

水位觀測資料對照表

文件版本：

標準編號：

研擬單位：

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一、水利署

1. 資料來源

水利署水位開放資料，包含以下兩個連結獲取之資料。

資料內容	開放資料連結
測站資料	http://data.wra.gov.tw/Service/OpenData.aspx?format=xml&id=28E06316-FE39-40E2-8C35-7BF070FD8697
觀測資料	http://data.wra.gov.tw/Service/OpenData.aspx?format=xml&id=2D09DB8B-6A1B-485E-88B5-923A462F475C

測站資料範例如下圖所示。

```

<?xml version="1.0" encoding="utf-8"?>
<twed:TaiwanWaterExchangingData version="0.47.0" xmlns:twed="http://twed.wra.gov.tw/twedml/opendata" xmlns:gml="http://www.opengis.net/gml/3.2" xmlns="http://twed:HydrologyRiverClass">
  <twed:RiverStageObservatoryProfile>
    <twed:AffiliatedBasin>1140</twed:AffiliatedBasin>
    <twed:AffiliatedSubSubsidiaryBasin></twed:AffiliatedSubSubsidiaryBasin>
    <twed:AlertLevel1></twed:AlertLevel1>
    <twed:AlertLevel2></twed:AlertLevel2>
    <twed:AlertLevel3></twed:AlertLevel3>
    <twed:BasinIdentifier>1140H001 </twed:BasinIdentifier>
    <twed:BrittlenessStatus></twed:BrittlenessStatus>
    <twed:CarDriveDistanceInHours></twed:CarDriveDistanceInHours>
    <twed:CityElectricitySupplyStatus></twed:CityElectricitySupplyStatus>
    <twed:ConstructionManagement></twed:ConstructionManagement>
    <twed:CrossRiverStructuresNameOfEquipment></twed:CrossRiverStructuresNameOfEquipment>
    <twed>DataCollectionFrequency></twed>DataCollectionFrequency>
    <twed>DataSubmitted></twed>DataSubmitted>
    <twed:DrainageStatus>2</twed:DrainageStatus>
    <twed:EcologicalEnvironmentMonitoring></twed:EcologicalEnvironmentMonitoring>
    <twed:ElevationOfWaterLevelZeroPoint>68800.00</twed:ElevationOfWaterLevelZeroPoint>
    <twed:EnglishAddress>Yufeng T. Jianshi H. Hsinchu H.</twed:EnglishAddress>
    <twed:EnglishName>YU FENG </twed:EnglishName>
    <twed:EnglishRiverName>Dahan River </twed:EnglishRiverName>
    <twed:EquipmentStatus></twed:EquipmentStatus>
    <twed:EquipmentStatusOnCrossRiverStructures></twed:EquipmentStatusOnCrossRiverStructures>
    <twed:FloodPreventionPurpose></twed:FloodPreventionPurpose>
    <twed:HighSedimentStatus>2</twed:HighSedimentStatus>
    <twed:HydroFacilityManagement></twed:HydroFacilityManagement>
    <twed:HydrologicalMonitoringPurposes></twed:HydrologicalMonitoringPurposes>
    <twed:LightningStatus></twed:LightningStatus>
    <twed:LocationAddress>新竹縣尖石鄉玉峰村</twed:LocationAddress>
    <twed:LocationByTWD67>
      <gml:Point srsName="EPSG:3820">
        <gml:pos>279345.500 2727961.800</gml:pos>
      </gml:Point>
    </twed:LocationByTWD67>
    <twed:LocationByTWD97>
      <gml:Point srsName="EPSG:3826">
        <gml:pos>280175.42 2727757.28</gml:pos>
      </gml:Point>
    </twed:LocationByTWD97>
    <twed:MaintainCycle></twed:MaintainCycle>
    <twed:NoPeriodicalDataSubmissionReason></twed:NoPeriodicalDataSubmissionReason>
    <twed:NormalObservationType></twed:NormalObservationType>
    <twed:ObservationItems>0,1</twed:ObservationItems>
    <twed:ObservationReason></twed:ObservationReason>
    <twed:ObservationStatus></twed:ObservationStatus>
    <twed:ObservatoryIdentifier>19 </twed:ObservatoryIdentifier>
    <twed:ObservatoryName>玉峰(馬利爾灣) </twed:ObservatoryName>
    <twed:ObservatoryReplacementStatus></twed:ObservatoryReplacementStatus>
    <twed:OnSiteDataCollection></twed:OnSiteDataCollection>
    <twed:OtherRequirements></twed:OtherRequirements>
    <twed:RealTimeDataDeliveryFrequency></twed:RealTimeDataDeliveryFrequency>
    <twed:RealTimeDataDeliveryFrequencyInFloodDefenceTime></twed:RealTimeDataDeliveryFrequencyInFloodDefenceTime>
    <twed:Remarks></twed:Remarks>
    <twed:RiverName>大漢溪 </twed:RiverName>
    <twed:RiverSectionDepositionAndErosionChange>5</twed:RiverSectionDepositionAndErosionChange>
    <twed:SetDate></twed:SetDate>
    <twed:ShortObservationType></twed:ShortObservationType>
    <twed:SolarPotentialDamage></twed:SolarPotentialDamage>
    <twed:SolarStatus></twed:SolarStatus>
    <twed:SolarWatt></twed:SolarWatt>
    <twed:SolarWatt></twed:SolarWatt>
    <twed:StealStatus></twed:StealStatus>
    <twed:StraightRiverStatus>2</twed:StraightRiverStatus>
    <twed:SubsidenceStatus></twed:SubsidenceStatus>
    <twed:SunLightCoverageStatus></twed:SunLightCoverageStatus>
    <twed:SunshineStatus></twed:SunshineStatus>
    <twed:TideStatus>2</twed:TideStatus>
    <twed:Town></twed:Town>
    <twed:TownIdentifier>11</twed:TownIdentifier>
    <twed:TransmissionEquipment></twed:TransmissionEquipment>
    <twed:VerticalDatumSource>5</twed:VerticalDatumSource>
    <twed:WalkDistanceInHours></twed:WalkDistanceInHours>
    <twed:WaterDrawStatus>2 </twed:WaterDrawStatus>
    <twed:WaterResourceDistrictIdentifier>11</twed:WaterResourceDistrictIdentifier>
    <twed:WirelessTransmissionType></twed:WirelessTransmissionType>
  </twed:RiverStageObservatoryProfile>

```

觀測資料範例如下圖所示。

```
<?xml version="1.0" encoding="utf-8"?>
<twed:TaiwanWaterExchangingData version="0.47.1" xmlns:twed="http://twed.gov.tw" >
  <twed:HydrologyRiverClass>
    <twed:RealtimeWaterLevel>
      <twed:RecordTime>2018-05-17T07:30:00</twed:RecordTime>
      <twed:StationIdentifier>1140H048</twed:StationIdentifier>
      <twed:WaterLevel>28.57</twed:WaterLevel>
    </twed:RealtimeWaterLevel>
    <twed:RealtimeWaterLevel>
      <twed:RecordTime>2018-05-17T07:30:00</twed:RecordTime>
      <twed:StationIdentifier>1140H049</twed:StationIdentifier>
      <twed:WaterLevel>22.21</twed:WaterLevel>
    </twed:RealtimeWaterLevel>
    <twed:RealtimeWaterLevel>
      <twed:RecordTime>2018-05-17T07:30:00</twed:RecordTime>
      <twed:StationIdentifier>1140H058</twed:StationIdentifier>
      <twed:WaterLevel>4.02</twed:WaterLevel>
    </twed:RealtimeWaterLevel>
  </twed:HydrologyRiverClass>
</twed:TaiwanWaterExchangingData>
```

2. 資料模型對應關係

水利署水位觀測資料與 OGC SensorThings API 資料模型之對應關係如下表所示。

原始資料	定義	範例	SensorThings API	備註
RiverStageObservatoryProfile/ AffiliatedBasin	測站所屬 流域(主流)	1140	1. Thing/properties/basin/ affiliatedBasin 2. Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ AffiliatedSubsidiaryBasin	測站所屬 之流域(支 流)	*	1. Thing/properties/basin/ affiliatedSubsidiaryBasin 2. Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ AffiliatedSubSubsidiaryBasin	測站所屬 之流域(次 支流)	*	1. Thing/properties/basin/ affiliatedSubSubsidiaryBasin 2. Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ AlertLevel1	一級警戒 水位高(m)	*	1. Thing/properties/ alertLevel1 2. Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ AlertLevel2	二級警戒 水位高(m)	*	1. Thing/properties/ alertLevel2 2. Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ AlertLevel3	三級警戒 水位高(m)	*	1. Thing/properties/ alertLevel3 2. Sensor/metadata/SensorML/ Characteristics	

RiverStageObservatoryProfile/ BasinIdentifier	測站編號	1140H00 1	1. Thing/name, description, properties/ basinIdentifier 2. Location/name 3. Sensor/metadata/SensorML/ identifier, identification, keyword	測站之唯一辨識符 與 RealtimeWaterLevel 之 StationIdentifier 對 應
RiverStageObservatoryProfile/ BrittlenessStatus	是否易受 天災破壞	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ CarDriveDistanceInHours	所需車程 (單程·小時)	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ CityElectricitySupplyStatus	測站有市 電供電	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ ConstructionManagement	工程施工 管理	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ CrossRiverStructuresNameOfEquipment	設置之橋 樑或構造 物名稱	*	1. Thing/properties/ crossRiverStructuresNameOfEquipment 2. Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ DataCollectionFrequency	現場收集 資料之頻 率(日)	*	1. Thing/properties/ dataCollectionFrequency 2. Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/	水文資料 是否定期	*	Sensor/metadata/SensorML/ Characteristics	

DataSubmitted	送水文組彙整			
RiverStageObservatoryProfile/ DrainageStatus	測站上游 是否有放 水點	2	1. Thing/properties/ drainageStatus 2. Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ EcologicalEnvironmentMonitoring	生態環境 監測	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ ElevationOfWaterLevelZeroPoint	水尺零點 標高	68800.00	1. Thing/properties/ elevationOfWaterLevelZeroPoint 2. Sensor/metadata/SensorML/ Capabilities	或可描述於 Observation/ parameters
RiverStageObservatoryProfile/ EnglishAddress	英文站址	Yufeng T.Jianshi H. Hsinchu H.	1. Location/location 2. Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ EnglishName	英文站名	YU FENG	1. Thing/properties/ englishName 2. Sensor/metadata/SensorML/ identification, keyword	
RiverStageObservatoryProfile/ EnglishRiverName	河川英文 名稱	Dahan River	1. Thing/properties/ englishRiverName 2. Sensor/metadata/SensorML/ Characteristics	

RiverStageObservatoryProfile/ EquipmentStatus	設備型態	*	Sensor/metadata/SensorML/ Characteristics	待再確認含義，或許加入 Sensor/metadata/SensorML/ Capabilities
RiverStageObservatoryProfile/ EquipmentStatusOnCrossRiverStructures	是否設置於跨河構造物	*	1. Thing/properties/ equipmentStatusOnCrossRiverStructures 2. Sensor/metadata/SensorML/ Characteristics	或可描述於 Observation/parameters
RiverStageObservatoryProfile/ FloodPreventionPurpose	防汛用途	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ HighSedimentStatus	是否為高含砂量河段	2	1. Thing/properties/ highSedimentStatus 2. Sensor/metadata/SensorML/ Characteristics	或可描述於 Observation/parameters
RiverStageObservatoryProfile/ HydroFacilityManagement	水利設施管理	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ HydrologicalMonitoringPurpose	水文觀測用途	*	Sensor/metadata/SensorML/ Characteristics	待再確認含義
RiverStageObservatoryProfile/ LightningStatus	測站是否易遭雷擊	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ LocationAddress	中文站址	新竹縣尖石鄉玉峰村	1. Thing/properties/city, township 2. Sensor/metadata/SensorML/ Characteristics	需進一步解析縣市鄉鎮區資訊，分別描述。應與 RiverStageObservatoryProfile/ Town, RiverStageObservator

				yProfile/ TownIdentifier 對應。
RiverStageObservatoryProfile/ LocationByTWD67	TM2 度分 帶 67 坐標	279345.5 00 2727961. 800		可保留原始坐標，但 亦須轉成經緯度描述 於 GeoJSON
RiverStageObservatoryProfile/ LocationByTWD97	TM2 度分 帶 97 坐標	280175.4 2 2727757. 28		可保留原始坐標，但 亦須轉成經緯度描述 於 GeoJSON
RiverStageObservatoryProfile/ MaintainCycle	現場巡邏 或維護之 頻率(日)	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ NoPeriodicalDataSubmissionReason	水文資料 無定期送 水文組彙 整原因	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ NormalObservationType	正常觀測 之性質	*	Sensor/metadata/SensorML/ Capabilities	待再確認含義
RiverStageObservatoryProfile/ ObservationItems	觀測項目	0,1	Sensor/metadata/SensorML/ Capabilities	待再確認含義
RiverStageObservatoryProfile/ ObservationReason	觀測原因	*	Sensor/metadata/SensorML/ Characteristics	待再確認含義
RiverStageObservatoryProfile/ ObservationStatus	觀測現況	*	Sensor/metadata/SensorML/ Capabilities	待再確認含義

RiverStageObservatoryProfile/ ObservatoryIdentifier	站號	19	1. Thing/properties/ observatoryIdentifier 2. Sensor/metadata/SensorML/ identification	非唯一 待再確認含義
RiverStageObservatoryProfile/ ObservatoryName	中文站名	玉峰(馬 利哥灣)	1. Thing/properties/ stationName 2. Sensor/metadata/SensorML/identificatio n, keyword	唯一
RiverStageObservatoryProfile/ ObservatoryReplacementStatus	是否有暫 時取代之 測站	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ OnSiteDataCollection	是否有人 工現場收 集資料	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ OtherRequirement	特定計畫 或特定需 求	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ RealTimeDataDeliveryFrequency	即時資料 傳送頻率 (平時)	*	1. Thing/properties/ realTimeDataDeliveryFrequency 2. Sensor/metadata/SensorML/ Capabilities	
RiverStageObservatoryProfile/ RealTimeDataDeliveryFrequencyInFloodDe fenceTime	即時資料 傳送頻率 (防汛時)	*	1. Thing/properties/ realTimeDataDeliveryFrequencyInFlood DefenceTime 2. Sensor/metadata/SensorML/ Capabilities	

RiverStageObservatoryProfile/ Remarks	備註	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ RiverName	河川中文名稱	大漢溪	1. Thing/properties/ riverName 2. Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ RiverSectionDepositionAndErosionChange	測站斷面沖淤變化	5	1. Thing/properties/ riverSectionDepositionAndErosionChange 2. Sensor/metadata/SensorML/ Capabilities	待再確認含義
RiverStageObservatoryProfile/ SetDate	設站日期	*	1. Thing/properties/ setDate 2. Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ ShortObservationType	短期觀測的原因	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ SolarPotentialDamage	設站地點太陽能板可能易遭外力破壞	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ SolarStatus	測站有太陽能供電	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ SolarWatt	太陽能板瓦數	*	Sensor/metadata/SensorML/ Characteristics	若時序改變，或可建立 Datastream

RiverStageObservatoryProfile/ StealStatus	是否易受人為破壞或竊盜	*	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ StraightRiverStatus	是否位於平直河段	2	1. Thing/properties/ straightRiverStatus 2. Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ SubsidenceStatus	是否位於容易地層下陷地區	*	1. Thing/properties/ subsidenceStatus 2. Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ SunLightCoverageStatus	設站點陽光易受遮蔽	0	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ SunshineStatus	日照是否充足	0	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ TideStatus	是否感潮	2	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ Town	鄉鎮名稱	6801300	Thing/properties/ township	為編號，或需轉為文字
RiverStageObservatoryProfile/ TownIdentifier	鄉鎮代碼	11	Thing/properties/ townIdentifier	為編號，或需轉為文字
RiverStageObservatoryProfile/ TransmissionEquipment	是否有傳輸設備	1	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/	基準高程	5	1. Thing/properties/ verticalDatumSource	或可描述於

VerticalDatumSource	之引測來源		2. Sensor/metadata/SensorML/ Capabilities	Observation/parameters
RiverStageObservatoryProfile/ WalkDistanceInHours	所需步行路程(單程·小時)	0	Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ WaterDrawStatus	測站上流是否有引水點	2	1. Thing/properties/ waterDrawStatus 2. Sensor/metadata/SensorML/ Characteristics	
RiverStageObservatoryProfile/ WaterResourceDistrictIdentifier	水資源分區編號	11	1. Thing/properties/ waterResourceDistrictIdentifier 2. Sensor/metadata/SensorML/ Characteristics	為編號·或需轉為文字
RiverStageObservatoryProfile/ WirelessTransmissionType	無線傳輸方式	*	Sensor/metadata/SensorML/ Characteristics	
RealtimeWaterLevel/ RecordTime	資料時間	2018-05-17T07:30:00	Observation/ phenomenonTime	
RealtimeWaterLevel/ StationIdentifier	站號	1140H048	*	與RiverStageObservatoryProfile之BasinIdentifier對應
RealtimeWaterLevel/ WaterLevel	水位	28.57	Observation/ result	

3. 需額外補足之資訊

下表列舉水利署水位資料不足之資訊。

SensorThings API	備註
Datastream/name, description, observationType, unitOfMeasurement	
ObservedProperty/name, definition, description	

4. 額外擴充之資訊

下表列舉水利署水位資料額外補充之資訊。

SensorThings API	資料型別	定義
Thing/properties/source	CharacterString	水位站之來源，如設置及管理單位。

建議事項:

1. 建議將 ValueCode 代碼以文字形式描述於 SensorThings API 服務，以便整合查詢與理解。
2. 許多空值之屬性是否直接移除？