

LETTER OF INTENT (LOI)

BETWEEN INSTITUTO NACIONAL DE PESQUISAS ESPACIAIS (INPE), BRAZIL AND DELTARES, THE NETHERLANDS

This Letter of Intent (LoI) is concluded between:

The Undersigned

Name: **Instituto Nacional de Pesquisas Espaciais** (henceforth, **INPE**)
(the National Institute for Space Research, under the Brazil
Ministry of Science, Technology and Innovation)

Official address: Av. dos Astronautas, 1758
Jd. Granja – CEP: 12227-010
São José dos Campos – SP; Brazil

Legal representative: Mr. Leonel Fernando Perondi

Title: Director

and:

Name: **Stichting Deltares** (henceforth, **Deltares**)
(the independent not-for-profit Foundation and knowledge
institute for the management of water, soil and subsurface
issues)

Official address: Rotterdamseweg, 185
2629 HD Delft; The Netherlands

Legal representative: Mr. Maarten Smits

Title: General Manager

Parties henceforth referred to as "Party" and together as "Parties".

Where the parties are

- wishing to strengthen the bonds between both Parties,
- considering the potential common interest to further develop applied scientific and technological co-operation,
- recognizing that close scientific and technical co-operation contributes to the development of the human and technology resources of both Parties,
- mutually interested in pursuing applied scientific and technological cooperation in the field of coastal, inland and ground- water studies, referring to integrated approaches and operational tools for engineering, scientific and management purposes.



Parties agree to the following intention

Parties shall endeavor to cooperate in sharing and providing state-of-the-art specialist knowledge, approaches and tools related to coastal, inland and ground- water studies for engineering, scientific and management purposes. The intended cooperation focuses on furthering the use of Deltares software and the utilization of Dutch Water knowledge in the work program of INPE. The intended cooperation will refer to international standards and to experiences of Deltares in applying such integrative techniques and approaches world wide.

This cooperation will focus on:

- Coastal and shelf ocean studies and numerical modeling efforts, including hydrodynamics, waves, sediment transport, coastal erosion, and water quality studies;
- Pilot demonstrations using existing data and models;
- Further development of technical tools;
- Advice and/or joint research activities on specific areas of interest, as regarded relevant to further improve the integrated operational systems for early warning and disaster risk reduction;
- Working together towards the establishment of a Memorandum of Understanding (MoU) that will define the specific terms and conditions for the intended cooperation. Both Parties will endeavor to negotiate and execute this MoU in a timely fashion.

The fields of joint activities may include, but are not limited to:

- Joint development and/or application of tools for integrated data handling and model platforms;
- Analysis, advice and capacity building on integrated approaches for operational early warning of natural disasters;
- Sharing and further development of technical and quantitative modeling aspects of coastal circulation and waves, including effects of storms on sediment transport and water quality;
- Other forms of cooperation as may be mutually agreed upon.

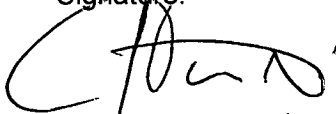
The contact persons responsible for coordinating activities arising from this Lol are Mr. Frank Hoozemans, Director of Marine and Coastal Systems Unit ("ZKS"), on behalf of Deltares, and Mr. Osvaldo de Moraes, Director of the Weather Forecast and Climate Studies Center ("CPTEC"), on behalf of INPE.

This Lol is not intended to be legally binding on either Party, and may be terminated by either of the Parties, by giving written notice to the other Party. Furthermore, none of the Parties shall be allowed to act on behalf of the other Party, or commit the other Party in any way, except with the prior written consent of the other Party.

Signed by

For INPE:

Signature:



Name representative:

Leonel Fernando Perondi

Function: Director

Date:

For Deltares:

Signature:



Name representative:

Cees van de Guchte

(For Maarten Smits, General Manager)

Function: Head of Department (Climate Adaptation and Risk Management)

Date: