

## Algorithm Inventory Template

### 1. Description/Theory

Geo scale estimates using histogram matching of IR and MW data, as describe in Tapiador, F.J., Kidd, C., Levizzani, V. and Marzano, F.S., 2004. A maximum entropy approach to satellite quantitative precipitation estimation (QPE). *International Journal of Remote Sensing* 25, 21, 4629-4639.

### 2. Strengths and Weaknesses

Strengths: Easy to implement

Weaknesses: Requires fine-tuning for location. Provides a first guess of the precipitation field. Too easy to misinterpretate and when wrongly implemented. More suitable for tropical rainfall.

### 3. Algorithm Inputs

#### A. Satellite Data

##### 1. Geostationary

Any

##### 2. Low Earth Orbit

A. Anything available

#### B. Ancillary Data

##### 1. Model Data

A. None

##### 2. In Situ

A. None

##### 3. Other (i.e. topography data base)

A. None

### 4. Processing (i.e. Level 2 processing ingests Level 1 products as input)

Ingests level 1 data.

## 5. Output Products

### A. Final Product 1 Identification

#### 1. Temporal/Spatial Resolution

The same as the input Geo image.

#### 2. Spatial Coverage

The same as the input Geo image.

#### 3. Dedicated Product Web Page Location

None at the moment, discontinued.

#### 4. Processing Specifics (if possible)

Requires a good PDF of precipitation to be matched.

#### 5. Operational Availability of Product (if possible)

Discontinued

#### 6. Historical Availability of Product (if possible)

Discontinued

### 6. Planned Modifications/Improvements

Replaced by the one described in Tapiador, F.J., 2008. A Physically-Based Satellite Rainfall Estimation Method Using Fluid Dynamics Modelling. *International Journal of Remote Sensing*, Vol. 29, No. 20, 5851–5862, doi 10.1080/01431160802029677.

### 7. Capability of Producing Retrospective Data

Reprocessing is possible.

### 8. Contact Personnel

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### 9. Additional Comments

The support of this algorithm has been discontinued. This information is given for historical purposes only.