Discipline and Sub-disciplines: 8. Interpretation Technique Development  
C. Classification and Pattern Recognition

a) TITLE: Studies of Images of Short-Lived Events Using ERTS Data  
Proposal No. 128

b) PRINCIPAL INVESTIGATOR: Dr. William A. Deutschman OT-002

c) A STATEMENT AND EXPLANATION OF ANY PROBLEMS: Our major problem is still  
the lag between the time when a picture is taken and the time when we see the image. We are also unable to use the cloud cover statistics reliably  
because a number of shots with low cloud cover have the clouds over our "events" and some with high cloud cover have "holes" where we can see the "event". We cannot wait until we can view a microfilm copy and then order the picture because the time lag would be too long.

d) We are analyzing the events for which we have obtained scenes. These  
include several volcanoes, the Oakland, Calif. oil spill. We are continuing to refine our techniques for analyzing the existing scenes.

e) Our significant results are the continued detection of short-lived events. We have currently detected and analyzed forest fires, oil spills,  
vegetation damage, volcanoes, storm ridges and earthquakes.

f) N.A.

g) None

h) N.A.

i) ERTS Image Descriptor Forms were submitted 21 February 1973 to Users Services on the following scenes:

   PAH FIRE  
   1003-21355  
   1037-21234  
   1037-21240  
   1038-21292  
   1055-21234  
   1055-21240

   BEAR FIRE  
   1037-18064  
   1055-18064

   BIG SUR FIRE & SLIDE  
   1021-18174  
   1057-18175

   SAKURAZIMA VOLCANO  
   1078-01234  
   1132-01242
j) Listing by date of data request forms, for retrospective data:

All scenes requested - bulk black and white 70mm positive and negative transparencies for all bands.

<table>
<thead>
<tr>
<th># Scenes</th>
<th>Date Ordered</th>
<th># Scenes</th>
<th>Date Received</th>
<th>Comments</th>
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<tbody>
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<td>1/18/73</td>
<td>4</td>
<td>3/28/73</td>
<td></td>
</tr>
<tr>
<td></td>
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<td>4</td>
<td>3/29/73</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1/23/73</td>
<td>3</td>
<td>3/16/73</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2/21/73</td>
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</tr>
<tr>
<td></td>
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<td>3</td>
<td>3/20/73</td>
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<tr>
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<td>3/7/73</td>
<td>2</td>
<td>4/4/73</td>
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</tr>
<tr>
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</tr>
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<td></td>
</tr>
<tr>
<td>1</td>
<td>4/4/73</td>
<td>1</td>
<td>5/23/73</td>
<td>Partial shipment - negatives only not received as of this date 6/6/73</td>
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<tr>
<td>2</td>
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<tr>
<td>4</td>
<td>4/30/73</td>
<td></td>
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</tr>
</tbody>
</table>

No new ERTS coverage requests were made for Non-US scenes.

Continuing ERTS coverage was requested for the following Non-US scenes:

1. Funafute Atoll Formation
   South Pacific
   Pictures were taken 3/14/73 40% cloud cover and ordered by Users Support 5/4/73

2. Helgafell Eruption
   Iceland
   Pictures were taken 3/9/73, 3/10/73, 3/11/73 but were not ordered due to cloud cover - 100%

3. Asama Eruption
   Japan
   Pictures were taken 3/15/73 but were not ordered due to cloud cover - 90%

k) As of the close of this report period the full funds required for this effort have not been received. At the present rate of expenditure the existing partial funding of $50,000 will be depleted in the next report period. SAO has been assured by the Contracting Officer that an additional $15,310 will be added to the contract to fully fund this effort at the negotiated value of $65,310.