

# Towards establishment of the surface flux group

*Draft by Ken Denman, Sergey Gulev, Vladimir Ryabinin and Peter Schlosser*

JSC-24, Reading UK, 17-22 Mar 2003

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## General:

To meet the scientific requirements of different programmes of WCRP and its co-operation with IGBP programmes (decision of the 23rd JSC Session, Hobart, Australia, 2002), a WCRP Working Group on Surface Fluxes (WGSF) [*?Coordinating Committee on surface fluxes (CCSF)?*] should be established.

# WGASF: 1997-2001

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## Outcomes:

Final report “Intercomparison and Validation of Ocean-Atmosphere Flux Fields”, WCRP-112, 2001, 506 pp.

### Global Flux Fields Catalogue:


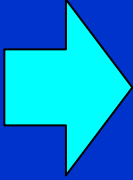

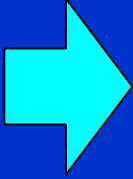
[www.pcmdi.llnl.gov](http://www.pcmdi.llnl.gov)   [www.sail.msk.ru](http://www.sail.msk.ru)   [www.soc.soton.ac.uk](http://www.soc.soton.ac.uk)

WCRP/SCOR Workshop on air-sea fluxes, 20-24 May 2001, Washington DC, Bolger Centre. (See recommendations)

Special issue of J.Climate (2003, vol. 16, No. 4) “Intercomparison and validation of ocean-atmosphere flux fields”

# **TORs for WGSF (as proposed at JSC-23 in Hobart):**

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-  *to review the requirements of the different WCRP programmes for air-sea fluxes;*
-  *to develop communication and co-ordination between the research initiatives of WCRP and IGBP on air sea-fluxes;*
-  *to encourage research and operational activities aimed at improving the knowledge of air-sea fluxes;*
-  *to keep the scientific community and the JSC informed of progress achieved through regular reports, World Wide Web, and as necessary, scientific workshops.*

# **Proposed specific objectives of WGSF** **for the nearest perspective:**

**ongoing compilation, evaluation and intercomparison of existing flux data sets, including those of biogeochemical fluxes;**

**further improvement of parameterisations of physical and biogeochemical fluxes, quantification of uncertainties in surface flux products and development of metadata for these products;**

**assessment of model sensitivity to and limits on predictability from errors associated with surface fluxes and development of objective analysis schemes and data assimilation techniques in support of the coupled system (re-) analysis;**

**development of strategy for merging and combining surface flux data sets to meet the requirements of WCRP and IGBP;**

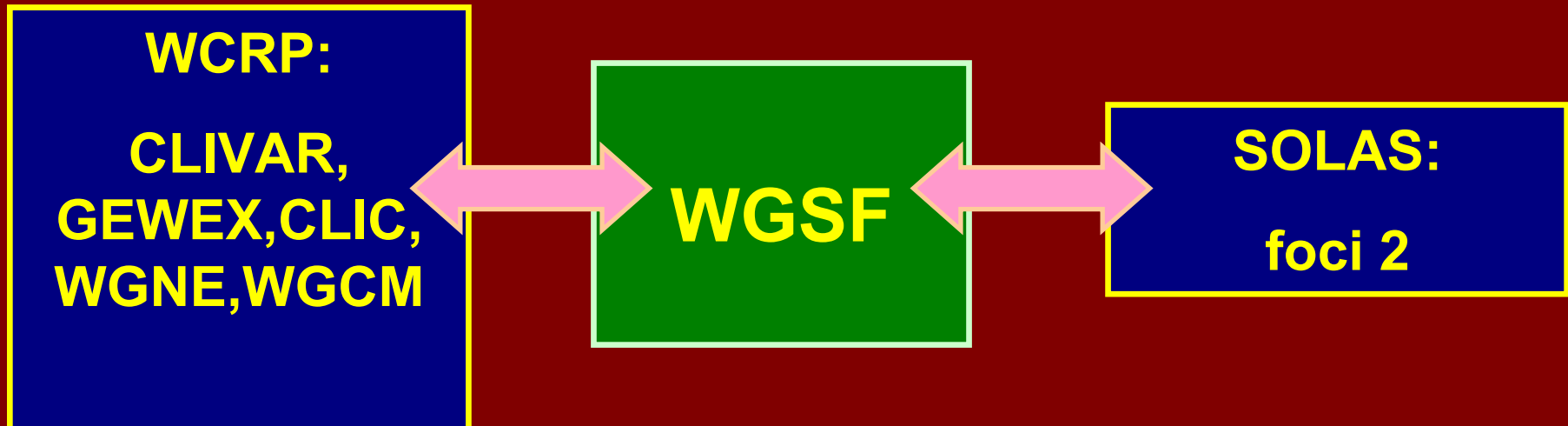
**development of the requirements for flux and flux-related observations in co-operation with IGBP, GCOS, GOOS and other relevant activities;**

**interaction with and support to SOLAS;**

# Co-operation with SOLAS:

## Basic approach:

- ❑ Focus on the cross-cutting issues (parameterizations, in-situ observations, sampling and spatial analysis procedures)
- ❑ No split – discuss together all issues, including those primarily important for WCRP and SOLAS only
- ❑ Try to account for both WCRP and SOLAS issues considering all activities of the WG



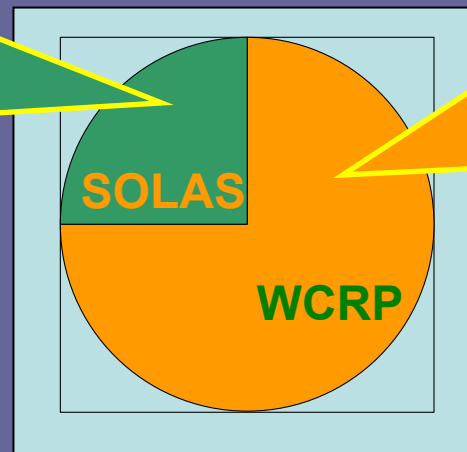
# Consideration of fluxes over the land:

In general, within the framework of WGSF future consideration should be given to the fluxes over the land. This may require some modification of TORs and membership in [*tentatively*] 2-3 years. In the initial stage [2-3 years], a close co-operation with the relevant GEWEX panels and WGCM is recommended.

## Membership (to be developed by the chair):

General approach: WCRP (2/3-3/4) + SOLAS (1/4-1/3)

- biogeochemical fluxes
- particle fluxes
- deposition
- measurement technologies



- NWP fluxes
- data assimilation
- satellite fluxes
- VOS fluxes
- parameterizations
- fluxes for ocean modelling
- wind waves
- fluxes over ice
- surface flux variability
- flux observing systems

# **Working Group Membership**

*Draft by C. Fairall, Peter Taylor, David Legler*

October 10, 2003

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## **Ex Officio: Peter Taylor**

**JSC and SOLAS: Sergey Gulev (Shirshov IO), Peter Schlosser (Columbia U), Ken Denman (CCCMA), M. T. Zamanian (IRIMO)**

## **Membership Expertise:**

**Radiative fluxes, Climate Models, Buoys, VOS/GLOBAL, Fluxes over Ice/Snow, Precipitation, Satellite Fluxes, Data Assimilation, Data Bases, Waves, Turbulent Fluxes**

# Working Group Plans

October 10, 2003

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## **\*Populate the Working Group**

## **\*Open communications with WCRP 'constituency'**

## **\*Start a Website**

**Handbook on best practices for flux measurements**

**Selected flux parameterizations (codes)**

**Selected flux data bases**

**Links to other flux databases**

## **\*Develop strategies/plans to meet our objectives**

**development of the requirements for flux and flux-related observations in co-operation with IGBP, GCOS, GOOS and other relevant activities;**