2nd OCEAN AND SEA ICE WORKSHOP
DISCUSSION SESSION REPORT

Co-chairmen : P. Hardaker (Met Office), J. Lafeuille (Météo-France)

1. INTRODUCTION

Paul Hardaker (PH) introduced the discussion session, and proposed to organize it along the following questions:
- present and short term: what are from the users’ point of view the strengths and weaknesses of the existing OSI SAF products and services?
- long term: what are the expectations for the next phase of the OSI SAF?
- is the OSI SAF properly articulated with other scientific and operational communities?

Jérôme Lafeuille (JL) gave a short presentation prepared by Lothar Schueller (EUMETSAT), describing the context and the process for the preparation of the next phase of the SAFs (Operations and Development Phase, 2007-2012). The main points are:
- the proposals for the ODP should be centred on both operational and development activities
- the evaluation of the ODP proposals for the seven SAFs will be a single process, in early spring 2006
- EUMETSAT will organise preparation meetings with SAF representatives in 2005, with a first meeting in June

2. PRESENT AND SHORT TERM

JL proposed to the participants to react product by product.

2.1 Sea Ice products

Craig Donlon (CD, Met Office): there is a need to increase the current resolution of OSI SAF sea ice products, to establish a fine scale sea ice climatology, and to reprocess sea ice products over the whole SSM/I period.

Stan Wilson (SW, NOAA/NESDIS): will ask NOAA about the availability of archived SSM/I data.

Robert Ezraty (RE, IFREMER): daily gridded SSM/I brightness temperature maps are available at IFREMER since 1980.

Lars-Anders Breivik (LAB, Met.No): sea ice reprocessing activities are already planned by the OSI SAF, to serve the needs of various projects. It will be based on SSM/I swath data in BUFR format.

Piotr Struzik (PS, IMWM): for application in the Baltic Sea, there is a need for sea ice products at higher resolution. In particular, this can be achieved by the use of VIS/IR measurements (ex: AVHRR).

John Stark (JS, Met Office): the OSI SAF should make use of available SAR data, at least for sea ice products validation.

CD (Met office): the OSI SAF should even make regular use of SAR data for a sea ice multi-sensor product.
2.2 Sea Surface Temperature products

Isabelle Taupier-Letage (ITL, IFREMER) : there is a strong need for high resolution (1 km) SST products. In the short term, these products should be made available, even on an experimental basis, in some limited areas (ex : Mediterranean Sea). The preferred parameter is bulk temperature, and there is also an interest for (time) composite products.

CD (Met Office) : the OSI SAF has to stay fully engaged in the GHRSSST Pilot Project. In particular, the requirement for SST products at 1 km horizontal resolution is part of the GHRSSST-PP requirements. There is also a requirement for full resolution MSG SSTs at full temporal sampling (15 minutes) on a regional basis, and at 30 minute sampling over the full disk.

Pierre Le Borgne (PLB, Météo-France) : the OSI SAF will deliver before the end of the year hourly MSG SSTs at 5 km horizontal resolution on an experimental basis. This experiment will form the basis to update the current OSI SAF Users requirement Document for the next phase (2007-2012). Concerning METOP SST products, the horizontal resolution proposed currently for global products is 10 km, to be consistent with the existing LML and MAP products. Another important question is the geometry required for SST products (swath or gridded data).

CD (Met Office) : both types of products (swath and gridded) are required. Concerning the bulk/skin problem, it does not seem reasonable with the current knowledge and state of the art to ask for real bulk SST products, because of the diurnal effects (much more difficult to parameterise than the skin effect).

2.3 Wind products

Alexander Cress (AC, DWD) : would like to have similar quality indicators for the wind products as for the other OSI SAF products.

Ad Stoffelen (AS, KNMI) : the residual of the wind inversion (distance to the cone) is provided in the OSI SAF wind products, to be used as a quality indicator.

AS (KNMI) : the following requirements were expressed during the workshop : need for winds from all scatterometer data available (ERS, SeaWinds and later ASCAT), and also possibly from future passive instruments like CMIS (with the question of parallel processing both by NOAA and OSI SAF ?), requirement for global wind data with a six-hourly time sampling, interest of new statistical methods to add mesoscale variability in NWP winds, need for specific coastal wind products, and need to be able to take rapidly evolving requirements into account.

Joe Sienkiewicz (JS, NOAA) : forecasters requirement is for high resolution scatterometer wind processing, even at the cost of a higher noise in the data.

SW (NOAA/NESDIS) : US forecasters demand for 25 km QuikSCAT winds, as close as possible to the coast, and for a special 5 km wind product for tropical cyclones.

PH (Met Office) : is the OSI SAF able to produce and deliver “on demand” products?

AS (KNMI) : main problem is availability of resources.

2.4 Radiative fluxes products

SW (NOAA/NESDIS) : good quality surface radiative fluxes measurements should be available from the servicing ships for TOGA and PIRATA arrays for validation purposes. Operational ozone products (input for the SSI processing) derived from TOMS are available with a 3 day delay, but other experimental products are available in near real-time (derived from SeaWIFS and/or MODIS).

CD (Met Office) : surface radiative fluxes measurements are also available from ferries.
2.5 General

PS (IMWM) : the availability of OSI SAF products through EUMETCast is very much appreciated.

3. LONG TERM

AS (KNMI) : with the perspective of JASON-2, the processing of altimeter data should become part of the OSI SAF, with the understanding that adding a new “box” in the OSI SAF architecture should go along with a new budget.

PS (IMWM) : the OSI SAF should not stop at level 2 products.

JL (Météo-France) : the limit for OSI SAF is not product level, but resources.

CL (Met Office) : what about ocean colour ? ESA is kicking off a project called GLOBCOLOUR, and the OSI SAF could back this project by bring its expertise.

SW (NOAA/NESDIS) : there is a natural synergy between radiative fluxes and ocean colour communities (problem of atmospheric corrections). The NPOESS satellites have all the necessary capabilities with the VIIRS Imager. For the knowledge of the ocean heat content, there is also a strong synergy between SST, heat fluxes and altimeter measurements.

Francis Gohin (FG, IFREMER) : when processing ocean colour data in coastal areas, we see that there is a very strong signal (optical thickness) in ocean colour channels close to the coast. It would be important to study and understand this signal, considering that coastal areas have a large economic and human importance.

CD (Met Office) : the long term evolution of the OSI SAF has to be driven by needs of operational oceanography in Europe. In particular, it is very important to gather joined requirements from both coastal and open ocean applications.

JL (Météo-France) : in its long term plans, the OSI SAF has also to take into account new satellite programs : beyond JASON-2 and NPOESS, is any impact expected from MTG ?.

CD (Met Office) : what should be the ESA/EUMETSAT relationship ? For instance, should the OSI SAF take the responsibility of processing high level products derived from ENVISAT/AATSR and MERIS level 2 products processed by ESA ?

4. OSI SAF ARTICULATION WITH OTHER COMMUNITIES

SW (NOAA/NESDIS) : there is a strong need for interaction with NWP community. The current inability of NWP models to predict hurricanes is an obvious illustration of this.

PLB (Météo-France) : the OSI SAF has a strong need for detailed validation studies of its products. To this respect, the SST validation study performed and presented by Claus Solvsteen (RDANH) is a very good example, which has to be encouraged. For instance, there are very few in-situ SST measurements available in near real-time in the Mediterranean Sea.

CD (Met Office) : the OSI SAF has to make its www server much more attractive, for instance by putting “spectacular” images on it.

PLB (Météo-France) : what about the promotion by EUMETSAT of its SAFs ? Could EUMETSAT provide demonstration packages to universities ?

SW (NOAA/NESDIS) : the GOES-R preparation is underway in the US, and it is time to express requirements. It would be helpful to have European requirements (including the ones from the OSI SAF) expressed through EUMETSAT.
Hervé Roquet (HR, Météo-France) : for the OSI SAF production, which is relying on the processing of hourly imager data, the requirement is to have a hourly full disk coverage guaranteed. This is not the case today with the current GOES operational satellites (only 3-hourly full disk coverage is guaranteed).

SW (NOOA/NESDIS) : I encourage the OSI SAF to express formally this requirement to NOAA for the next GOES-R generation, for example via EUMETSAT.

Marie-France Gauthier (MFG, Service Canadien des Glaces) : the Canadian Ice Service makes a large use of RADARSAT data for ice products. These data can be used also to validate OSI SAF ice products.

CD (Met office) : what about combined (multi-parameter) products ? (ex : SST + sea ice information)

SW (NOAA/NESDIS) : there are ongoing projects (ex : GMES PolarView project) which are increasing the level of collaboration of countries around Arctic.

LAB (Met No) : the OSI SAF is participating since 1998 in the International Ice Charting Group. The Sea Ice community is already well organised.

5. CONCLUSION

The number of suggestions made form a valuable input for the preparation of the next phase of the O&SI SAF, and will be systematically analysed by the SAF.