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| **From** | **Direct line** | **E-mail** |
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**Subject**
Support to MAPS4SCIENCE

Dear Professor Van Oosterom,

It is with great interest that we learned about your initiative to develop a large scale research facility Maps4Science. From Deltares' combined role as data user for input for our numerical models, and as data provider through distribution of the output of our numerical model results, a facility like this is important to us, because it facilitates not only our primary process, but also adds a new dimension to the dissemination of our results to academic users and the general public.

Deltares is a leading knowledge institute in the field of delta technology. Part of our business is to develop, maintain, run and analyze state-of-the-art numerical models of the physical processes in the subsurface and water bodies of delta areas, seas and oceans worldwide. From the physical results we extract relevant state indicators to be used in policy making. For this business we foresee a dramatic shift in the dissemination of model results towards new web-based media technologies. Our clients increasingly expect immediate access of the model results via web-browsers, map-tables, tablets and smart phones, for both maps and time series. There is a pressing need for the large scale infrastructure technologies proposed by map4science for geospatial data to disseminate our model simulations, both historical and real-time. There is also an increasing demand on efficient sharing of model data as well as monitoring data amongst researchers in international projects. Here we mention some examples where Maps4Science and our business could synergize.

For many governments worldwide, including our Rijkswaterstaat and waterboards, we release our FEWS software that runs suites of hydrodynamic models operationally for storm surge forecasting purposes. These are incorporated in decision support systems dealing with marine and riverine flood safety. Currently the flood forecast results are communicated from databases

at heavy computational centers towards dedicated client software installed at operational decision support centers. This approach is proven low-risk for operational purposes. However, there is an increasing demand to disseminate such flood forecast information also to external users, including the general public and academia, without compromising the reliability of operational decision support centers. The technologies needed for this, are exactly the ones mentioned in your Maps4Science proposal. We hope to collaborate with maps4science to improve and implement the common international standards for geospatial data exchange, to allow for better dissemination of flood forecast information.

Another example where Maps4Science and Deltares could synergize is on the other extreme end of the time forecast window: climate change. The expected sea level rise and increasing river discharges over the next 100 years pose huge challenges to the overall spatial design of the Netherlands. To deal with these issues, the national Delta Program was launched. Part of this program is the Delta Model that Deltares was assigned to develop a sophisticated compound model that can be used to assess numerous integral scenarios of coping with climate change. The results of the Delta Model are to be disseminated through the Web enabled *Delta Portaal* that Deltares was also assigned to develop. The technologies needed for dissemination are again the same as mentioned in your Maps4Science proposal. We would like to collaborate with Maps4Science to provide the academic sector with proper delta information from the Delta Model and the likes, but also to benefit from the Maps4Science technologies to improve their dissemination for Delta Program purposes.

Together with amongst others Rijkswaterstaat and TU-Delft, Deltares is partner in the *Digitale Delta*, a recent initiative within the context of the Top Sector Water. It aims at providing all relevant information for managing a water system to governments, general public, academia and research institutes and commercial parties. Both examples mentioned above both are typical use cases for the *Digitale Delta*. Where Maps4Science focuses on geospatial data, the *Digitale Delta* focuses on various data sets in the water domain. We think that both initiatives can benefit from each other, by sharing techniques, knowledge and developments on accessing and providing large amounts of data.

Maps4Science is an important initiative that will be a crucial incentive for many scientists to improve and extend their research. Maps4Science will enable the Netherlands science community to reach and keep a top level position in a broad range of science domains. It will allow us to play a leading role in the research and innovation into open, shared, and linked location data and how it can be used in many fields of science.

Yours sincerely,

Prof. dr. H.J. de Vriend
Director Science