

# EXTENSION

# ARCGIS FOR DESKTOP

# «HYDRO DISASTER»

Overview

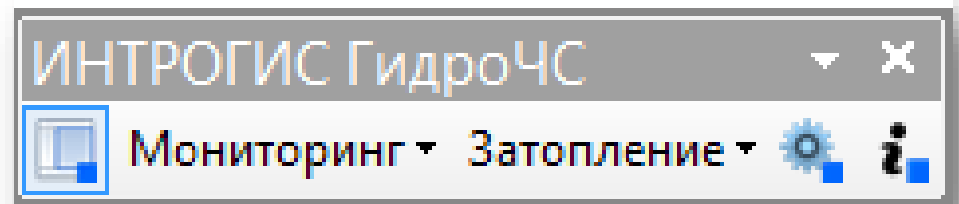
# Purpose



Extension for ArcGIS Desktop "Hydro Disaster" are intended for monitoring water levels at water stations, assessment and prediction of flooded areas from rising water levels and the breakthrough dam of hydraulic structures on the river system

# Key Points

1. Toolbar ArcGIS Desktop
2. Dockable window for manage results
3. Any project ArcGIS (ArcMap, ArcScene, ArcGlobe)
4. Indicator processing of calculation
5. Storage of results in file geodatabases
6. Save and load the input parameters



Гидро ЧС

Подъем уровня

Слой: Зоны затопления (модель створа)

Река: Ямашта - Французская

Таблица

Дата	Уровень, см	Площадь, км2
06.05.2014	300	0,53
05.05.2014	250	0,49
04.05.2014	200	0,42
03.05.2014	150	0,37
02.05.2014	100	0,31
01.05.2014	50	0,24

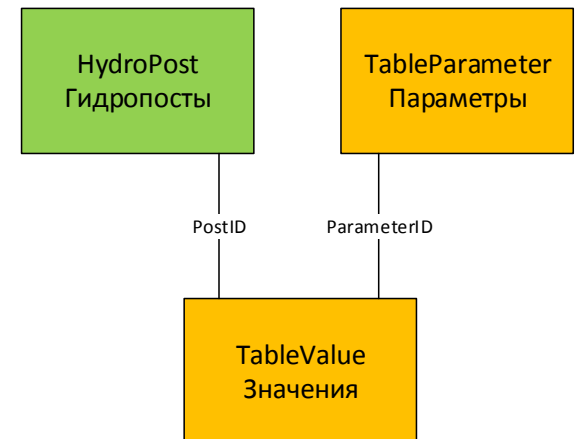
Мониторинг

Подъем уровня

# Information basis

- Point objects – gauging station
- Linear objects of river system
- Digital elevation model
- Isolines of height
- Data about water levels in the rivers
- Features water reservoirs
- Auxiliary processing parameters ( tolerances, etc.).

- To store monitoring data used geodatabase with fixed structure



# Methodological basis



- Algebra of raster maps.
- Interpolation methods.
- Specialized geometric calculations.
- Methods of assessing the engineering environment with hydrodynamic accident

# Function

## Addition



Attaching control panel



Changing the settings of extension



View information about extension

## Monitoring



Selecting gauging stations for any territory



Import gauging stations in GDB  
"Monitoring"



Entering the actual data of monitoring in  
GDB "Monitoring"



Viewing archival information GDB  
"Monitoring"



Short-term forecast of water levels GDB  
"Monitoring"



Long-term forecast of water levels GDB  
"Monitoring"



Comparison of the results of monitoring  
(forecast) of water levels



Calculator forecast for arbitrary data



Management of monitoring results

## Flood



Calculation for the rising waters



Calculation of the breakout dam



Defining objects in the flood zone



Managing the results of calculation

# Advantages

- Interactive viewing results
- A set of models for predicting water levels, flood zones
- Specialized calculator forecast
- Tools consolidated data analysis
- The calculation of statistical data
- Generating reports in Word, Excel, text and image files

