

FLORIDA SOLAR



ENERGY CENTER<sup>®</sup>

## CONTRACT REPORT

# FLORIDA SOLAR ATLAS

### Author

Dr. Charles J Cromer

### Publication Number

FSEC-CR-1895-11

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638-1000

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1679 Clearlake Road, Cocoa, FL 32922-5703 ♦ Phone: 321-638-1000 ♦ Fax: 321-638-1010

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# FLORIDA SOLAR ATLAS

This Atlas provides color plates of solar radiation intensity as it falls across the State of Florida

Developed at the Florida Solar Energy Center

By Dr. Charles J. Cromer, Ph.D., PE

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1679 Clearlake Road

Cocoa, Florida 32922

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For actual numerical tables of solar radiation data,  
see the Florida Solar Energy Center web location:

<http://livewire.fsec.ucf.edu/src>

For calculation details of the solar radiation data, see the report:

"Determination of the Historical Solar Resource for any Latitude – Longitude location in Florida," Dr. Charles J. Cromer, PhD, P.E., 3 June, 2011, Florida Solar Energy Center, Cocoa, FL.

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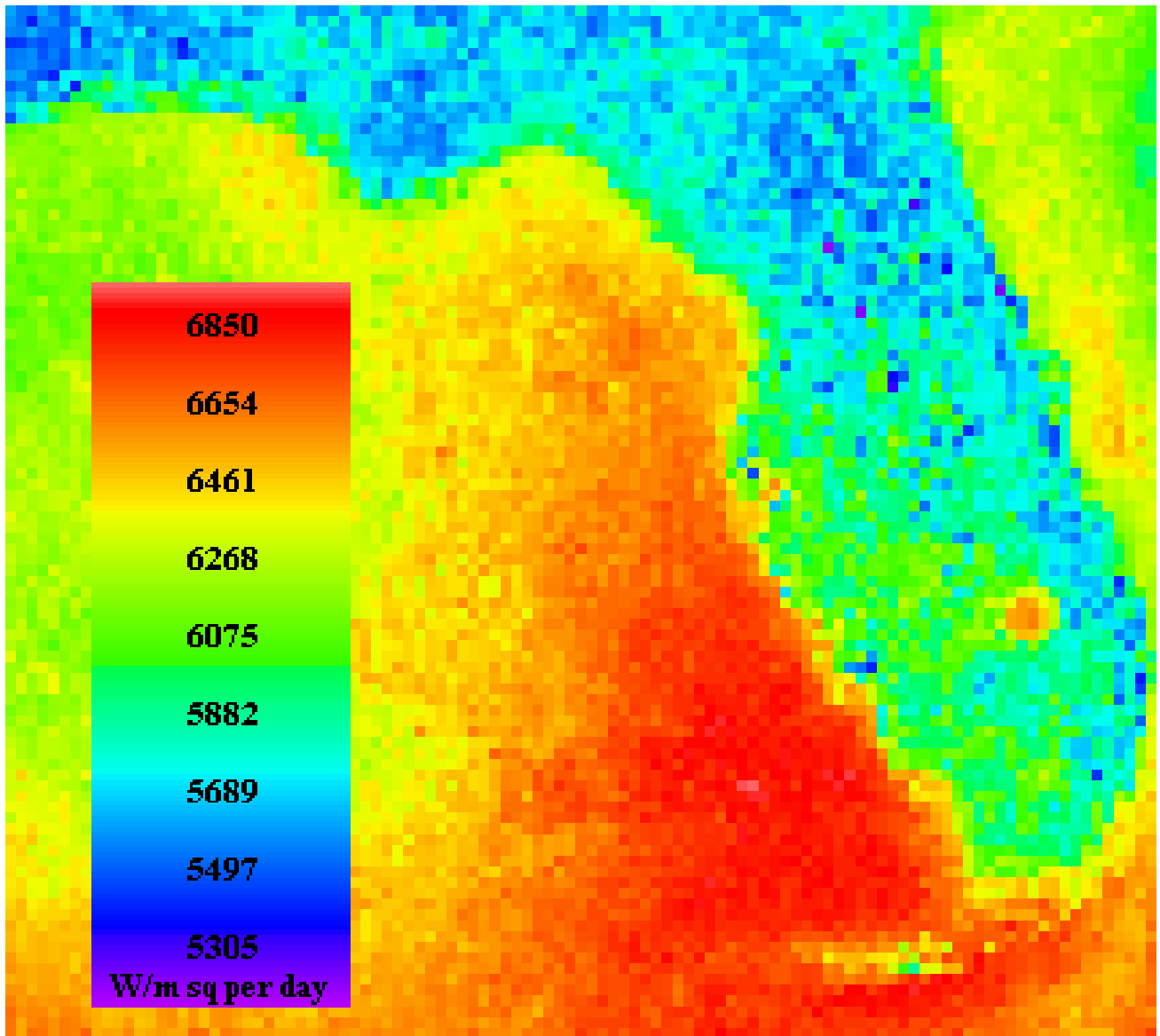
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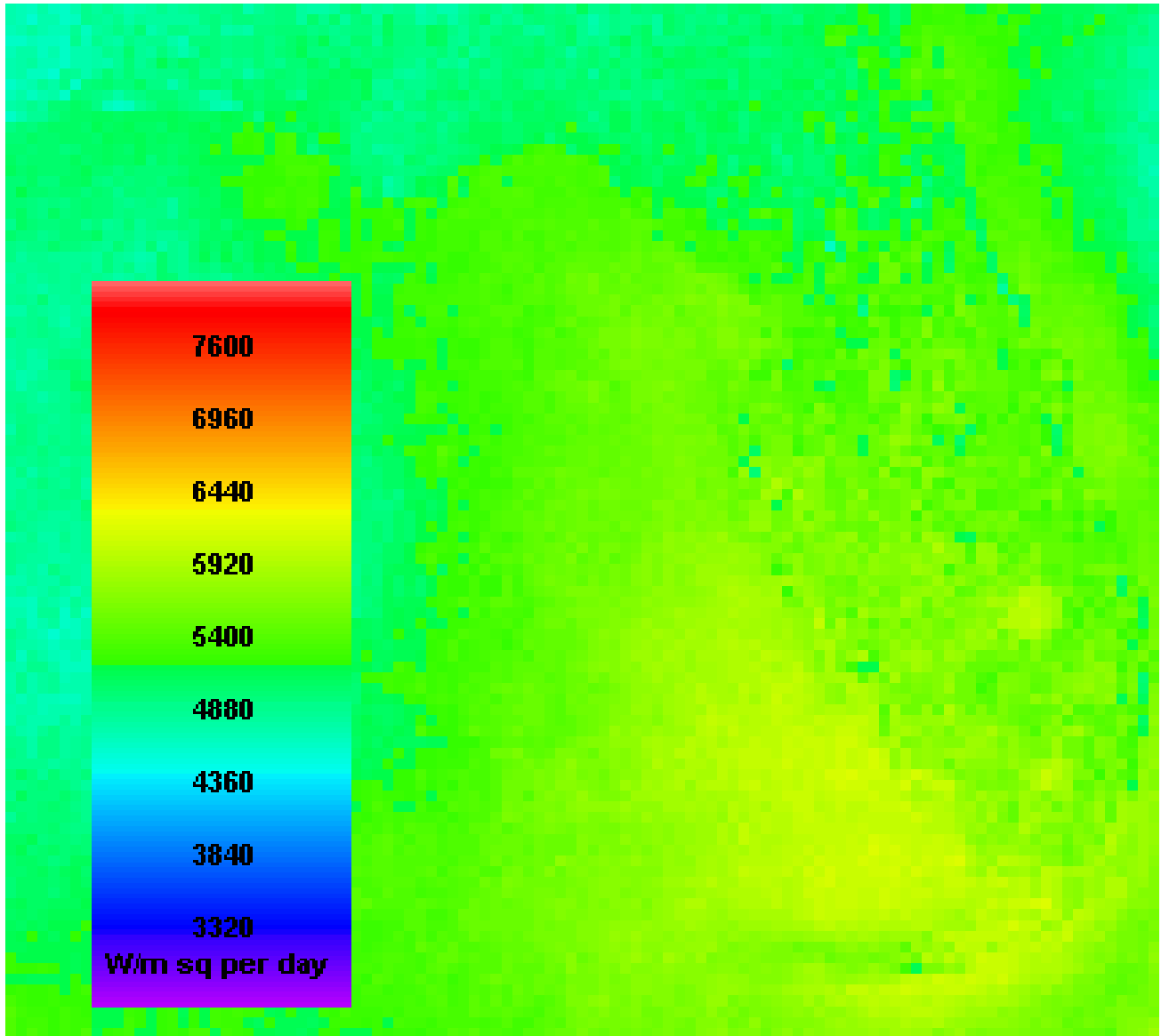
## **NOMENCLATURE**

**DIRECT BEAM:** This is the solar energy that is available by the sunlight coming directly from the sun disk. The beams of light are parallel to each other. To receive such sunlight, a collector must have a means of tracking the sun as it moves across the sky. Concentrating collectors that focus the sun's rays in some way cannot use diffuse sunlight, they must have direct beam energy. This is the resource used by dish or trough concentrating collectors.

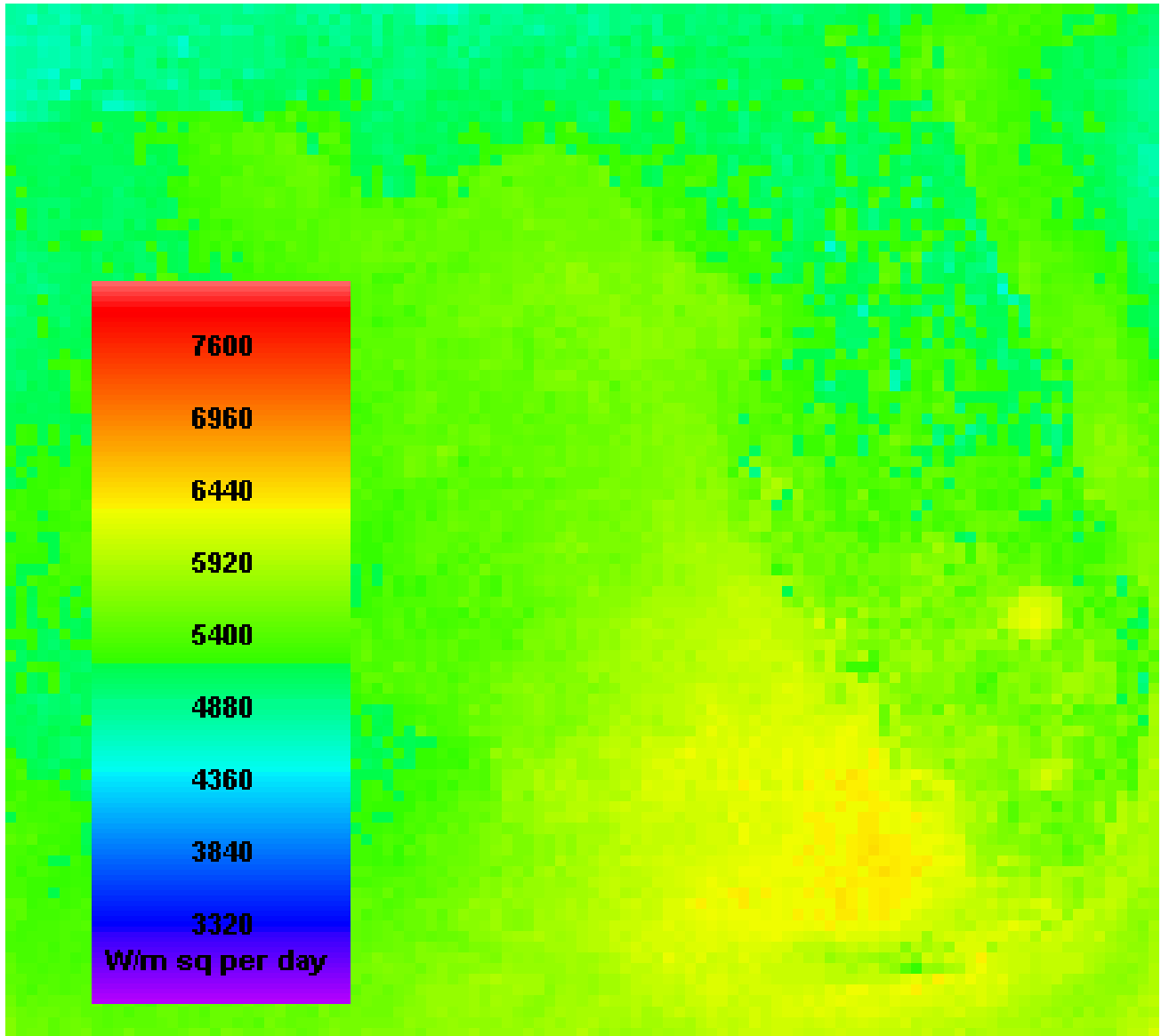
**GLOBAL DIRECT:** This is the solar energy that is available to a flat plate collector that tracks the sun path. This resource is always more than the Direct Beam energy because a tracking flat plate receives both the Direct Beam energy and the available diffuse (scattered) sunlight energy. In Florida, a fixed collector at latitude tilt typically receives about 23% less energy than a flat plate tracking collector.



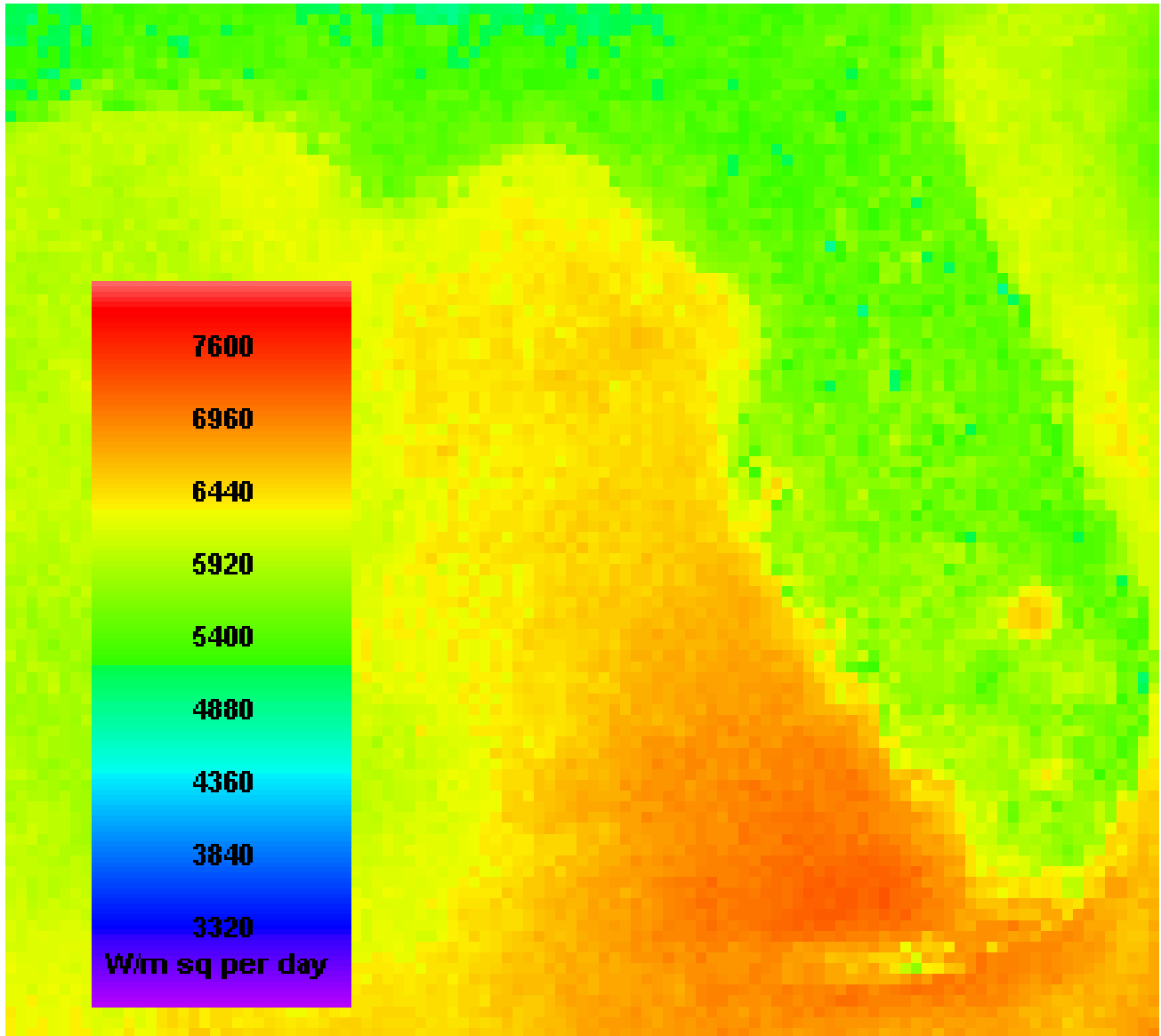
**PLATE 1: GLOBAL DIRECT — ANNUAL AVERAGE  
SOLAR RESOURCE IN WATTS/ METER SQUARE PER DAY**



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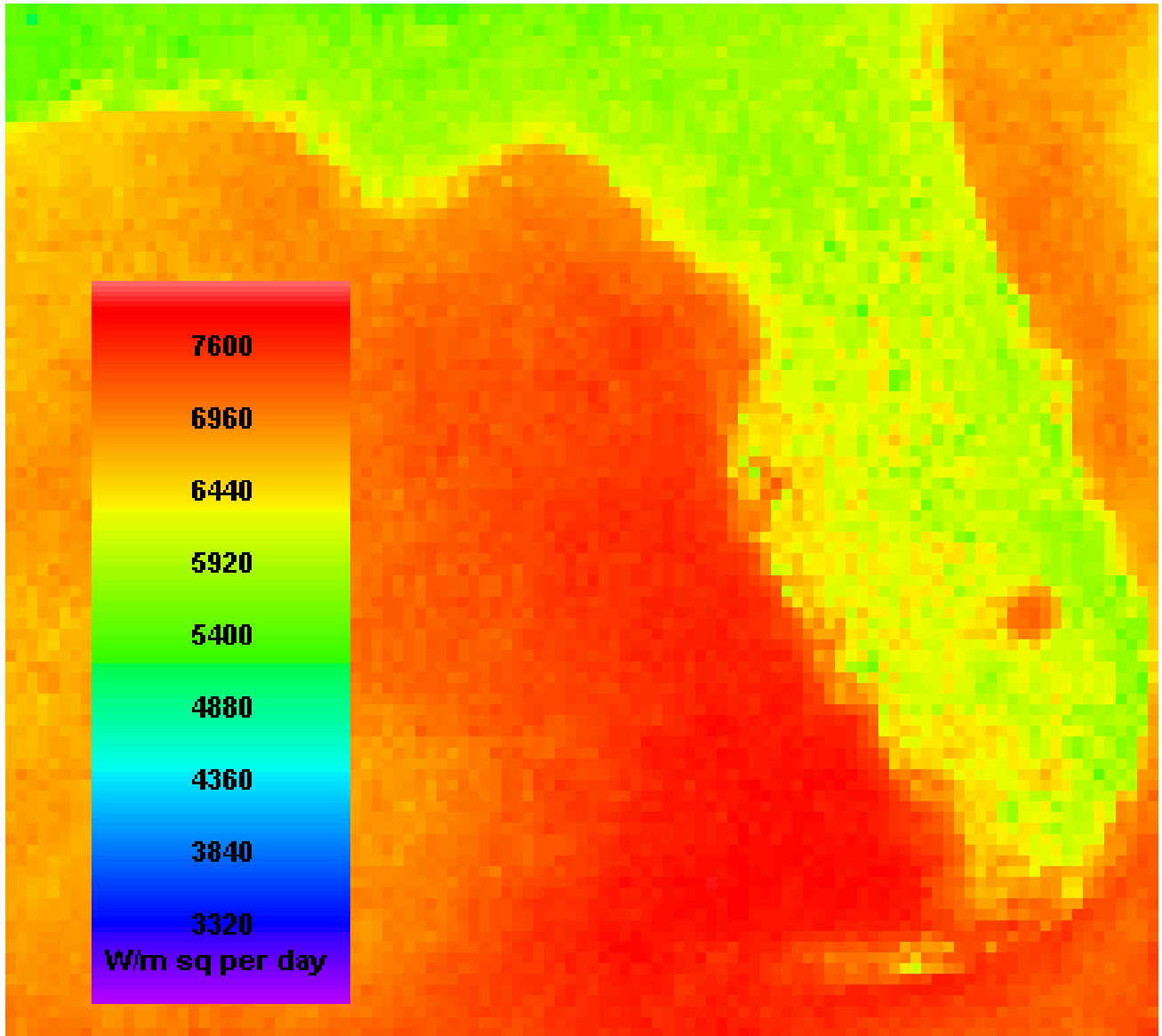


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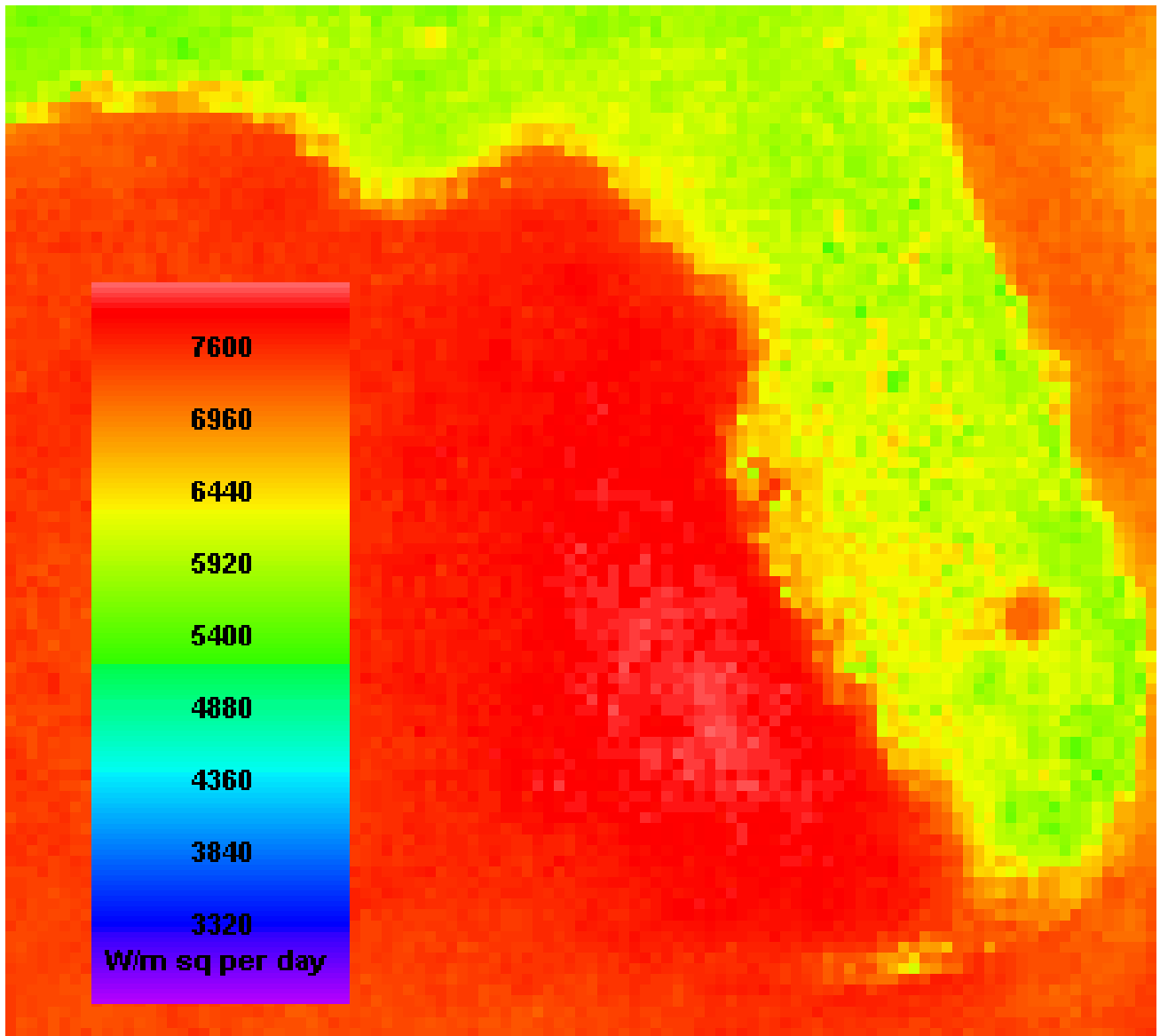


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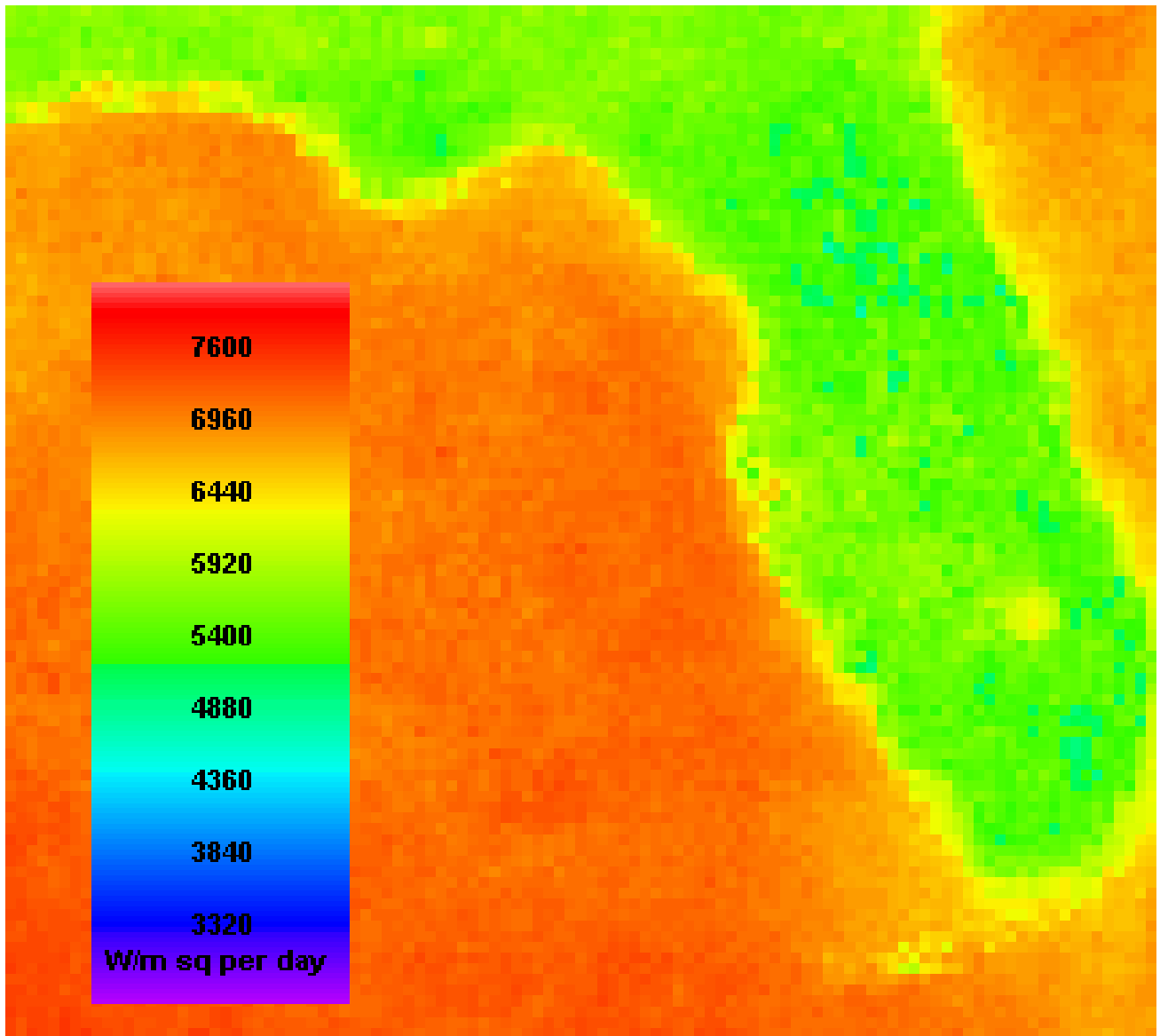




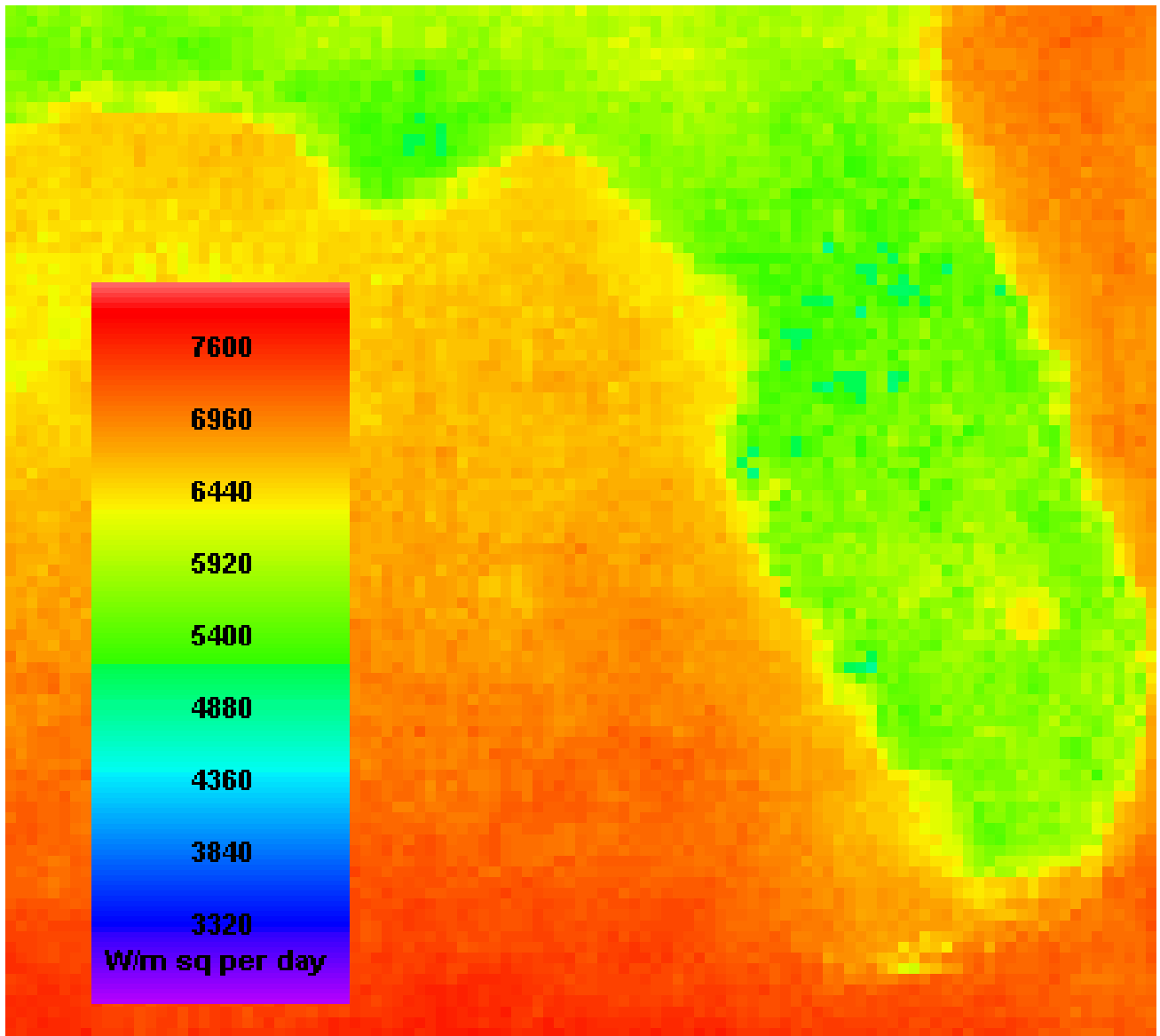
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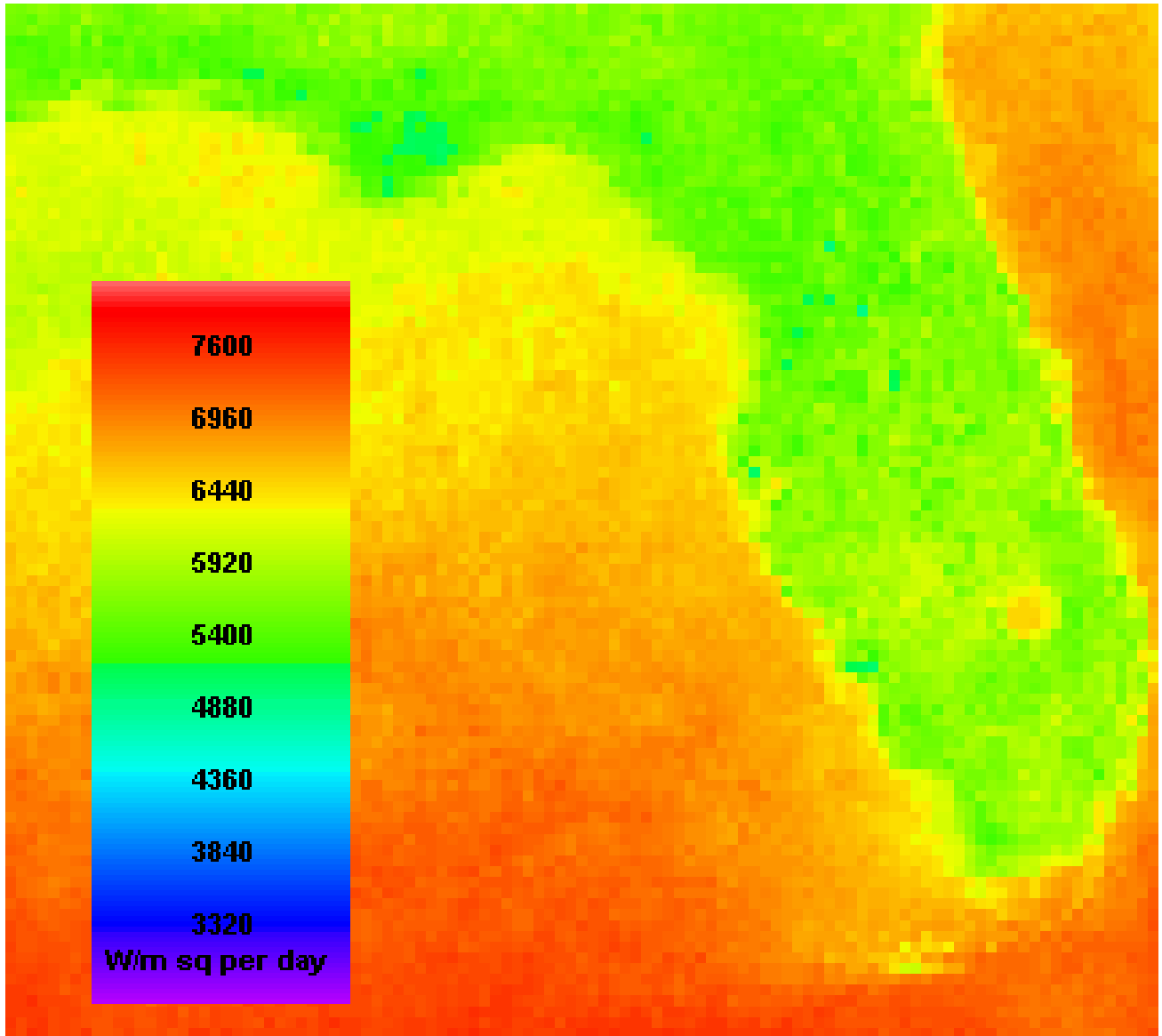
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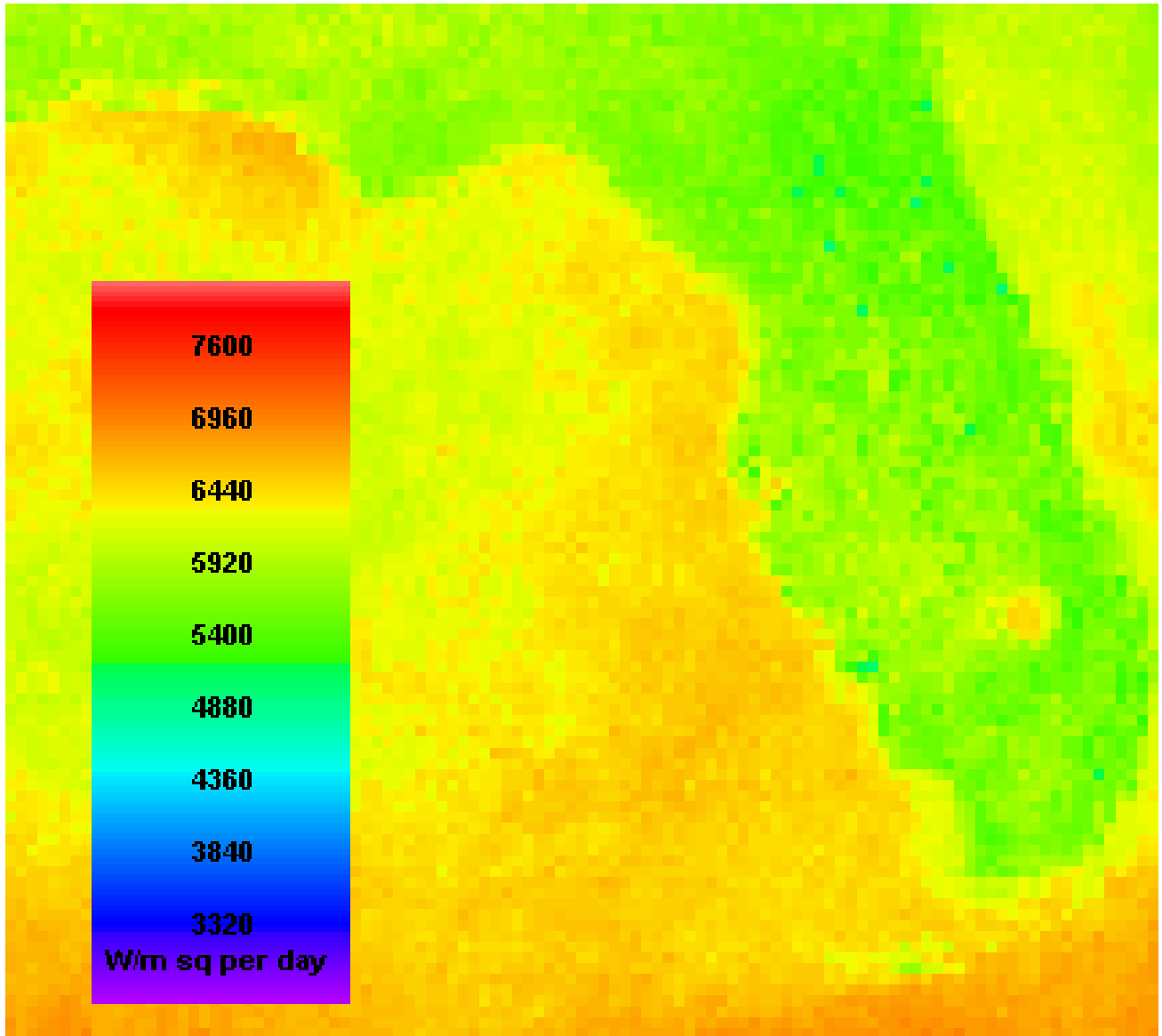
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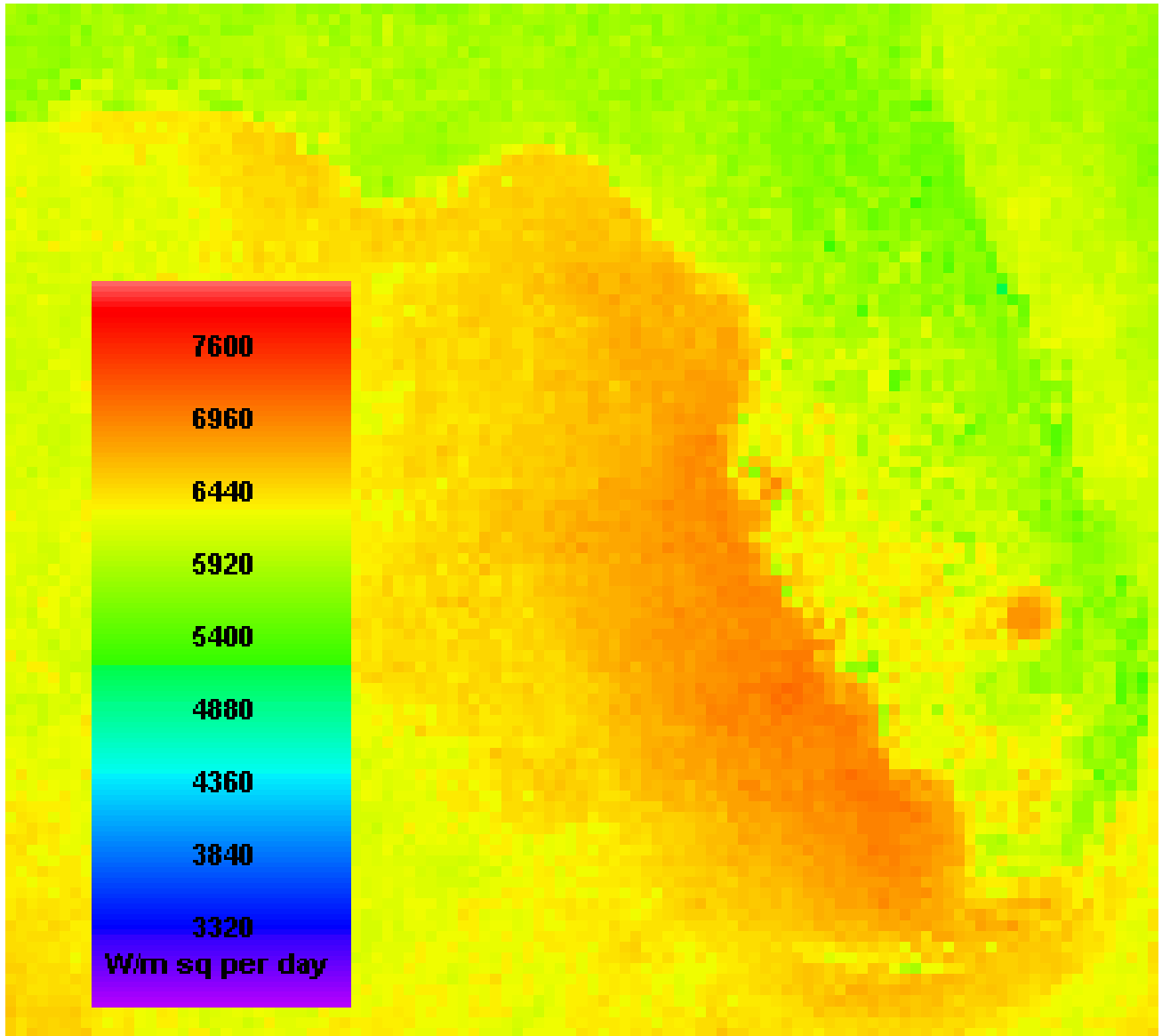
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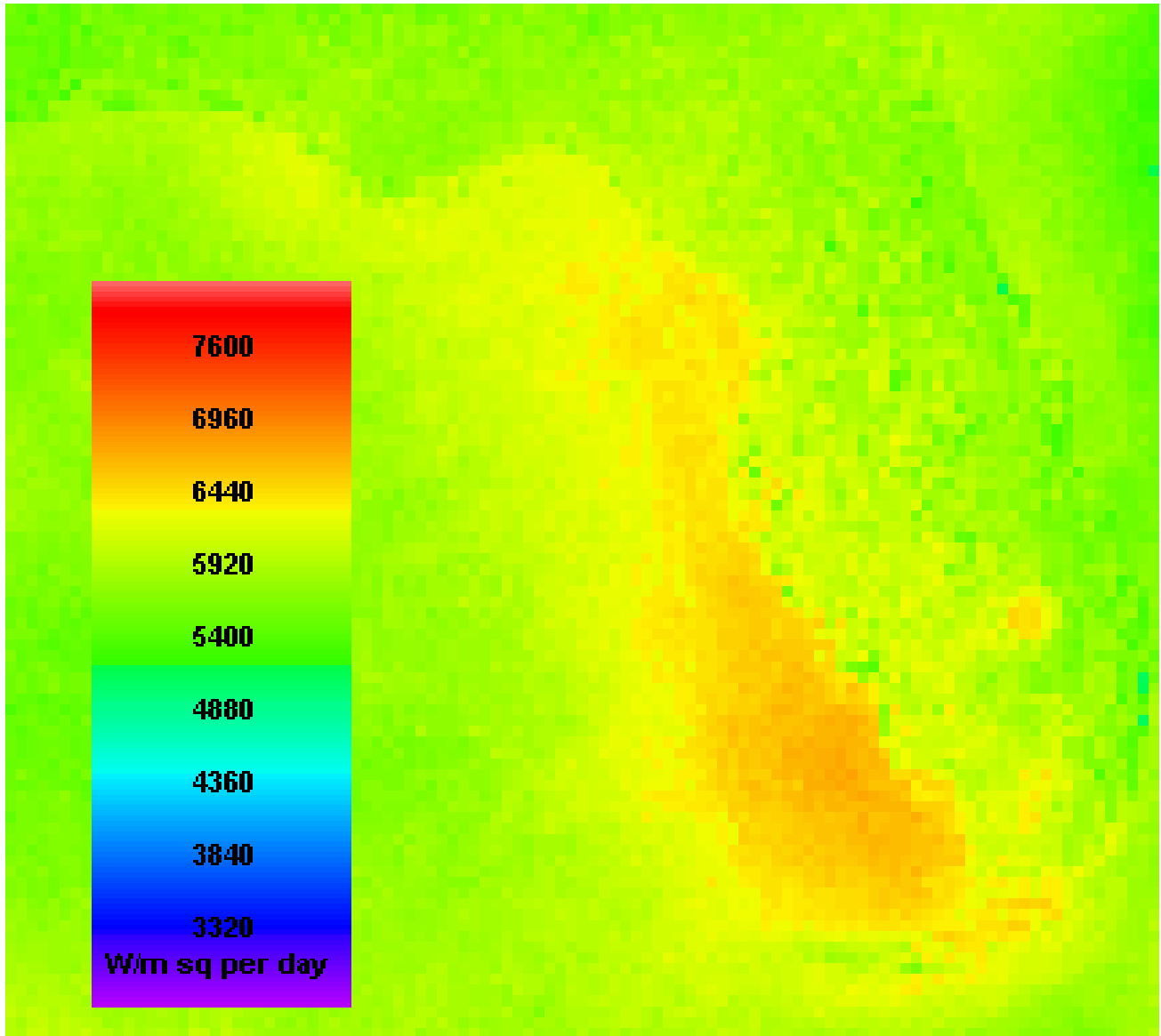
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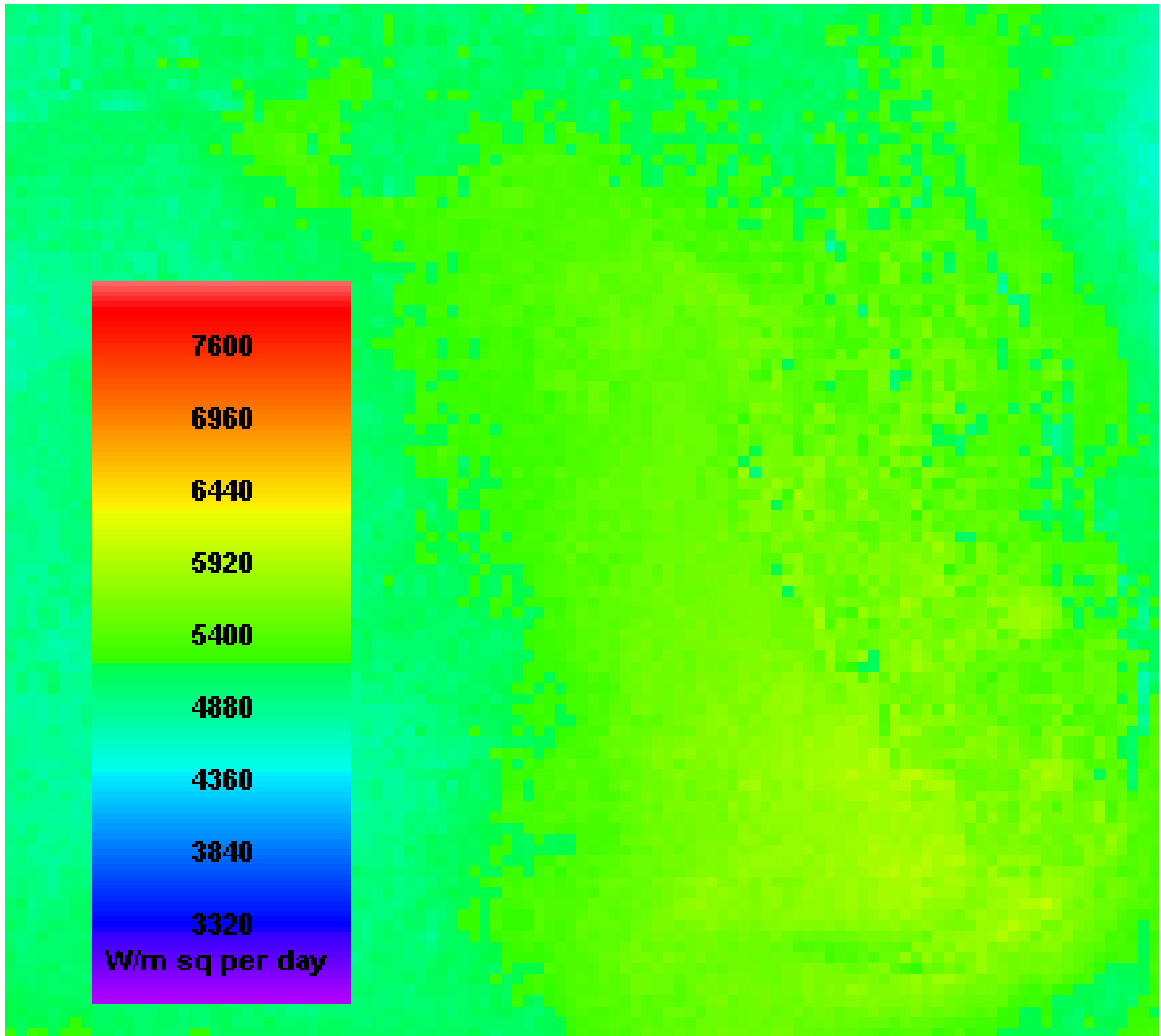


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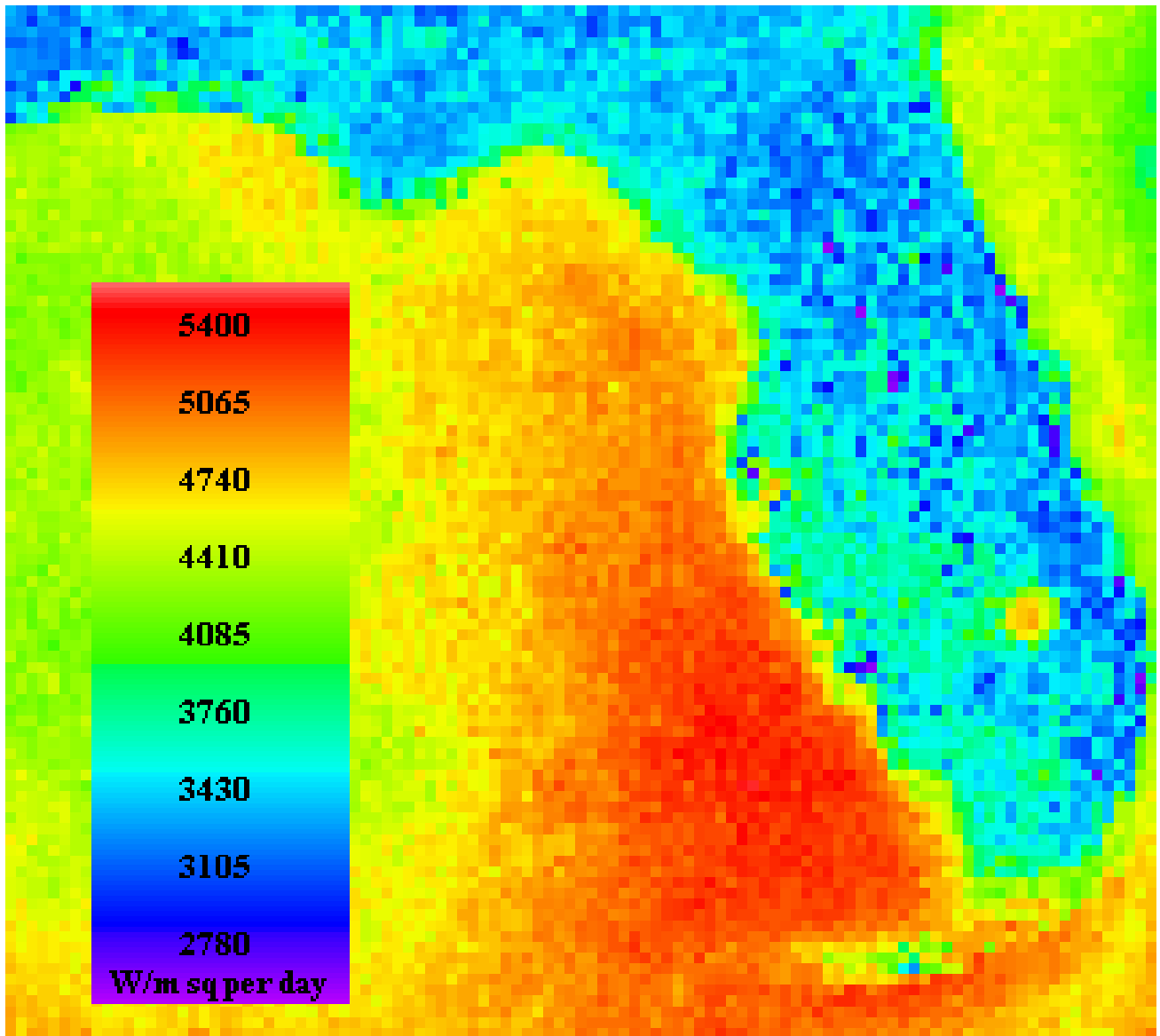


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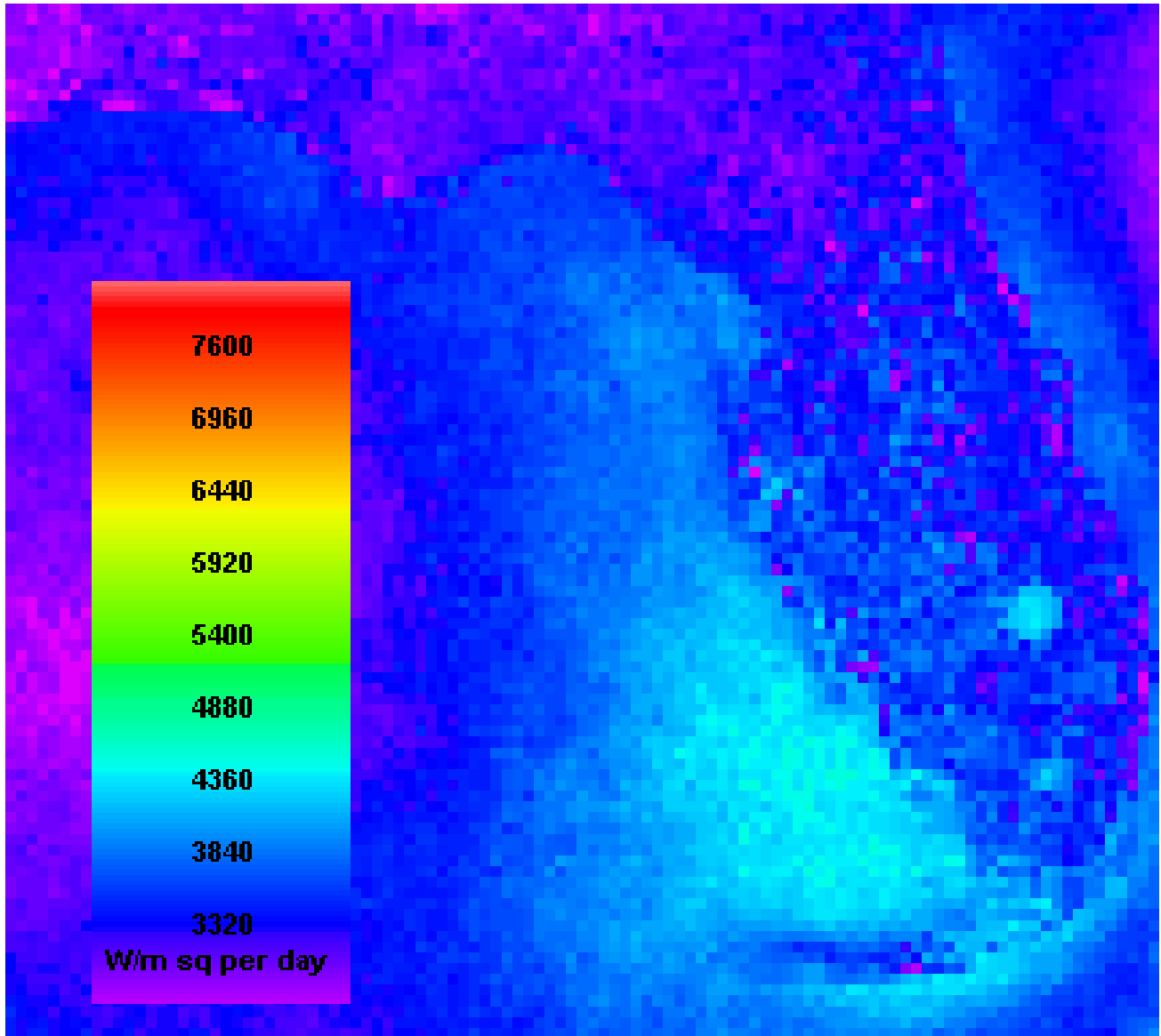




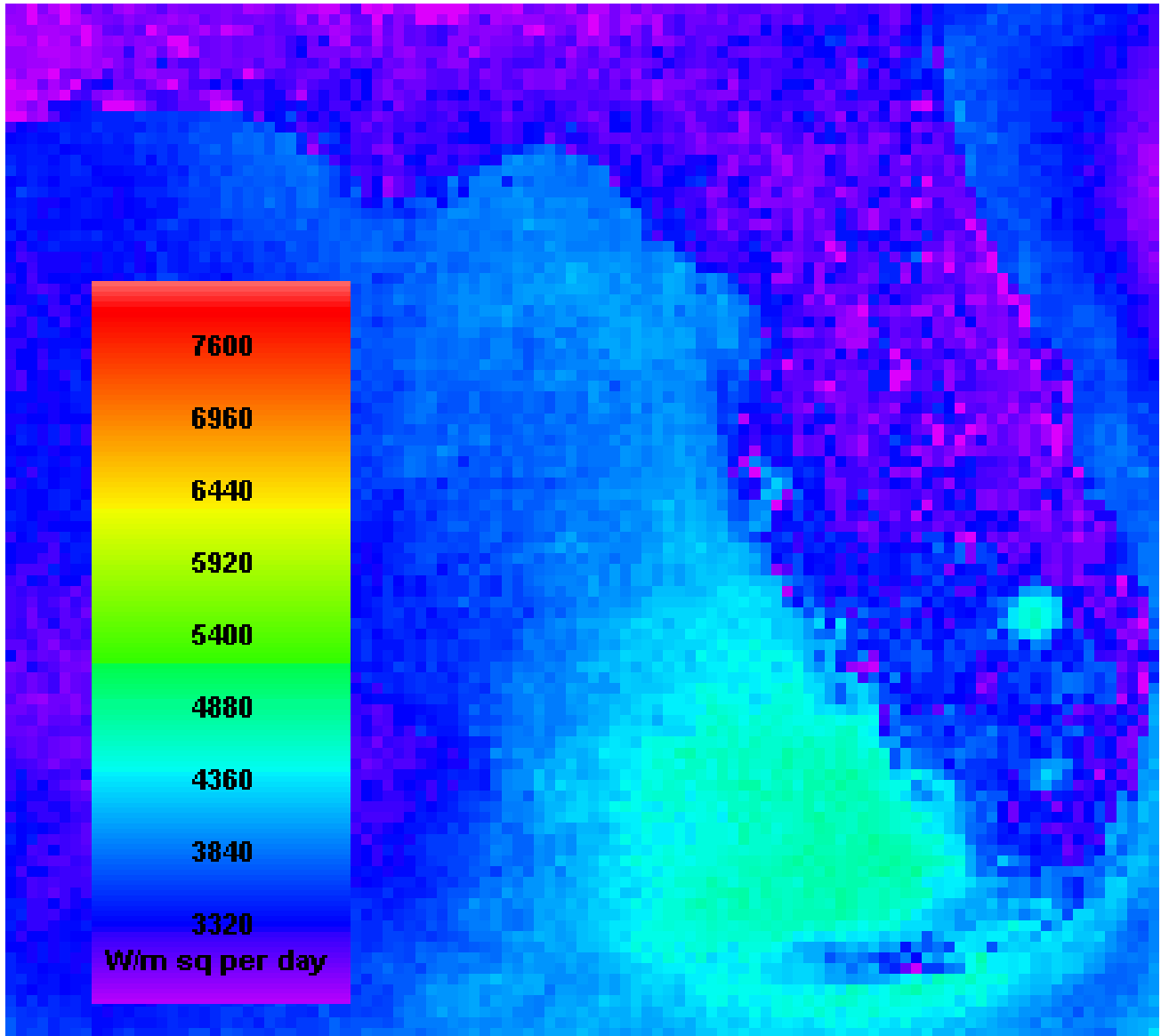
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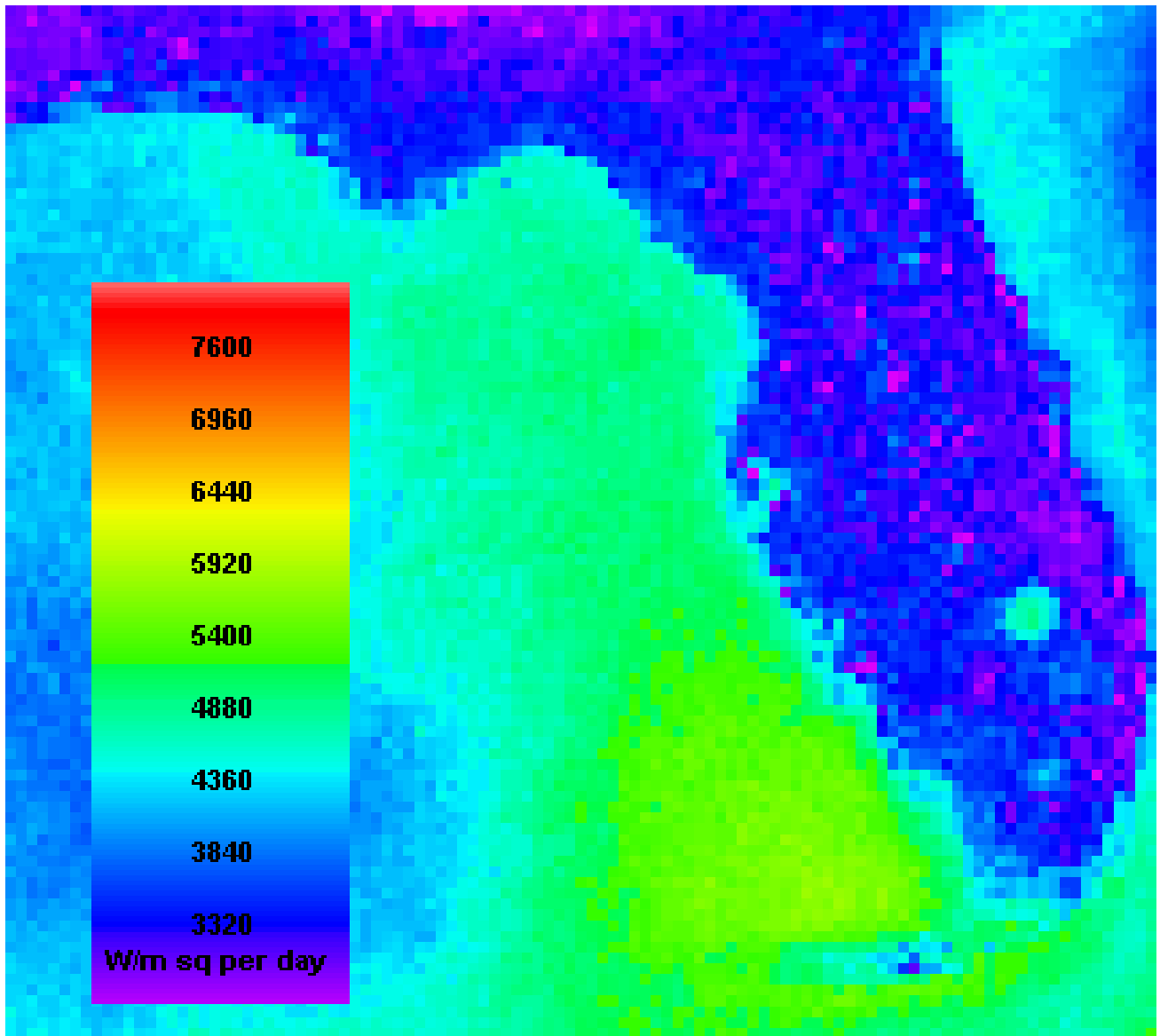
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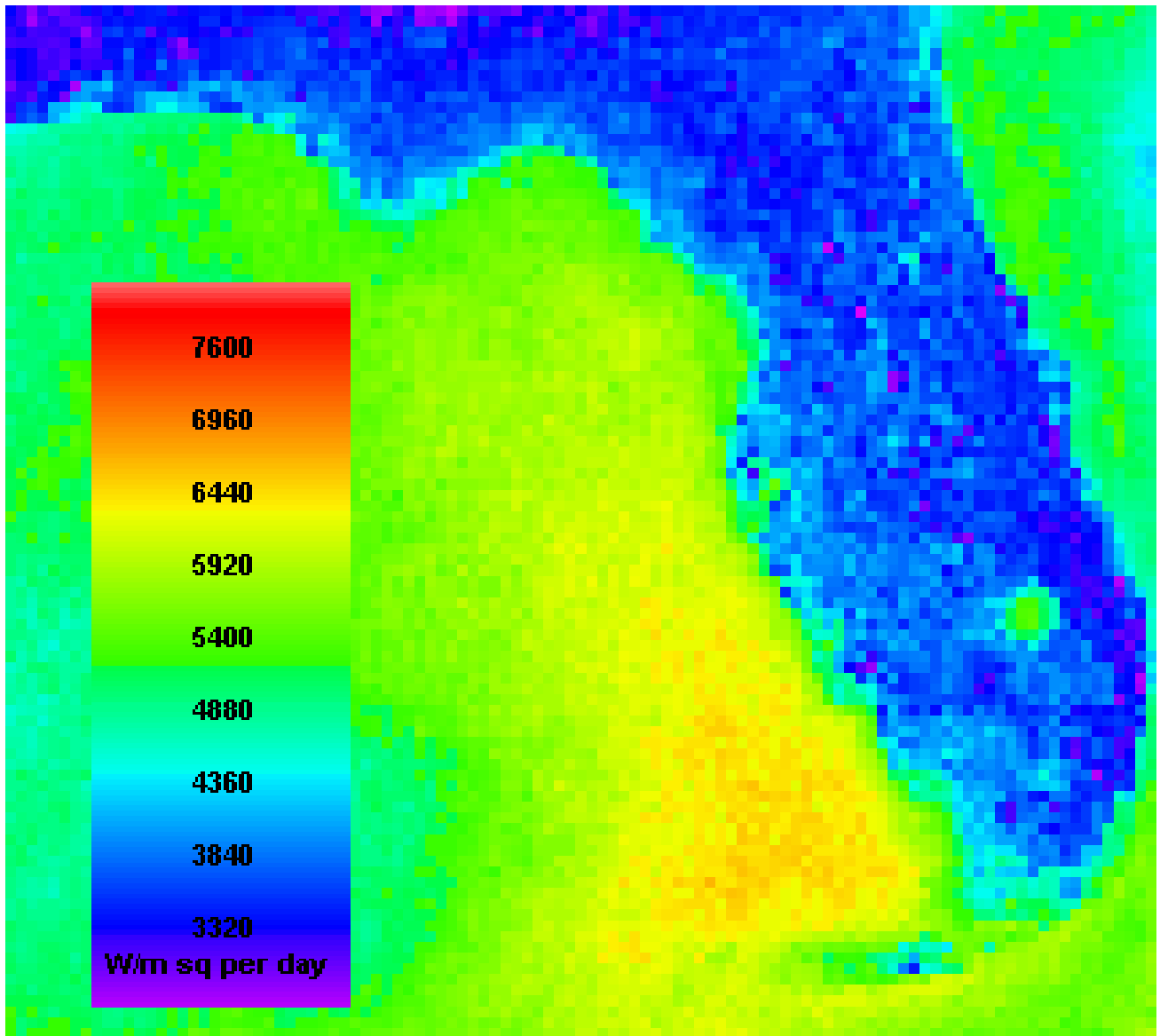
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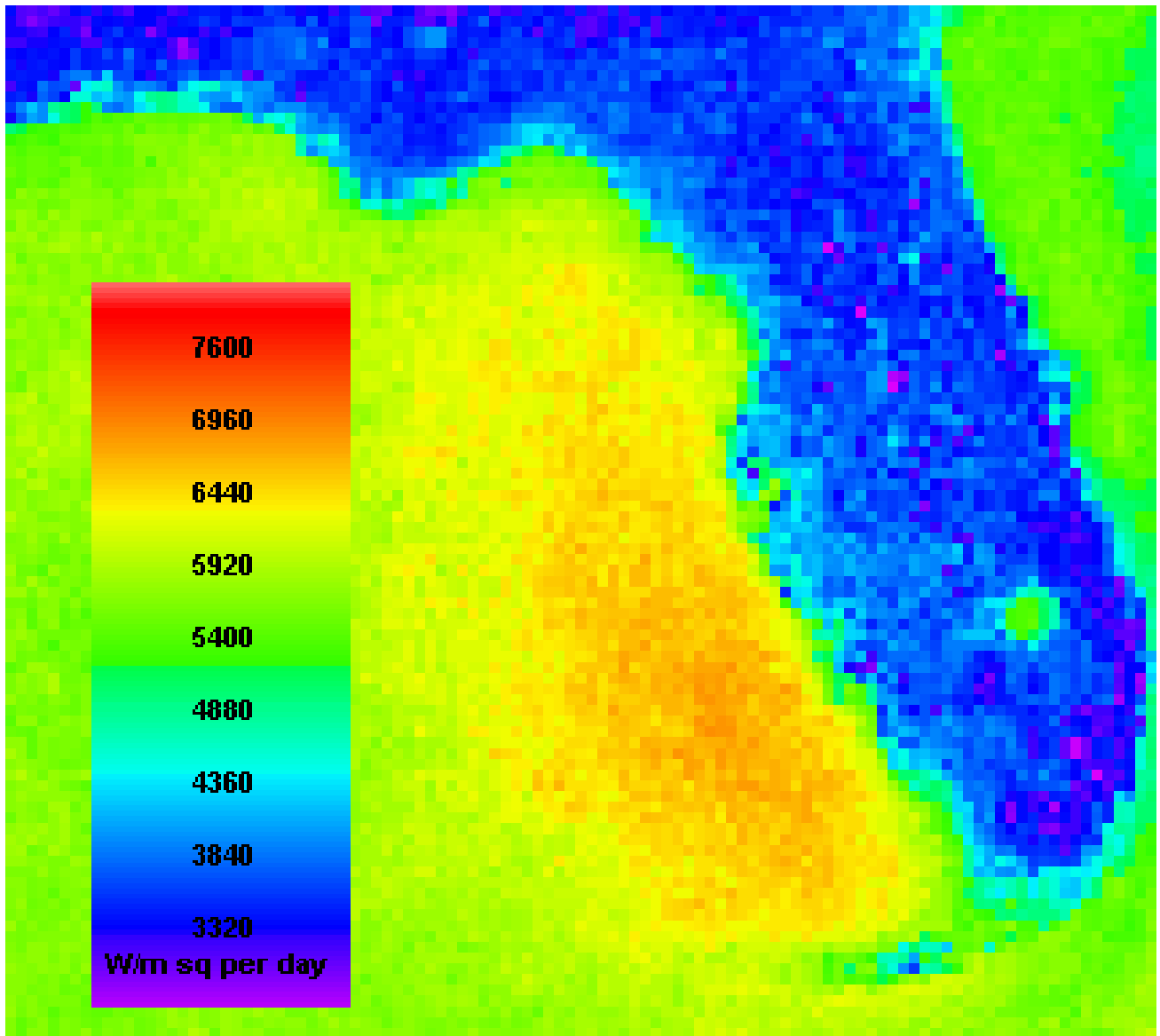
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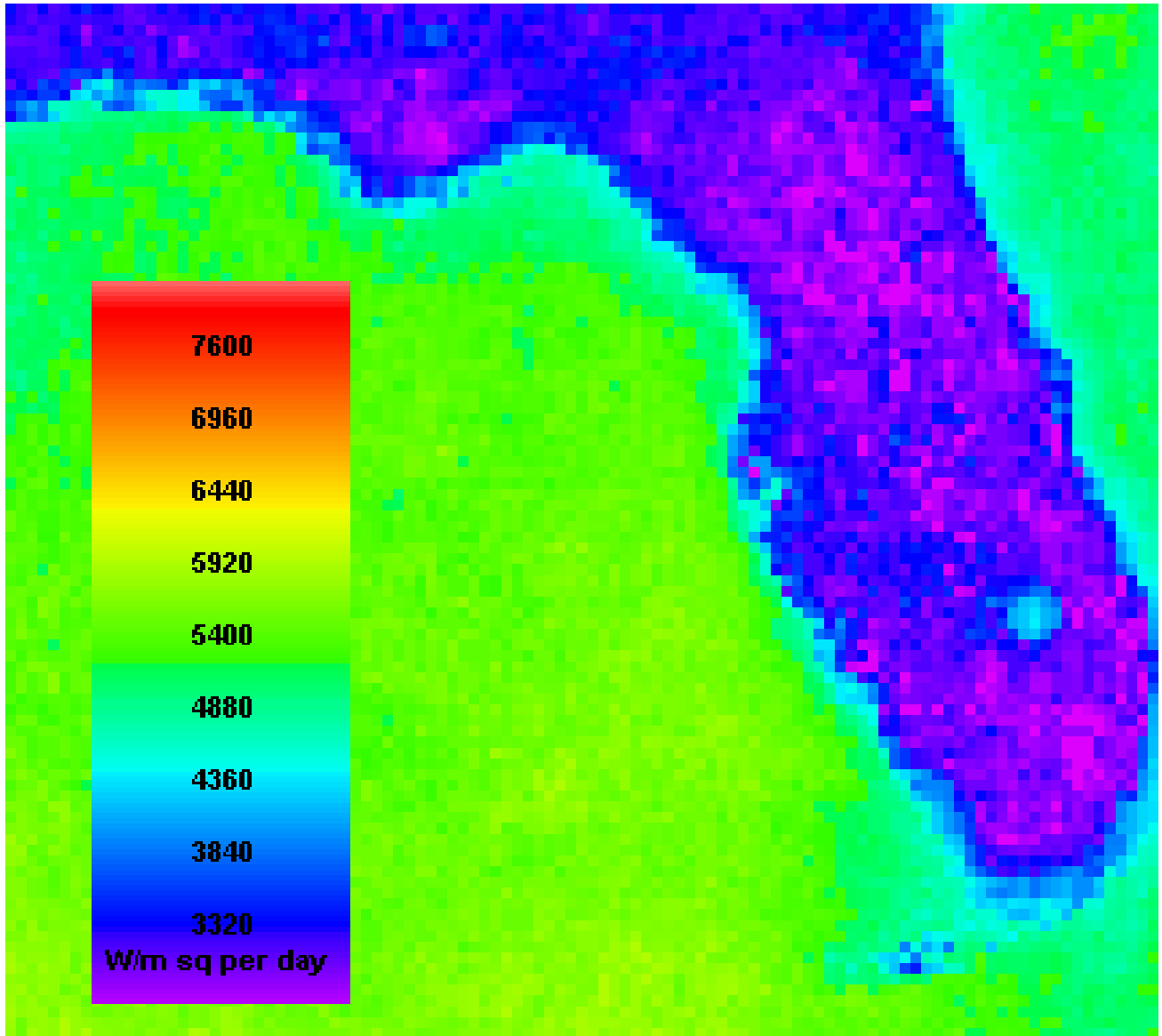
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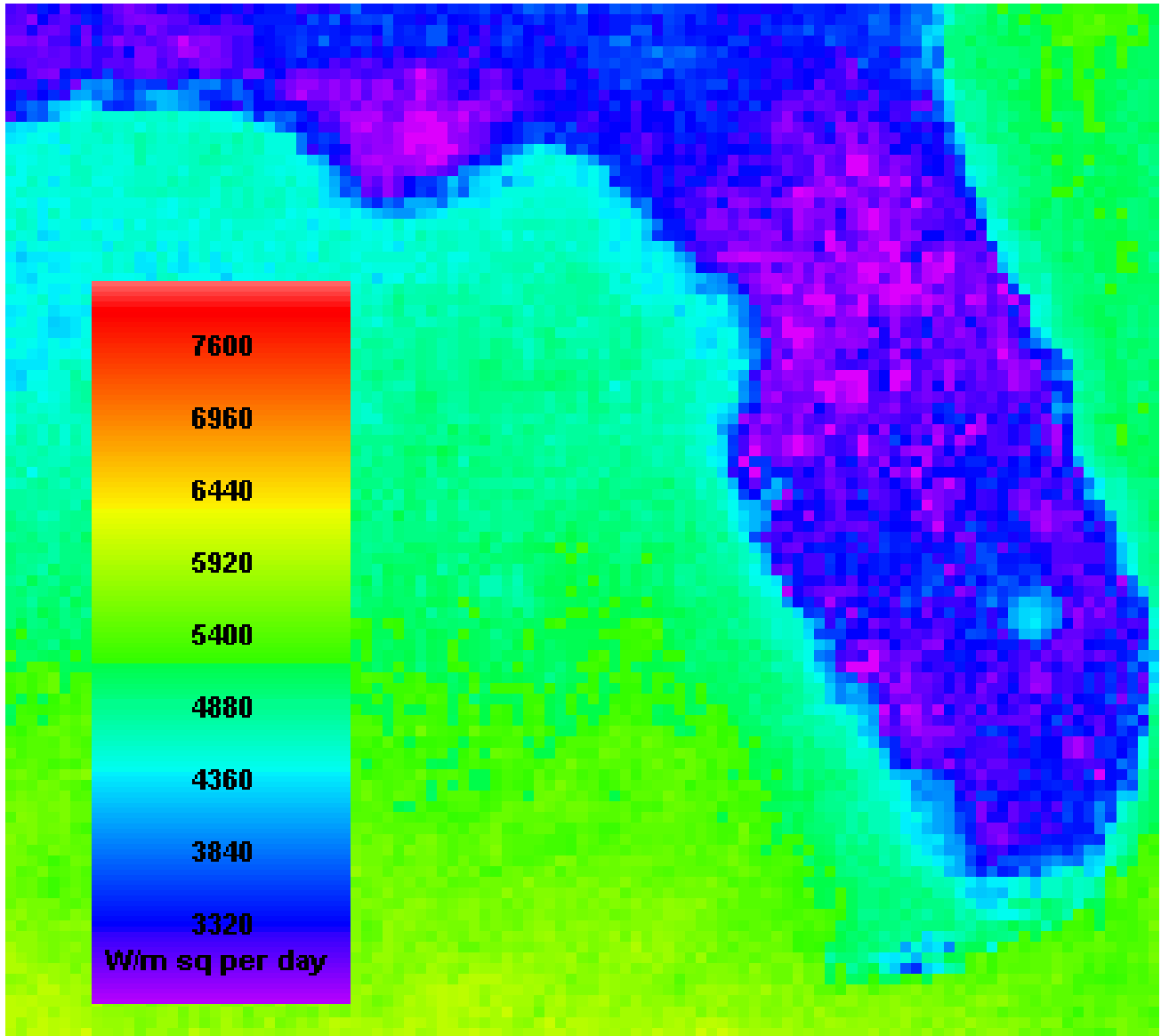


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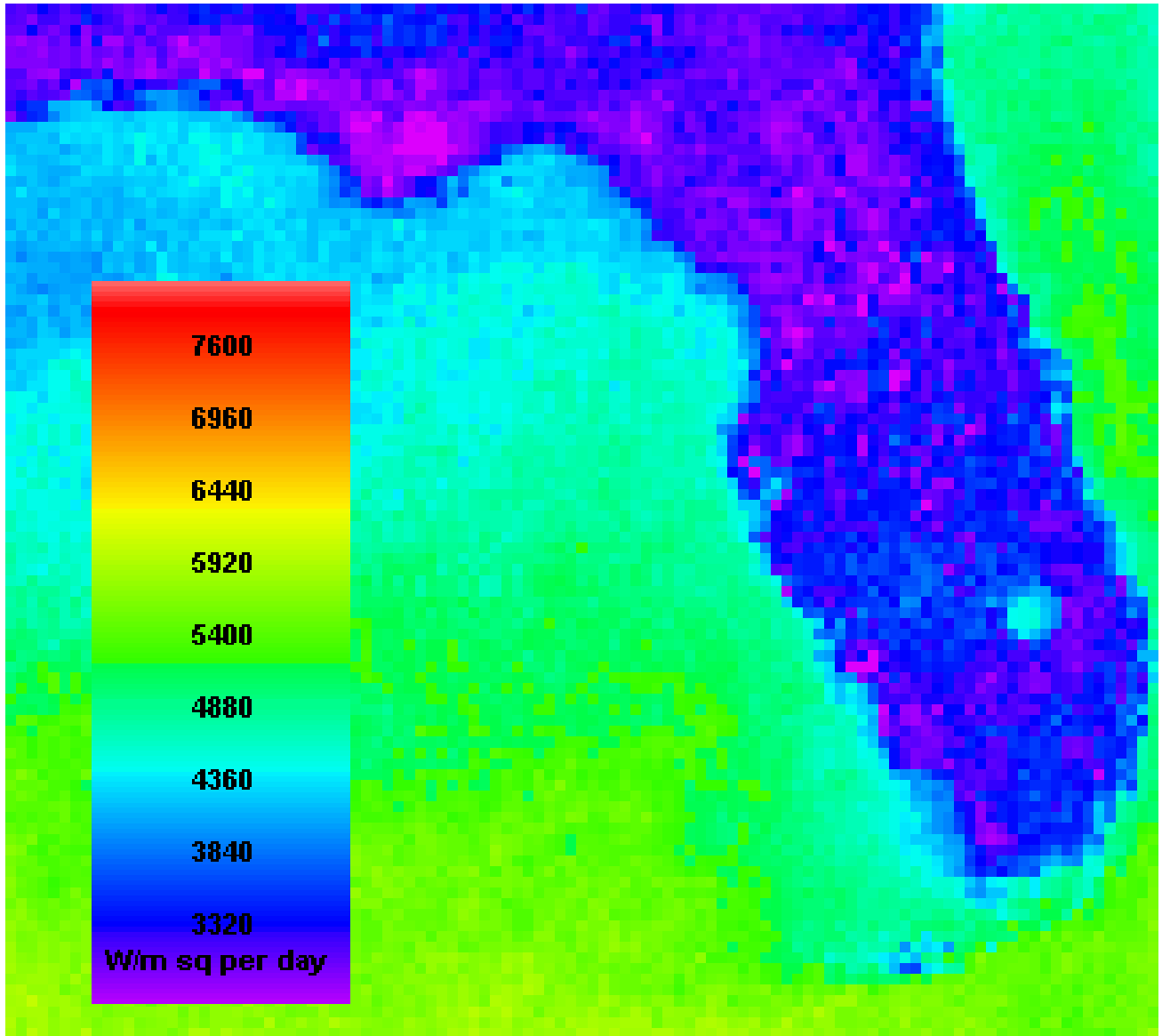


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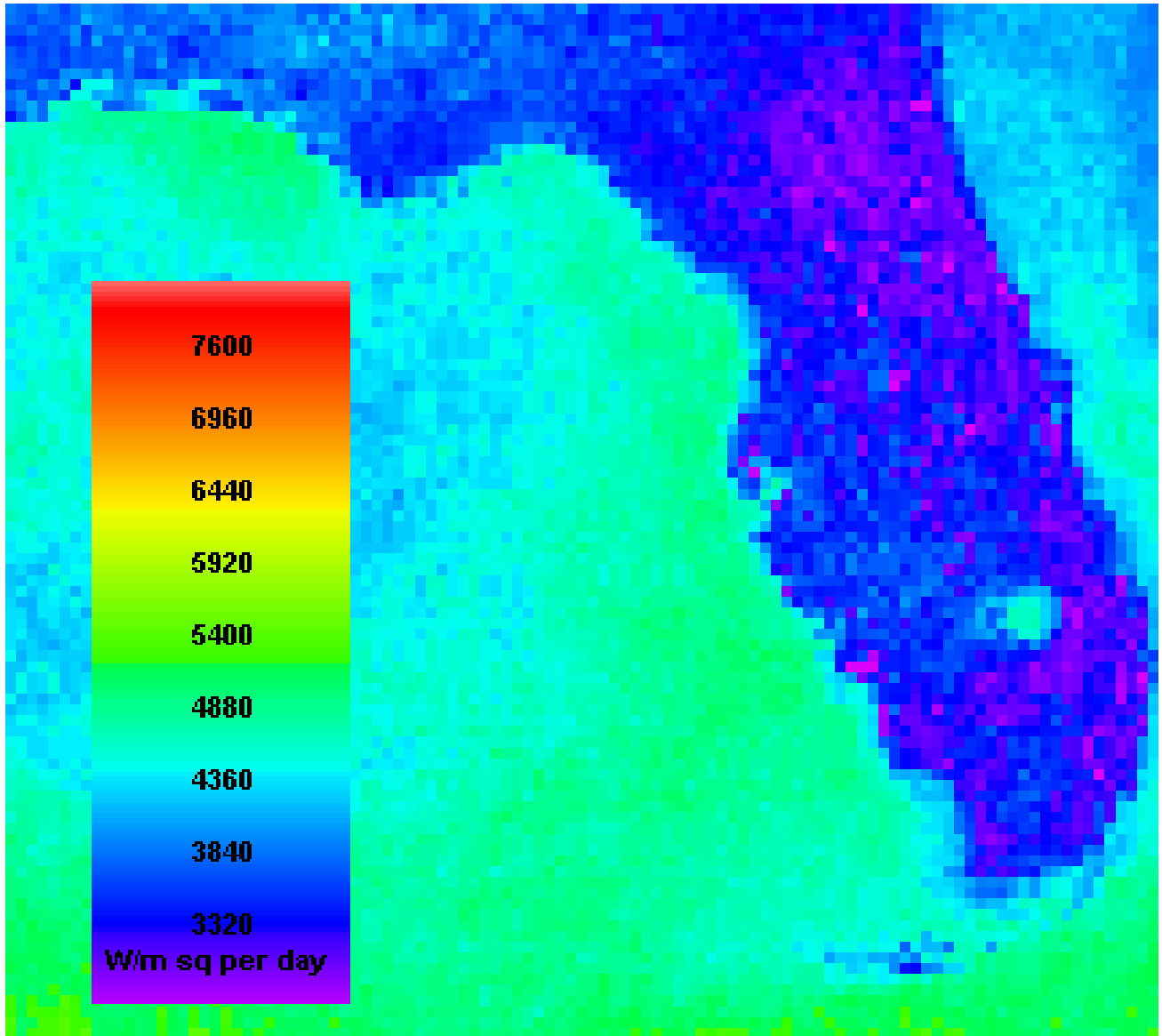




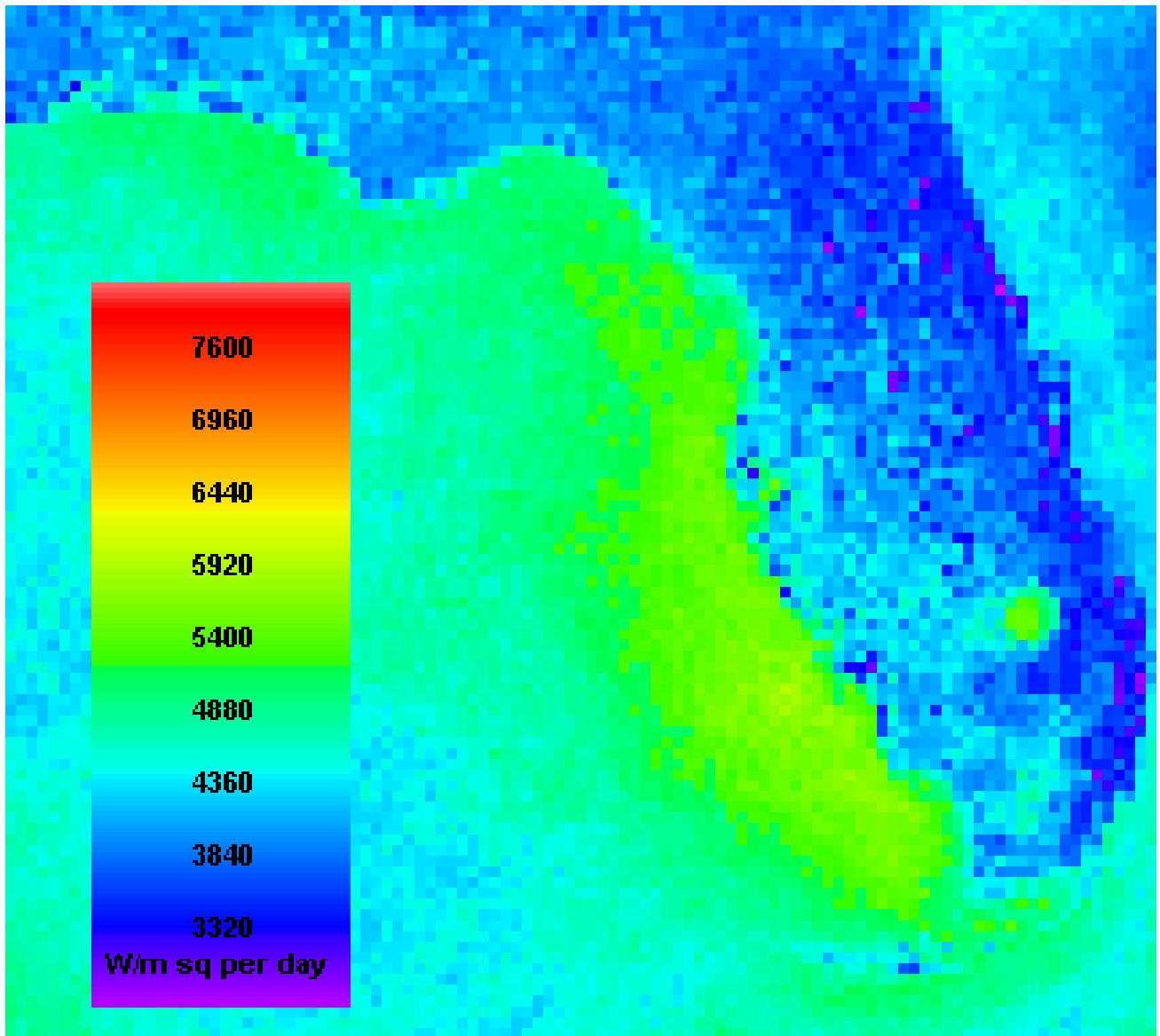
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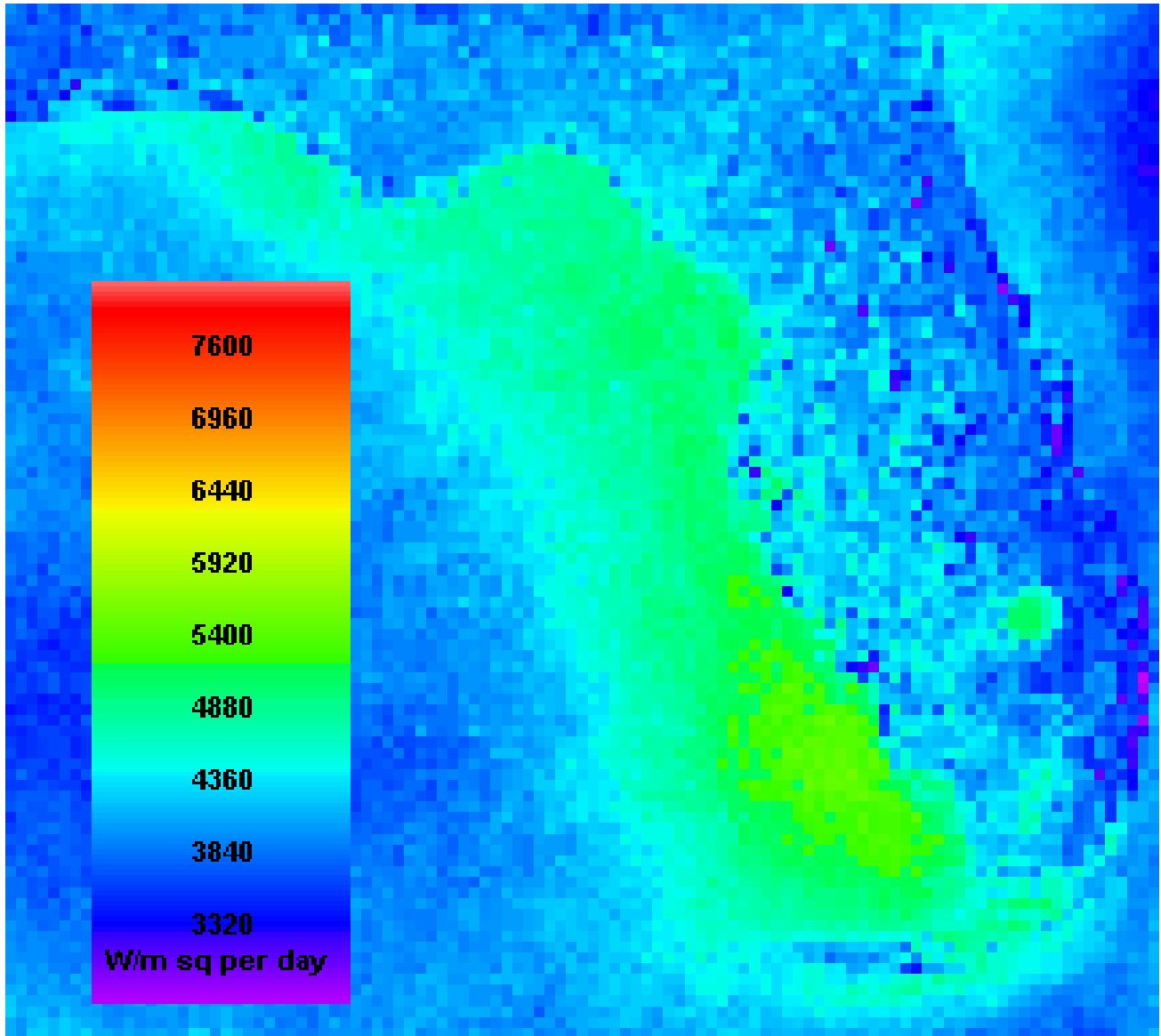
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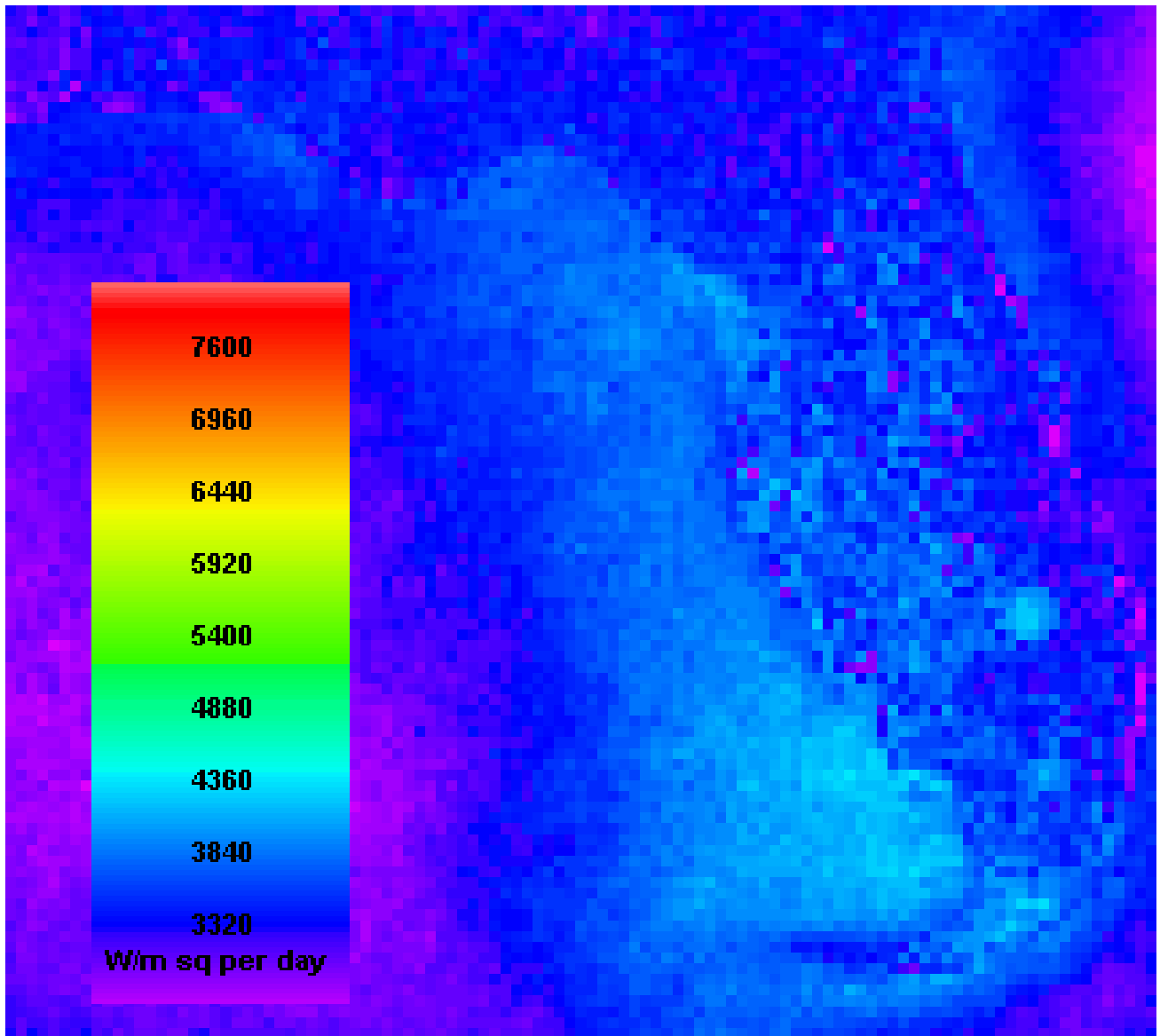
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**PLATE 24: DIRECT BEAM — OCTOBER AVERAGE  
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**PLATE 26: DIRECT BEAM — DECEMBER AVERAGE  
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