

# SPENVIS 1/5

<http://www.spennis.oma.be/intro.php>



**SPENVIS**

**NAVIGATION**

- Home
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- Credits
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- Forums
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The Space Environment Information System

Welcome to [ESA's](#) Space Environment Information System, a WWW interface to models of the space environment and its effects, including the cosmic rays, natural radiation belts, solar energetic particles, plasmas, gases, and "micro-particles".

**Registration**  
Use of SPENVIS on this site is **free of charge**, but a user registration is required. Please read the [terms & conditions](#) before registering.

If you are student or teacher, please read [this](#) first.

[Register now](#)

**Space Situational Awareness**  
In the framework of ESA's Space Situational Awareness Programme, the version 4.6.4 of SPENVIS has been re-deployed in Redu Data Centre.

**Need help?**  
Beside a large set of contextual help pages, the SPENVIS system includes a forum (🗨️) where users can exchange their experiences and tips. In case of problems, please consult our bug tracker system (🐛) and feel free to post any bugs.

If you have forgotten your password, you can reset it [here](#). If you want to change your password, you can do it [here](#).

**System requirements**  
SPENVIS requires a browser with JavaScript support (tested with Firefox 23 and MS-IE 9). Some outputs require a [VRML/X3D plugin](#) (tested with Octaga Player 2.3.0.3).

**Current version**  
The current version of SPENVIS (**4.6.7**) was [released](#) on October 4, 2013.

Project Manager: Michel Kruglanski  
Application Engineers: Erwin De Donder & Neophytos Messios  
IT development: Emmanuel Gamby, Laszlo Hetey & Stijn Calders  
Contact: [spennis\\_team@aeronomie.be](mailto:spennis_team@aeronomie.be)

ESA Technical Officer: H. Evans


Sponsors:  
 Belgian Federal Science Policy

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
# SPENVIS 2/5

Username: carso\_stud 1-13

Password: spacenv



**SPENVIS Project: PIPPO**  
Model packages  
Planet: Earth



<b>Coordinate generators</b>
<u>Spacecraft trajectories</u>
or
<u>Geographical coordinate grids</u>
<b><u>Radiation sources and effects</u></b>
<b><u>Spacecraft charging</u></b>
<b><u>Atmosphere and Ionosphere</u></b>
<b><u>Magnetic field</u></b>
<b><u>Meteoroids and debris</u></b>
<b><u>Miscellaneous</u></b>
<b><u>Geant4 Tools</u></b>
<b><u>ECSS Space Environment Standard</u></b>

The models implemented in SPENVIS are combined in the packages listed above. Clicking on a package name will expand the table with a list of models. Some model suites have to be executed in a prescribed order. Model links will not be available when pre-required runs have not been executed yet. Most models run on both a spacecraft trajectory and a geographical coordinate grid. Clicking on the coordinate generator links and returning to this page toggles between the two sets of coordinates. The model links will adapt to the choice of coordinates.

The model pages have deliberately been kept as concise as possible. A navigation bar is figured at the top of each SPENVIS page. The [Help](#) link in the bottom right hand corner of this bar points to context sensitive help pages, which in turn contain their own navigation system, including access to guidelines on model usage and background information on the space environment.

Please do not use your browser's **Back** or **Forward** buttons (except for navigating in the help pages), as these actions do not save input parameters. Full navigation between model pages is available through the menu bar at the top of each page and the action buttons featured on each page.

For additional assistance (after consulting the help pages) and feedback, please contact the [SPENVIS team](#).

# SPENVIS 3/5

▲ UP **SPENVIS Project: PIPPO** Project management Output Help

Please define a project. It will be used to gather both input and output of all the models you will use. You could define more than one project.

Action: Create a new project

**Project settings**

<b>Name</b>	<input type="text"/>
<b>Title</b>	<input type="text"/>
<b>Abstract</b>	<p>No abstract.</p>
<b>Import from</b>	<span>no import</span>

Execute

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# SPENVIS 4/5

SPENVIS Project: XXX  
Model packages  
Planet: Earth

UP

Output  
Help

<b>Coordinate generators</b>
<b>Radiation sources and effects</b>
<b>Spacecraft charging</b>
<b>Atmosphere and ionosphere</b>
<b>Magnetic field</b>
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# SPENVIS 5/5

**SPENVIS Project: XXX**  
Model packages  
Planet: Earth

UP

Output

Help

<b>Coordinate generators</b>
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## SPENVIS Project: XXX Data base interface Access

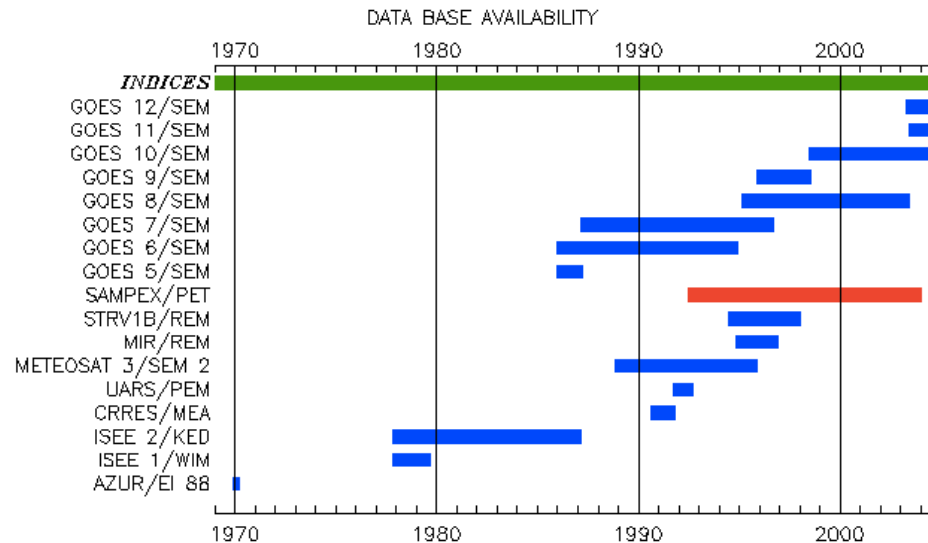
Output

Help

### Data bases of in-flight data on the space environment

#### Time series data:

Missions indicated with a green or blue time bar are accessible on line. Those with a red time bar will be added in the future.



To start a query, click on the green time bar for geomagnetic indices/Solar wind data or the blue time bar for a selected mission.

Tool developed by



Belgian Institute for Space Aeronomy

# GOES 1/3

## Geostationary Operational Environmental Satellite

<http://goes.gsfc.nasa.gov/>



### GOES N Satellite

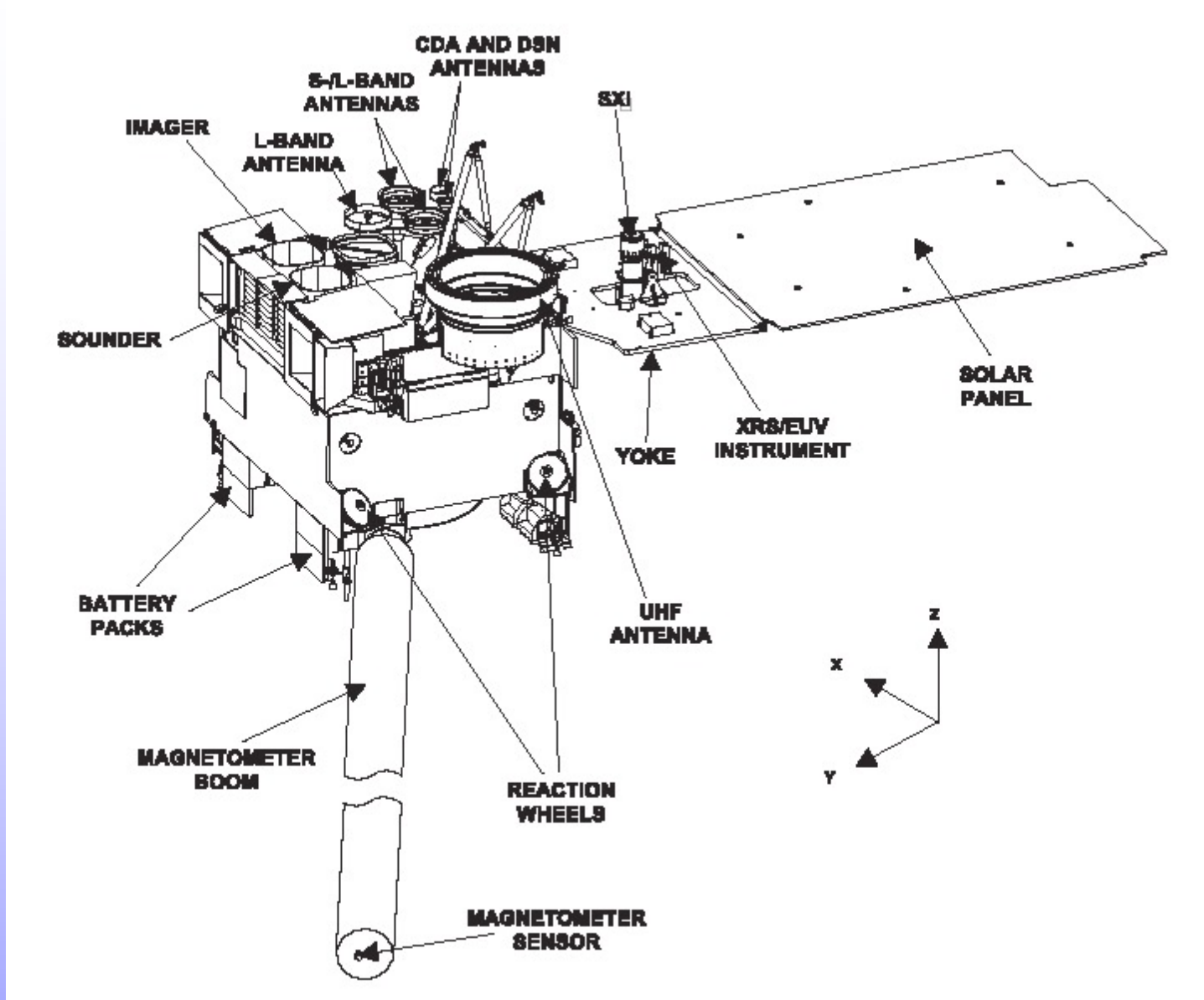
### GOES N Satellite

*Continued*

Payload		Power	
S-Band	1 downlink 5 uplinks	Solar Beginning of life	2.3 kW
L-Band	7 downlinks	End of life	2 kW
UHF	1 downlink 2 uplinks	Panels	1 wing, w/1 panel of dual-junction, gallium arsenide solar cells
		Batteries	24-cell NiH <sub>2</sub> , 123 Ah
Propulsion		Dimensions	
Liquid apogee motor	110 lbf (490 N)	In Orbit	L, solar array: 26 ft 9 in (8.2 m) W, antenna: 7 ft 4 in x 11 ft (2.25 m x 3.37 m)
Stationkeeping thruster (bipropellant)	12 x 2 lbf (9 N)	Stowed	H: 12 ft (3.63 m) W: 7 ft 4 in x 11 ft (2.25 m x 3.37 m)
Antennas		Weights	
2 S-band, cup-shaped with dipole		Launch	7,088 lb (3,215 kg)
1 Omni antenna (aft)		In orbit (beginning of life)	3,999 lb (1,800 kg)
1 UHF, cup-shaped with dipole			
2 L-band cup-shaped with dipole			
1 S-band horn			

Health and development.

# GOES 2/3





# GOES 3/3

## GOES N Mission Description

- Launch date May 2006
- GOES N final orbit target
  - Orbit apogee altitude 18,994 nm
  - Orbit perigee altitude 3,576 nm
  - Inclination 12.0 deg
- Launch window

Date	Open	Close	Duration	Date	Open	Close	Duration
5/18/2006	22:14:00	23:14:00	60	5/30/2006	22:11:00	23:11:00	60
5/19/2006	22:14:00	23:14:00	60	5/31/2006	22:11:00	23:11:00	60
5/20/2006	22:14:00	23:14:00	60	6/1/2006	22:11:00	23:11:00	60
5/21/2006	22:13:00	23:13:00	60	6/2/2006	22:11:00	23:11:00	60
5/22/2006	22:12:00	23:12:00	60	6/3/2006	22:11:00	23:11:00	60
5/23/2006	22:11:00	23:11:00	60	6/4/2006	22:11:00	23:11:00	60
5/24/2006	22:11:00	23:11:00	60	6/5/2006	22:11:00	23:11:00	60
5/25/2006	22:11:00	23:11:00	60	6/6/2006	22:11:00	23:11:00	60
5/26/2006	22:11:00	23:11:00	60	6/7/2006	22:11:00	23:11:00	60
5/27/2006	22:11:00	23:11:00	60	6/8/2006	22:11:00	23:11:00	60
5/28/2006	22:11:00	23:11:00	60	6/9/2006	22:10:00	23:10:00	60
5/29/2006	22:11:00	23:11:00	60	6/10/2006	22:10:00	23:10:00	60