf_genref/lib/SOLARIS/libppf_genref.a
ln -s ../../ppf_genref/lib/SOLARIS/genoef
ln -s ../../ppf_genref/lib/SOLARIS/genswath
```

6. Run the corresponding "validation" programs (for each of the libraries):

```
make -f Makefile.SOLARIS
```

(use the makefile corresponding to the platform)

3 CLOSED ANOMALIES

3.1 Software Problems

The following Software Problems have been fixed:

- ANR-118: combination of Rep cycle and cycle length having a common divisor shall not be allowed
- ANR-133: pg_genoeff: OEF generation fails
- ANR-135: pv_utcanx: long execution time
- ANR-136: pg_genswath_ext_cycle: Range Rate computation in ASAR algorithm fails

3.2 New Features

The following new features have been implemented:

- ANR-126: pp_target (sun related calculations): additional set of extended results to consider UTC-TDB difference and sunlight traveltime.
- ANR-134: pv_drsvistime: Reference orbit in which there is no DRS visibility updated according to mission extension orbit geometry

4 KNOWN PROBLEMS

See section “Known Problems” at the end of each of the SUMs to check limitations of the current release.