2Challenge 5 „Climate actions, environment, resource efficiency and raw materials"
HORIZON 2020 (8th Framework Programme EU)
Offer for the participation in the project that will be prepared for the 2nd call for proposals

The institution	**Name**: Institute of Meteorology, Hydrology and Water Management – National Research Institute
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Is interested in the participation in a project that will be prepared and submitted in the following topic:	
Number of the open topic and Title (from Work Programme)	***H2020-SC5-2014-2015:*** SC5-02-2015: ERA for Climate Services SC5-05b-2015: Earth-system modelling and climate services SC5-11d-2015: New sustainable exploration technologies and geomodels SC5-15-2015: Strengthening the European Research Area in the domain of Earth Observation SC5-19b-2015: Mapping Member State research and innovation in climate change, environment, resource efficiency and raw materials SC5-04-2015: Improving the air quality and reducing the carbon footprint of European cities SC5-17-2015: Demonstrating the concept of 'Citizen Observatories'

Short description of the organisation:
IMGW-PIB is a national research and development unit in Poland. IMGW-PIB operates in support of public sector as well as commercial firms and offers various services and expertises in the field of meteorology, hydrology and water management since 1919. Among the basic tasks of the Institute, one should mention performing scientific-research works and public services for the benefit of the society with regard to hydrological-meteorological protection, water management and engineering, quality of water resources, wastewater management and others. The Institute completes its tasks through the National Hydrological-Meteorological Service and Technical Service of Dam Control, closely co-operating with specialised scientific cells. Except for research and development activity, the Institute completes a number of implementation works, maintains an observation-measurement network, develops forecasts and opinions/analyses. IMGW is a member of the World Meteorological Organisation and other specialist organisations of the UN. The statute tasks of IMGW relate to forecasting and early warning about natural phenomena and disasters occurring in the atmosphere and hydrosphere and constituting a threat to public safety and to health and life of people and their property.

Proposed contribution to the project:

- providing meteorological and hydrological data (homogenization, analysis)
- advanced climatological analysis (especially in the area of the extremes, atmospheric circulation, climate changes and variability etc.)
- GIS analyses (especially environmental analysis, spatial and temporal data interpolation and spatial modelling)
- earth-observations systems and warning services
- numerical weather/climate models
- methodology and recommendations for EU strategies

Chosen references (publications, others):

Ustrnul Z., Czekierda D., 2001, Circulation background of the atmospheric precipitation in the Central Europe (based on the Polish example), Meteorologische Zeitschrift, Vol. 10, No. 2, 103-111.
Ustrnul Z., Czekierda D., 2005, Application of GIS for the development of climatological air temperature maps: an example from Poland, Meteorological Applications, Vol. 12, No. 1, 43-50.
Ustrnul Z., 2006, Spatial differentiation of air temperature in Poland using circulation types and GIS, International Journal of Climatology, 26, 1529-1546.
Huth R., Beck Ch., Philipp A., Demuzere M., Ustrnul Z., Cahynová M., Kyselý J., Tveito O.E., 2008, Classifications of atmospheric circulation patterns: recent advances and applications, Annals of the New York Academy of Sciences, Vol. 1146, pp. 105-152
Tveito O.E., Bertalanic R., Bihari Z., Dobesch H., Dolinar M., Domenkiotis Ch., Dumolard P., Helminen J., Hoelzle M., Mensink C., Moita S., Müller-Westermaier G., Lhotellier R., Luna Y., Paul F., Patriche C.V., Salzmann N., Schöner W., Silva A., Szentimrey T., Tran H.V., Ustrnul Z., 2008, Spatialisation of climatological and meteorological information with the support of GIS, [in:] The use of Geographic Information Systems in climatology and meteorology, COST Office, Luxemburg, pp. 36-151.
Ustrnul Z., Czekierda D., Wypych A., 2010, Extreme values of air temperature in Poland according to different atmospheric circulation classifications. Physics and Chemistry of the Earth, 35, 429-436 (IF 2011: 1,110)
Ustrnul Z., Wypych A., Czekierda D., 2013, Composite circulation index of weather extremes (the example for Poland). Meteorologische Zeitschrift, 22, 5, 551-559.
Wypych A., Henek E., 2014, Spatial modeling of the climatic water balance index using GIS methods. Időjárás, 118, 2, 133-145

Other information (if relevant): ----------