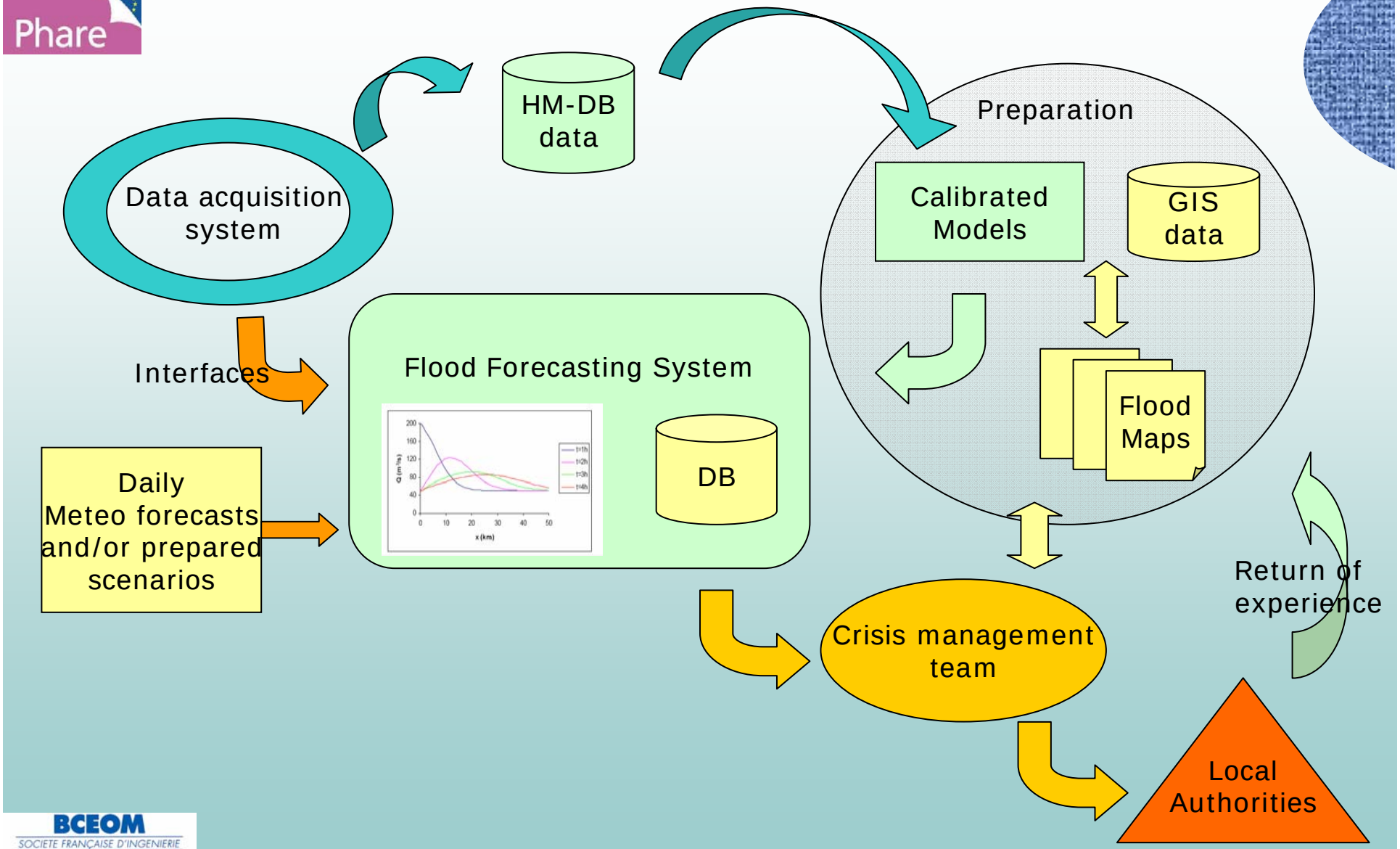
Ministry of Regional Development and Public Works

Flood Forecasting System and Flood Warning operations

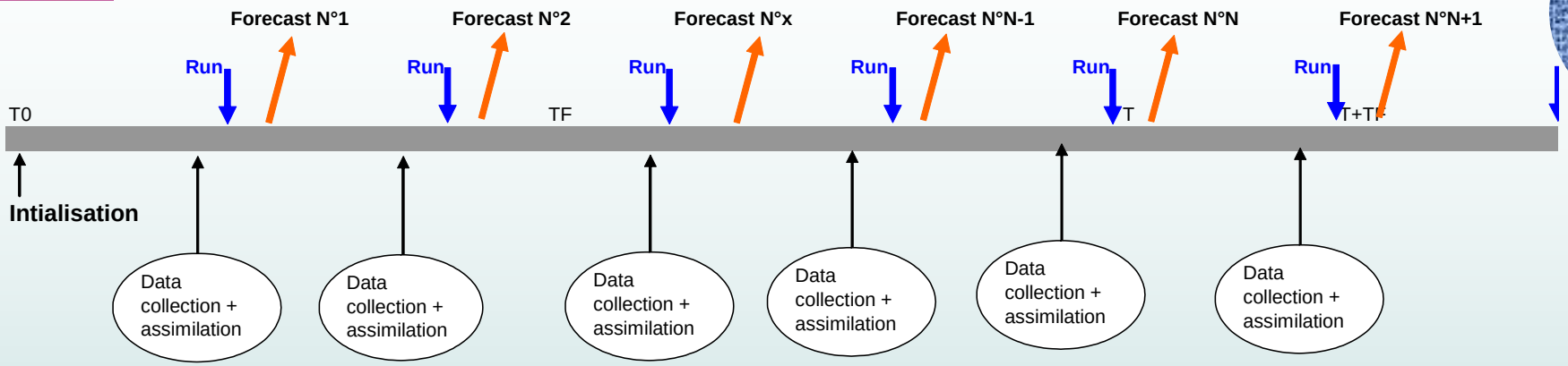
BCEOM SOCIETE FRANÇAISE D'INGENIERIE

HKV CONSULTANTS

The Flood Forecasting system organisation



Flood Forecasting sequences : need 24/24 operations



Once it is started, the forecasting system may run for several days or weeks

Initialised at To then Runs every Tf (to be parameterised)

Data collection from NIMH when available before Time T; interfaces to be set

Data coherence analysis on retrieved data to be defined and designed

Process data assimilation : "mix" observations with results from last computation

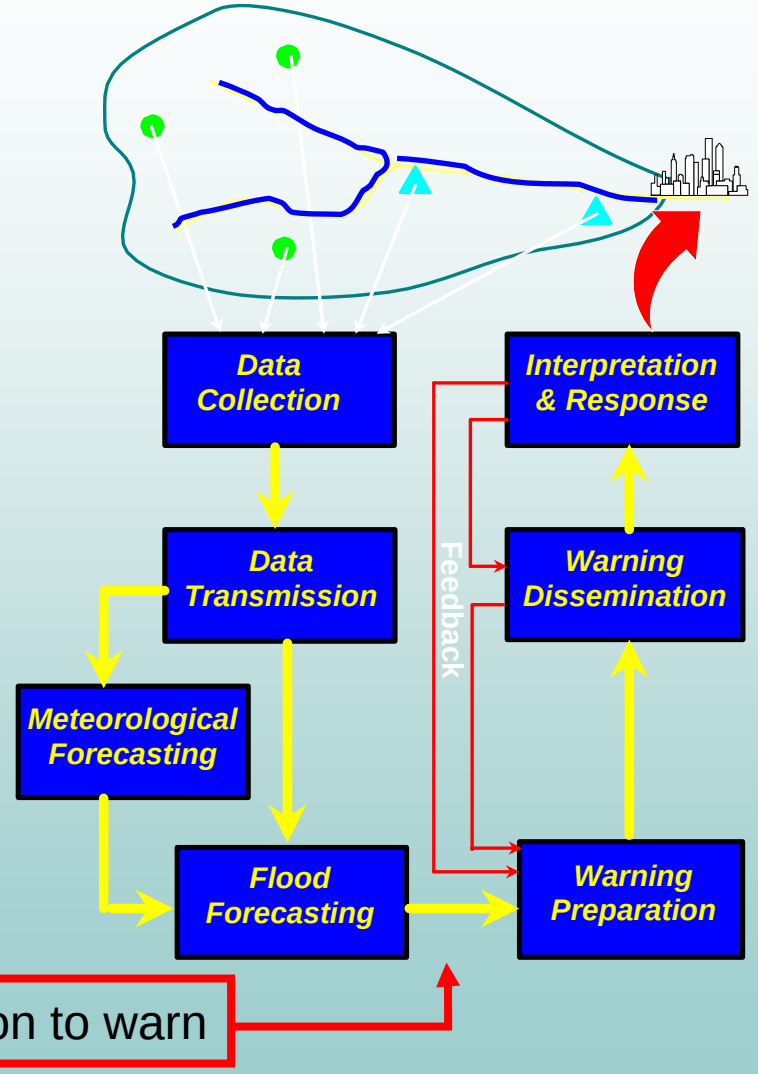
Run the models at time T using initial conditions from data assimilation

Provide results at node points defined as output discharges / water heights

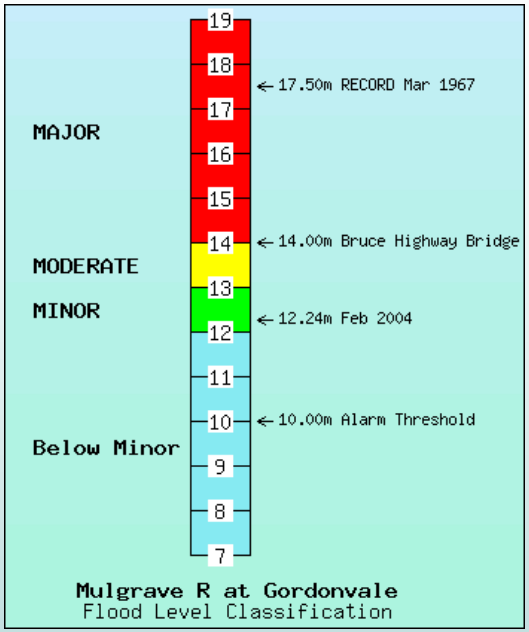
The Flood forecasting platform : user need analysis

- Provide results at node points to be defined as output
- Results may be discharges / water heights
- Interfaces to be defined /designed in the project
- Threshold values (for alarms / alert levels) can be set and parameterised
- Specific outputs as bulletins for Alarm dissemination to be defined

Flood Forecasting and Warning operations



Flood Warning system : First level without FFS



Continuous comparison of rain & river data to threshold values

If thresholds exceeded, data bulletins are:

- Manually or Semi-Automatically generated
- Semi-Automatically disseminated

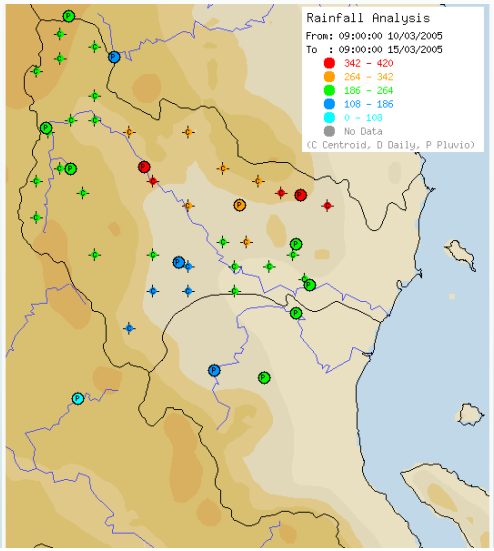
RIVER HEIGHT BULLETIN for Herbert, Tully, Johnstone, Barron & Daintree Rivers
Issued at 3.30am on Tuesday, 15 March 2005
Bureau of Meteorology, Brisbane

Station Name	Time	Height	Trend	Crossing
Mulgrave-Russell				
Mulgrave R at Gordonvale *	3.28am	10.29	S	3.75 below bridge
Russell R at Bucklands *	2.30am	6.38	R	

Trend

S	steady	RS	rising slowly	FS	falling slowly
P	peak	R	rising	F	falling
EP	estimated peak	RF	rising fast	FF	falling fast

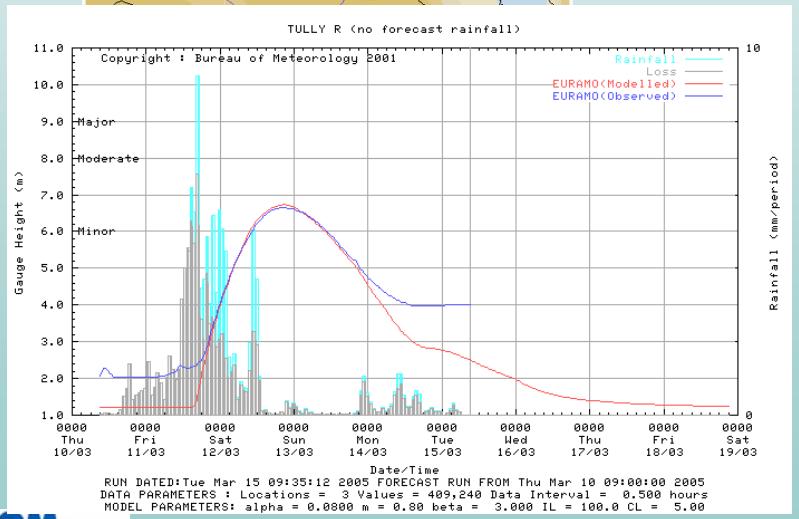
Flood Warning system : level 2 with FFS

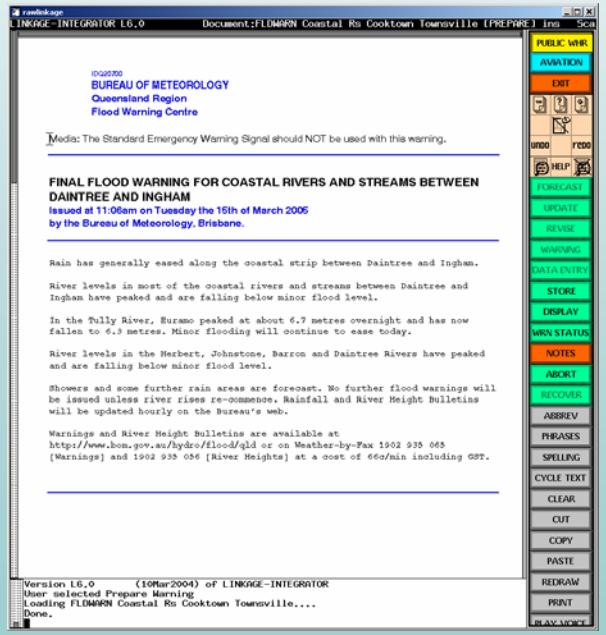


Analysis & prediction

If warnings are deemed necessary, they are:

- Prepared manually / automatically
- Automatically disseminated

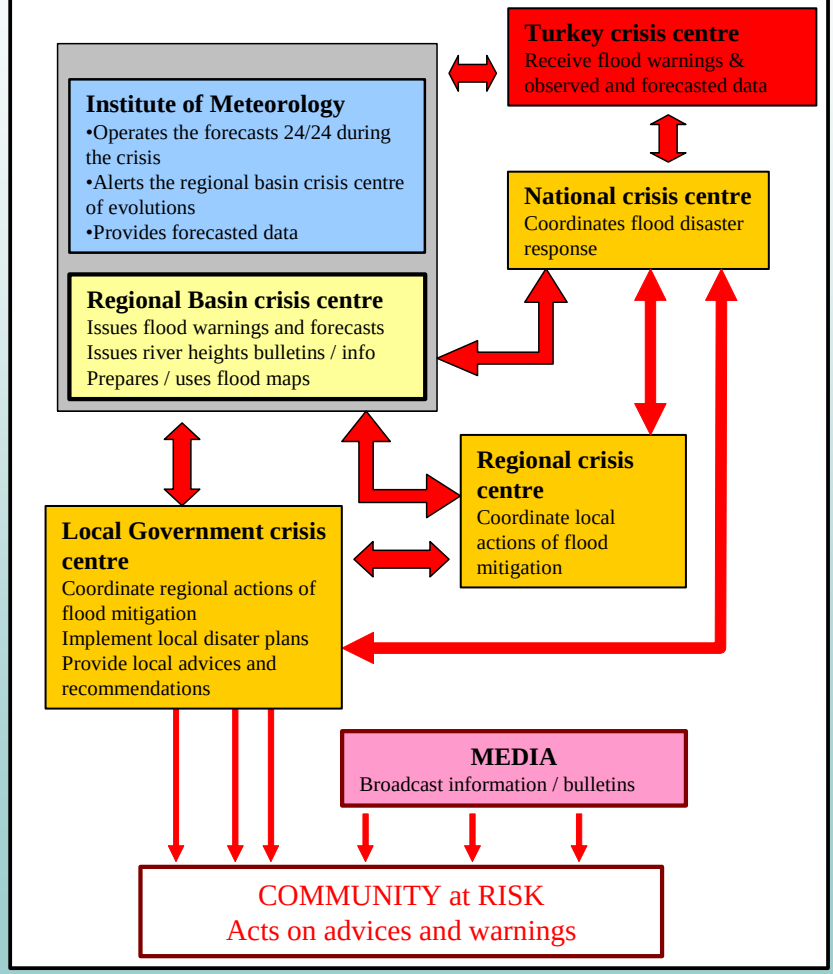




Flood Warning Framework to be discussed

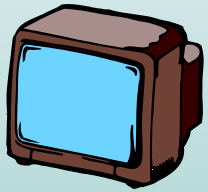
- Hydro-Meteorology services role should be to forecast flood height.
- Basin Directorate's role should be to forecast flood extent, especially for urban inundation.
- Exchanges with Turkey to be defined
- Roles and responsibilities to be analysed

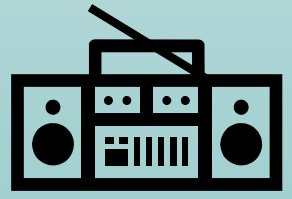
Roles and responsibilities during flood events



Warning dissemination – Who ?

- Emergency Services
- Police
- Local Agency
- Media
  - Radio
  - Television
  - Newpaper
- Web





Warning dissemination – How ?

Warning products issued via:

- Telephone
- Fax
- Email
- SMS
- Computer Messaging Service

Direct briefing to:

- Local Government
- Emergency Services
- Media

Discussion : analysis of user need, organisation and information flux

- User needs for designing the Flood forecasting platform:
  - Will be analysed during the next steps of the project (january 2008)
  - Will include interfaces to be defined and implemented during the FFS design
- Threshold values for alarms / alert levels : details should be provided for the next workshop (spring 2008)
- Organisation of the Flood warning framework : who does what ?
  - The responsibilities of the various stakeholders and operators ?
  - Specific outputs as bulletins for Alarm dissemination to be defined : what are the expectations ?
  - Interfaces with Turkish authorities : what is expected

Roles and responsibilities during flood events