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Environment Agency

NGMS Release Notes

Pilot-release 105330_NGMS_0.8

Report

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Peter Gijsbers

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Contents

1 Introduction

This document contains the release notes for NGMS release 105330_NGMS_0.8 which has been shipped on DVD to CIS (Bristol) on February 21, 2007.

The NGMS is a development project in which the DelftFEWS system infrastructure is utilized to implement a centrally hosted modelling environment for the groundwater and recharge models of the Environment Agency of England and Wales.

System installation instructions are provided in the System Installation Guide version 105330_NGMS_0.8.

These Release Notes describe the functionality that has been included in the current release, as well as known features and bugs. In addition, it addresses some issues where feedback is required from the EA-hydro-geologists and area staff to guide future configuration works.

2   Notes on the associated software

The pilot-versions of the NGMS are shipped with a development build. Release 105330_NGMS_0.8 is shipped with build number 3, dated January 9, 2007.

This build is the last one available for Java runtime version 1.4.2. Builds created after the 15th of January 2007 are developed for the Java 1.5 runtime.

The build of January 9, 2007 contains some software bugs which have been solved in newer builds. However, as the Forecasting Shell Servers still operate with Java 1.4.2, the build of January 9, 2007 had to be used.

2.1   Known issues on the Operator Client

The follow bugs and features are known and on the list to be analysed and fixed where required.

Module	Issue/known feature/bug	Status/Work around
SpatialDisplay	At startup, the folder structure does not stay on left side	Scroll to the left. Solution expected in FEWS 2007/1 release
Hydrograph/Time Series Display	It takes few minutes before the graph appears (= software bug)	Software bug has been resolved but is not present in build that has been shipped. An adapted version of the Display groups default 1.17.xml file is distributed by email.[1]
Longitudinal profiles	Display does not popup	The display only appears when a data set has been activated (lower left panel).

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[1]   *The adapted version appears in less than 10 seconds. It provides the full set of short cuts for WestMidlands Worfe and subsets (with limited shortcuts) for test Itchen and Yare North Norfolk.*

2.2   Known issues on the Forecasting Shell Server

The follow bugs and features are known and on the list to be analysed and fixed where required.

Item	Issue/known feature/bug	Status / Work around
Task scheduling	Manual tasks are pending for a relative long time after submission.	Wait a few minutes
Workflow execution	Workflow processing continues if a Module Instance fails. This may cause empty data records	The failure and workflow continuation depends on the type of error raised.
General Adapter runs	The General Adapter does not yet handle redirecting arguments on the shell command line. The Modflow-executable and the Module Adapter are therefore kicked-off via a batch-file. Sequential execution of these executables has been observed while that should not be the case.	Don't start to many manual jobs after each other.

3   Notes on the configuration

Release 105330_NGMS_0.7 has been configured for the Test and Itchen model, West Midlands Worfe and Yare North Norfolk model.

The release has been tested on a stand-alone machine. Limited testing has been applied on the Client-Server environment as available at Delft Hydraulics.

3.1   The Test and Itchen configuration

The Test and Itchen configuration hardly changed compared to the PR03 workshop release. Known issues to be improved in the Test and Itchen configuration

Item	Issue/problem	Status
Spatial Display	GW depth unavailable	No DTM provided. Cannot be configured.
Water budgets	Water budgets are not available for GWM units	Outstanding to be configured
Hydrographs	Shortcuts are only available for Reference data. Samples are available for scenarios data	Software bug resolved but not available in this release
Observed data	Added. Only available for observation boreholes.	No data provided for gauging stations
Model states	Expanded. Does now include: Cold model state Warm model state Most Recent model state Wet hydrological conditions Dry hydrological conditions Avg. hydrological conditions	

Expected run times on a hyperthreaded 3.6 Ghz single core machine with 2 Gb memory:
- TI_import_modelinputdata: ca. 15 minutes
- TestItchen_References (3 runs): ca. 4 ½ hours
- TI_WhatIf: ca. 90 minutes (65 minutes by Modflow VKD, remainder is IO, data compression and postprocessing).

3.2   The West Midlands Worfe configuration

The West Midlands Worfe configuration has been upgraded to nearly the same level as the Test and Itchen configuration. Known issues to be improved in the West Midlands Worfe configuration are.

Item	Issue	Status
Hydrograph	No data available for Penkridge	Cause has been detected. Penkridge is outside the active layers and hence not yet accounted for by the Module Adapter. Will be resolved
Spatial Display	GW depth unavailable	DTM has been provided. Outstanding to be configured.
Water budgets	Water budgets are not available for GWM units	Outstanding to be configured
Hydrographs	Shortcuts are available for all data.	Software bug resolved but not available in this release
Observed data	Added. Only available for observation boreholes.	No data provided for gauging stations
Model states	Expanded. Does now include: Cold model state Warm model state Most Recent model state Wet hydrological conditions Dry hydrological conditions Avg. hydrological conditions	

Expected run times on a hyperthreaded 3.6 Ghz single core machine with 2 Gb memory:
- WMW_import_modelinputdata: ca. 5 minutes
- WestMidlandsWorfe_References: ca. 1 hour
- WMW_WhatIf: 15-20 minutes.

3.3   The Yare North Norfolk configuration

The Yare North Norfolk configuration has been upgraded to nearly the same level as the Test and Itchen configuration. Known issues to be improved in the Yare North Norfolk configuration are.

Item	Issue	Status
Locations	Fully Licenced model includes 7 abstractions with unknown licences. Due to incomplete IdMapping, the what-if scenario fails	Waiting for correct licence info to be provided
Spatial Display	GW depth unavailable	DTM has not been provided. Cannot be configured.
Water budgets	Water budgets are not available for GWM units	All information available. Outstanding to be configured
Hydrographs	Shortcuts are only available for limited set of locations/parameters.	Software bug resolved but not available in this release
Observed data	Added. Only available for observation boreholes. Note: Some observations provided seem to give unrealistic changes in a few hours time. e.g. NTG3032P2, NTG0387G1, NTG3072P1, NTG3261P1 HA17 and HDP9 are doubtful, but may be valid in case of a pumping test	No data provided for gauging stations
Model states	Expanded. Does now include: Cold model state Warm model state Most Recent model state Wet hydrological conditions Dry hydrological conditions Avg. hydrological conditions	

3.4   Messages during task execution

During tasks execution a number of messages are reported in the log-file. The following messages (warnings) seem dramatic but are typically not harmful.

Message in the log-file	Cause
WARN - GA.Execution.Model.Warn Warn in adapter model: Unrecognised flow component (RULES) - It is recommend that this flow component be added to the parameter ID file.	Modflow Module Adapter does not yet support Rule-parameters as applied in MFSSQ02-code
WARN - All values are unreliable in timeseries	Data processes uses combination of data types with different validation levels. Consequently, the system flags this difference with a relative dramatic warning.

The following messages (warnings) tend to be more harmful and may be a cause of missing data.

Message in the log-file	Consequence	Cause
Could not map parameter and location	Well data not complete to run what-if scenario → failure	IdMapping of wells is incomplete (YNN).
Trying to read time series data for a not yet used key combination	Additional data processing may not work properly, resulting in the message WARN - No data available for timeseries	a) No data had been stored in the database due to a production failure earlier in the workflow b) The data identification in the configuration may not be correct, e.g. incorrect combination of ParameterId, LocationId and ModuleInstanceId

Message in the log-file	Consequence	Cause
`WARN - No data available for timeseries`	Data processing does not work properly. Will most certainly result in message `WARN - Trying to store an empty array`	a) No data had been stored in the database due to a production failure earlier in the workflow b) The data identification in the configuration may not be correct, e.g. incorrect combination of ParameterId, LocationId and ModuleInstanceId

`ERROR            - LocalDataStore.Error Configuration inconsistence`
 	
`More than one time series found for a single time series set / location combination`
 	
`The specified module instance set in the time series set is not specific enough`
 	
`or multiple module instances in the specified module instance set has written the same location for the same time series set. In the last case you have to delete the datastore also.`
	System does not know which data to pick for processing/display.	Data identification is not sufficiently specific in the configuration.

3.5 How to report problems

To analyze any problems the following information is essential:
1. the actions undertaken before the problem appeared
2. the log-file from the OC
3. the log-file from the Forecasting Shell Server[2] or the MCproxy.
   a) if this file is not available, the log-entries may be saved from the Operator Client (System Monitor, tab 'Log Browser' select logs)
   b) Alternative, the localDataStore-directory of the FSS[3] or the OC[4] may be provided.

Note: the log-file is overwritten at each application launch. After an error occurs, please copy the log file to a save place before starting the application again.

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[2]   *At machine-root/<drive>/NGMS/<FSS-instance>/FewsShell/England/log.txt*
[3]   *At machine-root/<drive>/NGMS/<FSS-instance>/FewsShell/England/localDataStore*
[4]   *At machine-root/<drive>/NGMS_oc/England/localDataStore*

For performance analysis, it is useful to gather log-files after each extensive workflow has been executed.