



World Meteorological Organization

Working together in weather, climate and water

Preparation and provision of hydrological forecasting requirements on how to formulate NWP information for use in FF to the SWFDP Steering Group

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Severe weather forecast demonstration project (SWFDP)

FFI SAP Core Solution 3 – “Actions recommended for the improvement of meteorological forecasting practices and products”

SAP recommendation	Possible action / expected result
a) NMSs should take into account the hydrologists’ needs in terms of meteorological forecasts for a closer integration of meteorological inputs in flood forecasting.	Formulating “hydrological requirements” for weather products (resolution-domain, lead time, time step, weather elements, etc.).
b) NMSs pertaining to a certain WMO Region to consider developing jointly, as required, the relevant products for hydrological use in through enhancing their capability in QPF, use of available technology such as ensemble products, and NWP to guide QPF forecasts.	Participation of system developers (or other representative) in SWFDP sub-projects planning meetings. Better SWDP-GFFGS integration – better positive effect



Severe weather forecast demonstration project (SWFDP)

FFI SAP Core Solution 3 – “Actions recommended for the improvement of meteorological forecasting practices and products”

SAP recommendation	Possible action / expected result
c) Continue improvement of the meteorological models and nowcasting products, both deterministic and probabilistic, particularly in relation to high intensity rainfall.	Mark importance of having ensemble weather products (ensemble QPF) for accounting for heavy rainfall forecast uncertainties in flash-flood forecasting.
d) l) Develop and make available state-of-the-art NWP products and techniques from meteorological services, RSMCs and other centers of excellence for application by NHSs.	Could be a part of “Hydrological requirements” Ensemble products available for GFFGS (and other projects)

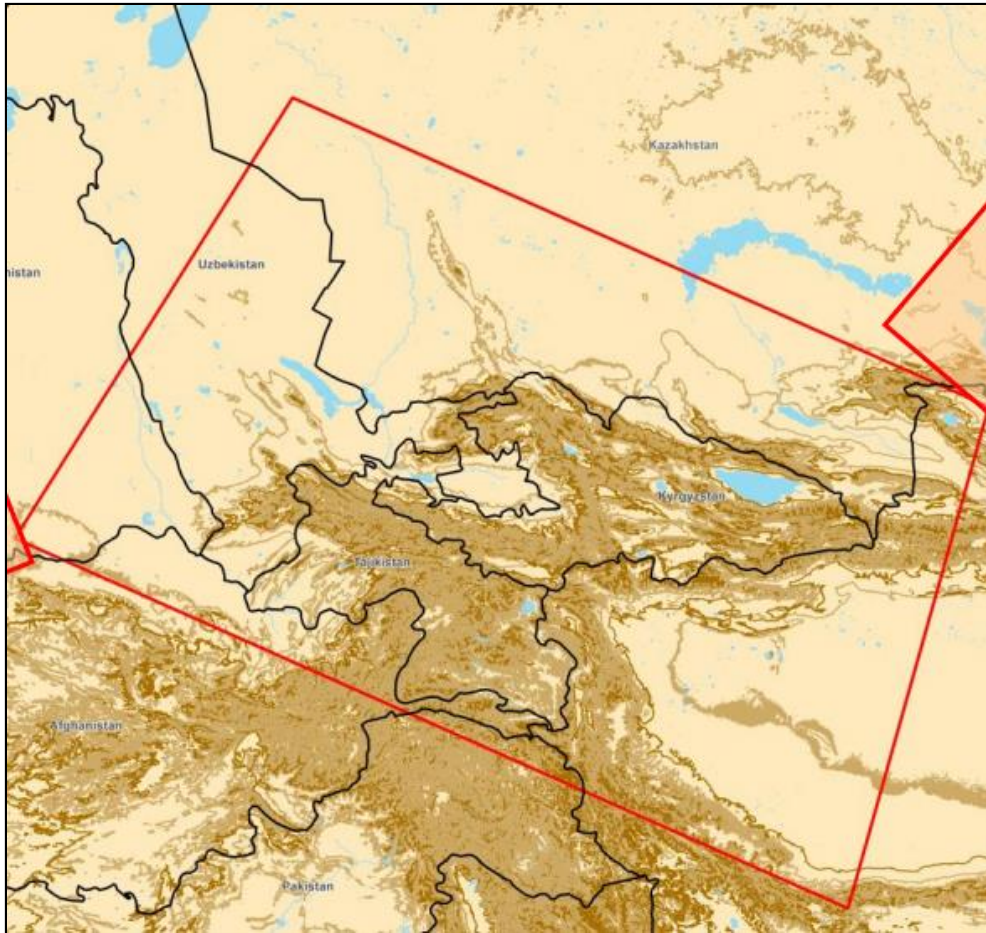


Motivation

- SWFDP strengthens capacity of NMHSs to deliver improved forecasts and warnings of severe weather
 - Flood forecasting projects (e.g. FFGS, CIFDP, others) go after the implementation of SWFDP
 - Complexity of changing NWP system settings on its later level of implementation
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Example - CARFFG



- Domain
- Resolution
- Lead-time
- Elements
- ...

Needed to be considered/
reconsidered

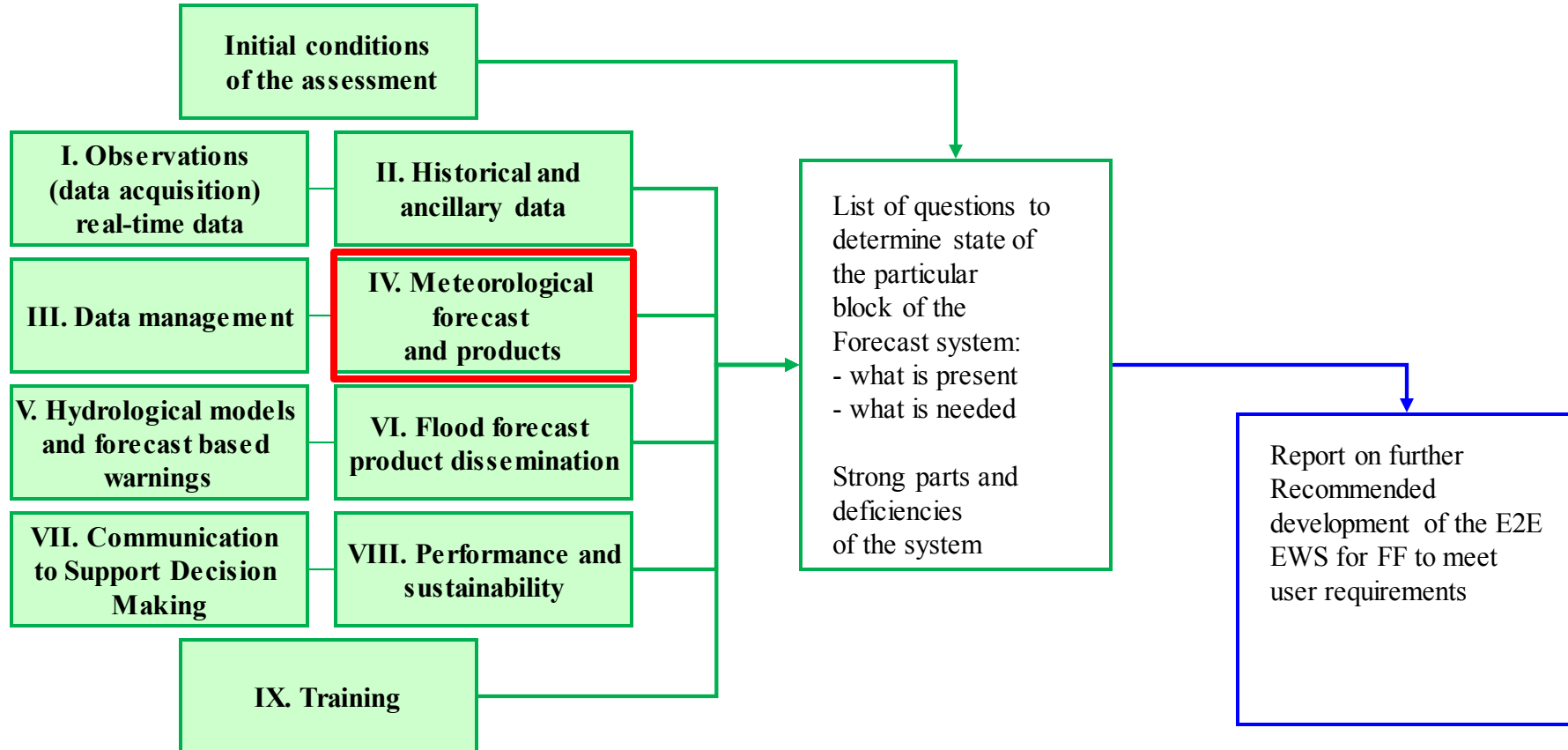


Approach

- Requirements for FF:
 - Detailed requirements (material was provided by N. Tuteja)
 - Formulating Items for the Assessment Guidelines (finalized by March 2018):
 - different types of floods
 - different geographical conditions
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The Assessment Guidelines





Meteorological forecasts and products

Item/Requirements
Provider of the meteorological forecast
Meteorological forecast products are shared with National Hydrological Service
format of shared forecast products
models
spatial resolution
temporal resolution
frequency of issuance
lead time
areal coverage
ensembles
Availability of QPE field
Sources of QPE field
questions to be asked NHS but also to NMS
Nowcasting products
methodology
thresholds



How to proceed?

- Formulate requirements to the SWFDP Steering Group
 - Brief document
 - Hydrological expertise is still needed
 - Formulate type of floods
 - Domain for specific required resolution
 - ...
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Thank you
Merci