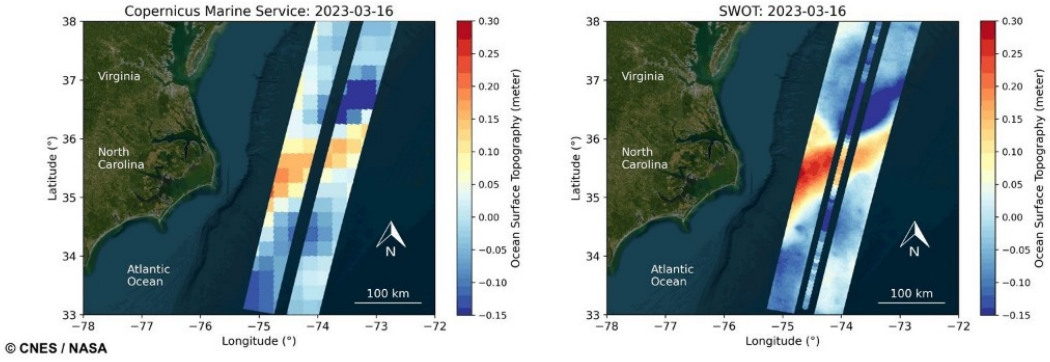
CENTRE NATIONAL D'ÉTUDES SPATIALES

June 15th, 2023

CNES – DS/DAP/EOT-2023.0003958



presse.cnes.fr | SWOT water-tracking satellite sends back first stunning views

RESEARCH ANNOUNCEMENT

INTERNATIONAL SWOT SCIENCE TEAM RENEWAL

Notices of Intent due Monday, October 2nd 2023
Proposals Due Monday, October 30th 2023

1. Research announcement

The CNES, in agreement with NASA, is launching a research announcement for SWOT science team renewal. The CNES call is open to French and international (except US) laboratories. French teams that are selected will be funded through the French national TOSCA program. International collaborators selected onto the SWOT Science Team will have to ensure that their activities are financed by their national bodies.

A similar and aligned research announcement has been released by NASA on May 22nd 2023, soliciting US proposals in the frame of ROSES-2023 omnibus NASA Research Announcement. The specific NASA ROSES-23 call Id is: NNH23ZDA001N-.

The combined purpose of these research announcements is to re-establish the SWOT science team from 2024 through 2027.

The results of this CNES call concerning the accepted projects will be communicated by end of March 2024.

CNES and NASA will communicate on the new selected membership of SWOT 2024-2027 Science Team by May 2024.

2. Background

Surface Water and Ocean Topography (SWOT) is the first satellite mission to measure the elevation of nearly all water on Earth's surface. As a global survey, SWOT will create detailed maps of the water surface topography over the open and coastal oceans, lakes and rivers, reservoirs, and other bodies of water. After two decades of preparation for the mission since its conception by the Wide Swath Ocean Altimeter group in the early 2000s (e.g., Fu and Rodrigues 2003; Alsdorf and Lettenmaier, 2003), SWOT was launched on December 16th 2022, illuminating the night skies of central California at the Vandenberg Space Force Base and commencing a new era in high resolution satellite remote sensing of Earth's ocean and inland surface waters.

The SWOT observatory uses a combination of radar altimetry and interferometry and was jointly developed by NASA and the Centre National d'Etudes Spatiales (French Space Agency, CNES), with contributions from the Canadian and the United Kingdom Space Agencies. The key instrument on board the SWOT satellite is the Ka-band Radar Interferometer (KaRIn). KaRIn is a first-in-flight demonstration of wide-swath SAR (Synthetic Aperture Radar) interferometry and paves the way for more accurate and comprehensive mapping of Earth's surface water from space. Using interferometric principles, KaRIn combines multiple radar signals to generate high-resolution 3D maps of the water surface over a wide (120-km) swath. As a result, SWOT observes the location, shape, and evolution of the ocean surface at about 15-km horizontal resolution, which is ten-times finer than the previous Jason-class altimeters; over land SWOT surveys millions of lakes larger than 250 m x 250 m and rivers wider than 100 m across the globe (see SWOT mission).

The first images of Earth's ocean and inland waters sent by SWOT revealed promising results and indicated higher-than anticipated instrument accuracy.

SWOT's highly anticipated data are expected to advance a range of Earth science applications, including land hydrology, ocean physics, water and energy cycles, coastal and estuary dynamics, sea-ice and cryosphere applications, and broader climate science. SWOT will also provide practical information for water resource management, infrastructure planning and development, disaster and hazard response, and other decision-making contexts ranging from agriculture to energy and geopolitics.

Via twin, jointly-released solicitations, NASA and CNES seek studies that will demonstrate the potential of the SWOT's innovative wide-swath SAR interferometry, while recognizing the complexity and novelty of the measurement system as we begin to learn about SWOT's capabilities in the coming years. As a critical piece in assessing the mission's scientific success, the main charge for the SWOT Science Team is to provide robust evidence of how SWOT's new technological capabilities that provide high-resolution and high-precision mapping enable new discoveries across a wide range of Earth science and applications.

3. Scope of the call

The goal of this program element is to select members of the international SWOT Science Team that will function from 2024 through 2028. NASA will select and provide funding for the selected proposals from U.S.-based institutions, whereas CNES will be responsible for the selection of the international projects (excluding U.S.) and the funding of French projects, via its independent science committee TOSCA (Terre-Océan-Surfaces Continentales-Atmosphère science committee) recommendations. NASA and CNES will coordinate in the selection of proposals from foreign organizations, to ensure continued growth of the international SWOT community, which today includes science team members from 17 countries spanning five continents across the globe that were selected from a previous competition.

The overarching objective of the SWOT Science Team is to demonstrate the potential of the SWOT observing capabilities in societally-relevant Earth science studies. To encourage scientific creativity while recognizing the novelty of the SWOT system, the following priorities for the next phase of the SWOT Science Team are listed here and expanded upon in the Sections 3.1-3.2 below:

(1) Understanding measurement physics and data challenges to improve the utility of SWOT data products

(2) Novel Earth science and research applications with SWOT observations.

To be considered responsive to this call, proposers must address one or both SWOT Science Team priorities as detailed below.

3.1 Understanding measurement physics and data challenges to improve the utility of SWOT data products

The SWOT mission project team is responsible for the development and distribution of the best-possible standard data products, including sea surface height, river and lake height and area, and river slope. To complement the efforts of the SWOT mission project team in the area of data product definition, calibration, and validation, NASA and CNES solicit proposals to improve our understanding of the physics of the novel and complex measurements of the SWOT's KaRIn instrument. Examples of data challenges and desired solutions include the removal of errors in sea surface height due to the presence of ocean waves and sea-state bias across the swath, correction of the electromagnetic bias at the Ka-band frequency and other known sources of signal contamination, errors in the mean sea surface and other geophysical corrections, the prediction and separation of ocean tides and internal tides at these new scales, as well as improved classification of terrestrial hydrologic features based on enhanced understanding of SWOT phenomenology.

The results of studies in this category are expected to increase robustness of the SWOT standard data products, including sea surface height and anomaly, ocean wind speed and significant wave height, river parameters including water elevation, slope, width, derived discharge and inundation extent, or lake attributes such as water elevation, area, and derived storage change.

In addition to improving standard data products through characterization of measurement physics, NASA and CNES seek innovative ideas to develop useful methods and data products that address other known challenges, such as temporal sampling, separation of balanced ocean motions, internal gravity waves and long ocean swell, river-floodplain interactions, etc. Examples of community-driven product development can include L3 products as the improved corrected swath, or higher-order products on a regular space and time grid or with multiple satellite missions (Level 4 products); assimilation of SWOT data into regional or global modeling frameworks (coupled, ocean, hydrologic or hydrodynamic models); exploration of relevant data-integration and digital twin

efforts, particularly those targeting coastal regions and river deltas; development of data products based on information from SWOT and other satellite missions, such as riverine sediment transport, ocean currents or products that jointly exploit the global KaRIn radar backscatter and heights in various applications (e.g., air-sea interaction processes or improved lake storage estimates); development of new mean sea surface estimates; improving ocean tide and internal tide models including nonstationary tides; improved representation of tidal effects in rivers and estuaries, and other useful data products that will advance the utility and broaden the range of science applications and users of SWOT data.

To ensure robustness of data products, proposers to this category are encouraged to take advantage of the relevant surface measurements collected during a series of distributed field campaigns conducted during the mission's calibration and validation phase. Measurements include in situ and airborne observations in multiple rivers, lakes, open-ocean, and coastal environments and will be made publicly available upon completion of the campaigns.

3.2 Novel Earth science applications with SWOT

The major objective of the SWOT Science Team is to demonstrate how the novel type of measurements and detailed maps of Earth's surface water provided by SWOT are essential for understanding ongoing changes of the Earth's water and energy cycles. The ultimate goal is to use this information to help humanity better manage our planet's water resources today and in the future. To achieve this goal, NASA and CNES solicit compelling proposals incorporating SWOT measurements to track and predict the movement, distribution, and storage of water around the world. Given SWOT's unique design to monitor the entire water supply-demand chain, from water origin in the ocean to water sinks and storage on land, studies exploring Earth's water cycle as a global and complete system are of high priority. Understanding and articulating SWOT's unique contribution within the NASA, CNES and/or global water-observing satellite fleet is an important metric of the mission's scientific impact, with implications for the development of future missions with similar capabilities. Therefore, synergistic use of SWOT data with other water-focused satellite missions to understand and predict the change in the global water cycle, including pattern amplification and intensification of hydroclimatic extremes, are sought here. More generally, studies demonstrating how SWOT's novel high-resolution views of Earth's water enhance our knowledge of other fundamental Earth cycles (e.g., energy, mass, carbon) and interactions within the A.11-4 Earth's ocean-atmosphere-land-cryosphere-biosphere-human system are also of high programmatic relevance.

In addition to global studies, proposals that convincingly demonstrate the utility of SWOT measurements in regional and/or domain applications are solicited. Examples of such proposals can include studies of water storage in lakes and reservoirs, their change over time and implications for the biosphere-ocean-human system; variations in river heights, slope, inundation, and discharge at sub-monthly, seasonal, and annual timescales and linkages with climate and risk management; understanding coastal environments using high-resolution (~50-m) coastal data and helping addressing urgent coastal challenges associated with sea level rise, coastal erosion, loss of freshwater, etc.; the role of ocean sub-mesoscales, fronts, and eddies in the Earth's regional or global energy and water budget; improving predictability of ocean tides and high-frequency motions; novel applications for sea-ice, in land ice and cryospheric science, inland moisture; or improved mapping for marine geophysics; etc. The list of explorations and topics is open-ended. SWOT's new era in satellite remote sensing of Earth's water presents ample opportunities to have many first views. After two decades of waiting to get a new look at Earth's water with SWOT, the time is ripe to be bold and creative, innovating and inspiring.

To enhance societal benefits of the SWOT mission, NASA and CNES welcomes application incubation proposals that explore the utility of integrating SWOT information into practical applications, such as water resource management, coastal protection, climate resilience, weather prediction, etc. SWOT information can include, e.g., data products, derived quantities, data-assimilation/integrated or digital twin estimates, and any other SWOT-enabled products including those developed by other team members under category 3.1, as described above.

4. SWOT data products

A general description of the SWOT standard data products is available on Aviso+ portal: Data products (altimetry.fr)
The access to SWOT Ocean/Coastal products is described on the same page.

The access to SWOT Hydrology products is via hydroweb.next (theia-land.fr)

5. The SWOT science team functioning

The joint CNES/NASA research announcements provides the selection of SWOT Science Team members. Each team selected will conduct its research project and will interact with program management teams from space Agencies. The SWOT science team will continue to function much as its predecessors with annual meetings alternately in Europe and US or alternately with e-meeting to reduce carbon footprint. During these meetings the status of the mission will be presented, scientific investigators will be invited to present poster or oral contributions and to discuss about results of their research and topics to be addressed to provide advisory to the SWOT project teams.

Selected proposers are expected to join the SWOT Science Team thematic Working Groups relevant to their proposed research objectives, and budget appropriate resources to participate in the monthly group discussions. For relevant topics, selected members will be encouraged to interact with the Ocean Surface Topography Science Team OSTST.

Attendance at these annual meetings is required for the SWOT Principal Investigators. The Science leads from NASA/JPL and CNES will function as the primary liaison between the project and the SWOT ST members.

6. Proposal requirements

Interested scientific teams must propose projects in relation with the objectives detailed in section 3.

For members of the current Science Team period (2020-2023):

1) Due to the covid pandemic that impacted on projects' organization (no travel, delay of activities…) and due to the delay of SWOT launch, many SWOT projects have not yet ended and have sufficient funding to continue for at least one or more years. For these projects, the PI is requested to send a Notice Of Intent (deadline October 2nd, 2023) to remain in the renewed Science Team for TBD years to the end of their project. They should provide their continuing study plan and the list of co-I SWOT ST members. In that case, no proposal needs to be submitted to this call.

2) If the project 2020-2023 ends this year, the PI can submit a new project, either in continuation of the work done or totally new. If the proposal is a continuation of the work selected for the current Science Team period (2020-2023), a summary of the previous results should be presented.

All new projects must detail the experience and qualification of the Principal and Co Investigators in their related field. The description of work should cover a period of up to four-years (2024-2027).
The main expected outcomes of the proposed work should be described: algorithm and/or product assessment, new product definition, scientific publications, use of data for science and applications, ...

Final selection to join the SWOT ST will require that an adequate support be obtained by these teams, either through TOSCA/French funding for the French teams, or from national funding for international teams.

Each proposal must have a letter of support from their Head of the Institution, stating that necessary facilities will be provided for carrying out the proposed work. European and non US proposers are invited to submit their

proposal in response to this CNES Research Announcement. US proposers are invited to submit their proposal to the NASA ROSES-23 Research Announcement. SWOT proposals may be submitted by a Principal Investigator (PI) with one or more Co-Investigators (CoIs).

The proposal must not exceed 20 pages (single space) including figures, tables, references in accordance with the guidance provided in Appendix. Additional information such as curriculum vitae and other relevant information shall be attached as an appendix.

Proposals are invited to include the objective to carry out peer reviewed, publishable scientific research using SWOT data, eventually merged with other satellite or in situ data or models. This will contribute to a successful utilization and validation of the combined data as judged by the quality of the results and the scientific impact of the publications.

Appendix A-1 contains further detail to prepare and submit proposals in response to this announcement.

7. Review and selection

All proposals will be submitted to an objective review with international peer reviewers in accordance with the guidelines and programmatic conditions provided in this solicitation. CNES will rely on its independent scientific committee TOSCA to analyze the peer evaluations and propose the selection. The outcome of this review process is a proposed selection to be endorsed by CNES.
Coordination between CNES and NASA will be setup for the final selection of non US and non-French proposals.

By submitting a proposal, the investigator and his institution agree that CNES have the option to make a tentative selection pending a successful feasibility or definition study of the proposed investigation and, in addition, upon confirmation of the availability of adequate financial support by the proponent's funding agency. Furthermore, for French proposals, CNES plans to contract in phases for implementation of a proposed investigation and to discontinue the development of an investigative effort at the completion of any phase.

The investigator should also understand that CNES may desire to select only a portion of the proposed investigation in which case the investigator will be given the opportunity to accept or decline such partial acceptance. In cases in which two or more proposals address similar topical problems and/or adopt similar approaches to data analysis, CNES may desire joint participation on the part of two or more proponents in a single data analysis project. Where joint participation with other investigators is agreed to, a single individual will be designated as the PI for the investigator group.
CNES reserves the right to reject any or all proposals received in response to this Announcement when such action shall be considered in its best interest.

The PIs will be selected for an anticipated period of four years. A new announcement of opportunity may be organized before or at the end of this period to extend the work of this selected team.

For non-French and non-US proposals, proposers will have to seek and to secure appropriate sources of funding from appropriate national, European or international authorities. It is essential for proposers to document the funding sources required to enable their proposed SWOT ST investigations.

The key selection criteria are

1. The quality of the proposal received in terms of scientific content and completeness.
2. The relevance of the proposal to the different research themes and objectives as explained in section 3.
3. The experience and qualifications of the Principal Investigator and the Co-Investigators.

French proposals, when selected, may be directly funded by CNES, see section 7. Hence, for French proposals the review will be combined with a programmatic review in which CNES program officers will assess programmatic balance across the highly rated proposals and evaluate any logistical, implementation, cost, or management concerns related to these proposals.

8. Funding

French proposals when selected may be directly funded by CNES under this solicitation. The funding available for French investigators will come from CNES national program budget appropriations, in accordance with TOSCA rules and procedures, for scientific and Cal/Val investigations. Data and products resulting from those French researches will be available and promoted via ODATIS and THEIA/HYDROWEB portals.
Non-French proposals do not receive funding under this solicitation. The proposers will have to seek and secure appropriate sources themselves, e.g. from relevant national, European or international authorities. When needed, CNES may provide letters of support to help selected investigators in their respective funding request.

9. Submission and schedule

All proposals to this announcement shall be **sent to CNES** by mail sent at: swot_st@cnes.fr

- The name of the proposal file shall be composed of:
  - SWOT
  - Project acronym
  - Laboratory/organization name
  - Proposing PI name

  Example: SWOT_ ProjectName_LABO_PIname
- CNES mailbox limits mail exchanges up to 10 Mo per mail

All proposers to this announcement are invited to submit their proposals

by 17:30 CET, on October 30th, 2023.

Late proposals will not be considered for review and funding.

The complete proposal schedule is:

- Release of joint research announcement, June 15th, 2023
- Reception of Notices Of Intent (NOI), by mail at swot_st@cnes.fr; **October 2nd, 2023**
  - **NOI is mandatory for current projects that have not yet ended (see section 5)**,
  - NOI is not mandatory for new projects but it will allow us to optimize the peer review process, 4 different reviewers' names may be proposed),
- Proposals reception by mail at swot_st@cnes.fr, **October 30th, 2023**,
- Selection results communication will be made **by end of March 2024**
- CNES and NASA will communicate on the new selected membership of SWOT Science team **by May 2024**

Appendix A-1 contains the detailed guidance needed to prepare proposals in response to this announcement.
Appendix A-2 provides additional guidance for proposers outside France.
Appendix B provides the proposal cover sheet form.
Appendix C provides additional guidance for Notice Of Intent.

If you have any questions concerning the scope of the call, the Points of Contact are the following:

Rosemary Morrow, Oceanography mission PI: rosemary.morrow@legos.obs-mip.fr
Jean François Crétaux, Hydrology mission PI: jean-francois.cretaux@legos.obs-mip.fr
Philippe Maisongrandre, Land program manager: Philippe.maisongrande@cnes.fr
Aurélie Strzepek, Hydrology Program manager: Aurelie.Strzepek@cnes.fr
Aurélien Carbonnière, Coastal & Cryosphere Programs manager: Aurelien.Carbonniere@cnes.fr
Annick Sylvestre-Baron, Ocean Program manager and SWOT program manager: Annick.Sylvestre-Baron@cnes.fr

If you have any other questions concerning the call, the Point Of Contact is:

Annick Sylvestre-Baron, CNES SWOT program manager: Annick.Sylvestre-Baron@cnes.fr

APPENDIX A-1

1- Guidelines for responding to the SWOT announcement

Each proposal may be written in French or English, but **a full copy in English shall be made available at the time of submission.**
Each proposal should be composed of

- one or several cover letters (model provided in Appendix B).
- the main document which must not exceed 20 pages (single space) including figures, tables,
- appendices with at least the PI curriculum and publication list

The main document must contain the following sections:

Principal Investigator

Surname, First name
Title
Affiliation (laboratory, institution, ...)
Address
E-mail, telephone

Co-PI: If relevant, PI last name, PI first name, Organization/Institution

Co-Is: List of main co-Is involved, names and affiliation

Title of the project: a short descriptive title,
Research proposal acronym: alpha-numeric identifier, very appreciated to help proposals management,

Geographical areas of interest: global ocean, coastal, inland, list of Geographical areas
Combined use of data from different sources: list satellite missions, in situ means

Summary

A simple, concise statement about the investigation, its conduct and the anticipated results. This summary should not exceed one single-spaced, typewritten page.

Science objectives:

Proposals are primarily solicited in the fields indicated in section 3 of the core document of this Announcement. The Proposal should identify and detail its contribution to each of its fields of relevance. For each contribution, a brief description of the technical objectives and their relationship to past research efforts and the current state of-the-art should be given. The scientific rationale for the proposed investigation should be clearly established through reference to existing scientific literature and other publications. Proponents are encouraged to define explicit hypotheses that will be tested and/or evaluated by the proposed project.
The significance of the proposed study should be defined in terms of its relationship to earlier studies of a similar nature and/or to implications of the anticipated results. The proposal should attempt to characterize the relative degree of innovation associated with the objectives or approach of the proposed study. In addition, the proposal should attempt to characterize the importance of

the anticipated results in relation to the current state of knowledge within particular disciplinary fields. The extent to which the anticipated results will influence the definition and conduct of future research and/or operational projects on similar or related topics should be discussed in the proposal. If the proposal is a continuation of the work selected for the first Science Team period (2020-2023), a summary of the results will be presented.

Work plan and project Schedule

The overall methodology and the sequence of key milestones of the investigation should be presented in some detail.

Management plans are encouraged for all international proposals.
Management plans are required for all French proposals to CNES requesting French funding.
The management plan should summarize the management approach and the facilities and equipment required.

Management

The management plan sets forth the investigator's approach for efficiently managing the work, the recognition of essential management functions and the effective overall integration of these functions. It also mentions the link (if any) with other national or international programs. Likewise, the management plan usually reflects various schedules necessary for the logical and timely pursuit of the work, accompanied by a description of the Principal Investigator's work plan, the amount and responsibilities of the scientific collaborators (if any) and the amount and responsibilities of the technical collaborators (if any).

Facilities and Equipment

All major facilities and equipment essential to the proposed investigation should be indicated, including those of the investigator's proposed subcontractors and those of CNES and other French Government agencies (or foreign agencies in the case of non-French proposals or joint proposals). Existing equipment should be explicitly differentiated from facilities that will be developed to implement the investigation. Procurement schedules and lead times for the acquisition and installation of new equipment and facilities should also be indicated. Since these investigations will focus on data analysis, the development of new equipment and facilities will be limited only to the support required for these analyses.

Type of SWOT data requested for the proposal

The proposal should specifically identify the data required by the investigation. Ancillary types of data or models to be employed in the analysis and interpretation of data should be clearly identified. Sources of ancillary data should be described along with the procedures that will be used to obtain and reduce ancillary data sets. There should be a clear and logical connection between the data that will be employed by the investigation, the information that will be extracted or inferred from these data and the manner in which such information will be used in addressing the objectives of the investigation. In cases where detailed studies of particular regional areas will be conducted, the proposal should explicitly define the factors that were considered in regional selection.

Main expected outcomes of the project

As far as feasible, the expected outcome of the proposed project should be presented. The significance of these results should be discussed, if possible, in terms of their scientific or real-time application interest and implications for future research and development.
Choose one or several in the following list.

- algorithm and/or product assessment,
- new product definition,
- scientific publications,
- other (precise).

Resources and Cost plan

- Resources brought by the team and its institution
- personnel (Salary costs of PIs/CoIs, other personal)
- functioning budget
- existing data, models, …
- specific resources requested in the context of this project (specify the framework to cover the request)

Cost Plan (French Investigators Only)

The cost plan should summarize the total investigation cost by major categories of cost as well as by function.

Total Cost categories

- Materials: This should give the total cost of materials including estimated cost of each major item. Included lead time for purchasing critical items.
- Travel: This should give the estimated number of travel requested, destinations, duration, purpose, number of travellers and anticipated dates.

As a rule, direct labour and overhead costs will not be considered.
The cost borne by the PI's organization or the organization endorsing the proposal (and signing the cover letter) should be clearly identified, as well as the costs for other organizations.

Detailed cost schedule

Separate schedules for each year should be attached to show total cost allocable to the following:

- Principal Investigator and scientific collaborators costs.
- Data processing and analysis including the amount and cost of computer time.
- Cost of auxiliary data or model analysis (if any) to be acquired by the investigator.
- Cost of field studies.

References

Appendices

- PI curriculum vitae including a short list of representative publications
- Each Co-Is curriculum vitae including a short list of representative publications
- Any other information if necessary for the reviewing process

NB: It is anticipated that a large number of proposals will be received by CNES in response to this Announcement. To expedite the proposal evaluation process and assure fairness to all proponents, the length restrictions described above will be strictly enforced. If a prospective investigator fails to observe the restrictions on proposal length cited above, CNES reserves the right to return the proposal to the proponent upon receipt without further review or evaluation.

APPENDIX A-2

GUIDELINES FOR FOREIGN PARTICIPATION

Proposals from entities located outside the U.S. and France, (hereafter termed foreign entities) in response to this Announcement, are encouraged. All proposals should be sent to CNES.

Proposals from foreign entities should not include a cost plan. Foreign proposals or proposals that include foreign participation must be endorsed by the respective government agency or funding/sponsoring institution in the country from which the foreign participant is proposing. Such endorsement should indicate the following points: (1) The proposal merits careful consideration by CNES; and (2) If the proposal is selected, sufficient funds will be made available by the sponsoring foreign agency to undertake the activity as proposed.

Proposals, along with the requested number of copies and Letter of Endorsement must be forwarded to CNES in time to arrive before the deadline established for this Announcement.

All proposals must be typewritten in English. All foreign proposals will undergo the same evaluation and selection process as those originating in U.S. or France. Foreign proposals or proposals that include foreign participation, must follow all other guidelines and requirements described in this Announcement. Sponsoring non-U.S. non-French agencies may, in exceptional situations, forward a proposal without endorsement to the above addresses, if review and endorsement are not possible before the announced closing date. In such cases, however, CNES should be advised when a decision on the endorsement is to be expected.

Non-French individuals who plan to participate as Cols in a proposal submitted by a French PI must have such participation reviewed and endorsed by their appropriate governmental agency before proposals involving such participation can be selected in the selection process. Evidence of such review and endorsement should be provided at the time that the proposal is submitted or as soon as possible thereafter.

Successful and unsuccessful proposers will be contacted directly by the CNES program manager.

APPENDIX B

Model of Proposal cover letter

CNES SWOT Research Announcement

Proposal No. _____ (Leave Blank for CNES Use)

Title: _____

Principal Investigator:

Name: _____

Department: _____

Institution: _____

Street/PO Box: _____

City: _____ State: _____ Zip: _____

Country: _____ E-mail: _____

Telephone: _____ Fax: _____

Co-Investigators:

Name	Institution	Telephone
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Budget requested (only for French Investigators (PI or Co-I))

1st Year _____ 2nd Year _____ 3rd Year _____4th Year

Total: _____

Signature of PI with name, designation and date

Signature of Institution Head with name, signature and date

APPENDIX C

NOTICE OF INTENT TO PROPOSE

NOI are mandatory for current project not yet ended (see section 5).

For the new project, in order to plan for a timely and efficient peer review process, *Notices of Intent* (NOI's) to propose are strongly encouraged by the date given in this call.

The submission of a NOI is not a commitment to submit a proposal, nor is information contained therein considered binding on the submitter. NOI's are to be submitted electronically by sending the requested information at:

swot_st@cnes.fr

At a minimum, the following information will be requested:

- Research proposal acronym, alpha-numeric identifier,
- the Principal Investigator's name, mailing address, phone number, and E-mail address,
- the name(s) of any Co-Investigator(s) and institution(s) known by the NOI due date,
- a descriptive title of the intended investigation; and,
- a brief description of the investigation to be proposed.

In addition, a list of up to four names may be suggested as peer reviewers by the Investigator.

A separate NOI must be submitted for each intended proposal.