



Weather Sources

Avalon Offshore pour iOS
Avalon Offshore pour Android

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A. Introduction	3
B. Selected appropriate weather sources	3
C. Available weather sources	4
1. Wind (established wind and gust)	4
Global Models	4
Regional models	5
Country Models	6
2. Currents	7
3. Waves (swell and wind)	8
4. Other Weather data	8

A. Introduction

Purpose of this document is to describe the multiple weather sources that are included in our Premium Option (1 year subscription).

Avalon been compatible with grib1 and grib2 files, it is of course possible to load into Avalon various grib files that are available on the Internet, without any subscription to our Premium option.

However weather data provided automatically thru our Premium option have a much better compression rate than standard grib files. (refer to the Users guide)

Notice:

- Weather sources availability hours are indicative. In some cases, there may be production problems at our weather data providers that may delay the availability of the latest wind and other weather forecasts in Avalon.

B. Selected appropriate weather sources

Some users may face difficulties when using Avalon Offshore. We have noticed that most of those difficulties are coming from a wrong selection of weather sources.

With Avalon Offshore, there is no more need to manipulate old fashioned grib files. Weather data mandatory to the calculation of the passage are automatically downloaded in relation with:

- Weather sources selected in the « Sources Setup » menu.
- Navigation zone defined by the starting point, ending point and optional waypoints. The rectangle displayed on the map defines the minimum wind area to be downloaded. Generally, downloaded weather are will be larger. This navigation area can be widened/shortened by moving the 2 points defining the rectangle.
- Planned cruise duration as defined in the compute route settings, just before launching the calculation of the route itself. If you define an approximative cruise duration of 72 hours, Avalon will download 72 hours of forecasts for the defined navigation area. If you define a cruise duration greater than the available forecast horizon provided by the selected wind source, Avalon will warn you but will calculate a partial route with the available winds.

Selected wind source should therefore:

- Be large enough to include the navigation area.
- Have a forecast horizon long enough to cover your cruise duration, as well as the time between route calculation and the planned start date. For example, if you plan a passage between Cannes (France) and Corsica (France), you can start planning the cruise with NOAA GFS 0.25 degrees 2 weeks before departure, then Arome or Arpege 2 to 3 days before start and calculating your final route with Arome a couple of hours before leaving the harbor.
- Take into consideration the navigation area. For coastal cruising, you should choose a high granularity source such as Arome, Arpege, Icon or Skiron in Europe or the NAM in North America. When offshore sailing, coastal wind effects do not impact the cruise anymore and you could select lower granularity sources such as NOAA GFS.

C. Available weather sources

1. Wind (established wind and gust)

Global Models

Tableau 1

	Coverage	Forecast horizon	Granularity Degree	Granularity Hours	Freq. Prod.	Avail. Hour (UTC time)	Latitude	Longitude	Iridium Version
NOAA									
GFS 1 Deg	Worldwide	400 h	1	3h	4 / day	03h 45 - 72h 05h 05 - 400h 09h 45 - 72h 11h 05 - 400h 15h 45 - 72h 17h 05 - 400h 21h 45 - 72h 23h 05 - 400h	All	All	Yes
GFS 0.25 Deg	Worldwide	400 h	1	3h	4 / day	03h 45 - 72h 05h 05 - 400h 09h 45 - 72h 11h 05 - 400h 15h 45 - 72h 17h 05 - 400h 21h 45 - 72h 23h 05 - 400h	All	All	
GFS 1 Deg Ensemble (21 models)	Worldwide	400 h	1	6h	daily		All	All	

 = Source under development

Regional models

Tableau 1-1

	Coverage	Forecast horizon	Granularity Degree	Granularity Hours	Freq. Prod.	Avail. Hour (UTC time)	Latitude	Longitude	Iridium Version
Meteo France									
Arpege	Europe	114 h	0.10	1h	4 / day	04h 30 11h 25 17h 15 23h 20	20N - 72N	32W - 42E	Yes
CEP									
Hirlam	Europe	48 h	0.10	1h	4 / day	03h 20 09h 20 15h 20 21h 20	35N - 70N	12W - 30E	
DWD									
Icon	Europe	120 h	0.0625	1h	4 / day	04h 10 10h 10 16h 10 22h 10	29.5N - 70.5N	23.5W - 43E	Yes
Icon 30h	Europe	30 h	0.0625	1h	8 / day	00h 10 03h 10 06h 10 09h 10 12h 10 15h 10 18h 10 21h 10	29.5N - 70.5N	23.5W - 43E	Yes
NAM									
Connected USA (excl Alaska)	USA	84 h	0.15	1h	4 / day	05h 35 10h 35 17h 35 22h 05	12N - 61.2N	153W - 49.6W	Yes
Carribbean Central America	Carribbean	84 h	0.10	3h	4 / day	05h 35 10h 35 17h 35 22h 05	0N - 30N	100W - 60.2W	Yes

Country Models

Tableau 1-1-1

	Coverage	Forecast horizon	Granularity Degree	Granularity Hours	Freq. Prod.	Avail. Hour (UTC time)	Latitude	Longitude	Iridium Version
Meteo France									
Arome	France	48 h	0.025	1h	5 / day	03h 00 05h 45 11h 50 16h 35 23h 30	38N - 53N	8E - 12W	
Arome HD	France	48 h	0.010	1h	5 / day	03h 05 05h 55 12h 05 17h 25 23h 50	38N - 53N	8E - 12W	
NAM									
Puerto Rico	Porto Rico	48 h	0.05	1h	2 / day	06h 35	13.5N - 29.8N	76.6W - 61.3W	
Guam	Guam	48 h	0.05	1h	2 / day	12h 35	11.7N - 19.3N	141W - 151W	
Hawaii	Hawaii	48 h	0.05	1h	2 / day	12h 35	16.4N - 24N	162.3W - 152.4W	
OpenWRF Skiron									
Spain	Spain	120h	0.10	3h	1 / day	11h 45	34N - 42.9N	11.2W - 5E	
France	France	120h	0.10	3h	1 / day	06h 45	36.1N - 44.7N	0.1E - 10E	
Italy	Italy	120h	0.10	3h	1 / day	06h 35	34.7N - 45.9N	7.3E - 19.8E	
Tyrrhenian 4km	Italy	48	0.035	1h	1 / day	06h 45	34.1N - 38.4N	25.1E - 35.9E	
Sicily 4km	Italy	48	0.035	1h	1 / day	06h 45	35.7N - 38.7N	12E - 16.3E	
Ionian 12km	Greece	120h	0.10	3h	1 / day	06h 15	38N - 41.3N	13E - 16.2E	
Aegean 12km	Greece	120h	0.10	3h	1 / day	05h 45	34.5N - 41.1N	22.1E - 29.9E	
Ionian 4km	Greece	48	0.035	1h	1 / day	06h 45	36.3N - 39.9N	19.3E - 22.6E	
Aegean NW 4km	Greece	48	0.035	1h	1 / day	06h 45	38N - 41.5N	22E - 25E	
Aegean NE 4km	Greece	48	0.035	1h	1 / day	06h 45	38N - 41.5N	24.6E - 27.3E	
Aegean SW 4km	Greece	48	0.035	1h	1 / day	06h 45	36N - 38.4 N	22.5E - 26.3E	
Aegean SE 4km	Greece	48	0.035	1h	1 / day	06h 45	35.2N - 38.4N	26E - 28.5E	
Patras 4km	Greece	48	0.035	1h	1 / day	06h 45	37.4N - 39.1N	20.2E - 23.3E	
Taurus	East Med	120h	0.10	3h	1 / day	12h 25	34.1N - 38.4N	25.1E - 35.9E	
Crusades	East Med	120h	0.10	3h	1 / day	19h 45	29.3N - 36.9N	28.1E- 37E	

2. Currents

Tableau 1-2

	Coverage	Forecast horizon	Granularity Degree	Granularity Hours	Freq. Prod.	Avail. Hour (UTC time)	Latitude	Longitude	Iridium Version
Copernicus Marine									
Worldwide	Worldwide	10 j	0.25	1	1 / day	12h 35	Toutes	Toutes	
IBI (Iberia, Biscay, Irlande)	Morocco Spain West France West Ireland etc...	5 j	0.05	1	1 / day	19h 35	26N - 56N	19W - 5E	
Mediterranean	Mediterranean	5 j	0.0625	1	1 / day	12h 05	30.2N - 45.9N	15W - 36.2 E	
NCOM									
US East	East Coast USA	3 j	0.033	3	1 / day		20N - 42.1N	82W - 63.9W	
Carribbean	Carribbean Central Am.	3 j	0.033	3	1 / day		5N - 32.1N	98W - 54.1W	
SoCal	Southern California	3 j	0.033	3	1 / day		25N - 40.1N	111W- 125W	
Hawaii	Hawaii	3 j	0.033	3	1 / day		15N - 29.1N	166W - 141.1W	

3. Waves (swell and wind)

Tableau 1-2-1

	Coverage	Forecast horizon	Granularity Degree	Granularity Hours	Freq. Prod.	Avail. Hour (UTC time)	Latitude	Longitude	Iridium Version
Meteo France									
WAM World	Worldwide	114 h	0.5	3	1 / day	05h 30	All	All	
WAM Europe	Europe	114 h	0.1	3	1 / day	05h 30	20N - 72N	32W - 42E	
US Navy									
FNMOG	Worldwide	186 h	1	3	2 / day	00 h 45 12 h 45	All	All	

4. Other Weather data

Tableau 1-2-1-1

	Coverage	Forecast horizon	Granularity Degree	Granularity Hours	Freq. Prod.	Avail. Hour (UTC time)	Latitude	Longitude	Iridium Version
NOAA									
GFS 1 Deg	Worldwide	400 h	1	3	4 / day	05h 05 11h 05 17h 05 23h 05	All	All	
Meteo France									
Arpege	Europe	96 h	0.1	1	4 / day	04h 30 11h 25 17h 15 23h 20	20N - 72N	32W - 42E	