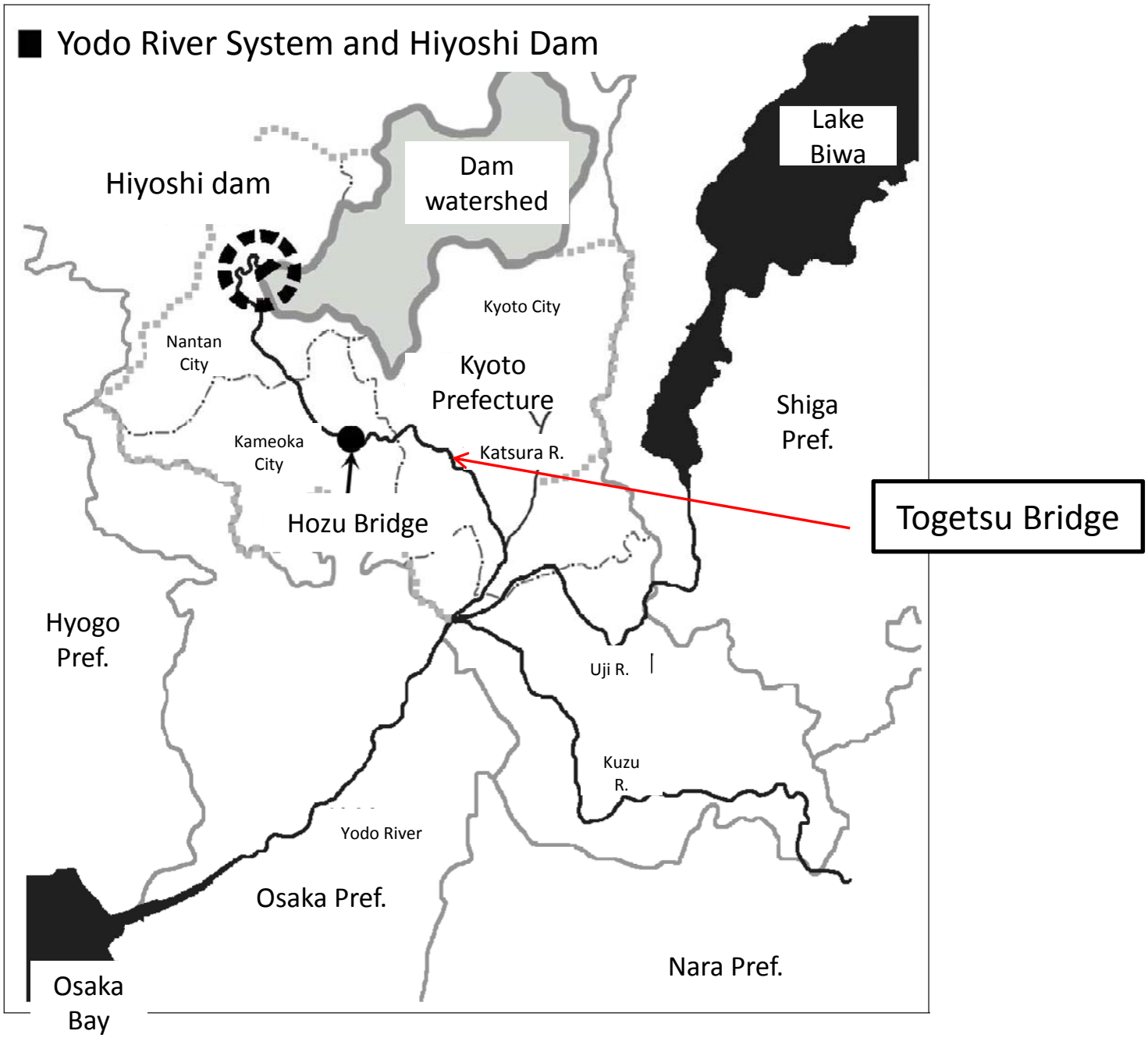
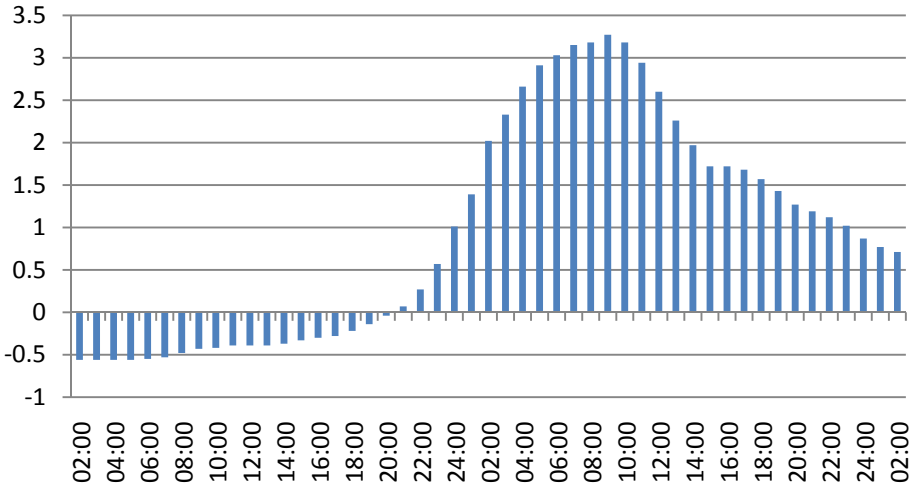
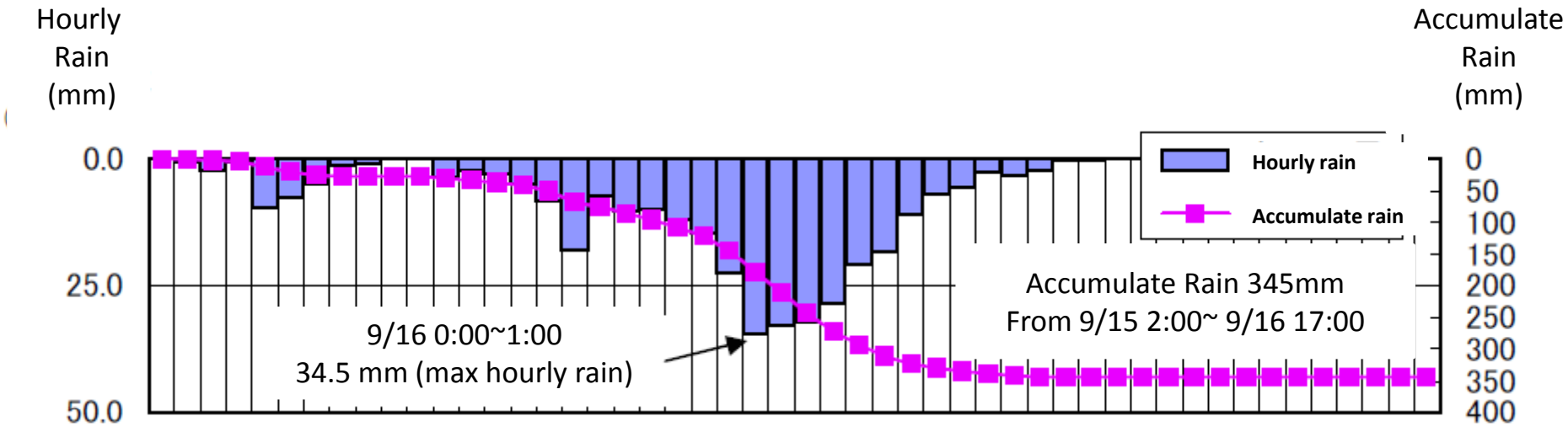
Experience of Hiyoshi Dam Operation in Sep. 2013, Typhoon 18

From Press Release by, Hiyoshi Dam Management Office (JWA) & Yodo River Dam Control Office (MLIT) and others　2013 Sep.18


Yodo River System and Hiyoshi Dam
Hiyoshi dam
Dam watershed
Lake Biwa
Kyoto City
Nantan City
Kyoto Prefecture
Shiga Pref.
Kameoka City
Katsura R.
Hozu Bridge
Togetsu Bridge
Hyogo Pref.
Uji R.
Kuzu R.
Yodo River
Osaka Pref.
Nara Pref.
Osaka Bay

Water Level at about
100m down stream of the
Togetsu Bridge





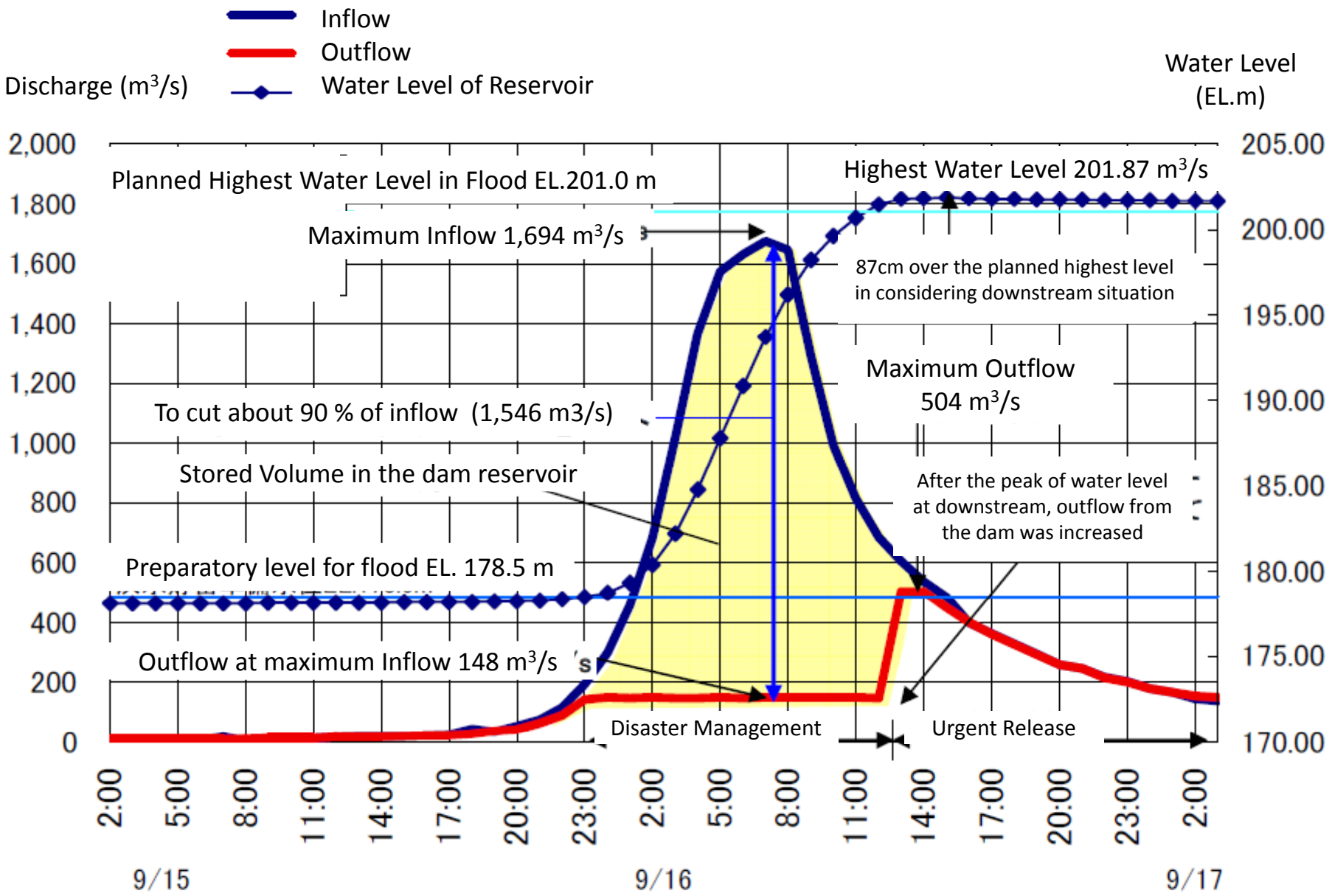
The amount of rain is average rain in the Catchment area of Hiyoshi Dam

Specification of Hiyoshi Dam Body and Reservoir

Type of Dam	Concrete Gravity Dam
Height of Dam	67.4 m
Length of Dam Crest	438 m
Volume of Dam	670,000 m^3
Catchment Area	290 km^2
Reservoir Area	2.74 km^2
Reservoir Capacity	66,000,000 m^3

Photo From MLIT office

Surcharge Water Level	Water can be stored up to this level temporarily during floods.	201.0 m
Normal Water Level	Water is normally stored up to this level from Oct. 16 to Jun. 15 the following year.	191.4 m
Normal Water Level for flood season	Water Level is restricted up to this level from Jun.16 to Oct. 15 in case of flood.	178.5 m
Lowest Water Level	This level is operationally the lowest. The part below this level is the capacity of sediment.	164.4 m


Inflow
Outflow
Water Level of Reservoir
Discharge (m³/s)
Water Level (EL.m)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
205.00
200.00
195.00
190.00
185.00
180.00
175.00
170.00
Planned Highest Water Level in Flood EL.201.0 m
Highest Water Level 201.87 m³/s
Maximum Inflow 1,694 m³/s
87cm over the planned highest level in considering downstream situation
Maximum Outflow 504 m³/s
To cut about 90 % of inflow (1,546 m3/s)
Stored Volume in the dam reservoir
After the peak of water level at downstream, outflow from the dam was increased
Preparatory level for flood EL. 178.5 m
Outflow at maximum Inflow 148 m³/s
Disaster Management
Urgent Release
2:00
5:00
8:00
11:00
14:00
17:00
20:00
23:00
2:00
5:00
8:00
11:00
14:00
17:00
20:00
23:00
2:00
9/15
9/16
9/17

The record of big inflow after stating the operation (1998 April)

	Date and Course of Big Inflow	Total rain (mm)	Maximum Inflow (m^3/s)	Maximum Outflow from Dam (m^3/s)	The controlled volume at the maximum inflow (m^3/s)
1	2013 Sep. Typhoon 18	345	1,694	504	1,546
2	2004 Oct. Typhoon 23	238	856	150	708
3	2010 July Frontal Rain	170	698	150	549