

ESA/PB-EO(2007)19
Att.: Annexes A and B
Paris, 17 January 2007
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THE EUROPEAN SPACE AGENCY
EARTH OBSERVATION PROGRAMME BOARD

The Earth Observation Advisory Groups

INFORMATION NOTE

1. General

This Information Note has been prepared in response to the request by the Programme Board for Earth Observation for an annual update on the Earth Observation Advisory Groups. It lists the current set of advisory groups and their membership. It replaces ESA/PB-EO(2006)18 *The Earth Observation Advisory Groups*.

These groups support the work of the Directorate of Earth Observation Programmes (D/EOP). In general the terms of reference of all these advisory groups are very similar with the notable exception of the Earth Science Advisory Committee (ESAC), whose terms of reference and current membership are given at Annex A. Basically, they have been established to advise on:

- a) Detailed scientific and mission objectives.
- b) The compatibility of technical specifications and scientific objectives.
- c) Campaigns and announcement of opportunity exercises.
- d) Data processing and algorithm development.
- e) Characterisation, validation and calibration (mainly but not exclusively geophysical).
- f) Scientific activities required to support the development of instruments and the use of its data.

The exact terms of reference vary a little from advisory group to advisory group reflecting, amongst other aspects, the exact status of the mission i.e. pre-Phase A, Phase A, etc. Thus, for example Item d), 'Data processing and algorithm development', is a major item on the agenda of a mature mission such as Envisat. This may be contrasted with the earlier phases of a mission when the main focus of attention tends to be on Items a), 'Detailed scientific and mission objectives', and b), 'The compatibility of technical specifications and scientific objectives'. The frequency with which a group meets also varies with the status of a mission.

In response to the recommendations of the Earth Observation Envelope Programme (EOEP) Science Review, an ESA Earth Observation web page has been established to advertise calls for new membership of Earth Observation Advisory Groups, and to facilitate online applications (see <http://missionadvice.esa.int>). This mechanism has been successfully employed for the six new Earth Explorer Candidate Core Mission Assessment Groups. In addition, for the Earth Explorer advisory groups, a Chairman has been appointed from among the members of the group.

To minimise the number of advisory groups and to ensure that optimum use is made of the time of the experts, advice may be sought from a specific group on issues related to several missions. All the MetOp groups are run jointly with Eumetsat. For the Earth Explorer Missions the focus is more on overall missions rather than instruments *per se*. This is reflected in the titles of the advisory groups.

Membership of the ESAC rotates on a three-year cycle. Membership of the other (i.e. non-ESAC) advisory groups generally has no fixed period of office but evolves naturally during the course of the project. Membership for new groups and for new members of existing groups are now being given a fixed term membership in order to allow proper review of the group's expertise – usually the term is fixed to a specific mission phase (e.g. end of Phase A) or for four years for an 'instrument' advisory group.

2. The Current Situation

In addition to the Earth Science Advisory Committee (ESAC), the following advisory groups currently exist:

2.1. Envisat

- GOMOS Science Advisory Group
- MERIS Science Advisory Group
- MIPAS Science Advisory Group

2.2. METOP

- ASCAT Science Advisory Group (this also handles the ERS-1/2 AMI-SCAT)
- GOME Science Advisory Group (this also handles the ERS-2 GOME)
- GRAS Science Advisory Group

All these Groups are run jointly with Eumetsat.

2.3. EOEP

a) Earth Explorer Core Mission Advisory Groups

- Gravity Field and Steady-State Ocean Circulation (GOCE) Mission Advisory Group
- Atmospheric Dynamics-Aeolus Mission Advisory Group
- EarthCARE Mission Advisory Group*

*The EarthCARE Mission Advisory Group will support interactions with the Japanese. The Phase A Group was disbanded in December 2006. There is currently a call for membership application for Phase B via the Living Planet website (opened on 8 January 2007, closing on 28 February) at <http://missionadvice.esa.int>.

b) Earth Explorer Opportunity Missions

- CRYOSAT Science Advisory Group
- SMOS Science Advisory Group
- SWARM Mission Advisory Group

c) Future Missions

- The SAR Advisory Group (TSAG)
- A-SCOPE Mission Assessment Group
- BIOMASS Mission Assessment Group
- CoreH2O Mission Assessment Group
- FLEX Mission Assessment Group

- PREMIER Mission Assessment Group
- TRAQ Mission Assessment Group

The current lists of members of these advisory groups are given at Annex B (see also Annex A for the membership of the ESAC). These and the list of actual advisory groups are subject to change.

THE EUROPEAN SPACE AGENCY
EARTH SCIENCE ADVISORY COMMITTEE

Terms of Reference

The Earth Science Advisory Committee (ESAC) is the senior advisory body to the Director of Earth Observation Programmes, acting as the Director General's representative, on all matters concerning the Agency's scientific objectives for Earth Observation from space. It is the main interpreter of the views and needs of the European Earth Observation science community as regards access to space systems and associated space instrumentation and data exploitation. Its main tasks are to advise the Director of Earth Observation Programmes and/or make recommendations on:

- the needs of the scientific community for observation of Earth from space;
- scientific activities during the development, implementation and exploitation of the approved programmes of ESA's Earth Observation Programme;
- the formulation and updating of the medium and long term Earth Observation policy in Europe in regard to the interests of the scientific community;
- the priorities of the scientific communities for use in the selection and formulation of future Earth Observation projects and missions;
- the scientific studies and activities required to lay the foundations for future projects and missions.

In particular, the Earth Science Advisory Committee advises on the Earth Explorer element of the Agency's Envelope Programme for Earth Observation and scientific aspects of Earth Watch missions.

1. Membership

ESAC is composed of ten members, one ex-officio member and observers. ESAC members are senior European scientific experts. Membership must reflect an equitable balance across the main Earth Observation disciplines, while at the same time being restricted to scientists of international stature. The members are chosen from within Member States.

The Chairman of the PB-EO is invited, ex officio, to attend the meetings of the ESAC.

Observers are representatives of scientific or professional organisations with a stake in Earth Observation, whose expertise may be required by ESAC to properly fulfil its functions.

The Chairman and the members of the ESAC, as well as the observers, are appointed by the Director of Earth Observation Programmes. The PB-EO is informed of the appointments.

Appointments are for a period of three years with the possibility of extension to a total number of four years to maintain continuity. The tenure of the Chair is for two years, independent of previous normal membership, with the possibility of a one-year extension.

2. Operating Procedure

The Committee meets at dates and places jointly agreed between the Chairman and the Director of Earth Observation Programmes.

It provides advice and/or makes recommendations on the items referred to it by the Director of Earth Observation Programmes. Members of the Committee may however raise issues they wish to discuss. In providing advice and/or making recommendations, the ESAC takes into consideration the views expressed by its ad-hoc Working Groups (cf. 3 below).

The Chairman of the ESAC reports on the Committee's recommendations at the meetings of the PB-EO. The Chairman of PB-EO can ask the Director of Earth Observation Programmes for ESAC to carry out specific actions in the framework of its mandate.

For the purpose of coordination, one member of ESAC is appointed to attend, as observer, the Space Science Advisory Committee (SSAC) and one member of the SSAC is invited to attend the meetings of the ESAC as an observer.

The Secretary to the ESAC is the Head of the Science Strategy, Co-ordination and Planning Office.

3. ESAC Ad-Hoc Working Groups

The ESAC may, if deemed necessary, set up ad-hoc Working Groups to advise on

specific, well-defined topics. The size of any ad-hoc Working Group must reflect the requirements of the specific task for which it is established.

Membership of ad-hoc Working Groups is not restricted to members of the ESAC. Their Chairmen must however be members of the ESAC. Ad-hoc Working Groups (including their Chairmen) are appointed by the Director of Earth Observation Programmes in consultation with the Chairman of the ESAC.

Ad-hoc Working Groups have a time limited mandate and membership is normally restricted to the period required to complete the specific task which it has been established to address.

The ad-hoc Working Groups meet at the request of the Director of Earth Observation Programmes and issue recommendations on the matters submitted to them. All matters related to their disciplines are normally transmitted directly to the ad-hoc Working Groups for discussion.

The deliberations of the ad-hoc Working Groups provide the basis for further discussions and recommendations of the ESAC.

Current ESAC Membership

Chair: Prof. H. Grassl
Secretary: Dr. E-A. Herland

Dr. P. Bougeault	(F)	ECMWF, Reading, UK (member since November 2003)
Prof. E. Friis-Christensen	(DK)	Danish National Space Center (member since November 2003)
Prof. H. Grassl	(D)	Max Planck Institute for Meteorology, Hamburg, D (member since November 1999; Chairman from November 2003)
Dr. N. Hoepffner	(F)	Joint Research Centre EC, Ispra, I (member since October 2006)
Prof. J.A. Johannessen	(N)	NERSC, Bergen, N (member since November 2003)
Prof. E. Kyrölä	(SF)	Finnish Meteorological Institute, Helsinki, SF (member since October 2006)
Dr. P. Lemke	(D)	Alfred Wegener Institute for Polar Research, Bremerhaven, D (Ex-officio member as Chair JSC/WCRP since November 2003)
Prof. M. Menenti	(I)	Université Louis Pasteur, Illkirch, F (member since October 2006)
Prof. S. Quegan	(UK)	University of Sheffield, UK (member since November 2003)
Prof. C. Rapley	(UK)	British Antarctic Survey, Cambridge, UK (member since October 2006)
Prof. Dr. R. Rummel	(D)	Technical University Munich, D (member since October 2006)
Prof. J.A. Sobrino	(E)	Universidad de Valencia, Burjassot, E (Member since November 2003)
Mr. J. Lomba Ferreras	(E)	CDTI, Madrid, E (Ex-officio member as Chair PB-EO)

Membership of the ESAC was reviewed during 2006 with the intention of expanding the group by two members over the next couple of years. In 2006, four members retired from the Group (Prof. P. England, Prof. H. Kelder, Dr. P. Kosuth, and Dr. N. Pinardi) and were replaced by five new members (Dr. N. Hoepffner, Prof. E. Kyrölä, Prof. M. Menenti, Prof. C. Rapley, and Prof. Dr. R. Rummel).

Current Membership of Earth Observation Groups

It should be noted that US and Japanese scientists participate on a 'no exchange of funds' basis.

1. Envisat

1.1 GOMOS Science Advisory Group

Executive Officer: T. Wehr

Dr. J-L. Bertaux (F)	Service d'Aéronomie du CNRS, Verrières-le-Buisson, F
Dr. M. Chipperfield (UK)	University of Leeds, UK
Dr. F. Dalaudier (F)	Service d'Aéronomie du CNRS, Verrières-le-Buisson, F
Dr. D. Fussen (B)	IASB, Brussels, B
Dr. A. Hauchecorne (F)	Service d'Aéronomie du CNRS, Verrières-le-Buisson, F
Dr. E. Kyrölä (SF)	Finnish Meteorological Institute, Helsinki, SF
Prof. G. Leppelmeier (USA)	Finnish Meteorological Institute, Helsinki, SF
Dr. J-B. Renard (F)	LPCE/CNRS, Orleans, F
Dr. H.K. Roscoe (UK)	British Antarctic Survey, Cambridge, UK
Prof. P.C. Simon (B)	IASB, Brussels, B

1.2 MERIS Science Advisory Group

Executive Officer: TBD

Dr. J. Aiken (UK)	Plymouth Marine Laboratory, UK
Dr. V. Barale (I)	EC-Joint Research Centre, Ispra, I
Dr. A. Bricaud-Wehrlin (F)	CNRS, Villefranche sur Mer, F
Prof. P. Curran (UK)	University of Bournemouth, UK
Dr. R. Doerffer (D)	GKSS Research Institute, Geesthacht, D
Prof. Dr. J. Fischer (D)	Freie Universität Berlin, D

Dr. J. Gower (CDN)	Institute of Ocean Sciences, Sidney, British Columbia, CDN
Prof. A. Morel (F)	CNRS, Villefranche sur Mer, F
Dr. L.H. Pettersson (N)	NERSC, Solheimsviken, N
Prof. B. Pinty (F)	EC-Joint Research Centre, Ispra, I
Dr. R. Santer (F)	Université du Littoral Côte d'Opale, Wimereux, F
Dr. K. Sørensen (N)	Norwegian Institute for Water Research, Oslo, N
Dr. M. Verstraete (B)	EC-Joint Research Centre, Ispra, I

1.3 MIPAS Science Advisory Group

Executive Officer: J. Langen

Dr. B. Carli (I)	IFAC-CNR, Florence, I
Dr. M. Carlotti (I)	Universita Degli Studi di Bologna, I
Dr. A. Dudhia (UK)	Oxford University, UK
Prof. Dr. H. Fischer (D)	Institute for Meteorology & Climate Research, Karlsruhe, D
Dr. J-M. Flaud (F)	Université Paris Sud, F
Dr. M. López-Puertas (E)	Institute of Astrophysics of Andalucia, E
Dr. C.T. McElroy (CDN)	Meteorological Service of Canada, Ontario, CDN
Dr. H. Oelhaf (D)	Institute for Meteorology & Climate Research, Karlsruhe, D

2. METOP (all joint groups with Eumetsat)

2.1 ASCAT Science Advisory Group

Executive Officers: H. Rebhan (ESA), J.G. Bonekamp (Eumetsat)

ESA Nominated Members:

Dr. P. Bougeault (F)	ECMWF, Reading, UK
Dr. R. Ezraty (F)	IFREMER, Brest, F
Mr. D. Offiler (UK)	Met. Office, Exeter, UK
Mr. P. Snoeij (NL)	Dutch Space BV, Leiden, NL
Dr. V. Wismann (D)	Institute for Applied Remote Sensing, Freiburg, D

Eumetsat Nominated Members:

Mr. L.A. Breivik (N)	Norwegian Meteorological Institute, Oslo, N
Dr. Y. Kerr (F)	CESBIO, Toulouse, F
Mr. A. Stoffelen (NL)	KNMI, de Bilt, NL
Prof. W. Wagner (A)	Vienna University of Technology, A

2.2 GOME-2 Science Advisory Group

Executive Officer: T. Wehr (ESA), R. Munro (Eumetsat)

ESA Nominated Members:

Prof. I. Aben (NL)	SRON, Utrecht, NL
Prof. J. Burrows (UK)	Institute of Environmental Physics, University of Bremen, D
Dr. B.J. Kerridge (UK)	Rutherford Appleton Laboratory, Didcot, UK
Dr. M. van Roozendaal (B)	IASB, Brussels, B

Eumetsat Nominated Members:

Dr. A. Dethof (NL)	ECMWF, Reading, UK
Mr. A. Mälkki (SF)	Finnish Meteorological Institute, Helsinki, SF
Prof. U. Platt (D)	Ruprecht-Karls-Universität, Heidelberg, D
Dr. S. Slijkhuis (NL)	DLR, Oberpfaffenhofen, D
Dr. P. Stammes (NL)	KNMI, de Bilt, NL

Observers

Dr. K.V. Chance (USA)	Smithsonian Astrophysical Observatory, Cambridge, MA, USA
Dr. E. Hilsenrath (USA)	Goddard Space Flight Center/NASA, USA
Dr. J. Gleason (USA)	Goddard Space Flight Center/NASA, USA

2.3 GRAS Science Advisory Group

Executive Officer: P. Ingmann (ESA), A. von Engeln (Eumetsat)

ESA Nominated Members:

Prof. G. Kirchengast (A)	University of Graz, A
Dr. M. McCarthy (UK)	Met Office, Exeter, UK
Dr. P.N. Visser (NL)	Delft University of Technology, NL

Eumetsat Nominated Members:

Dr. A. Hauchecorne (F)	Service d'Aéronomie du CNRS, Verrières-le Buisson, F
Dr. P. Høeg (DK)	Aalborg University, DK
Dr. J-P. Luntama (SF)	Finnish Meteorological Institute, Helsinki, SF

3. Earth Explorer Core Missions

3.1 Gravity Field & Steady-State Ocean Circulation (GOCE) Mission Advisory Group

Executive Officer: M. Drinkwater
Chair: Prof. R. Rummel

Dr. G. Balmino (F)	CNES-GRGS, Toulouse, F
Dr. C. Hughes (UK)	Proudman Oceanographic Laboratory, Merseyside, UK
Dr. J.A. Johannessen (N)	Nansen Environmental & Remote Sensing Centre, Bergen, N
Dr. P. Le Grand (F)	IFREMER, Plouzane, F
Prof. R. Rummel (D)	Technical University of Munich, D
Prof. H. Sünkel (A)	Technical University of Graz, A
Prof. C.C. Tscherning (DK)	University of Copenhagen, DK
Dr. B. Vermeersen (NL)	Delft University of Technology, NL
Dr. P. Visser (NL)	Delft University of Technology, NL

3.2 Atmospheric Dynamics-Aeolus Mission Advisory Group

Executive Officer: P. Ingmann
Chair: Prof. E. Källén

Dr. E. Andersson (S)	ECMWF, Reading, UK
Mr. A. Dabas (F)	Meteo-France, Toulouse, F
Dr. P.H. Flamant (F)	LMD/CNRS, Palaiseau, F
Prof. E. Källén (S)	Stockholm University, S
Mr. D. Offiler (UK)	Met Office, Exeter, UK
Dr. O. Reitebuch (D)	DLR, Wessling, D
Mr. H. Schyberg (N)	Norwegian Meteorological Institute, Oslo, N
Mr. A. Stoffelen (NL)	KNMI, de Bilt, NL
Dr. J.M. Vaughan (UK)	MMA, Great Malvern, UK
Dr. W. Wergen (D)	Deutscher Wetterdienst, Offenbach, D

Observers

Dr. W.P. Menzel (USA)	NOAA/NESDIS/ORR, Madison, USA
Dr. L-P. Riishojgaard (DK)	Goddard Space Flight Center/NASA, USA
Dr. C. Accadia (I)	Eumetsat, Darmstadt, D

3.3 The EarthCARE Mission Advisory Group

Executive Officer: T. Wehr
Chair: TBD

ESA-nominated Group for Phase A was disbanded in December 2006. There is currently a call for membership for the mission consolidation phase (Phase B) for the EarthCARE Group (Open: 8 January-28 February 2007).

JAXA-Nominated Members

Prof. K. Asai	Tohoku Institute of Technology
Prof. Y. Fujiyoshi	Hokkaido University
Prof. T. Hayasaka	Tohoku Institute of Technology
Dr. T. Iguchi	Communications Research Laboratory
Prof. R. Imasu	University of Tokyo
Dr. T. Kobayashi	Meteorological Research Institute, JMA
Prof. T. Kozu	Shimane University
Dr. H. Kumagai	Communications Research Laboratory
Prof. T. Nakajima	CCSR, University of Tokyo
Prof. K. Nakamura	Nagoya University
Dr. H. Okamoto	Tohoku University
Dr. Y. Sasano	National Institute for Environmental Studies
Dr. N. Sugimoto	National Institute for Environmental Studies
Prof. T. Takamura	Chiba University
Dr. A. Uchiyama	Meteorological Research Institute, JMA
Prof. H. Uyeda	Nagoya University
Prof. T. Yamanouchi	National Institute of Polar Research

4. Earth Explorer Opportunity Missions

4.1 The CRYOSAT Science Advisory Group

Executive Officer: M. Drinkwater

Chair: D. Wingham

Dr. R. Forsberg (DK)	Danish National Space Center, Copenhagen, DK
Dr. S. Laxon (UK)	University College London, UK
Prof. P. Lemke (D)	Alfred Wegener Institute for Polar Research, Bremerhaven, D
Prof. H. Miller (D)	Alfred Wegener Institute for Polar Research, Bremerhaven, D
Mr. S. Sandven (N)	NERSC, Bergen, N
Dr. P. Vincent (F)	IFREMER, Brest, F
Dr. P. Visser (NL)	Delft University of Technology, NL
Prof. D. Wingham (UK)	University College London, UK

Observers

Dr. R.K. Raney (USA)	Johns Hopkins University, Laurel, USA
Dr. H.J. Zwally (USA)	Goddard Space Flight Center/NASA, USA

4.2 The SMOS Science Advisory Group

Executive Officer: M. Berger

Chair: Dr. Y. Kerr

Dr. E. Anterrieu (F)	Observatoire Midi-Pyrénées, Toulouse, F
Mr. I. Corbella (E)	Polytechnic University of Catalonia, Barcelona, E
Dr. J. Font (E)	Institut de Ciències del Mar, Barcelona, E
Dr. Y. Kerr (F)	CESBIO, Toulouse, F
Dr. P-Y. Le Traon (F)	IFREMER, Brest, F
Prof. C. Mätzler (CH)	University of Bern, CH
Dr. M. Peichl (D)	DLR, Wessling, D

Dr. N. Reul (F)	IFREMER, Brest, F
Prof. N. Skou (DK)	Technical University of Denmark, Lyngby, DK
Prof. D. Stammer (D)	University of Hamburg, D
Dr. A. van de Griend (NL)	Vrije Universiteit Amsterdam, NL
Prof. W. Wagner (A)	Vienna University of Technology, A
Dr. P. Waldteufel (F)	IPSL/CNRS, Verrières le Buisson, F

Observers

Dr. M. Drusch (D)	ECMWF, Reading, UK
Dr. J. Grandell (SF)	Eumetsat, Darmstadt, D
Dr. T. Jackson (USA)	USDA ARS Hydrology Laboratory, Beltsville, USA
Dr. G. Lagerloef (USA)	Earth & Space Research, Seattle, USA
Dr. D. Le Vine (USA)	Goddard Space Flight Center/NASA, USA

4.3 Swarm Mission Advisory Group

Executive Officer: R. Haagmans
Chair: Prof. E. Friis-Christensen

Prof. E. Friis-Christensen (DK)	Danish National Space Center, Copenhagen, DK
Dr. G. Hulot (F)	Institut de Physique du Globe de Paris, F
Dr. A. Jackson (UK)	ETH Zurich, CH
Dr. H. Lühr (D)	GeoForschungsZentrum Potsdam, D
Dr. N. Olsen (D)	Danish National Space Center, Copenhagen, DK
Dr. P. Tarits (F)	UMR “Domaines Oceaniques”, Plouzane, F
Dr. P.N. Visser (NL)	Delft University of Technology, NL

Observers

Dr. M. Purucker (USA)	Goddard Space Flight Center/NASA, USA
Mr. T. Sabaka (USA)	Goddard Space Flight Center/NASA, USA
Dr. S. Maus (D)	NOAA E/GCI, Boulder, USA

5. Future Missions

5.1 The SAR Advisory Group (TSAG)

Executive Officer: M. Davidson

Chair: TBD

Dr. W. Dierking (D)	Alfred Wegener Institute for Polar Research, Bremerhaven, D
Dr. R. Hanssen (NL)	Delft University of Technology, NL
Prof. J.A. Johannessen (N)	NERSC, Bergen, N
Prof. A. Moreira (D)	DLR, Wessling, D
Prof. F. Rocca (I)	Politecnico di Milano, I
Dr. A. Rosenquist (S)	JAXA, Tokyo, J
Prof. H. Rott (A)	University of Innsbruck, A

5.2 A-SCOPE Mission Assessment Group

Executive Officer: P. Ingmann

Chair: Dr. P. Flamant

Prof. F-M. Bréon (F)	LSCE, Gif-sur-Yvette, F
Prof. Dr. A.J. Dolman (NL)	Vrije Universiteit Amsterdam, NL
Dr. G. Ehret (D)	Institute for Atmospheric Physics, DLR, Wessling, D
Dr. P. Flamant (F)	LMD-CNRS, Palaiseau, F
Prof. Dr. N. Gruber (CH)	ETH Zurich, CH
Dr. S. Houweling (NL)	Netherlands Institute for Space Research, Utrecht, NL
Dr. M. Scholze (D)	QUEST, Bristol, UK

Observers

Dr. R. Menzies (USA)	Jet Propulsion Laboratory, Pasadena, USA
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5.3 BIOMASS Mission Assessment Group

Executive Officer: M. Davidson

Chair: Dr. T. Le Toan

Prof. Dr. H. Balzter (D)	University of Leicester, UK
Dr. T. Le Toan (F)	Centre d'Etudes Spatiale de la Biosphère, Toulouse, F
Prof. Dr. P. Paillou (F)	OASU, Floirac, F
Dr. K. Papathanassiou (A)	German Aerospace Center e.V, Wessling, D
Dr. S. Plummer (UK)	IGBP, Frascati, I
Prof. S. Quegan (UK)	University of Sheffield, UK
Prof. F. Rocca (I)	Politecnico di Milano, I
Prof. L. Ulander (S)	FOI, Linköping, S

Observers

Prof. H. Shugart (USA)	University of Virginia, Charlottesville, USA
Dr. S. Saatchi (USA)	Jet Propulsion Laboratory, Pasadena, USA

5.4 CoreH2O Mission Assessment Group

Executive Officer: H. Rebhan

Chair: Prof. H. Rott

Prof. C. Duguay (CDN)	University of Waterloo, Ontario, Canada
Dr. R. Essery (UK)	University of Wales, Aberystwyth, UK
Dr. C. Haas (D)	Alfred Wegener Institute for Polar & Marine Research, Bremerhaven, D
Dr. G. Macelloni (I)	IFAC-CNR, Florence, I
Dr. E. Malnes (N)	Norut IT, Tromsø, N
Prof. Dr. J. Pulliainen (SF)	Finnish Meteorological Institute, Sodankylä, SF
Prof. H. Rott (A)	University of Innsbruck, Innsbruck, A

Observers

Dr. S. Yueh (USA)	Jet Propulsion Laboratory, Pasadena, USA
Dr. D. Cline (USA)	National Operational Hydrologic Remote Sensing Center, Chanhassen, USA

5.5 FLEX Mission Assessment Group

Executive Officer: M. Berger

Chair: Prof. J. Moreno

Dr. Y. Goulas (F)	LMD-CNRS, Palaiseau, F
Dr. F. Miglietta (I)	IBIMET-CNR, Florence, I
Prof. J. Moreno (E)	University of Valencia, Burjassot, E
Dr. P. North (UK)	University of Wales Swansea, UK
Dr. U. Rascher (D)	ICG-III, Research Centre Jülich, D
Prof. S. Svanberg (S)	Lund University, S
Dr. W. Verhoef (NL)	National Aerospace Laboratory, Emmeloord, NL

Observers

Dr. E. Middleton (USA)	NASA Goddard Space Flight Center, Greenbelt, USA
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5.6 PREMIER Mission Assessment Group

Executive Officer: J. Langen

Chair: Dr. B. Kerridge

Dr. Niels Bormann (D)	ECMWF, Reading, UK
Prof. Dr. H. Fischer (D)	Institute for Meteorology & Climate Research, Karlsruhe, D
Dr. P. Forster (UK)	University of Leeds, UK
Dr. B. Kerridge (UK)	Rutherford Appleton Laboratory, Didcot, UK
Dr. J.C. McConnell (CDN)	York University, Toronto, Canada
Prof. D. Murtagh (IRL)	Chalmers University of Technology, Gothenburg, S
Dr. P. Palmer (UK)	University of Edinburgh, UK
Prof. Dr. M. Riese (D)	ICG-I, Research Centre Jülich, D

5.7 TRAQ Mission Assessment Group

Executive Officer: J. Langen
Chair: Dr. P. Levelt

Dr. C. Camy-Peyret (F)	Laboratoire de Physique Moléculaire pour l'Atmosphère et l'Astrophysique, Jussieu, F
Prof. C. Cartalis (GR)	University of Athens, GR
Dr. C. Clerbaux (F)	Université Paris, F
Dr. H. Eskes (NL)	KNMI, de Bilt, NL
Dr. D. Hauglustaine (B)	LSCE CEA-CNRS, Gif-sur-Yvette, F
Dr. P. Levelt (NL)	KNMI, de Bilt, NL
Dr. J-F. Muller (B)	IASB, Brussels, B
Dr. D. Tanré (F)	Université des Sciences et Technologies de Lille, F