MOON Data Exchange Agreement - FINAL
Dated 2 May 2007

MOON
DATA EXCHANGE AGREEMENT

Agreement, dated 2 May 2007, by and among the organisations listed in Annex A hereto, as may be amended from time to time (each a "Partner").

PREAMBLE

WHEREAS a Memorandum of Understanding was concluded in 2005, creating the Mediterranean Operational Oceanography Network ("MOON") in order to consolidate and promote the operational oceanography network in the Mediterranean basin and to ensure its full integration into a global operational oceanography network;

WHEREAS certain members of MOON, wishing to harmonise and secure the flow of data within this network in order to deliver regular and systematic products on the state of the Mediterranean Sea and its sub-regional areas, have agreed to enter into the present Data Exchange Agreement (the "Agreement");

RECOGNISING the many benefits to society of reliable and accurate oceanographic data; and

ENDEAVOURING in the future to build on this Agreement to develop and improve services to meet the requirements of intermediate users and service providers in support of environmental and maritime user groups;

NOW, THEREFORE, in consideration of the foregoing and of the mutual undertakings and benefits set forth herein, the Partners agree as follows:

ARTICLE I

GENERAL PROVISIONS

Section 1.01. *Purpose*. The purpose of this Agreement is to regulate the exchange of the data set forth in Annex B hereto (the "Data") among the Partners, with the following specific aims:

(a) establish the rights and obligations of each Partner;

(b) ensure each Partner's access to the Data;

(c) clearly set forth the exploitation rights with respect to the Data and any products derived therefrom;

(d) safeguard the intellectual property rights of each Partner; and

(e) promote the exploitation of the Data market.

Section 1.02. *Definitions*. The terms defined in this Agreement have the respective meanings ascribed to them therein, and the following terms have the following meanings:

(a) "Board" or "Board of Directors" means the body described in Section 2.02 herein.

(b) "Data" means the data made available by each Partner under this Agreement, and include all real-time and delayed-mode observational data and real-time and archived output from the numerical prediction models which have undergone quality control and/or processing. The initial list is set forth in Annex B.

(c) "Knowledge" means the set of software tools that allows the production of the Data.

ARTICLE II

STRUCTURE AND GOVERNANCE

Section 2.01. *Participation*. The initial list of Partners is set forth in Annex A to this Agreement. Any additional Partner shall be selected by agreement among the existing Partners, and shall accede to this Agreement. Minimum criteria for participation shall include an operational or pre-operational system in the Mediterranean Sea and a proven capacity to provide its Data on a sustainable and continuous basis.

Section 2.02. *Board of Directors*. (a) A Board of Directors (the "Board") shall be created, composed of one director appointed by each Partner or his or her authorised representative. The Board shall meet at least once each year, and shall hold additional meetings at the request of any Partner.

(b) The Board shall be responsible for, *inter alia*, the following matters:

(i) definition of the Data;

(ii) defining and updating internal Data exchange principles;

(iii) addition or termination of any Partner;

(iv) remedies for default;

(v) disputes between the Partners;

(vi) amendment of any schedule or annex to this Agreement; and

(vii) proposing to the Partners any amendment of the main text of this Agreement.

Section 2.03. Chairperson. (a) The Chairperson shall be elected by a simple majority of the Board and shall serve for three years. The Chairperson may give six months' advance notice of his or her intention to stand down early, in which case a new Chairperson shall be appointed at the following Board meeting.

(b) The Chairperson shall be responsible for, *inter alia*:

(i) calling, setting the agenda for, and conducting Board meetings;

(ii) following up on decisions taken at Board meetings;

(iii) receiving requests and notices from Partners and communicating them to the Board, for information or action as appropriate;

(iv) acting as spokesperson for the Partners' activities under this Agreement; and

(v) informing the MOON Members' Assembly on the progress achieved and the decisions taken under this Agreement.

Section 2.04. *Voting*. All decisions of the Board shall be taken by consensus. Votes may be held (i) during Board meetings or (ii) at any time via e-mail or other written, time-stamped communication. Any matter to be put to a vote shall be presented to all Board members at least 15 days in advance.

ARTICLE III

DATA PRODUCTION

Section 3.01. *Data Exchange*. (a) Each Partner shall provide access to its Data upon request, at the specifications and frequency listed in Annex B hereto, provided they are used for internal purposes only by the receiving Partner. All requests for Data access shall be made in writing to the Chairperson, with copies to all Board members.

(b) Any Partner may propose a redefinition of its Data by providing sixty days' advance written notice to all other Partners. Annex B shall be modified accordingly upon written notice thereof from the Chairperson to all Partners.

Section 3.02. *Availability*. The Partners shall endeavour to provide the Data in accordance with the specifications laid out in Annex B hereto. If, for any reason, any Data become unavailable or do not meet such specifications, the Partner(s) concerned shall use best efforts to restore service promptly and shall keep the Board informed of the status thereof.

Section 3.03. *Costs and Funding*. Each Partner shall bear its own costs incurred in the production and dissemination of the Data. The Partners shall also contribute to the activities under this Agreement on an in-kind, ad-hoc basis, by planning and hosting meetings. The Partner providing the Chairperson shall cover the costs related to the duties of his or her office as set forth herein.

ARTICLE IV

DATA EXPLOITATION

Section 4.01. *Exclusive Re-Distribution*. Each Partner shall have the exclusive right to distribute its Data for re-use, and shall accordingly refer to the Partner concerned any inquiry or offer regarding such Partner's product(s) of which it becomes aware.

Section 4.02. *Derived Products*. Any product derived from the Data of two or more Partners shall be exploited under a separate written agreement among the Partners concerned.

Section 4.03. *Derived Services*. The Partners shall endeavour to create a common Data exploitation policy as soon as is practicable.

ARTICLE V

INTELLECTUAL PROPERTY MATTERS

Section 5.01. *Knowledge*. The Data belong exclusively to the Partner that produces them, and includes that which necessarily incorporates the Knowledge of another Partner. In such cases, the incorporated Knowledge shall remain the property of the generating Partner and shall therefore not be published, distributed or otherwise divulged to third parties by the receiving Partner *unless* required in order to comply with an obligation having the force of law.

Section 5.02. *Competition*. Except as otherwise provided in this Agreement, the Partners shall remain free to conduct any activity without accountability to the other Partners.

ARTICLE VI

WARRANTIES AND LIABILITY

Section 6.01. *Data Exchange*. (a) No Partner shall be liable in damages to any Partner(s) or third party for failure to provide access to the Data in accordance with this Agreement, and in particular Annex B.

(b) Nothing in this Section 6.01 shall preclude application of the remedies under Section 7.02 of this Agreement.

Section 6.02. *Fitness*. The Partners agree that the Data shall be exchanged free of warranties of performance, merchantability, or fitness for a particular purpose other than those expressly stated in this Agreement, including the Annexes hereto. As such, there shall be no liability resulting from any use or misuse of the Data by any Partner or third party.

Section 6.03. *No Liability*. No Partner shall be liable for any harm to any authorised user caused by the inadvertent transmission of a computer virus, worm, time bomb,

logic bomb or other such computer program. The Partners further expressly disclaim any liability to third parties resulting from any of the above.

ARTICLE VII

DEFAULT AND REMEDIES

Section 7.01. *Events of Default*. The following events shall be considered Events of Default under this Agreement:

(a) failure of any Partner to provide access to its available Data in Annex B; or

(b) violation of 4.01, 4.02 or 5.01.

Section 7.02. *Remedies*. (a) If any Event of Default listed in Section 7.01 above shall occur and continue for over two weeks following receipt of written notice thereof from the Chairperson, the defaulting Partner may be suspended from accessing the Data under this Agreement until such default is cured.

(b) If concrete steps to cure the default are not taken within 30 days of receipt of written notice, the Partner's participation in this Agreement may be terminated.

(c) Any notice sent pursuant to this Section 7.02 shall be sent by the Chairperson via registered mail with dated proof of receipt and copied to all Board members.

ARTICLE VIII

OTHER MATTERS

Section 8.01. *Term and Termination*. This Agreement shall become effective upon its signature by at least two Partners from different countries, and shall remain in full force and effect for five years unless earlier terminated by unanimous vote of the Board of Directors.

Section 8.02. *Withdrawal*. Any Partner may withdraw from this Agreement for any reason by giving 60 days' advance written notice to the other Partners.

Section 8.03. *Amendments*. (a) Any amendment to this Agreement, excluding to any schedule or annex hereto, shall be made in writing and signed by all parties.

(b) The Partners agree that any schedule or annex to this Agreement may be modified by decision of the Board, upon which it shall become a binding, integral part of the Agreement. To this end, the authorised signatory for each Partner hereby delegates authority to its Board member to take such decisions.

Section 8.04. *No Partnership*. Nothing in this Agreement shall imply any partnership or other formal legal relationship among the Partners. Except as otherwise provided in this Agreement, no Partner shall have the authority to act for, or to assume any obligations or responsibilities on behalf of, any other Partner.

Section 8.05. *Severability*. If any provisions of this Agreement or the application thereof to any person or circumstances shall be invalid or unenforceable to any extent, the remainder of the Agreement and the application of such provisions to other persons or circumstances shall not be affected thereby and shall be enforced to the greatest extent permitted by law.

_____
(Full name of Partner)

_____
(Name of authorised signatory)

_____
(Signature)

_____
(Date)

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Dated 2 May 2007

ANNEX A

Partners

Partner Name	Address and contact information	System(s)
Istituto Nazionale di Geofisica e Vulcanologia (INGV)	Nadia Pinardi INGV Via Donato Creti 12, 40129 Bologna	MFS (whole Mediterranean Sea) and ADRICOSM (Adriatic Sea)
MERCATOR OCEAN	Pierre Bahurel and Dominique Obaton MERCATOR OCEAN 8-10 rue Hermès parc technologique du canal 31520 Ramonville St Agne France	Whole Mediterranean Sea
IFREMER	Sylvie Pouliquen and Yann-Hervé De Roeck IFREMER BP 70 29280 POUZANE (FRANCE) e-mail: Sylvie.pouliquen@ifremer.fr yhdr@ifremer.fr	Coriolis data and PREVIMER MARS 3D north-western Mediterranean system
CNRS-POC	Claude Estournel Pole d'Oceanographie Cotiere de l'Observatoire Midi-Pyrenees Laboratoire d'Aerologie 14 avenue Edouard Belin - 31400 Toulouse FRANCE Tel : 05 61 33 27 77 Fax : 05 61 33 27 90 Claude.Estournel@aero.obs-mip.fr	North West Mediterranean Forecasting Gulf of Lion

University of Athens	Sarantis Sofianos University of Athens Dept. of Applied Physics, Ocean Physics and Modelling Group University Campus, Build PHYS-5, 15784 Athens, Greece Phone: +30-210-7276839, Fax: +30-210-7295281-2	ALERMO Forecasting System
Hellenic Center for Marine Research (HCMR)	Kostas Nittis Hellenic Centre for Marine Research Institute of Oceanography 46.7 km Athens-Sounio Ave. PO Box 712 Anavyssos, Attica GR-190 13, Greece	Poseidon System including the Cretan Sea component (E1-M3A) of the M3A network
IOLR	Isaac Gertman Israel Oceanographic & Limnological Research (IOLR) Tel-Shikmona, P.O.B. 8030 Haifa 31080, ISRAEL Tel: (972) 4 8515 202 Fax: (972) 4 8511 911 http://www.ocean.org.il	Southeastern Levantine Shelf Model
Cyprus Oceanography Center	George Zodiatis Vice Director, Oceanography Centre University of Cyprus P.O. Box 20537 1678 Nicosia, CYPRUS Tel:+357-22892681, Fax:+357-22892679 email: gzodiac@ucy.ac.cy	Cyprus Coastal Forecasting and Observing System

University of Malta – Physical Oceanography Unit, University of Malta (IOI-MOC)	Aldo Drago International Ocean Institute-Malta Operational Centre University of Malta 43/1, Valley Road Birkirkara, BKR 10 Malta	ROSARIO II
ENEA-Santateresa, La Spezia	Giuseppe M.R. Manzella Ente per le Nuove Tecnologie, l'Energia e l'Ambiente, Progetto Speciale Clima P.O. Box 224 19100 La Spezia – Italy tel. +39 0187 978215 fax + 39 0187 978273 cell phone: +39 329 8313939 e-mail: giuseppe.manzella@santateresa.enea.it	SOOP-VOS system
OGS	Pierre-Marie Poulain Head, Remote Sensing Group Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS) Borgo Grotta Gigante, 42/c 34010 Sgonico (Trieste), Italy Office Phone: +39 040 2140 322 Mobile Phone: +39 329 7506 070 Fax: +39 0402140266 E-mail: ppoulain@ogs.trieste.it	MedArgo and MedSVP Systems
CNR-ISAC	Rosalia Santoleri Nazionale delle Ricerche, Istituto di Scienze dell'Atmosfera e del Clima Gruppo di Oceanografia da Satellite Via del Fosso del Cavaliere 100 00133 Roma - Italy Phone : +39 06 49934346 Fax: +39 0620660291 Email: r.santoleri@isac.cnr.it	SST and ocean color system

IASA	George Kallos University of Athens School of Physics Atmospheric Modeling and Weather Forecasting Group University Campus, Bldg PHYS-V 15784 Athens, Greece Tel. +30-210-7276923, 7276835, +30-6944-544325 Fax. +30-210-8994739, 7276765 E-Mail: kallos@mg.uoa.gr, gkallos@tellas.gr	SKIRON forecasting system
Puertos del Estado	Enrique Álvarez Fanjul Avda. Del Partenón 10 28042 Madrid Spain Phone : +34 91 5245500 Fax: +34 91 5245504 Email: enrique@puertos.es	Puertos del Estado Monitoring and Forecasting System
CSIC	IMEDEA, Mallorca Joaquín Tintoré Subirana Email: jtintore@uib.es C/ Miquel Marquès, 21 07190 Esporles, Mallorca. Islas Baleares, Spain Tel.: +34 971 61 17 60 Fax.: +34 971 61 17 61 ICM, Barcelona Jordi Font Ferré Email: jfont@icm.csic.es Passeig Maritim, 37-49 08003 Barcelona, Spain Tel.: +34 93 230 95 12 Fax: +34 230 95 55	CSIC (IMEDEA and ICM) Monitoring and Forecasting System

ANNEX B

Data and Specifications

INGV

Data (name and code)	**Technical Specification**	**Frequency of release**
SLEVAN-MED (Sea Level Analysis)	2-D field, daily mean, non-tidal component, 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a week
SSTAN-MED (Sea Surface Temperature Analysis)	2-D field, daily mean, 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a week
SSSAN-MED (Sea Surface Salinity Analysis)	2-D field, daily mean, 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a week
SSVAN-MED (Sea Surface Velocity ANALYSIS)	Longitudinal and latitudinal components of the horizontal velocity field at the surface, daily mean, 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a week
TEMPAN-MED (Temperature Analysis)	3-D field, daily mean , 1/16 x 1/16 deg. Regular grid, whole Mediterranean area, 72 levels	Once a week
SALAN-MED (Salinity Analysis)	3-D field, daily mean, 1/16 x 1/16 deg. Regular grid, whole Mediterranean area, 71 levels	Once a week
VELAN-MED (Horizontal Velocity components Analysis)	Longitudinal and latitudinal components of the horizontal velocity field in the water column, 1/16 x 1/16 deg. Regular grid, whole Mediterranean area, 71 levels	Once a week
SLEVFCST-MED (Sea Level Forecast)	2-D field, non-tidal component, 10 days daily mean forecast fields, 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a day

INGV (Continued)

HFLXAN-MED (surface Heat Fluxes Analysis)	2-D field, daily mean, 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a week
WFLXAN-MED (surface Water Fluxes Analysis)	2-D field, daily mean, 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a week
MFLXAN-MED (components of the surface Momentum Fluxes Analysis)	Longitudinal and latitudinal components of the horizontal momentum flux at the surface, daily mean, 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a week
SSTFCST-MED (Sea Surface Temperature Forecast)	2-D field, 10 days daily mean forecast fields, 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a day
SSSFCST-MED (Sea Surface Temperature Forecast)	2-D field, 10 days daily mean forecast fields, 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a day
SSVFCST-MED (Sea Surface Velocity Forecast)	Longitudinal and latitudinal components of the horizontal velocity field at the surface, 10 days forecast daily mean fields, 1/16 x 1/16 deg. Regular grid, whole Mediterranean area	Once a day
TEMPFCST-MED (Temperature Forecast)	3-D field, 10 days forecast daily mean fields, 1/16 x 1/16 deg. Regular grid, whole Mediterranean area, 71 levels	Once a day
SALFCST-MED (Salinity Forecast)	3-D field, 10 days forecast daily mean fields, 1/16 x 1/16 deg. Regular grid, whole Mediterranean area, 71 levels	Once a day
VELFCST-MED (Horizontal Velocity components Forecast)	Longitudinal and latitudinal components of the horizontal velocity field in the water column, 10 days forecast daily mean fields, 1/16 x 1/16 deg. Regular grid, whole Mediterranean area, 71 levels	Once a day

INGV (Continued)

HFLXFCST-MED (surface Heat Fluxes forecast)	2-D field, daily mean, 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a day
SLEVSIM-AD (Sea Level Simulation)	2-D field, daily mean, non-tidal component, 5 x 5 km regular grid, whole Adriatic area	Once a week
SSTSIM-AD (Sea Surface Temperature Simulation)	2-D field, daily mean, 5 x 5 km. regular grid, whole Adriatic area	Once a week
SSSSIM-AD (Sea Surface Salinity Simulation)	2-D field, daily mean, 5 x 5 km. regular grid, whole Adriatic area	Once a week
SSVSIM-AD (Sea Surface Velocity Simulation)	Longitudinal and latitudinal components of the horizontal velocity field at the surface, daily mean, 5 x 5 km. regular grid, whole Adriatic area	Once a week
TEMPSIM-AD (Temperature Simulation)	3-D field, daily mean , 5 x 5 km. regular grid, whole Adriatic area, 21 sigma levels	Once a week
SALSIM-AD (Salinity Simulation)	3-D field, daily mean , 5 x 5 km. regular grid, whole Adriatic area, 21 sigma levels	Once a week
VELSIM-AD(Horizontal Velocity components Simulation)	Longitudinal and latitudinal components of the horizontal velocity field in the water column, 5 x 5 km. Regular grid, whole Adriatic area, 21 sigma levels	Once a week
SLEVFCST-AD (Sea Level Forecast)	2-D field, non-tidal component, 7 days daily mean forecast fields, 5 x 5 deg. regular grid, whole Adriatic area	Once a week
HFLXSIM-AD (surface Heat Fluxes Simulation)	2-D field, daily mean, 1/16 x 1/16 deg. regular grid, whole Adriatic area	Once a week
SSTFCST-AD (Sea Surface Temperature Forecast)	2-D field, 7 days daily mean forecast fields, 5 x 5 km. regular grid, whole Adriatic area	Once a week

INGV (Continued)

SSSFCST-AD (Sea Surface Temperature Forecast)	2-D field, 7 days daily mean forecast fields, 5 x 5 km regular grid, whole Adriatic area	Once a week
SSVFCST-AD (Sea Surface Velocity Forecast)	Longitudinal and latitudinal components of the horizontal velocity field at the surface, 10 days forecast daily mean fields, 5 x 5 km. Regular grid, whole Adriatic area	Once a week
TEMPFCST-AD (Temperature Forecast)	3-D field, 7 days forecast daily mean fields, 5 x 5 km Regular grid, whole Adriatic area, 21 sigma levels	Once a week
SALFCST-AD (Salinity Forecast)	3-D field, 7 days forecast daily mean fields, 5 x 5 km Regular grid, whole Adriatic area, 21 sigma levels	Once a week
VELFCST-MED (Horizontal Velocity components Forecast)	Longitudinal and latitudinal components of the horizontal velocity field in the water column, 7 days forecast daily mean fields, 5 x 5 km Regular grid, whole Adriatic area, 21 sigma levels	Once a week
HFLXFCST-AD (surface Heat Fluxes Forecast)	2-D field, daily mean, 1/16 x 1/16 deg. regular grid, whole Adriatic area	Once a week

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MERCATOR OCEAN

N.B. for each listed field: analysis data since September 2003 to real time data. For real time data, release each week of 2 weeks analysis and 2 weeks forecast.

Data (name and code)	**Technical Specification**	**Frequency of release**
Temperature (°C)	3D field, daily mean, 1/8 x 18 deg. regular grid, whole Mediterranean area, 43 levels	Once a week
Salinity (psu)	3D field, daily mean, 1/8 x 18 deg. regular grid, whole Mediterranean area, 43 levels	Once a week
Zonal velocity (m/s)	3D field, longitudinal components of the horizontal velocity, daily mean, 1/8 x 18 deg. regular grid, whole Mediterranean area, 43 levels	Once a week
Meridian velocity (m/s)	3D field, latitudinal components of the horizontal velocity, daily mean, 1/8 x 18 deg. regular grid, whole Mediterranean area, 43 levels	Once a week
Vertical diffusivity coefficient (m^2/s)	3D field, daily mean, 1/8 x 18 deg. regular grid, whole Mediterranean area, 43 levels	Once a week
Sea surface height (m)	2D field, daily mean, 1/8 x 1/8 deg. regular grid, whole Mediterranean area	Once a week
Ocean mixed layer thickness (reference criterion: temperature) (m)	2D field, daily mean, 1/8 x 1/8 deg. regular grid, whole Mediterranean area	Once a week
Ocean mixed layer thickness (reference criterion: density) (m)	2D field, daily mean, 1/8 x 1/8 deg. regular grid, whole Mediterranean area	Once a week
Ocean barotropic streamfunction (m^3/s)	2D field, daily mean, 1/8 x 18 deg. regular grid, whole Mediterranean area, 43 levels	Once a week
Windstress northward Ty component (N/m^2)	2D field, daily mean, 1/8 x 1/8 deg. regular grid, whole Mediterranean area	Once a week

MERCATOR OCEAN (Continued)

Windstress eastward Tx component (N/m^2)	2D field, daily mean, 1/8 x 1/8 deg. regular grid, whole Mediterranean area	Once a week
Total net heat flux (W/m^2)	2D field, daily mean, 1/8 x 1/8 deg. regular grid, whole Mediterranean area	Once a week
Water flux (mm/day)	2D field, daily mean, 1/8 x 1/8 deg. regular grid, whole Mediterranean area	Once a week
Barotropic height (m)	2D field, daily mean, 1/8 x 1/8 deg. regular grid, whole Mediterranean area	Once a week
Surface downward solar heat flux (W/m^2)	2D field, daily mean, 1/8 x 1/8 deg. regular grid, whole Mediterranean area	Once a week

IFREMER PREVIMER-MARS3D

Data (name and code)	**Technical Specification**	**Frequency of Release**
XE (Sea Surface height, m) (no tide, no atmospheric pressure)	2D Field (1/69*1/98 deg) regular grid 3-hourly results Western Mediteranean basin. North from 39.5 deg.	Once a day
SAL Salinity (psu)	3D Field (1/69*1/98 deg) regular grid 3-hourly results 30 sigma level Western Mediteranean basin. North from 39.5 deg.	Once a day
TEMP Potential Temperature (°C)	3D Field (1/69*1/98 deg) regular grid 3-hourly results 30 sigma level Western Mediteranean basin. North from 39.5 deg.	Once a day
UZ zonal velocity (m/s)	3D Field (1/69*1/98 deg) regular grid 3-hourly results 30 sigma level Western Mediteranean basin. North from 39.5 deg.	Once a day
VZ meridian velocity (m/s)	3D Field (1/69*1/98 deg) regular grid 3-hourly results 30 sigma level Western Mediteranean basin. North from 39.5 deg.	Once a day
UW zonal wind stress N/m**2	2D Field (1/69*1/98 deg) regular grid 3-hourly results Western Mediteranean basin. North from 39.5 deg.	Once a day
VW zonal wind stress N/m**2	2D Field (1/69*1/98 deg) regular grid 3-hourly results Western Mediteranean basin. North from 39.5 deg.	Once a day

IFREMER (Continued) Coriolis

Data (name and code)	**Technical Specification**	**Frequency of release**
Coriolis IN-Situ T&S	Temperature/Salinity/Currents qualified In Situ data delivery for the whole Mediterranean Sea either provided by Coriolis project or collected from external Moon partners	Once a day

CNRS-POC

Data (name and code)	**Technical Specification**	**Frequency of release**
TEMPFCST (Temperature Forecast)	3-D field, daily mean (5days), 3x3 km. Regular grid, Northwestern Mediterranean area, 40 levels	Once a week
SALFCST (Salinity Forecast)	3-D field, daily mean (5days), 3x3 km. Regular grid, Northwestern Mediterranean area, 40 levels	Once a week
VELFCST-(Horizontal Velocity components Forecast)	3-D field, daily mean (5 days), 3x3 km. Regular grid, Northwestern Mediterranean area, 40 levels	Once a week
SLEVFCST (Sea Level Forecast)	2-D field, non-tidal component, daily mean (5 days), 3x3 km. Regular grid, Northwestern Mediterranean area	Once a week
TEMPFCST (Temperature Forecast)	3-D field, daily mean (4days), 1.5x1.5 km. Regular grid, Gulf of Lion area, 40 levels	Once a week
SALFCST (Salinity Forecast)	3-D field, daily mean (4days), 1.5x1.5 km. Regular grid, Gulf of Lion area, 40 levels	Once a week
VELFCST-(Horizontal Velocity components Forecast)	3-D field, daily mean (4days), 1.5x1.5 km. Regular grid, Gulf of Lion area, 40 levels	Once a week
SLEVFCST (Sea Level Forecast)	2-D field, non-tidal component, daily mean (4 days) 1.5x1.5 km. Regular grid, Gulf of Lion area	Once a week

University of Athens

Data (name and code)	**Technical Specification**	**Frequency of release**
Sea Level Analysis	2-D fields, daily mean, non-tidal component, 1/30 x 1/30 deg. regular grid, Aegean-Levantine area	Once a month
Temperature Analysis	3-D field, daily mean , 1/30 x 1/30 deg. Regular grid, Aegean-Levantine area, 25 levels	Once a month
Salinity Analysis	3-D field, daily mean, 1/30 x 1/30 deg. Regular grid, Aegean-Levantine area, 25 levels	Once a month
Horizontal Velocity components Analysis	Longitudinal and latitudinal components of the horizontal velocity field in the water column, 1/30 x 1/30 deg. Regular grid, Aegean-Levantine area, 25 levels	Once a month
Sea Level Forecast	2-D fields, daily mean, non-tidal component, 1/30 x 1/30 deg. regular grid, Aegean-Levantine area	Once a day
Temperature Forecast	3-D field, daily mean , 1/30 x 1/30 deg. Regular grid, Aegean-Levantine area, 25 levels	Once a day
Salinity Forecast	3-D field, daily mean, 1/30 x 1/30 deg. Regular grid, Aegean-Levantine area, 25 levels	Once a day
Horizontal Velocity components Forecast	Longitudinal and latitudinal components of the horizontal velocity field in the water column, 1/30 x 1/30 deg. Regular grid, Aegean-Levantine area, 25 levels	Once a day

HCMR

Data (name and code)	**Technical Specification**	**Frequency of release**
POSBUOYOBS (POSEIDON Buoy network observations)	Oceanographic (wave height period and direction, temperature, salinity, current speed and direction, chlorophyll-a, dissolved oxygen, light attenuation, PAR) and meteorological (wind speed and direction, atmospheric pressure, air temperature) data from the POSEIDON buoy network including the E1-M3A system. Exact number of parameters and sampling depths depending on buoy configuration. Sampling interval 3-hours. Data encoded in MEDATLAS format.	Once a day
TEMPFCST (Temperature Forecast)	3-D field, 5 days forecast daily mean fields, 1/30 x 1/30 deg. Regular grid, Aegean Sea area area, 9 pre-defined levels	Once a day
SALFCST (Salinity Forecast)	3-D field, 5 days forecast daily mean fields, 1/30 x 1/30 deg. Regular grid, Aegean Sea area, 9 pre-defined levels	Once a day
VELFCST-(Horizontal Velocity components Forecast)	3-D field, 5 days forecast daily mean fields, 1/30 x 1/30 deg. Regular grid, Aegean Sea area, 9 pre-defined levels	Once a day
SLEVFCST (Sea Level Forecast)	2-D field, 5 days forecast daily mean, non-tidal component, 1/30 x 1/30 deg. regular grid, Aegean Sea area	Once a day
CHLFCST (Chlorophyll forecast)*	3-D field, 5 days forecast daily mean fields, 1/10 x 1/10 deg. Regular grid, whole Mediterranean area, predefined levels	Once a day

HCMR (Continued)

N1PFCST (Phosphate forecast)*	3-D field, 5 days forecast daily mean fields, 1/10 x 1/10 deg. Regular grid, whole Mediterranean area, predefined levels	Once a day
N3NFCST (Nitrate forecast)*	3-D field, 5 days forecast daily mean fields, 1/10 x 1/10 deg. Regular grid, whole Mediterranean area, predefined levels	Once a day
SWHFCST (Significant wave height forecast)	2-D field, 5 days forecast 3-hour instant fields, 1/10 x 1/10 deg. Regular grid, whole Mediterraean area	Once a day
SWHFCST (Significant wave height forecast)	2-D field, 5 days forecast 3-hour instant fields, 1/30 x 1/30 deg. Regular grid, Aegean Sea area	Once a day
WDIRFCST (Wave direction forecast)	2-D field, 5 days forecast 3-hour instant fields, 1/10 x 1/10 deg. Regular grid, whole Mediterranean area	Once a day
WDIRFCST (Wave direction forecast)	2-D field, 5 days forecast 3-hour instant fields, 1/30 x 1/30 deg. Regular grid, Aegean Sea area	Once a day
WPERFCST (Mean Wave period forecast)	2-D field, 5 days forecast 3-hour instant fields, 1/10 x 1/10 deg. Regular grid, whole Mediterranean area	Once a day
WPERFCST (Mean Wave period forecast)	2-D field, 5 days forecast 3-hour instant fields, 1/30 x 1/30 deg. Regular grid, Aegean Sea area	Once a day

*Products to start being available by end 2007

IOLR

Data (name and code)	**Technical Specification**	**Frequency of release**
SSTFCST (Sea Surface Temperature Forecast)	2-D field, 96 hours, 6 hours mean forecast fields, 1.25 x 1.25 km. regular grid. Covering Domain 33.5-35.7 deg East and 31.0-33.7 deg North	Once a day
SSVFCST (Sea Surface Velocity Forecast)	Longitudinal and latitudinal components of the horizontal velocity field at the surface, 96 hours, 6 hours mean forecast fields, 1.25 x 1.25 km. regular grid. Covering Domain 33.5-35.7 deg East and 31.0-33.7 deg North	Once a day
TEMPFCST (Temperature Forecast)	3-D field, 96 hours, 6 hours mean forecast fields, 1.25 x 1.25 km. regular grid. Covering Domain 33.5-35.7 deg East and 31.0-33.7 deg North, 25 levels	Once a day
SALFCST (Salinity Forecast)	3-D field, 96 hours, 6 hours mean forecast fields, 1.25 x 1.25 km. regular grid. Covering Domain 33.5-35.7 deg East and 31.0-33.7 deg North, 25 levels	Once a day
VELFCST-(Horizontal Velocity components Forecast)	Longitudinal and latitudinal components of the horizontal velocity field in the water column, 96 hours, 6 hours mean forecast fields, 1.25 x 1.25 km. regular grid. Covering Domain 33.5-35.7 deg East and 31.0-33.7 deg North, 25 levels	Once a day
SLAFCST (Sea Level Anomaly Forecast)	2-D field, , 96 hours, 6 hours mean forecast fields, 1.25 x 1.25 km. regular grid. Covering Domain 33.5-35.7 deg East and 31.0-33.7 deg North	Once a day
HMOFCST (Significant Wave Height Forecast)	2-D field, , 120 hours, 0.5 x 0.5 deg regular grid. Covering Domain: Entire Mediterranean	Once a day
WPERFCST (Mean Wave Period Forecast)	2-D field, , 120 hours, 0.5 x 0.5 deg regular grid. Covering Domain: Entire Mediterranean	Once a day

IOLR (Continued)

WDIRFCST (Mean Wave Direction Forecast)	2-D field, , 120 hours, 0.5 x 0.5 deg regular grid. Covering Domain: Entire Mediterranean	Once a day
HMOFCST (Significant Wave Height Forecast)	2-D field, , 120 hours, 0.125 x 0.125 deg regular grid. Covering Domain: Aegean Sea and Levantine Basin	Once a day
WPERFCST (Mean Wave Period Forecast)	2-D field, , 120 hours, 0.125 x 0.125 deg regular grid. Covering Domain: Aegean Sea and Levantine Basin	Once a day
WDIRFCST (Mean Wave Direction Forecast)	2-D field, , 120 hours, 0.125 x 0.125 deg regular grid. Covering Domain: Aegean Sea and Levantine Basin	Once a day

Cyprus Oceanography Center

Data (name and code)	**Technical Specification**	**Frequency of release**
Sea Level Forecast	2-D fields, 10 days forecast daily mean, non-tidal, 1/42 x 1/42 deg. regular grid, NE Levantine area	Once a day
Temperature Forecast	3-D field, 10 days forecasts daily mean , 1/42 x 1/42 deg. Regular grid, NE Levantine area, 25 levels	Once a day
Salinity Forecast	3-D field, 10 days forecast daily mean, 1/42 x 1/42 deg. Regular grid, NE Levantine area, 25 levels	Once a day
Horizontal Velocity components Forecast	3-D fields, 10 days forecast daily mean, 1/42 x 1/42 deg. Regular grid, NE Levantine area, 25 levels	Once a day
Sea Level Forecast	2-D fields, 5 days forecast 6 hourly mean, non-tidal, 1/60 x 1/60 deg. regular grid, NE Levantine area	Once a day
Temperature Forecast	3-D field, 5 days forecast 6 hourly mean , 1/60 x 1/60 deg. Regular grid, NE Levantine area, 25 levels	Once a day
Salinity Forecast	3-D field, 5 days forecast 6 hourly mean, 1/60 x 1/60 deg. Regular grid, NE Levantine area, 25 levels	Once a day
Horizontal Velocity components Forecast	3-D fields, 5 days forecast 6 hourly, 1/60 x 1/60 deg. Regular grid, NE Levantine area, 25 levels	Once a day
Significant wave height and direction	60 hours forecasts, 3 hourly, Levantine area	Once a day
Significant wave height and direction	60 hours forecasts, 3 hourly, whole Mediterranean Sea	Once a day
Significant wave height and direction	60 hours forecasts, 3 hourly, Cyprus coastal sea area	Once a day
SST and surface chlorophyll	Single pass images, Levantine & Eastern Mediterranean	Once a day

IOI-MOC

Data (name and code)	**Technical Specification**	**Frequency of release**
SLfcst-Sea Level Forecast (m)	2-D fields, 96 hours, 3 hours mean, non-tidal component, 1/64 x 1/64 deg., regular grid, covering the Malta Shelf area	Once a day
TEMfcst-Temperature Forecast (°C)	3-D field, 96 hours, 3 hours mean, non-tidal component, 1/64 x 1/64 deg., regular grid, covering the Malta Shelf area	Once a day
SALfcst-Salinity Forecast (psu)	3-D field, 96 hours, 3 hours mean, non-tidal component, 1/64 x 1/64 deg., regular grid, covering the Malta Shelf area	Once a day
Ufcst-Longitudinal component of the total Velocity Forecast (m/sec)	3-D field, 96 hours, 3 hours mean, non-tidal component, 1/64 x 1/64 deg., regular grid, covering the Malta Shelf area	Once a day
Vfcst-Latitudinal component of the total Velocity Forecast (m/sec)	3-D field, 96 hours, 3 hours mean, non-tidal component, 1/64 x 1/64 deg., regular grid, covering the Malta Shelf area	Once a day

ENEA

Data (name and code)	**Technical Specification**	**Frequency of release**
Temperature profiles	Along transects of commercial ships and 'research cruises' of opportunity	Three months
Temperature analysis	3D maps of temperature in the areas covered by measurements	Three months
Synthetic Salinity	Salinity reconstructed from XBT and MedARGO data	Seasonal
NRT T profiles	NRT T profiles produced and quality controlled by ENEA using algorithms tailored for the Mediterranean (pressure, Temperature quality flag)	Once a day

OGS

Data (name and code)	**Technical Specification**	**Frequency of release**
Float track and positions	Latest float positions and float track from deployment to last positions (time, latitude, longitude)	NRT (typically less than 3 hour delay)
NRT T/S profiles*	NRT T/S profiles produced and quality controlled by OGS using algorithms tailored for the Mediterranean (pressure, temperature, salinity, quality flag)	Once a day
MedSVP drifter data	1) NRT (daily) edited drifter positions, sea surface temperature (time, latitude, longitude, temperature) 2) NRT (daily) interpolated (kriged) drifter positions and velocities (time, latitude, longitude, zonal and meridional components of velocity) at 0.5 hour intervals.	Once a day

*Products to start being available in early 2007.

Remark: All the above applies only for the floats and drifters inserted in MedArgo and MedSVP and supported by various national programs. As such, the quantity of floats/drifters can vary substantial with time. There is no commitment from OGS to maintain a minimum float/drifter population in the Mediterranean.

CNR-ISAC

Data (name and code)	**Technical Specification**	**Frequency of release**
Chlorophyll data	Satellite daily chlorophyll map produced using the Mediterranean MedOC4 regional algorithm, 4x 4 Km, regular grid, whole Mediterranean	Once a day
Multi-sensors Sea surface temperature analysis	2-D optimally interpolated SST field from multi-platform satellite data, daily at 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a day
AVHRR Sea surface temperature analysis	Delayed time 2-D optimally interpolated SST field from AVHRR satellite data, daily, 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a week
Multi-sensors Sea surface temperature monthly analysis	2-D optimally interpolated SST field from multi-platform satellite data, monthly mean at 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a month
AVHRR Sea surface temperature analysis	2-D optimally interpolated SST field from AVHRR satellite data, monthly mean, at 1/16 x 1/16 deg. regular grid, whole Mediterranean area	Once a month

IASA

Data (name and code)	**Technical Specification**	**Frequency of release**
Surface Temperature Forecast	2-D fields, , 1/10 x 1/10 deg., 1-hour, regular grid, Whole Mediterranean, 5-days forecast	Once a day
Wind Forecast		
Radiation Components Forecast		
Precipitation Forecast		
Evaporation Forecast		
Latent Heat Flux Forecast		
Sensible Heat Flux Forecast		
Specific Humidity Forecast		
Total Cloud Cover Forecast		
Sea Level Pressure Forecast		

MOON Data Exchange Agreement - FINAL
Dated 2 May 2007

Puertos del Estado and CSIC (CSIC-IMEDEA)

Part A: the following Data shall provided by Puertos

Data (name and code)	**Technical Specification**	**Frequency of release**
PUEBUOYOBS (Puertos Buoy network observations)	Oceanographic (wave height period and direction, temperature, salinity, current speed and direction) and meteorological (wind speed and direction, atmospheric pressure, air temperature) data from the Puertos del Estado deep water buoy network.	Hourly
REDMARLEV (Redmar sea level measurements)	Seal level measurements form REDMAR tide gauge network. Spanish Med Sea coast.	Hourly
NIVMARFC (Puertos del Estado Sea Level Forecast)	2-D field, 3 days forecast 6-hour instant fields t, non-tidal component, 1/15 deg. regular grid, Full Med Sea	Twice a day
PUSWHFC (Puertos del Estado Significant wave height forecast)	2-D field, 3 days forecast 6-hour instant fields, 1/15 x 1/15 deg. Regular grid, Western Med sea	Once a day
PUSWHFC (Significant wave height forecast)	2-D field, 3 days forecast 6-hour instant fields, 1/15 x 1/15 deg. Regular grid, Western Med sea	Once a day

Puertos del Estado and CSIC (CSIC-IMEDEA) (Continued)

PUWDIRFC (Puertos del Estado Wave direction forecast)	2-D field, 3 days forecast 6-hour instant fields, 1/15 x 1/15 deg. Regular grid, Western Med sea	Once a day
PUWDIRFC (Puertos del Estado Wave direction forecast)	2-D field, 3 days forecast 6-hour instant fields, 1/15 x 1/15 deg. Regular grid, Western Med sea	Once a day
PUWPERFC (Puertos del Estado Mean Wave period forecast)	2-D field, 3 days forecast 6-hour instant fields, 1/15 x 1/15 deg. Regular grid, Western Med sea	Once a day
PUWPERFC (Puertos del Estado Mean Wave period forecast)	2-D field, 3 days forecast 6-hour instant fields, 1/15 x 1/15 deg. Regular grid, Western Med sea	Once a day

Puertos del Estado and CSIC (CSIC-IMEDEA) (Continued)

Part B: the following Data shall be provided by Puertos jointly with CSIC (CSIC-IMEDEA)

Data (name and code)	**Technical Specification**	**Frequency of release**
PITEMPFC (Puertos del Estado and Imedea Temperature Forecast)	3-D field, 3 days forecast daily mean fields, Regular grid, Western Med. Sea	Once a day
PISALFC (Puertos del Estado and IMEDEA Salinity Forecast)	3-D field, 3 days forecast daily mean fields, Regular grid, Regular grid, Western Med. Sea	Once a day
PIVELFC-(Puertos del Estado and IMEDEA Horizontal Velocity components Forecast)	3-D field, 3 days forecast daily mean fields, Regular grid, Western Med. Sea	Once a day

CSIC Monitoring and Forecasting System

Part A: the following Data shall be provided by CSIC (CSIC-IMEDEA)

Data (name and code)	**Technical Specification**	**Frequency of release**
BUOYOBS-BoP (IMEDEA Buoy Bay of Palma) BUOYOBS-CNP* (IMEDEA Buoy Cabrera National Park)	Oceanographic (wave height period and direction, temperature, salinity, current speed and direction, turbidity) and meteorological (wind speed and direction, atmospheric pressure, air temperature, net solar radiation) data from the IMEDEA deep water buoy.	Hourly[1,2]
INSITU-TS (T/S profiles)	Temperature and salinity In Situ profiles from coastal areas (temperature, salinity)	Every 2 months[2]
GLIDERS-IMEDEA	NRT T/S profiles (temperature, salinity)	Every 2 month[2]
DRIFTERS-IMEDEA*	Drifter positions (time, longitude, latitude)	Every 2 months[2]
ARGO-IMEDEA-APEX FLOAT 35504	NRT T/S profiles	Once a day
SIRENA COASTAL ZONE REMOTE CAMERAS	Snapshot. Mean and variance, off NE Mallorca coast and cross-shore transect. 7.5 images/s during 10 min intervals	Every hour

*****Product to start being available late in 2007.

N.B.:

1 Since the mentioned products are generated by means of an in-situ observing system, they will be available only and if the buoys will remain in position and with its onboard control system active.

2 Since neither CSIC nor the Institute is providing any kind of support for the management and the survival of the instruments, the availability of the mentioned products will be assured only by external funding.

CSIC Monitoring and Forecasting System (continued)

Part B: the following Data shall be provided by CSIC (CSIC-IMEDEA) jointly with Puertos

Data (name and code)	**Technical Specification**	**Frequency of release**
PITEMPFC (Puertos del Estado and Imedea Temperature Forecast)	3-D field, 3 days forecast daily mean fields, Regular grid, Western Med. Sea	Once a day
PISALFC (Puertos del Estado and IMEDEA Salinity Forecast)	3-D field, 3 days forecast daily mean fields, Regular grid, Regular grid, Western Med. Sea	Once a day
PIVELFC-(Puertos del Estado and IMEDEA Horizontal Velocity components Forecast)	3-D field, 3 days forecast daily mean fields, Regular grid, Western Med. Sea	Once a day

Part C: the following Data shall be provided by CSIC (CSIC-ICM) Monitoring System

Data (name and code)	**Technical Specification**	**Frequency of release**
5 NOAA AVHRR	Single pass images (2 albedo, 3 radiance) 35-46.2ºN, 15ºW-16.5ºE	90 minutes after satellite pass (7-10 times per day)
SST from NOAA AVHRR	Single pass images 35-46.2ºN, 15ºW-16.5ºE + collocated Temp. from surface buoys (Puertos del Estado)	90 minutes after satellite pass (7-10 times per day)
SNAP (Argus video cameras averages)	5 video images covering 15x20 km in front of Barcelona. Snapshot	Every 10 minutes
TIMEX (Argus video cameras averages)	5 video images covering 15x20 km in front of Barcelona. Average of 300 images in 10 minutes	Every 10 minutes
VAR (Argus video cameras averages)	5 video images covering 15x20 km in front of Barcelona. Variance of 300 images in 10 minutes)	Every 10 minutes